

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
WASHINGTON, DC**

**Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221**

**2004 ANNUAL REPORT
On Storm Water Pollution Control**

April 19, 2004



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LIST OF ACRONYMS AND ABBREVIATIONS

ARBC	Anacostia River Business Coalition
AWRC	Anacostia Watershed Restoration Committee
BMP	Best Management Practice
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWP	Center for Watershed Protection
District	District of Columbia
DCMR	District of Columbia Municipal Regulations
DCRA	Department of Consumer and Regulatory Affairs
DDOT	District Department of Transportation
DOH	Department of Health
DPW	Department of Public Works
EE-CARS	Environmental Education for the Compliance of Automotive Repair Shops
EMC	Event Mean Concentration
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
Fund	Storm Water Enterprise Compliance Fund
FY	Fiscal Year
GIS	Geographic Information System
GSA	US General Services Administration
HWD	Hazardous Waste Division
ICPRB	Interstate Commission on the Potomac River Basin

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

in.	Inch(es)
lb	Pound(s)
LID	Low Impact Development
mg/L	Milligram(s) Per Liter
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MWCOG	Metropolitan Washington Council of Governments
NPDES	National Pollutant Discharge Elimination System
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NRDC	Natural Resources Defense Council
Permit	National Pollutant Discharge Elimination System Permit
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SWEET	Solid Waste Education and Enforcement Program
SWM	Storm Water Management
TMDL	Total Maximum Daily Load
USDA	U.S. Department of Agriculture
VMS	DDOT subcontractor; no information on what VMS stands for
WASA	DC Water and Sewer Authority
WMATA	Washington Metropolitan Area Transit Authority

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

WPD	Department of Health Watershed Protection Division
WQD	Department of Health Water Quality Division
yr	Year

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

*Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2004 Annual Report
On Storm Water Pollution Control*

SUMMARY AND FINDINGS

S.1 GENERAL

The Government of the District of Columbia (District) submits this Annual Report on storm water pollution control in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Water System Permit No. DC0000221. This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (DMR) in compliance with the reporting requirements as defined in Parts II, III.B, III.D, and IV of the Permit.

The purpose of the District's MS4 program is to reduce pollutant loading from the MS4 to receiving waters, and contribute towards meeting District water quality standards and the approved Total Maximum Daily Load (TMDL) for those waters. This Annual Report details MS4 permit-related activities conducted by District agencies during calendar year 2003 to reduce and control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries.

S.2 BACKGROUND

The Environmental Protection Agency (EPA) issued a MS4 NPDES Permit (Permit) to the District on April 19, 2000. The Permit allows discharges from the MS4 to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit. The three-year term of the current Permit expired on April 19, 2003, and EPA is in the process of reissuing the Permit. The current permit remains in effect, including all reporting requirements, until the permit review process is complete and the final permit reissued.

On October 19, 2002, the District applied for a new NPDES permit and submitted an upgraded Storm Water Management Plan for approval. This plan describes the District's Storm Water Management Program to control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries.

On November 14, 2003, the EPA issued a draft permit for public comment and review. The new permit is expected to be issued in spring/summer 2004. On June 12, 2001 DC Law #13-311 "Storm Water Permit Compliance Amendment Act of 2000" (Act) was made final by the District of Columbia to amend the powers of the Water and Sewer Authority (WASA) to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its lead agency to coordinate actions among other District agencies in connection with permit compliance activities.

To capitalize the Fund, the Act authorized WASA to collect a flat storm water fee from retail water customers within the District. WASA began charging the storm water fee with the billing cycle that started July 1, 2001. The District is currently investigating a modified fee structure based on the impervious area of a user's property. The storm water fee was established specifically to meet the needs of the MS4 permit issued in 2000. Assessment of the funding will be conducted after a new permit is issued.

WASA executed a Memorandum of Understanding (MOU) on December 11, 2000 with the Permittee, the Chief Financial Officer of the District of Columbia, the Department of Health (DOH) and the Department of Public Works (DPW). The MOU assigns responsibilities among the foregoing parties for compliance with the Permit.

As of October 1, 2002, the newly formed DDOT has taken on the relevant responsibilities formerly assigned to DPW. The responsibilities of DDOT generally concern the construction and maintenance of streets and roads and the removal of snow and ice. DPW continues responsibilities for roadside maintenance, trash and garbage collection, street sweeping, litter can maintenance and manual sweeping, and handling of recycling. This arrangement is working satisfactorily and will be formalized in the MOU when it is revised to include the requirements of the reissued NPDES Permit.

S.3 ANNUAL REPORT SUMMARY OF FINDINGS

This Annual Report delineates the significant achievements that have been made during the past year addressing the required provisions of the Permit. The following subsections summarize the activities over the past year to reduce pollutant loading from MS4 outfalls, and explain progress in the development of programs, systems, and the legal framework to manage activities, and integrate storm water management responsibility into agencies of the District government, private industry, and citizen activities within the District of Columbia.

S.3.1 Highlights

During the past year the District added or expanded ongoing storm water pollution control compliance activities. A summary of new and expanded activities includes:

- Completion of the 8th Street LID pilot project.
- Completion of the refurbishment of the solid waste transfer station on Benning Road.
- Development of new educational materials in every agency, including, leaf collection and snow removal pamphlets, Integrated Pest Management and Fertilizer workshops, construction regulation workshops, the EE-CARS program to automotive repair and service businesses, and updates to the DC MS4 web pages.
- Completion of the Illicit Discharge Enforcement Manual and increased activities in the detection and enforcement of illicit discharge control.
- Expanding the MS4 Graphical Information System (GIS) database to include information gathered from field verification of the MS4 outfalls.

S.3.2 Source Identification

The existing MS4 infrastructure mapping and outfall location data have been combined to develop a database. With 80 major outfalls field-verified thus far, the District is on target to meet the goal of completing field verification of 50 percent of the system by the end of FY 2004. Outfall coordinates obtained by GPS are being recorded in the MS4 Program

outfall database. The field verification and mapping, together with the evaluation of changes as defined in the Permit, substantively comply with the Permit requirements.

S.3.3 MS4 Retrofits

The District continues to evaluate the MS4 infrastructure to identify retrofits that may be necessary to meet the requirements of the Clean Water Act and EPA regulations. The District is using a watershed approach, and targeting the MS4 storm sewersheds that discharge to the rivers of the District. The retrofit program includes mandatory storm water management improvements for all new construction and re-construction and an integrated effort to encourage federal facilities and private land owners to retrofit existing properties. The discharge monitoring program, MS4 infrastructure mapping and storm water model development continue to be primary components of the MS4 evaluation.

S.3.4 Management Plan for Commercial, Residential, and Federal and District Government Areas

The specific requirement to develop and implement a program to control storm water discharges from Federal and District-government areas is progressing. DOH has signed agreements with DPW and the General Services Agency (GSA) requiring federal contractors working on buildings or highway improvements to meet the requirements of the District's Erosion and Sediment Control Regulations.

S.3.5 Management Plan for Industrial Facilities

The establishment of a comprehensive database of industrial facilities in the District, and the initiation of the wet weather screening program are primary components of this program. The implementation of the management plan for industrial facilities will control and reduce storm water pollution from industrial facilities in accordance with the requirements of the Clean Water Act.

S.3.6 Management Plan for Construction Sites

DOH has a strong inspection and enforcement program for commercial and residential areas and is working diligently to strengthen its erosion control program for new construction. DOH has increased its environmental inspection and enforcement activities on federal and District of Columbia government projects, including road construction and

rehabilitation projects. In an effort to further strengthen the erosion control program for new construction, DOH WPD has completed the revised *District of Columbia Soil Erosion and Sediment Control Standards and Specifications* and the *Storm Water Management Guidebook*. The revised standards incorporate new and innovative BMPs for erosion and sediment control at construction sites. A public hearing was held on February 12, 2003 to solicit public comments on the documents. Both documents were finalized and are ready for distribution.

S.3.7 Flood Control Projects

The feasibility of retrofitting existing flood control devices to provide additional pollutant removal from storm water has not been evaluated. The U.S. Army Corps of Engineers continues to maintain the existing flood control infrastructure to ensure the maximum flood control capabilities from the existing system.

S.3.8 Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities

DPW is currently utilizing many of the components of a program to monitor and reduce pollutants in storm water discharges from its two existing transfer stations. There are no active landfills within the boundaries of the District.

S.3.9 Control of Pollutants from Hazardous Waste Sites

A general plan for hazardous waste monitoring and control, and standard operating procedures for hazardous waste reporting were included as part of the October 2002 Upgraded Storm Water Management Plan. DOH-WQD has prepared a database that includes facilities in the District that are registered with Federal and state regulators because they generate, store, or have released hazardous materials. DOH-WQD continues to update Federal and District facility information as needed. DOH-WQD has also developed general inspection protocols to govern field investigations, including facilities that generate or store hazardous waste.

S.3.10 Pesticides, Herbicides and Fertilizer Application

The DOH "Pesticide Management Program" outlines the mission, goals and implementation of the regulations that affect commercial applications of pesticide and

herbicides. The program outlines the requirements for certification and training for the application of pesticides and herbicides in the District. The program also outlines requirements for enforcement actions, and programs for protecting endangered species, workers, and ground water. Control of pesticide, herbicide, and fertilizer applications has also been integrated into the “Public Education Program”.

S.3.11 Deicing Activities

The District has completed a comparison of deicing products, studies of alternative chemicals and deicing techniques. The District has implemented the results of the comparison study and uses the corn-based snow and ice-melting product IceBan[®] as a pre-treatment on selected highways and bridges.

S.3.12 Snow Removal

Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District’s snow management plan, and will be avoided except as necessitated by extreme emergencies. At this time no alternate snow removal plan is envisioned. The existing snow removal plan was reviewed as part of the upgraded Storm Water Management Plan submitted in October 2002.

S.3.13 Management Plan to Detect and Remove Illicit Discharges

DOH and WASA maintain an illicit discharge detection program, issue notices of violation as needed, and monitor corrective actions taken by violators. Illicit connections not corrected are referred to the Plumbing Inspection Branch for enforcement action. Illicit connection detection and enforcement procedures have been developed in conjunction with the dry weather screening, inspection of BMPs, and public education programs. These procedures are part of the *Draft Water Quality Division Enforcement and Compliance Manual* under review by the District. This draft was discussed in the upgraded Storm Water Management Plan submitted in October 2002.

S.3.14 Enforcement Plan

DOH updated the “*Draft Water Quality Division Enforcement and Compliance Manual*”, during 2003. The strategies outlined in the manual provide the standard procedures for water quality-related inspections and enforcement activities within the District.

S.3.15 Public Education

Public education activities have been integrated into existing and newly developed storm water management programs and expanded into new areas such as the WASA public web page. Public education efforts in the past year have produced a number of new educational programs targeted towards environmental educators, teachers and students throughout the District. Public education programs continue to include an environmental education resource center, conservation education, teacher training workshops and grants for promoting pollution prevention.

S.3.16 Monitoring of Storm Water Outfalls

The Discharge Monitoring Report submitted together with this Annual Report under separate cover includes data and analysis of the storm event discharge monitoring program, the dry weather monitoring program, and the wet weather screening program.

S.3.17 Hickey Run Total Maximum Daily Load

The District continues to implement a water quality monitoring program for Hickey Run, and has prepared a draft management plan for Hickey Run. As part of the management plan, the District is planning the installation of a BMP to reduce the amount of oil and grease and floatable debris discharged into Hickey Run. An MOU detailing the construction of the BMP is expected to be signed by WASA, DOH, and the National Arboretum in the coming months.

.DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Washington, D.C.

*Municipal Separate Storm Sewer System
NPDES Permit No. DC0000221
2004 Annual Report
On Storm Water Pollution Control*

1.0 INTRODUCTION AND METHODOLOGY

1.1 GENERAL

The Government of the District of Columbia (District) submits this Annual Report on storm water pollution control in compliance with its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. DC0000221. A copy of the NPDES Permit is included in Appendix 1-A. This Annual Report is submitted together with the Implementation Plan and Discharge Monitoring Report (DMR) in compliance with the reporting requirements as defined in Parts II, III.B, III.D, and IV of the Permit.

The purpose of the District's MS4 program is to reduce pollutant loading from the MS4 to receiving waters, and contribute towards meeting District water quality standards and the approved Total Maximum Daily Load (TMDL) for those waters. This Annual Report details MS4 permit-related activities conducted by District agencies during calendar year 2003 to reduce and control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries. Additional District agencies, federal, regional, and non-profit organizations conduct activities that impact storm water pollutants entering the MS4. A listing of these organizations is included in Appendix 1-B of this report. While not part of the MS4 program, and in many cases explicitly prohibited from being counted towards compliance with the MS4 permit, the effort by these organizations to control storm water runoff contribute directly and indirectly to the reduction of pollutants in discharges from the MS4, and/or result in improved water quality in receiving waters.

1.2 BACKGROUND

The Environmental Protection Agency (EPA) issued a MS4 NPDES Permit (Permit) to the District on April 19, 2000. The Permit allows discharges from the MS4 to the Potomac and Anacostia Rivers and tributaries in accordance with the conditions of the Permit. The three-year term of the current Permit expired on April 19, 2003, and EPA is in the process of reissuing the Permit. The current permit remains in effect, including all reporting requirements, until the permit review process is complete and the new permit is issued.

On October 19, 2002, the District applied for a new NPDES permit and submitted an upgraded Storm Water Management(SWM) Plan for approval. This plan describes the District's SWM Program to control pollutant discharge from the MS4 to the Potomac and Anacostia Rivers and their tributaries. On November 14, 2003, the EPA issued a draft of the new permit for public comment and review. The new permit is expected to be issued in the spring/summer of 2004.

1.2.1 Storm Water Act

On June 12, 2001, DC Law #13-311 "Storm Water Permit Compliance Amendment Act of 2000" (Act) was made final by the District of Columbia to amend the powers of the Water and Sewer Authority (WASA) to engage in certain MS4 permit compliance activities. The Act created a Storm Water Administration within WASA and established WASA as its lead agency to coordinate actions among other District agencies in connection with permit compliance activities. The General Manager of WASA is empowered to designate a person to head this new Administration. The Act also established a Storm Water Permit Compliance Enterprise Fund (Fund) to fund the Storm Water Administration's MS4 Permit implementation activities. Monies from the Fund are to be available to the participating agencies for costs incurred because of MS4 Permit mandated activities, including administration, operations, and capital projects.

The Act requires the Department of Health (DOH), Department of Public Works (DPW), and the District Department of Transportation (DDOT) together with WASA to transmit a Semi-Annual Report every six months following the effective date of the Act to the Mayor and the Council of the District of Columbia. This report describes the activities undertaken in the previous six months and outlines activities planned for the following

six months. The Act indicates that the semi annual reports include descriptions of storm water related activities, including: compliance with MS4 Permit requirements; administrative, planning, and regulatory actions; operation, maintenance, and capital improvements of storm water facilities; expenditures from the Fund, and expenditures on related storm water activities from annual appropriations, federal grants, and the Water and Sewer Enterprise Fund. A copy of the most recent Semi-Annual Report issued in December 2003 is provided in Appendix 1-C of this report.

1.2.2 Memorandum of Understanding

WASA executed a Memorandum of Understanding (MOU) on December 11, 2000 with the Permittee, the Chief Financial Officer of the District of Columbia, DOH, and DPW. A copy of the MOU is provided in Appendix 1-D of this report. The MOU assigns responsibilities among the foregoing parties for compliance with the Permit. As of October 1, 2002, the newly formed DDOT has taken on the relevant responsibilities formerly assigned to DPW. The responsibilities of DDOT generally concern the construction and maintenance of streets and roads and the removal of snow and ice.

The MOU also mandates the preparation of an Agency Compliance Plan each year. This plan sets forth each agency's proposed budget plan dedicated for MS4 permit compliance activities and a statement of its sufficiency. The Storm Water Administrator, the person designated by the General Manager to head the new Storm Water Administration within WASA, is responsible under the MOU to review each agency's plan and determine whether it adequately funds MS4 permit compliance activities. In accordance with the MOU, the Storm Water Administrator shall notify the agency, the Mayor and City Council of funding deficiencies found in any agency plan and necessary correction actions. The 2004 Agency Compliance Plan was prepared and submitted to the City Council on November 15, 2003. A copy of the 2004 Agency Compliance Plan is provided in Appendix 1-E of this report.

1.2.3 Storm Water Permit Compliance Enterprise Fund

The Storm Water Permit Compliance Amendment Act of 2000 established the Storm Water Permit Compliance Enterprise Fund to finance the Storm Water Administration's MS4 Permit implementation activities. To capitalize the Fund, the Act authorized WASA to collect a storm water fee of \$7.00 per year from single-family water customers,

1.4% of the water rate from multi-family residential water and sewer customers, and 2.0 % of the water rate charged to commercial, industrial, federal, and municipal customers.

WASA began charging the storm water fee with the billing cycle that started July 1, 2001. Annual income from the fee is approximately \$3.1 million per year. Income from the Fund is to be available to any District agency for costs incurred to comply with the terms of the Permit, including administration, operations and capital projects. WASA has established a system to approve and reimburse eligible expenditures from the Fund.

The District is currently investigating a modified storm water rate structure based on the amount of impervious area on a user's property. In April 2003, WASA completed a draft rate study report as part of the Long Term Control Plan to control combined sewer overflows. The draft report was entitled *Feasibility Analysis of a Rate for Cost Recovery for Stormwater and Combined Sewer Overflow Control Programs in the District of Columbia*. The report addressed rate recovery issues for both the combined sewer system, and the MS4. In summary, the report indicates that:

1. An equivalent billing unit method, based on representative shares of impervious surface area, is straightforward and provides an equitable allocation of costs for storm water pollution control activities.
2. The implementation of the equivalent billing unit cost recovery system may be an involved undertaking.

Final action based on this report is expected following issuance of the new permit, and approval of the combined sewer system Long Term Control Plan.

1.2.4 Annual Reporting

The District submitted the 2003 Annual Report, Implementation Plan, and Discharge Monitoring Report to the EPA on April 19, 2003. The Annual Report described MS4 permit-related activities conducted by District agencies during calendar year 2002, while the 2003 Implementation Plan outlined projected activities scheduled for the three fiscal years FY 2003 through FY 2005. The Discharge Monitoring Report included the analytical laboratory results of discharge samples collected during 2002. EPA accepted

the 2003 Annual Report on June 4, 2003. A copy of the letter accepting these deliverables is included in Appendix 1-F of this report.

1.2.5 EPA Comments on the Storm Water Management Plan and Reapplication Materials

On June 4, 2003, EPA completed its review of the upgraded SWM Plan and issued comments to the District. Response to the comments was requested within 30 days. Appendix 1-F provides a copy of this letter.

The comments consisted of seven general comments and four specific comments. The specific comments focused on additional supportive maps or information for the SWM Plan, while the general comments focused on the overall storm water efforts and methods of monitoring and controlling pollutants in the District and Chesapeake Bay Area. A summary of the seven general comments is as follows.

1. Provide an explanation on how the District will proactively pursue an illicit discharge connection program over the next permitting cycle (5 years).
2. Explain how the District intends to enhance their current program during the next permitting cycle to give more attention to providing incentives for citizens and businesses to control storm water runoff from their properties.
3. Explain the District's MS4 program during the next permitting cycle for actively pursuing implementation of low impact development (LID) on existing development to compliment the LID-Residential designation found in the Combined Sewer System studies and plans.
4. As a signatory to the Chesapeake Bay Agreement, explain how the District intends, through the SWM program, to comply with the Chesapeake Bay Program urban best management practices (BMP) data submission guidelines and to address nutrient and sediment removal requirements through the Chesapeake Bay Program for its street sweeping efforts.
5. Explain the status and schedule for implementing the ongoing changes in the District's legal authority with respect to Federal rules and regulations. Also, explain how the District will continue its present implementation program for identifying and

bringing any future legal authority into compliance with current Federal Clean Water Act regulations, during the next permitting cycle.

6. EPA recommends adding language to the Storm Water Management Plan to include, by reference to the 2002 Implementation Plan, acknowledgement of the District's implementation and management roles. Both of which have significantly contributed to the development of the SWM Plan, and how it will continue to be implemented during the next permitting cycle.
7. The District needs to explain its implementation program for addressing measurable present and future Total Maximum Daily Load (TMDL) storm water reductions through the MS4 Permit for the next permitting cycle.

On June 19, 2003 the District wrote a response to the June 4th letter, requesting an additional 60 days, until September 2nd, to send EPA a response to the comments. On August 21, 2003 the members of the Storm Water Task Committee met with EPA to discuss the Storm Water Management Plan and application materials, and the District provided written responses to the comments in a letter dated September 2, 2003.

On October 29, 2003, the EPA completed its review of the SWM Plan materials and issued a letter of approval. All of the annual reports, annual implementation plans, and annual discharge monitoring reports were incorporated into the Storm Water Management Plan by reference. The EPA letter further notes that these collective materials become "*the master plan for determining the systems that will control the implementation of the District's storm water management program under the reissued MS4 NPDES Permit*". Appendix 1-G provides a copy of this letter.

On November 15, 2003, EPA published the draft MS4 NPDES Permit for public review and comment. The District provided written comments on the draft permit in a letter dated December 16, 2003.

1.2.6 Permit Administration

As the lead agency designated by the Storm Water Act, WASA is administrating the MS4 Permit. In December 2001, WASA completed procurement of an MS4 Permit Administration Consulting contract. EA Engineering, Science, and Technology, Inc. will

continue to provide engineering consulting and administrative support for the MS4 Permit activities under this contract until September 2004.

1.3 COST BENEFIT ANALYSIS, BUDGET FOR THE FOLLOWING YEAR, AND A SUMMARY OF COMMITMENTS FOR THE FOLLOWING YEAR

A cost benefit analysis of current and planned MS4 permit activities is included in the 2004 Implementation Plan submitted together with this report. The Implementation Plan explains the activities and anticipated budgets planned for the next three fiscal years. Implementation of the budgeted activities outlined in the 2004 Implementation Plan will substantively fulfill the requirements of the current Permit. The plan will continue current activities to manage storm water pollution and encourage improved storm water management techniques, while providing the organizational and legal framework, together with the technical evaluation and specific data necessary to ensure progress and track improvement in storm water quality discharged from the MS4. The Implementation Plan will be reevaluated after issuance of the new permit to ensure the activities required under the new permit are addressed in an effective, cost-efficient manner.

1.4 METHODOLOGY TO ASSESS THE EFFECTS OF THE STORM WATER MANAGEMENT PLAN IN REDUCING POLLUTION AND ACHIEVING THE REQUIREMENTS OF THE CLEAN WATER ACT

Assessing the effects of the SWM program in reducing pollution and achieving the requirements of the Clean Water Act involves a variety of measurement metrics and processes. According to the EPA Guidance Manual entitled “*Guidance Manual for the Preparation for Part 2 of the NPDES Permit Applications from Municipal Separate Storm Sewer Systems,*” there are two ways to assess the SWM program. They are:

1. *Direct Measurement, which includes the number of BMPs installed, removal efficiencies, storm water volume reduction, event mean concentration reduction, and estimated pollutant loading reduction, and*
2. *Indirect Measurement, which includes but is not limited to, the amount of household hazardous waste collected, number of public hearings and attendance at these hearings, number of spill cleanups, number of*

sewer inlet stencils, number of educational brochures distributed, and number of erosion and sediment control permits issued.

In order to help provide direct assessment of the SWM program impact on water quality, the District is continuing its long-term monitoring program. The program rotates storm water sampling from the Anacostia watershed to the Rock Creek watershed to the Potomac watershed on an annual rotation. By focusing monitoring in one watershed during a given season, a more complete measure of pollutant loading from that watershed is obtained.

Within each watershed, DOH has selected outfalls that are representative of the MS4 for inclusion in the discharge monitoring program. By monitoring representative outfalls, an economy of time, effort, and resources can be made in assessing the impacts of the SWM program on pollutant discharge from the MS4 as a whole. Programs such as removing illicit connections, improved erosion and sediment controls for construction sites, and refurbishment of municipal waste transfer and salt storage areas will result in immediate and predictable reductions to pollutant loading to storm water runoff in a known watershed. Such measures require monitoring data, and runoff modeling to quantify results.

Monitoring provides measurement of the pollutant levels in a watershed so as to evaluate the removal of pollutants by structural BMPs. These BMPs may include LID techniques, catch basin filters and/or inserts, oil and grease traps and flow reduction devices incorporated by new construction and redevelopment throughout the District. These structures are placed on individual sites by residents, businesses, and federal facilities and are designed to control the water flow and pollutants from the land area of that specific site. A reduction of pollutants at a monitoring site cannot be expected until after a significant amount of the monitored watershed area is controlled by BMPs.

The pollutant reduction from a BMP is typically expressed as a percentage reduction (of a particular pollutant). In order to evaluate the effect of a BMP, knowledge of the pollutant level (in the water flowing from the site) prior to BMP construction is required. After construction, monitoring data should provide a new measure of the level of the pollutant so that a percentage reduction can be estimated. Examples of this may be a 70% reduction of oil and grease in a BMP installed near an automotive repair shop, or 80% reduction of floatable trash (Total Suspended Solids) in a BMP near a public park area.

Progress of the SWM program under the SWM plan can also be assessed indirectly utilizing statistics regarding storm water management activities reported by District agencies. While these measures are qualitative and not quantitative, the level of effort, equipment and manpower for each storm water management activity under the SWM plan help to provide indirect measurement of pollution reduction achieved. Programs such as public education and contractor and equipment operator training produce effects that are dispersed over time and location. Impacts to the pollutant levels of the MS4 are usually indirectly measured by tracking the number of persons trained or through testing of comprehension.

Some SWM plan measures, such as long-term traffic and transit planning, and programs implemented by consumers like rain leader disconnection or other small-scale residential BMP installation, require significant time in planning and implementation. Thus, effects of today's work may not be measurable within the term of the current permit, or even the following one. Such measures, while quantifiable, require extended time intervals of measurement, or estimates of future implementation rates and efficiencies.

Methodologies for assessing the effects of the SWM program in reducing pollution and achieving the requirements of the Clean Water Act will continue to be developed and refined to provide a consistent measure of progress and success in the MS4 program.

1.5 ORGANIZATION OF THE ANNUAL REPORT

The report's outline follows the organization of the Permit, and includes the following sections:

- 1.0 Introduction and Methodology**
- 2.0 Storm Water Pollution Control: Source Identification**
- 3.0 Storm Water Pollution Control: MS4 Retrofit Program**
- 4.0 Storm Water Pollution Control: Management Plan for Commercial, Residential, and Federal and District Government Areas**
- 5.0 Storm Water Pollution Control: Management Plan for Industrial Facilities**

- 6.0 Storm Water Pollution Control: Management Plan for Construction Sites**
- 7.0 Storm Water Pollution Control: Flood Control Projects**
- 8.0 Storm Water Pollution Control: Municipal Landfills and Other Municipal Waste Facilities Management**
- 9.0 Monitor and Control of Storm Water Pollutants From Hazardous Waste Sites**
- 10.0 Storm Water Pollutant Control: Pesticides, Herbicides, and Fertilizer Application Management**
- 11.0 Storm Water Pollution Control: Deicing Activities Management**
- 12.0 Storm Water Pollution Control: Snow Removal Management**
- 13.0 Storm Water Pollution Control: Management Plan to Detect and Remove Illicit Discharges**
- 14.0 Storm Water Pollution Control: Enforcement Plan**
- 15.0 Storm Water Pollution Control: Public Education**
- 16.0 Storm Water Pollution Control: Monitoring and Reporting Requirements**
- 17.0 Hickey Run Storm Water Pollution Control Using The Total Maximum Daily Load**

Each section begins with a summary of the Permit requirements followed by a brief summary of permit compliance activities conducted in 2003.

Supporting details and complete discussion of activities related to the section subject are then presented. Specific details are presented in order of the requirement listing in the Permit to facilitate review and comparison.

2.0 STORM WATER POLLUTION CONTROL: SOURCE IDENTIFICATION

2.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

2.1.1 Permit Requirements

Part II of the Permit describes the requirements for Source Identification.

2.1.2 Compliance Summary

The source identification program emphasizes the collection of data regarding the population, land use activities and storm water runoff potential in the District. A summary of these compliance activities is as follows.

- Significant changes in the District
- Land use activities
- Population estimates
- Runoff characteristics
- Major structural controls
- Landfills
- Publicly owned lands
- Industries

Section 2.2 below provides details of these activities.

2.2 SIGNIFICANT CHANGES

On April 19, 2001, the first Annual Review defined significant changes as, “changes considered to have the potential to be of an important nature that revise, enhance, or otherwise modify the physical, legal, institutional, or administrative condition of land use

activities, population estimates, runoff characteristics, major structural controls, landfills, publicly owned lands, and industries.”

The EPA response dated June 5, 2001 states, “This submittal meets the requirements of the Permit and may be used as a basis for developing a more detailed analysis in the Annual Report...” Therefore, the District has adopted the above stated definition of “significant changes.”

2.2.1 Land Use Activities

The District is highly urbanized, with little available land for further development. All new development and development of existing areas is subject to the District’s storm water regulations with a review by DOH. The land use and impervious area must be indicated on all plans submitted to DOH Watershed Protection Division (WPD) for review and inspection. No single development plan reviewed to date has sufficient land area to make a significant impact to the MS4 system. The cumulative impacts of the proposed and new developments reviewed over the past year have not resulted in a significant change for the existing land use activities in the portion of the District served by the MS4.

2.2.2 Population Estimates

The Bureau of the Census reported in the 2000 Census of Washington, DC that there were 572,059 people residing within the City. According to the 1990 Census there were 606,900 people residing in the City. This is a decrease in population of 34,481 people or 5.7%. While a 5.7% decrease in population over the past 10 years is not deemed to be significant with respect to sources of pollution in storm water, a continued trend in population reduction could result in changes in the future. Population data from the US Census Bureau is provided in Appendix 2-A of this report.

2.2.3 Runoff Characteristics

As noted in Section 2.2.1 above, no significant changes in land use activities were identified during the past year. Therefore, no significant changes in the runoff characteristics were identified in the MS4 drainage area.

2.2.4 Major Structural Controls

Ongoing maintenance of the MS4 infrastructure including structural controls is conducted to ensure consistent performance of MS4 components. There have been no major structural controls added or removed from the MS4 system during the past year.

A sample of the minor structural controls being added by the District to the MS4 include:

- An LID pilot project has been implemented in conjunction with the reconstruction of 8th Street, SE. Monitoring is scheduled to begin in calendar year 2004.
- The BMPs planned for installation to treat oil and grease and floatable debris in Hickey Run.

The 8th Street LID pilot project and Hickey Run BMPs are discussed in detail in Sections 4 and 17 of this report, respectively.

2.2.5 Landfills

There are no active landfills within the District.

2.2.6 Publicly Owned Lands

The National Park Service is the primary public entity holding land within the District. According to the fiscal year 2001 listing of acreage by Park, the National Park Service owns 4,327 acres within the District. According to the 1997 listing of acreage, there were 4,328 acres under the control of the National Park Service. This is a decrease of approximately 1 acre over the last five years.

The US Forest Service Agricultural Research Service runs the National Arboretum. The Arboretum is 446 acres in size and has not increased or decreased in size in the past five years. The DC Department of Parks and Recreation also controls acreage in the District. According to Parks and Recreation personnel, there are 867 acres of land under its control. The amount of publicly owned lands in the District has been stable over the last year with no significant changes in public land ownership.

2.2.7 Industries

No significant changes in industrial activity were identified over the past year. The Industrial Facilities Database has been updated and is discussed in detail in Section 5 of this report. The database will continue to be used to track changes in industrial activity in the District.

3.0 STORM WATER POLLUTION CONTROL: MS4 RETROFIT PROGRAM

3.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

3.1.1 Permit Requirements

Part III.B of the Permit requires the District to conduct an evaluation of the location, size, and number of MS4 retrofits that will be necessary to meet the requirements of the Clean Water Act and EPA regulations.

3.1.2 Compliance Summary

The MS4 retrofit program emphasizes the retrofit and improvement of the existing flood control and MS4 systems with respect to storm water pollution control. A summary of these compliance activities includes:

- Evaluation of MS4 retrofits
- Planned MS4 retrofits

Section 3.2 below provides details of these activities.

3.2 MS4 RETROFIT ACTIVITY

3.2.1 Evaluation of MS4 Retrofits

During 2003, the District continued an evaluation of the MS4 infrastructure to identify retrofits that may be necessary to meet the requirements of the Clean Water Act and EPA regulations. The retrofit program includes mandatory SWM improvements for all new construction and re-construction and an integrated effort to encourage federal facilities and private landowners to retrofit existing properties. The District is following a watershed approach throughout the District, targeting the MS4 storm sewersheds that discharge to the Anacostia River for the first phase of the retrofit program. The District is identifying approximately 10 major sewersheds, and developing comprehensive retrofit strategies for each sewershed. GIS land-use and zoning data will be used together with the MS4 monitoring results to target sewersheds and incorporate controls best suited to the pollutant of concern and topography/land use in the sewershed. Controls will include

best management practices, control techniques and system design and engineering developed to achieve reductions in pollutant loading to the Anacostia River from the MS4.

After completion of the sewershed strategies for the major sewersheds in the Anacostia watershed, the District will complete the development of comprehensive retrofit strategies for the remaining sewersheds in the Anacostia watershed, while beginning construction of capital projects identified in the completed retrofit strategies. Construction activities will be limited by available funds and subject to reprioritization depending on the date and specific requirements identified in the new MS4 permit expected to be issued during FY 2004-05. The District will continue to evaluate the MS4 infrastructure system-wide to identify additional retrofits that may be required by changes in the system (e.g. separation of sanitary and storm sewers within areas of the combined sewer system); and/or, changes identified in pollution sources, land use, and storm water quality characteristics as identified in the discharge monitoring program.

Following the completion of the Anacostia planning, the District will begin development of comprehensive retrofit strategies for the major sewersheds in the Rock Creek watershed, and then the Potomac watershed.

As part of the retrofit program for the Anacostia watershed, WASA is planning to separate the combined sewer in the Lcomb Valley portion of the Anacostia watershed. Construction of the separation is scheduled for FY 2004-6. As part of the separation, multiple LID techniques will be utilized to reduce the volume of runoff, and minimize pollutant loading to the MS4. This project will serve as a pilot project in the District and will be monitored to provide effectiveness data for use in retrofits throughout the district.

3.2.2 Planned MS4 Retrofits

The MS4 serving the headwaters of the Hickey Run has been identified for a MS4 retrofit to reduce oil and grease and floatable debris in Hickey Run. A draft Watershed Management Plan has been prepared summarizing MS4 activities in the Hickey Run Watershed, and providing recommendations for a comprehensive evaluation of storm water quality, and a targeted education and enforcement program aimed at improving storm water quality in the watershed. A specific focus of the plan is reducing oil and grease loading to Hickey Run. Currently, a structural BMP is planned for construction at the outfall of the largest of the four outfalls from the MS4 system to Hickey Run. The

BMP will be designed to treat oil and grease, and remove floatable material. Section 17 of this report provides additional details regarding the Hickey Run TMDL, and permit-related activities to reduce pollutant loading from the MS4.

While no specific sites for additional retrofits have been identified, the sewershed strategies being developed (as described in the previous section) will identify retrofits necessary to meet TMDL requirements, and are expected to include construction of LID techniques and other structural BMPs in conjunction with new and expanded programmatic BMPs such as public education and street sweeping.

4.0 STORM WATER POLLUTION MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS

4.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

4.1.1 Permit Requirements

Part III.B.1 of the Permit requires the District to implement the November 4, 1998 SWMP, to reduce the discharge of pollutants from Commercial, Federal and District government owned/operated facilities, and residential areas into the District MS4.

4.1.2 Compliance Summary

The District has developed and continues to implement a program to control storm water discharges from Federal and District-government areas. The District does not have jurisdiction over federal lands to require the installation of structural retrofits to control storm water pollutants from federal lands. However, District of Columbia Municipal Regulations (DCMR) requires federal agencies to comply with the District's erosion and sediment control regulations with respect to new construction and re-construction on federal properties in the District. In addition, DOH has signed agreements with DDOT and the General Services Administration (GSA), which requires federal contractors working on buildings or highway improvements to comply with the District's erosion and sediment control regulations. DOH reviews construction plans submitted by DPW, DDOT and WASA with respect to these requirements.

The management plan for storm water pollution control on commercial, residential and Federal and District government areas entails a mixture of programs emphasizing structural and non-structural BMPs and educational programs. A summary of these compliance activities is as follows.

- District regulatory requirements, such as the Soil Erosion and Sediment Control Standards and Specifications and the District Storm Water Guidebook.
- Functional landscaping programs, such as the use of structural BMPs and riparian buffer zones on new roadway construction.

- LID Practices.
- Catch basin cleaning, maintenance of the MS4, street sweeping, and leaf collection.
- Rain leader disconnection.
- Education programs on pet wastes, fertilizers, and landscaping.
- Mapping of storm water impacts
- Strengthening erosion control for new construction
- Continuing to work with federal and District facilities in order to implement and maintain storm water pollution controls on new and re-build construction.

Section 4.2 below provides details of these activities.

4.2 MANAGEMENT PLAN FOR COMMERCIAL, RESIDENTIAL, AND FEDERAL AND DISTRICT GOVERNMENT AREAS ACTIVITIES

The general requirements of the Permit entail a mix of programs to comply with the Clean Water Act. A coordinated program of activities is included in the management plan for commercial, residential, and Federal and District government areas. The following sections detail progress for each activity over the past year.

4.2.1 DC Storm Water Manual

DOH WPD has completed the revised *District of Columbia Soil Erosion and Sediment Control Standards and Specifications*, and the revised and updated the District's *Storm Water Guidebook*. These standards and specifications are followed by all District builders, whether private, commercial or Federal or District, for all new and rebuild construction sites. The revised *Storm Water Guidebook* details the use of new and innovative BMPs for erosion and sediment control and the control of storm water pollutants at new and rebuild construction sites. Water quality BMPs are required for new and rebuild construction sites in order to reduce the quantity of pollutants to the MS4. A list of BMPs used in the District's *Storm Water Guidebook* is given in Appendix 4-A of this report.

4.2.2 Functional Landscaping

In cooperation with Howard University, DDOT conducted a study of BMPs to determine which can be used most effectively for implementation at road construction and reconstruction projects in the District. The September 2002, Howard University report is titled, *Evaluation of Best Management Practices for Reduction of Transportation-Related Storm Water Pollution in the District of Columbia*. DDOT has contracted with Howard University to prepare specific BMP design standards for inclusion in DDOT's design plans. Completion of this work is expected in FY 2005.

The DOH WPD continues to develop recommendations of BMP effectiveness based on the most current technologies and makes recommendations for developers and District agencies to improve storm water management aspects of construction and rebuild construction as well as street and highway design and construction. The DOH-WPD works with developers through the plan approval process, encouraging them to incorporate functional landscaping techniques in their design work.

In December 2000, DOH WPD released a *Draft Riparian Forest Buffer Strategy for the District of Columbia Nonpoint Source Management Program*. The purpose of the strategy is to help manage nonpoint sources of pollution and to educate public groups to manage riparian buffers in the District, using a voluntary approach.

The strategy recommends two zones of buffering. Zone 1 is located at the edge of stream and is a minimum of 35 feet wide. This is the minimum area to maintain a buffer depth of three to five trees. Zone 2 is 20 feet wide and consists of grasses and is designated a "No Mow Zone." The buffer zone allows for slowing down and providing natural treatment of storm water runoff, as well as providing wildlife habitat.

Several citizens and government agencies expressed concerns about riparian forest buffers. Concerns included vandalism of planted vegetation, signage, creation of areas prone to "criminal activity," and increases in the "wild appearance" of areas. To help address these concerns, the strategy was revised to include four additional goals:

- Coordinate the restoration and protection of riparian buffers in the District. This would include the establishment in the subwatershed of a restoration action strategy, a discussion of riparian buffers, and plans for riparian buffers to be maintained or established.

- Meet regularly with government officials and citizens groups, and provide guidance to developers in the use and application of riparian buffers. The meetings with citizens include distribution of educational documents, and the involvement of citizens in the actual development and restoration of riparian buffers.
- Monitor and maintain planting in order to ensure that the plantings have a better survival rate. This can be accomplished by encouraging volunteers and residents of the neighborhood to regularly inspect areas and to report incidents of vandalism or destruction of the buffers, and to report the need for replacement of trees that have been damaged or die.
- Amendments to the Water Pollution Control Act of 1984 to include language that will protect riparian buffers and other critical habitats.

The *Draft Riparian Forest Buffer Strategy for the District of Columbia Nonpoint Source Management Program* is provided in Appendix 4-B of this report.

DOH WPD will continue to encourage developers to incorporate functional landscaping techniques in their site development plans as part of the requirements to comply with the District's floodplain management, erosion and sediment control, and storm water management regulations. This is accomplished by inviting developers to training sessions where functional landscaping is demonstrated. Developers then use what they learned in training to incorporate functional landscape techniques into their plans, thus assisting storm water management and sediment control regulation compliance.

4.2.3 Low Impact Development Practices

Through educational programs and the plan approval process, DOH WPD promotes and encourages the use of LID techniques throughout the District. These review activities have included demonstration projects involving bio-retention ponds, vegetated bio-filters, porous pavers, and a green roof. DOH has issued several grants to demonstrate LID techniques, including the construction of two green roofs in the city's business core. Also, DOH and DC Public Schools have conducted various coordinating meetings to assure consideration of LID retrofits in future school renovation projects. Additionally with respect to schools, DOH has established a Schoolyard Consortium to promote the construction of school-yard training habitats that incorporate LID. Lastly, DOH is in the

process of establishing a cost-share program to provide incentives for developers and residents to retrofit their properties for storm water management using LID techniques. DOH hopes to have the program in place by the end of 2004.

In October 2002, DDOT began construction of the LID pilot project on 8th Street SE between Pennsylvania Avenue and M Street. The pilot project involves the construction of several LID practices, such as specially designed filter tree boxes, porous pavement area adjacent to the curb line and landscaping techniques. The construction was completed in 2003. Part of the LID pilot project involves the installation of monitoring equipment that will provide data on the effectiveness of the various LID techniques used. The project will also serve as a demonstration project for LID techniques. The 8th Street SE rehabilitation extends over several city blocks, with the LID pilot practices installed in a two city block section. The Low Impact Development Center, Inc., a non-profit organization working with DDOT on the LID project, developed ratios of the sand, silt, clay, and mulches used in the soil mixture for the planting beds, piping that will be placed under the beds, and the depth at which the trees were planted.

Monitoring devices will be installed in catch basins that are currently in these two blocks and in a similar city block without LID practices. A comparison of the results from the two blocks will provide an assessment of the effectiveness of the LID practices installed. Equipment for the monitoring study is scheduled for installation in the summer of 2004.

The evaluation of this pilot project, together with the results of the Howard University BMP Study, *Evaluation of Best Management Practices for Reduction of Transportation-Related Storm Water Pollution in the District of Columbia*, will be used to refine the selection and design of LID features to be incorporated in future road and street construction and reconstruction within the District.

DDOT and DOH are actively investigating other areas of the District for future pilot projects. In this investigation, potential sites are evaluated as per their suitability for testing and monitoring LID projects and assessing the runoff from construction projects. The District will continue to review and approve storm water management plans and encourage developers, both commercial and governmental, to incorporate LID measures in their site developments.

4.2.4 Catch Basin Cleaning and Street Sweeping Activities

4.2.4.1 Coordination of Catch Basin Cleaning and Street Sweeping Activities

DPW is currently responsible for street sweeping activities in the District, while WASA conducts catch basin cleaning as part of its maintenance of the MS4 conveyance infrastructure. DDOT maintains the federal roadways through a contractor. This contract includes street sweeping and catch basin cleaning of federal roadways in the District.

WASA and DPW coordinate street sweeping and the cleaning of catch basins through discussions with the foremen responsible for these activities. Catch basin cleaning and sweeping are coordinated to the extent practicable to minimize floatable discharges into receiving waters.

WASA and DPW both operate their routine cleaning activities on schedules that maximize the use of the District's equipment and manpower. Typically, WASA seeks to clean each catch basin once every six months to a year. This is accomplished through both an annual spring cleaning emphasis in each of the District's Wards and in response to public requests. DPW intends to sweep each of the District's streets as often as once every week to no less than once each month.

In addition to these routine activities, WASA and DPW cooperate in joint clean-up activities in the District's wards. A clean-up activity typically consists of a week of concentrated effort by WASA and DPW capped off by a day with volunteers working alongside WASA and DPW staff. During these special activities, WASA and DPW personnel and volunteers can be seen working together to clean up the District's wards. The schedule for these cleanup activities is also provided in Appendix 4-C of this report.

4.2.4.2 Street Sweeping Activities

Street sweeping of Federal highways in the District is provided by DDOT, while the local streets and roads are swept by DPW.

DDOT has entered into a contract with VMS, Inc., to maintain approximately 75 miles of the District's interstate and federal roadway system. This five-year maintenance contract requires that the contractor inspect and maintain the following elements of the infrastructure: pavement surfaces, shoulders, drainage structures, catch basins, drains,

inlets, curbs, gutters, sidewalks, medians, grass, trees, shrubs, and on bridges, oil/ grit separators. As part of the VMS, Inc., contract, interstate and federal highway cleaning is performed for the District. Each federal roadway is mechanically swept a minimum of once every four to six weeks, or more frequently, as need dictates.

DPW provides street sweeping services for the remaining streets and roads in the District. Three basic methods are used to clean and sweep streets: mechanical street sweeping, truck crews, and litter vacuum personnel. The DPW Monthly Street and Alley Cleaning Analysis is included as Appendix 4-D of this report.

- Mechanical street sweeping is provided by DPW Solid Waste Management staff in commercial and some residential areas of the city. Downtown mechanical street sweeping is provided in the evenings. In congested residential areas, parking regulations require that one side of the street is free of parked cars once a week to facilitate mechanical sweeping activities.
- Truck crews, made up of 3 persons each, collect material from streets and gutters where mechanical sweepers are not used. Most streets receive manual cleaning every four to six weeks.
- Litter vacuums are used by personnel to collect material from the downtown commercial area, Capital Hill, commercial areas east of the Anacostia River, and along major arterials.
- Debris removed under the street sweeping program is handled as standard municipal solid wastes. As such, debris is deposited at one of two municipal waste transfer stations operated by DPW.

In FY 2003, the District spent \$15.5 million dollars on street sweeping activities. According to the DPW Performance Measures Score Card for FY 2003, a total of 102,181 miles of streets, freeways, and highways were cleaned mechanically, and 41,238 alleys and roadways were cleaned manually and with mechanized sweepers. Street sweeping and alley cleaning work yielded 7,553 tons of collected debris in FY 2003; to accomplish this task, 306 full-time employees were assigned to the task.

In FY 2004, DPW will continue to maintain 30 mechanical street sweepers with a staff of 32 sweeper operators. Litter vacuums are used by personnel to collect material from the

downtown commercial area, Capitol Hill, commercial areas east of the Anacostia River, and along major arterials. No additional personnel are anticipated for FY 2004.

As part of Street Sweeping Activities, DPW purchased 300 litter cans using Storm Water Enterprise Fund monies in FY 2003 and has budgeted funds to purchase 300 additional litter cans in FY 2004. With these purchases, DPW will have more than 4,050 litter cans placed in strategic areas, including bus stops and high-density commercial areas where pedestrian traffic is heavy. During FY 2003, DPW collected 9,516 tons of trash from these litter cans.

4.2.4.3 Catch Basin Cleaning Activities

WASA currently conducts the operation and maintenance of pipes and conduits carrying storm water flow. There are approximately 25,000 catch basins located within the public right-of-way in the District of Columbia. Approximately two-thirds of these catch basins are in the MS4 area, with the remainder in the combined sewer system area. WASA's cleaning program does not differentiate between the two systems and works to keep all catch basins clean. Catch basins located on the District's federal interstate roadway system are cleaned and maintained by DDOT's contractor, VMS, Inc.

The District is divided into eight wards. Crews operate on a predetermined schedule, cleaning catch basins by ward. The 2004 catch basin cleaning schedule is provided in Appendix 4-C of this report. WASA Department of Sewer Services has 21 people assigned to the task of catch basin cleaning. WASA primarily uses clam-bucket vehicles to clean the catch basins, while Jet-Vac® Combination Machines are used to clear clogged catch basin connections, and to clean storm grate inlet structures that are too small for the clam buckets. Each working day, six two-man crews clean approximately 20 catch basins each, producing 6,000 tons of trash annually from the catch basin cleaning program. In FY 2003 WASA crews cleaned 28,400 basins as part of the basin cleaning program. WASA has assigned 10 people (two crews of five laborers) for catch basin repair. Responsibilities vary from resetting the tops of the catch basins to redesigning the catch basin to avoid damage, to rebuilding the entire structure. In FY 2003 WASA crews repaired 366 basins as part of the basin repair program.

4.2.5 Coordination of Leaf Collection

DPW conducts curbside vacuum collection of leaves from the residences in the District. The City's eight wards are divided into districts, and twice during the collection season leaves are collected from each district on specified days. District residents are mailed a flyer prior to leaf collections. The flyer discusses the benefits of the leaf collection program, and gives residents several options for collection. This flyer is included as part of Appendix 4-E of this report. Residents may rake leaves into piles which are vacuumed by one of the District's leaf vacuum trucks, place leaves into a pile in a treebox space in the front of their property, or bag leaves and place them in the treebox.

Currently, there are 32 vacuum vehicles involved in leaf collection activities, in addition to 32 dump trucks, 14 vans, 6 packers, 2 roll-offs, 1 loader, and 7 pickup trucks. DPW assigns 55 motor vehicle operators, 136 sanitation workers, 2 clerks, 2 heavy mobile equipment repairers, 4 station foremen, and 1 general foreman to leaf collection activities during the three-month collection period.

Leaf collection activities for the past year were conducted from November 3, 2003 through January 16, 2004. The Clean City Initiative report prepared by DPW indicates that 8,334 tons of leaves were collected through the end of 2003. These tonnages represent leaves collected by the vacuum trucks, and do not include bagged leaves, which are collected separately. Details are provided in the DPW Monthly Street and Alley Cleaning Analysis included in Appendix 4-D of this report.

4.2.6 Preventive Maintenance Inspections for Storm Water Management Facilities

WASA Department of Sewer Services continues to conduct inspection of SWM facilities as part of their routine maintenance program, including the inspection of 15 storm water pumping stations, and 9 wastewater/combined pumping stations. These maintenance inspections include greasing of bearings, draining condensate, exercising equipment, checking oil levels, visual inspections, and housekeeping. These inspections were conducted on a daily, weekly, or monthly basis according to an established inspection schedule. WASA Department of Maintenance Services performs corrective maintenance on pumping stations in response to work order requests from the operational staff.

WASA also performs maintenance on the storm sewer system. These maintenance activities include responding to reports on blockages or defects, and the clearing of lateral channels, and ensuring that the outlet structures of the MS4 remain clear. Approximately 1,000 tons of debris are removed each year during these activities. This program utilizes four workers, 1 crane truck, 1 crew cab dump truck, and 1 pickup truck.

DCMR §534.2 states that “the owner of the property on which a storm water management facility has been constructed shall maintain the facility in good condition, and promptly repair and restore whenever necessary all grade surfaces, walls, drains, structures, vegetation, erosion and sediment control measures, and other protective devices.” A maintenance schedule for storm water management facilities is to be developed and submitted as part of the storm water management plan. The District inspects the preventive maintenance of all infiltration systems, swales, retention, or detention structures. Inspections occur three times per year during the first five years of operation and at least once every two years thereafter.

DOH has intensified its enforcement of requirements for the submittal of the Declaration of Covenants for Storm Water Management for residential and business property owners. The declaration has been incorporated into the approval process for new construction activities. These covenants state that the owner must provide a schedule of maintenance activities, and that the storm water management devices will be inspected periodically, and the owner will be responsible for correcting any deficiencies noted, at the owner’s expense. The Declaration of Covenants extends in perpetuity and will transfer with the property to a new owner.

In calendar year 2003, DOH WPD worked to minimize the release of pollutants in storm water runoff to the Anacostia and Potomac Rivers and their tributaries by inspecting 161 storm water management facilities to ensure proper maintenance of these facilities. Storm water management facilities were restored on an as-needed basis and appropriate enforcement actions were taken to ensure compliance.

DOH has increased its inspections and enforcement activities related to preventive maintenance activities. The technical paper entitled “*Maintenance of Storm Water Best Management Practices (BMPs) in An Ultra Urban Setting: The District of Columbia Program*,” authored by Walter Caldwell, a DOH WPD staff member, was presented at the 10th Environmental Conference, Workshop and Trade Show sponsored by the Mid-

Atlantic Chapter of the International Erosion Control Annual and the Pennsylvania Association of Conservation Districts, held in Camp Hill, Pennsylvania September 3-5, 2003, describes some of these activities. This paper is included as Appendix 4-F of this report.

A coordinated effort is being made by all District agencies to conduct inspections of storm water management facilities on a regular basis. This coordination began in FY 2002. A database of all storm water management facilities is maintained by DOH, and schedules of inspections are coordinated through this database.

4.2.7 Rain Leader Disconnect Program

According to the District of Columbia Construction Codes Supplement, all roof drainage must flow into the separate storm sewer or combined sewer. In new construction activities, this regulation is currently enforced during the plan review prior to construction, and during the site inspection process. For existing buildings these regulations are enforceable as a result of the discovery of illegal connections to the sanitary sewer system in the separate sewer system area.

DOH is presently requesting changes to Section 1101.2 of the District Plumbing Code to eliminate perceived obstacles to programs such as rain leader disconnection for new developments, through which all runoff would be channeled to grassed areas for infiltration instead of direct conveyance to the sewer system. The Committee on Consumer and Regulatory Affairs of the District of Columbia Council conducted a public hearing on the District Construction Codes of 2003 on October 22, 2003. On November 13, 2003 the Committee recommended the approval of the proposed resolution to adopt the 2003 Construction Codes to full Council, where it is awaiting final approval. These codes included changes to the International Plumbing Code and the International Existing Building Code that will facilitate the Rain Leader Disconnection Program. Changes to Section 1101.2 of the District Plumbing Code were proposed in order to eliminate perceived obstacles to the voluntary use of LID techniques. Programs such as rain leader disconnection for new developments, which would allow runoff to be channeled to grassed areas for infiltration instead of direct conveyance to the sewer system, could then be encouraged

Changes to the Plumbing Section of Chapter 7 of the International Existing Building Code were proposed to allow the disconnection of downspouts in existing buildings that

are undergoing alterations and repairs, provided the estimated cost of such repairs equals or exceeds the assessed value of the property before the start of the alterations and repairs, and provided the existing downspouts are connected to a sanitary or a combined sewer system.

4.2.8 Education of Public on Pet Wastes, Fertilizing, and Landscaping

Section 15.0 of this report contains a complete discussion of educational initiatives taken by WASA and other agencies of the District to educate the public on the proper disposal of pet waste, use of fertilizers, pesticides, and herbicides, and the proper use of landscaping to control storm water runoff.

DOH WPD has developed an educational outreach program entitled “Scoop Your Pet’s Poop.” This program is designed to inform citizens of their legal obligation to manage their pet’s waste and to explain the reasons why it is important to do so.

DOH WPD continued to provide users with the Nonpoint Source video that provides suggestions on proper lawn fertilization, disposal of household waste, and the application of pesticides and herbicides. The video also was shown at teacher training workshops conducted in the city. DOH WPD has also developed an Integrated Pest Management video. This video gives residents guidance on how to choose an appropriate pesticide, how to choose a pest control company, and what regulatory requirements there are regarding commercial companies applying pesticides.

4.2.9 Mapping and Computer Modeling of Storm Water Impacts

Existing mapping of the separate storm sewer conveyance system has been digitized and combined with the data regarding storm sewersheds and outfall locations to create a database of the MS4 infrastructure. Figure 4-1 illustrates the MS4 infrastructure and outfall locations. Both the conveyance system and outfall data require field verification and quality assurance/quality control (QA/QC) of the database. Additional information (such as the industrial facility database, location of structural improvements, etc.) will be added to the database providing an integrated planning and management tool for the MS4. Field verification of the MS4 database system has begun. Field work includes verification of the outfall location, size, and status, in conjunction with dry-weather flow, and illicit discharge inspections. Work continues as a phased process with targeted areas (e.g., Hickey Run sewersheds) completed during the first phase of work.

DOH WPD has refined and updated the DC automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The database system now contains data for BMPs developed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

4.2.10 Methods of Measuring the Performance of Activities

The District has taken steps to develop a formalized system to measure the performance of storm water management activities to reduce pollution loading to receiving waters. The demonstration of water quality improvements requires a thorough understanding of the existing water quality throughout the MS4. Significant progress has been made in this area including:

- the development of measurement tools such as the discharge monitoring program,
- the verification of the MS4 database system,
- estimating pollutant loading using the Simple Method equation for constituent seasonal and annual load levels
- enhancing regulatory and promotional programs with respect to the use of BMPs
- developing a financial tracking system to better define storm water related expenses

Refining these tools will provide the necessary performance metrics for establishing a simple method to measure the performance of MS4 activities.

4.2.11 Strengthening Erosion Control Programs for New Construction

DOH WPD inspects sediment and erosion control compliance at construction sites as part of the sediment and erosion control program. DOH WPD has increased inspections of federal and District projects including road construction and rehabilitation efforts.

During FY 2003, 2,026 project construction plans were reviewed and 1,740 were approved for compliance with erosion and sediment control and storm water management regulations; 6,036 construction site inspections were performed, and 212 enforcement actions were taken for violations of soil erosion and sediment control and storm water regulations.

Efforts are being made by DOH to reduce storm water impacts from new construction in the District. DOH WPD has completed the revised *District of Columbia Soil Erosion and Sediment Control Standards and Specifications*, and the revised and updated District's *Storm Water Guidebook*. A public hearing was held on February 12, 2003 to solicit public comments before the documents were ready for distribution to the general public. Both documents have now been finalized and are ready for distribution.

Additionally, DOH WPD is planning a workshop and trade show to educate the regulated community on the technical and compliance issues related to our erosion control and storm water management program. The theme of the workshop is "Innovative Approaches to Ultra Urban Erosion and Sediment Control and Storm Water Best Management Practices." The workshop is schedule for April 28-29, 2004, at the campus of the University of the District of Columbia (UDC), 4200 Connecticut Avenue, NW, Washington, DC. UDC and the Mid-Atlantic Chapter of the International Erosion Control Association will cosponsor the workshop.

This workshop will focus on:

- Emerging scientific and best available technological solutions to urban soil erosion and sediment control and storm water management.
- The wide-reaching ramifications of the new NPDES Phase II regulations for storm water discharge through municipal separate storm sewer system (MS4s), as it affects new construction projects.
- New construction guidelines in the 2003 District of Columbia Standards and Specifications for Soil Erosion and Sediment Control and the 2003 Storm Water Management Guidebook.
- Industry-leading companies showcasing new products, services and technologies in the trade show.

- Ideas, knowledge, lessons learned and case studies presented by top-notch researchers, practitioners, regulators, developers, engineers, landscape architects and contractors.

4.2.12 Federal Facilities Program

The DCMR specifies that all builders, including federal contractors, must follow the sediment and erosion controls detailed in Chapter 5 of the DCMR. This includes sediment and erosion controls on new and re-build construction sites. The District maintains a good relationship with the federal government in the application of these regulations to federal properties.

The US General Services Administration (GSA) and DOH signed a consent agreement in FY 2000 that requires work under contracts through the GSA to comply with the same sediment and erosion control requirements as commercial, residential, and industrial operations in the District. This consent agreement assists the District in ensuring that federal facilities comply with the Soil Erosion and Sediment Control Act. DOH and GSA continue to work under this agreement, and a number of federal facilities with NPDES permits for storm water discharges were inspected during FY 2002. A discussion of these inspections is provided in Section 5. This program will meet the requirements of the Clean Water Act by applying appropriate provisions of the Storm Water Management Plan to federal facilities.

DOH WPD has reviewed 47 storm water BMP plans for proposed projects on federal facilities in the period covering FY 2000-2003. These projects have included wetlands, oil and grease separators, sand filters, brick pavers, infiltration trenches, bioretention systems and more efficient inlets. To date 13 of the BMPs have been installed and 24 more have been approved for installation. A table of Federal Facility Storm Water Management Projects for FY 2000 through 2002 is presented in Appendix 4-G of this report.

4.2.13 District Facilities Program

DDOT has assigned a Transportation Project Engineer to focus on the development of new storm water pollution control design standards, review sediment and erosion control plans, coordinate with DOH and develop standard drawings for DDOT planned projects and repair operations. DDOT is developing the job description and scope of work for

two engineering positions, which will focus specifically on MS4 issues. Later in year, DDOT will advertise for these two long-term positions, which will be funded under the Storm Water Enterprise Fund.

4.2.14 Continuance of Current Programs

DDOT will continue maintaining the highway and street systems within the District of Columbia. DDOT has signed a multi-year contract for highway maintenance and inspections. A copy of a sample scope of work for highway maintenance activities including storm water management requirements is provided in Appendix 4-H of this report.

During FY 2004, DDOT will begin calculating the costs of work associated with storm water pollution management and control. This information will be used as support information for monies requested in the FY 2005 budget.

4.2.15 Maintenance of Legal Authority to Control Discharges

Through Chapter 5 of the DCMR, and the D.C. Law #13-311 "*Storm Water Permit Compliance Amendment Act of 2000*," the District of Columbia has maintained the legal authority to control all discharges into waters of the District.

District of Columbia Law # 2-23, "*The Soil Erosion and Sedimentation Control Act of 1977*," requires the establishment and subsequent revision of a soil erosion and sedimentation control standard and specifications. During FY 2003, the DOH WPD completed the revised *District of Columbia Soil Erosion and Sediment Control Standards and Specifications*, and the revised and updated District's *Storm Water Guidebook*. A public hearing was held on February 12, 2003 to solicit public comments before the documents were ready for distribution to the general public. Both documents have now been finalized and are ready for distribution. In an effort to ensure shareholders' involvement in the revision process, DOH formulated a technical review committee consisting of representatives from the US Department of Agriculture, Natural Resources Conservation Service, local building industry associations, and other District agencies who worked with DOH WPD to provide technical review and oversight.

5.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES

5.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

5.1.1 Permit Requirements

Part III.B.2 of the Permit requires the District to implement a program to monitor and control pollutants in storm water discharged to the District's MS4 from Industrial Facilities, and continue to maintain and update the industrial facilities database.

5.1.2 Compliance Summary

The management plan of storm water pollution control from industrial facilities emphasizes the tracking of facilities through a database system, the monitoring and inspection of industrial facilities, and the District's spill prevention and response program. Compliance activities are provided in the following areas.

- Industrial facilities database
- Private solid waste transfer stations
- Hazardous waste treatment, disposal and/or recovery plants
- Industrial facilities subject to SARA Title III, or EPCRA
- Industrial facilities with NPDES permits
- Industrial facilities with a discharge to the MS4
- Monitoring and inspections
- Wet-weather screening program
- Spill prevention, containment and response program

Section 5.2 below provides details regarding these activities.

5.2 MANAGEMENT PLAN FOR INDUSTRIAL FACILITIES ACTIVITIES

The following sections detail how the District has met each of the permit requirements for industrial facilities management over the past year. These activities control and reduce storm water pollution from industrial facilities in accordance with the Clean Water Act.

5.2.1 Industrial Facilities Database

The District continued to maintain a database of industrial facilities with standard discharge and storm water NPDES permits for the purpose of establishing baseline facility information and supporting MS4 related monitoring efforts. The database includes a listing of facilities in the District (whether on private, Federal or District properties) that are registered with Federal and state regulators and generate, store, or have released hazardous materials.

Based on data the DOH Hazardous Waste Division (HWD) submitted to EPA, there were 1,090 such facilities in the District at year-end 2003. Of these, 15 facilities have individual or site specific storm water NPDES permits. A sixteenth permitted facility is located in Virginia but is included in the District's permit universe because pipes from the facility extend into District's tidal zone. The District will continue to update the industrial facilities database to reflect closures and facilities that have been brought under or released from Federal or District regulation.

5.2.1.1 Private Solid Waste Transfer Stations

The District's government does not operate any solid waste disposal sites within the District. Instead, municipal solid waste collected by DPW is deposited at one of two municipal waste transfer stations (4900 Bates Road, NE or 3200 Benning Road, NE), and then transferred out of the District for disposal at licensed facilities. In addition, a total of four private solid waste transfer facilities including two private construction and demolition facilities are in operation within the District. Pollution from storm water runoff at these facilities is being managed under the Solid Waste Facility Permit Act. The Department of Consumer and Regulatory Affairs (DCRA), DOH, and DPW enforce these regulations as part of its responsibility to manage pollution from storm water runoff at municipal waste facilities within the District.

5.2.1.2 Hazardous Waste Treatment, Disposal, and/or Recovery Plants

Presently, the U.S. Navy's Naval Research Laboratory in Southwest D.C. is the District's only active regulated Resource Conservation and Recovery Act (RCRA) Treatment Storage and Disposal Facility. There are 22 RCRA Large Quantity Generators, and 76 RCRA Small Quantity Generators (not including 497 conditionally exempt generators). RCRA regulations outline handling, storage, and spill control requirements at those facilities.

Inspection and monitoring of hazardous waste facilities is the responsibility of DOH-Hazardous Waste Division. Hazardous Waste Division has procedures in place to investigate sites and spills. These procedures include notification and coordination with DOH WQD of any incidents that impact the city's water resources.

5.2.1.3 Industrial Facilities Subject to Superfund Amendments and Reauthorization Act Title III

In accordance with the permit, the District tracks industrial facilities within the District that are subject to regulation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. Six years after CERCLA was enacted, the Superfund Amendments and Reauthorization Act (SARA) amended it. SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act, requires facilities to report on the storage, use or release of certain chemicals and provides for information about potentially dangerous chemicals being made available to the public. One of the means EPA uses to make information available is through the CERCLA information system database. The District continued to update its industrial facilities database to include the current universe of CERCLA-regulated sites. There are currently 30 of these sites registered with federal and state regulators within the District. The list includes private and federally owned sites. Of the 30 sites, only Washington Navy Yard is on the final National Priorities List. A list of facilities is provided in Appendix 5-A.

5.2.1.4 Industrial Facilities With NPDES Permits

Sixteen District facilities have individual or site-specific storm water NPDES permits. While the Mirant Potomac River facility is located in Virginia, it was also issued a permit

by EPA because the piping from the facility extends into the District tidal waters. The facilities are listed in Appendix 5-A of this report.

5.2.2 Industrial Facilities With a Discharge to the MS4

DOH WQD staff reviewed a list of industrial facilities in the District in preparation for an intensive field study to verify NPDES permit holders during Fall 2003. Four of the 16 industrial facilities with individual or site-specific storm water permits discharge to the MS4. The remaining 12 facilities discharge to the combined sewer system. Staff identified at least 22 other facilities that have coverage under the multi-sector general permit whose managers or operators were able to produce documentation at the time of the site visit. (Additional investigation will be conducted to verify the permit status at several facilities where managers could not provide information.)

5.2.3 Monitoring and Inspections

The legal basis for conducting inspections related to storm water management is outlined in DCMR, Chapter 5. Appendix 5-B provides a copy of Chapter 5 of the DCMR.

Over the past year DOH WQD compliance and enforcement officers developed or refined forms and other standardized documents to support industrial facility inspections and related administrative tasks. Examples of these documents, including a new general inspection form, a site directives form, and notice of violation, may be found in Appendix 5-C. The “*Draft Water Quality Division Enforcement and Compliance Manual*”, which details investigation procedures was also revised. Upon completion of these documents, DOH WQD commenced inspections of facilities discharging water to public space and/or MS4 catch basins to determine waterbody impacts. Facilities to be investigated and monitored include private solid waste transfer stations, facilities subject to the Superfund Amendments and Reauthorization Act (SARA) Title III, and RCRA treatment storage and disposal facility.

DOH WQD made contact with many industrial facilities during 2003 while conducting inspections, surveys, and other site visits. Last year, DOH WQD conducted approximately 55 compliance inspections of industrial facilities. With the addition of an enforcement and compliance officer, the Division was able to increase the rate of inspections over the last half of the year. By year-end, DOH WQD issued 11 directives to facilities deemed responsible for illicit discharges to the MS4. Several non-directive

enforcement actions also were applied as a result of the proactive compliance inspections. Section 13 of this report includes a more in depth discussion of the program for the detection and elimination of illicit discharges.

Between January and June 2003, DOH WQD staff identified and visited automotive repair shops in Wards 2 and 5 in the District. In Ward 5, emphasis was placed on discovering the potential sources and reasons for discharges of oil and grease to the MS4 serving the Hickey Run watershed. DOH WQD staff went to more than 40 shops in Ward 5 and asked questions to determine what types of chemicals and wastes the facilities generated and/or stored on site, how the facilities managed wastes and wastewater, facility drains and plumbing, possible connections to the MS4, their record-keeping practices and whether the facility has a storm water pollution prevention plan. The survey revealed that nearly 70 percent of facilities kept adequate records of their operations and waste management activities, but less than one third had a storm water pollution prevention plan. The survey also revealed that some shop employees had trouble describing where materials entering facility drains actually go. The results of the survey provide a baseline level of information that can be used to inform the District's future education, compliance assistance, enforcement activities, and help determine progress.

As mentioned in 5.2.2, DOH WQD surveyed industrial facilities in the District to which EPA had assigned identification numbers under the NPDES program. The purpose of the survey was to verify the physical existence of each facility and the current permit status of the facilities. Another goal was to identify any changes in ownership or operation of the facilities. The Division sought to update its own facility records and be able to inform EPA of any changes in the status of District of Columbia facilities presented in the Permit Compliance System database.

DOH WQD began the survey with a list of a little more than 100 NPDES-regulated industrial facilities in the District and visited the sites during November and December 2003. Survey efforts covered the entire District by focusing on one quadrant (i.e., NE, NW, SE, SW) of the District at a time. DOH WQD discovered that the ownership and operation of most facilities (80) did not differ from the Permit Compliance System data they had obtained. However, some 14 facilities could not be located based on incorrect or incomplete facility location data, and efforts to locate the facilities using other resources did not provide the needed information for the field verification. The survey also

revealed that at almost 40 of the sites visited, the managers stated they did not think they were covered by a permit or did not know if they had a permit at the time of the interview. This result points to a need not only for the District to continue maintain up-to-date permit information, but also a need for education for businesses on required permitting practices in the District. DOH WQD recognizes the need for ongoing contact with the facilities and plans to continue performing periodic inspections and surveys that will enhance the monitoring and control of storm water pollutants from industrial facilities.

5.2.4 Wet-Weather Screening Program

The Wet Weather Screening Program as defined in Section IV.C of the Permit is being implemented as part of the Wet Weather Outfall Monitoring Program, and in conjunction with the illicit discharge detection program. Screening procedures were developed and included in the Quality Assurance Project Plan (QAPP) discussed in Section 16.

DOH WQD initiated the storm water outfall monitoring program in 2001 beginning with the Anacostia River subwatershed. In March 2003, EPA amended the permit to allow the monitoring of the six alternative MS4 monitoring locations as requested by DOH in June 2002. DOH WQD contractors commenced monitoring in the Rock Creek subwatershed beginning at the Fort Stevens Drive and Military Beach outfall locations in September 2003. By the close of 2003 Rock Creek three of the representative outfalls had been sampled once during wet weather and six had been sampled once during dry weather.

A contract laboratory analyzed water samples for both wet and dry weather screenings. Complete results of the sample analysis for 2003 will be stored in the screening program comprehensive database. Results available from the Rock Creek sample analysis are included summarized in Section 16 of this report, and presented in detail in the 2004 Discharge Monitoring Report submitted together with this Annual Report.

During calendar year 2004, DOH WQD plans to begin monitoring in the Potomac River watershed as part of the rotation pattern agreed upon under amendment 2. The proposed sites are listed in the draft of the new permit expected to be issued in the spring/summer of 2004.

5.2.5 Spill Prevention, Containment and Response Program

In January 1999 the District implemented the Water Pollution Control Contingency Plan, which outlines procedures for notifying the incident commander and the trustees of the natural resources in the event of a spill and procedures for oil and hazardous substances emergency response. The District began to review and revise the Water Pollution Control Contingency Plan in 2003. Significant revisions are being made to the notification and response procedures for oil spill incidents. For example, additional details are being provided concerning notification of the National Response Center or Federal On-Scene Coordinator. The section addresses in more detail the authority of the Federal On-Scene Coordinator to initiate action to contain, prevent and mitigate damage and also to maintain documentation to support the recovery of costs. Most significantly, a new section on biological terrorism was drafted to address the EPA Public Health Security and Response Act of 2002. The section describes the response and notification team, the objectives of the General Incident Commander, and essential components of the public safety infrastructure such as communications.

DOH WQD is creating a list that identifies, prioritizes, and characterizes pollutants from point and non-point sources. DOH WQD has developed a list of potential sources for illicit entries of pollutants into the District MS4.

DOH WQD has revised its draft *Enforcement and Compliance Manual* and has undertaken enforcement actions accordingly. DOH WQD is enforcing Federal (i.e. EPA) and District regulations under the Clean Water Act and the District Water Pollution Control Act, respectively, which address illegal discharge of potentially hazardous materials. DOH WQD periodically researches the Federal regulations for amendments and additions pertaining to the MS4 program to minimize illicit discharges.

DOH WQD continue to train staff to carry out pollution prevention outreach for managers of facilities. DOH WQD staff may use a variety of resources (including audiovisual presentations and onsite demonstrations) to teach facility personnel procedures to minimize accidental spills, leaks, discharges, or hazardous situations. DOH WQD plans to present facility managers and personnel with protocols that can be followed to appropriately manage wastewater. A list of activities has already been developed for individuals who store or transfer hazardous materials.

DDOT, DPW, and WASA have existing in-house spill response programs for training their employees and implementing best management practices to prevent spills and accidental discharges. The training will address topics such as the goals of the storm water pollution prevent plan, informing personnel at all levels of responsibility related to the spill, good housekeeping, material management, and spill response procedures, and provide a schedule for conducting training.. For example, DPW training materials direct that for spills less than 25 gallons, staff are to notify the Fuels Services Supervisor who will take action to clean up the spill and establish any additional monitoring of the site and/or groundwater. Spills larger than 25 gallons are directed to other District agencies that are fully equipped to handle large spills. In FYs 2004 and 2005, DPW will request funding from the Storm Water Enterprise Fund to purchase spill response kits and provide additional training to personnel.

6.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN FOR CONSTRUCTION SITES

6.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

6.1.1 Permit Requirements

Part III.B.3 of the Permit is titled Management Plan for Construction Sites and details the permit requirements for control of storm water pollutants from construction sites in the District.

6.1.2 Compliance Summary

The management plan for storm water pollution control on construction sites emphasizes the review and approval process, and the inspection and enforcement procedures of the construction permitting program, as well as construction site and plan educational programs, traffic pollution strategies, and air pollution compliance activities. A summary of these compliance activities includes:

- Review and approval process
- Inspection and enforcement procedures
- Site inspections and loading estimates
- Educational measures
- Public roads and traffic pollution strategies
- Clean air compliance

Section 6.2 below provides details regarding these activities.

6.2 MANAGEMENT OF CONSTRUCTION SITE ACTIVITIES

6.2.1 Review and Approval Process

District agencies continue to provide a “One-Stop Permitting and Business Center” for the approval of construction plans. Since its inception in January 1999, the center has

provided better quality control of reviewed plans. Minor projects are reviewed at the permit center and are either approved or rejected. Plans for major or more complex projects are reviewed and approved at the DOH WPD main office.

Each year technical review staff members are given a refresher training to improve their efficiency in plan review and the provision of technical assistance to developers and contractors. DOH WPD technical review staff coordinate their review and approval activities with DCRA and DOH WPD's enforcement staff to ensure that deficiencies in the permit process are corrected when they are encountered.

6.2.2 Inspection and Enforcement Procedures

Inspection procedures are outlined in the DCMR Water Quality and Pollution Regulations and the Nonpoint Source Management Plan for the District. The Nonpoint Source Management Plan is provided as Appendix 6-A of this report. The legal basis for conducting inspections related to storm water management is outlined in Chapter 5 of the DCMR. The regulations require that facilities generating storm water runoff must install a best management practice to control the discharge of oil and grease concentrations exceeding 10 mg/L. Facilities with storage for animals must prevent the waste runoff from reaching the waters of the District. Measures to control storm water runoff include infiltration of runoff, attenuation by open vegetated swales and natural depressions, retention structures, and detention structures.

Copies of the Standard Operating Procedures for Soil Erosion and Sedimentation Control and Storm Water Management Inspection, and the Standard Operating Procedures for the Enforcement of Soil Erosion and Sedimentation Control and Storm Water Management Regulations are provided as Appendix 6-B and 6-C respectively, of this report. There are three mechanisms to trigger an inspection: Targeted Inspections, Inspection Audits, and Citizens Complaints.

Targeted Inspection: The goal of the inspection program is to inspect 100% of permitted construction projects. The permittees are required to notify DOH before construction begin and request a pre-construction meeting/initial inspection, and after the project is completed for a final inspection. DOH WPD also conducts periodic inspections to ensure compliance. Currently, DOH WPD inspects 100% of permitted projects for which a call is received for a pre-construction meeting/initial inspection.

Inspection Audit: DOH WPD inspectors are provided with a list of permitted projects on a monthly basis. Inspectors are required to stop at any construction site observed in their designated areas not on that list, and conduct a compliance inspection.

Citizens Complaints: DOH WPD investigates and inspects 100% of construction sites for which it receives a complaint, and takes the appropriate action to obtain compliance.

Enforcement activities and rulings regarding violations of the erosion and sediment control and storm water management regulations continued as DOH WPD conducted 6,036 inspections at construction sites and issued 212 enforcement actions (131 Notices of Infraction and 81 Notices of Violation) that were violations of DC erosion and sediment control and storm water regulations. The DOH WPD database of the Office of Adjudication and Hearings docket as of September 23, 2003 is provided in Appendix 6—D of this report.

DOH WPD has refined and updated the DC automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspection and retrieval of maintenance records.

DOH WPD has also minimized the release of pollutants in storm water runoff to the Anacostia and Potomac Rivers and their tributaries by inspecting 201 storm water management facilities to ensure proper maintenance of these facilities. Storm water management facilities were restored on an as-needed basis and appropriate enforcement actions were taken to ensure compliance.

6.2.3 Site Inspections and Loading Estimates

DOH WPD is focusing its efforts conducting site inspections and in calculating loading estimates from construction sites within the District. Loading estimates are prepared as part of the plan review process as detailed in the *Storm Water Management Guidebook*. Plan review, site inspection and loading estimates are required for commercial, residential, and road development land uses.

6.2.4 Educational Measures

Educational training for construction site operators is conducted during the site inspection process. This training includes distribution of the District's *Storm Water Management Guidebook*, and the *Erosion & Sediment Control Handbook*, and addresses particular needs and questions of the operators. These books outline the regulatory requirements of the District for construction activity.

In addition to these handbooks, DOH WPD continues to:

- distribute a video that illustrates the proper maintenance of the Sand Filter Water Quality Structure, which is a commonly used BMP on construction sites in the District;
- maintain a list of qualified storm water management facilities maintenance contractors registered to do business in the District. The list is made available to all persons responsible for the maintenance of individually owned private storm water management facilities;
- conduct workshops on low impact development, provide presentations at trade shows;
- establish guidelines for inspection procedures as required by the DCMR, Title 21, Section 534.1 These guidelines ensure the proper maintenance of storm water management facilities, as the regulations require the submission and approval of a work plan before restorative maintenance activity of any sand filter bed can proceed. And;
- publish articles in trade journals informing construction site operators of the requirements of the District's storm water regulations prior to submitting site plans.

6.2.5 Public Roads and Traffic Pollution Strategies

DDOT continues to maintain streets and roads in the District through the use of its own personnel and equipment, and through private contractors. DDOT maintains a contract with VMS, Inc., to maintain approximately 75 miles of the District's Federal roadway

system. A copy of a typical Request For Proposal including requirements for storm water management is provided in Appendix 4-H of this report.

In FY 2004, DDOT begin to collect data on the costs of storm water management and pollution control for road maintenance projects in the District. This data will help to provide improved costing data for analysis of storm water management options for road construction and maintenance.

Through Howard University, DDOT conducted a study of BMPs to determine which can be used most effectively in commercial, residential, or governmental areas and operations. The study report, completed in 2002, is titled, "Evaluation of Best Practices for Reduction of Transportation-Related Storm Water Pollution in the District of Columbia." This study outlines which practices are most cost-effective, and are recommended for implementation at road construction and reconstruction projects in the District. Specific design standards are currently being prepared by Howard University for inclusion in DDOT's design plans in FY2005.

6.2.6 Clean Air Act Compliance

DDOT and DPW have instituted programs to reduce air pollution in the District of Columbia. Reductions in particulate emissions from vehicles result in a direct reduction in deposited pollutants that are flushed to receiving waters by storm water runoff. DDOT employs a Bicycle Coordinator and Bicycle Project Manager to encourage the use of bicycles for people who work and commute in the District. The Bicycle Coordinator is working to update the Bicycle Master Plan by July 2004 and supervise the construction of bicycle trails along various roadways and Watt's Branch and Rock Creek. Other efforts include the redesign of catch basin grates to enhance bicycle safety. An increase in the use of bicycles in the District can help reduce the amount of air pollution from commuter vehicles.

DDOT continues to work with the Washington Metropolitan Area Transit Authority (WMATA) to increase the amount of vehicles in the District that use alternative fuels. In FY 2002 WMATA purchased 164 CNG buses and is constructing a natural gas fueling station. An additional \$2.4 million will be transmitted to WMATA in FY 2004 for CNG bus purchase. The use of CNG buses will decrease the amount of deposited pollution in the District.

In addition, DPW has elected to purchase 20 vehicles in FY 2003, with a goal of 75% of the DPW fleet being powered by CNG. Currently, of the 265 alternative fueled vehicles in the fleet, 84 are natural gas. The use of CNG vehicles will decrease the amount of deposited pollution in the District.

6.2.7 Notifications to Historic Preservation Officer and U.S. Fish and Wildlife Service

Presently District Agencies are notifying both the Historic Preservation Officer (HPO) and the US Fish and Wildlife Service of proposed new construction activities and activities that have the potential to impact historically significant structures, or adversely impact endangered and threatened species. The Environmental Impact Screening Form provides the HPO information about any major new construction, demolition or land disturbing activity. The HPO is involved in the Environmental Impact Screening review process. Documentation is made of written correspondence with the HPO and US Fish and Wildlife Service. Part of this documentation includes a database search by the HPO concerning any impacts on historical property and a database search by the US Fish and Wildlife Service concerning any environmental impacts due to the activity. These procedures were included in the updated SWM Plan submitted in October 2002. No further modification of the notification to the HPO and US Fish and Wildlife process is envisioned at this time.

The Discharge Monitoring Reports are submitted to the US Fish and Wildlife Service and the National Marine Fisheries Service to aid in their assessment of any endangered or threatened species in the District.

7.0 STORM WATER POLLUTION CONTROL: FLOOD CONTROL PROJECTS

7.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

7.1.1 Permit Requirements

Part III.B.4 of the Permit is titled Flood Control Projects and details the permit requirements for documenting and evaluating flood control projects in the District.

7.1.2 Compliance Summary

The management plan for storm water pollution control through flood control management emphasizes the water quality impacts and beneficial use assessment of existing flood control devices, flood plain mapping, plan review procedures for proposed development in flood plains and an evaluation of the District impervious area. A summary of these compliance activities includes:

- Water quality impact and beneficial use assessment
- Existing flood control devices retrofit assessment
- Flood plain mapping
- Flood plain development procedures and reviews
- Impervious surfaces evaluation

Section 7.2 below provides details of these activities.

7.2 FLOOD CONTROL ACTIVITIES

The District of Columbia operates and maintains District flood control devices and storm water collection and conveyance systems. Under the governing regulations for structural storm and flood mitigation, these facilities are operated and maintained to ensure proper functioning.

A December 1988 WASA study of the District catch basins identified 11 areas in the District with localized flooding. A number of the identified areas are located within the MS4 area. Each of the flood areas entails more than one catch basin. Further investigation is underway to define the effectiveness of retrofits (catch basin replacement, sewer line upgrading, road profiling, grading, etc.) in each location.

7.2.1 Water Quality Impact and Beneficial Use Assessment

The maintenance of the flood control and mitigation measures is aimed at controlling the impact of flooding on water quality in the receiving water bodies. A Discharge Monitoring Program has been developed to monitor the discharge from the MS4 in compliance with the MS4 Permit. Construction plans for proposed development projects in the floodplain are reviewed and assessed for their water quality impacts by DOH WPD.

7.2.2 Existing Flood Control Devices Retrofit Assessment

The District of Columbia operates and maintains flood control devices including BMPs, pump stations, floodgates, weirs, canals, and storm water collection and conveyance systems. The District has developed procedures for these facilities so that they are operated and maintained to ensure proper functioning.

The District has three primary flood control devices which help to control flooding on the waters of the District. The first device is a levee and gate system located on Washington Harbor, at the Georgetown Waterfront Development. The gate is raised under high water conditions in the Potomac River to control flooding in the harbor area. No retrofitting of the levee is envisioned. The second and third devices are two weir dams located on Watts Branch (a tributary to the Anacostia River). The weir dams were originally designed to control both the peak flows and sediment movement in Watts Branch so that downstream properties were not subjected to repetitive flooding. Physical inspection of the two trapezoidal weirs on 10/16/02, 5/28/03, 7/8/03, and 9/22/03 indicated that the structures continue to function effectively in curtailing flooding and stream bank erosion and sedimentation, and require no need for retrofitting since their intended purpose along with the ancillary benefit of water quality is being achieved.

7.2.3 Flood Plain Mapping

Flood hazard mitigation and floodwater pollutant removal requires identification of at-risk areas through flood plain mapping. Through the nation's flood insurance policy, the Federal Emergency Management Agency (FEMA) has developed flood plain maps for all areas of the United States. Supplemented by DPW, the 1985 FEMA Flood Insurance Study 100-year and 500-year flood plain maps of the District of Columbia comprehensively fulfill the MS4 Permit flood plain mapping requirement.

7.2.4 Flood Plain Development Procedures and Reviews

The MS4 Permit requirements for flood plain development procedures and review are met through the promulgation of Title 20 (Chapter 31- Flood Hazard Rules) of the DCMR , and the Department of Health Nonpoint Source Management Plan II. These regulations describe in detail how projects proposed in flood plains will be reviewed to ensure proper consideration of pollutant reduction in flood-prone areas. Together, these rules regulate, restrict, or prohibit certain uses, activities, and development, which alone or in combination with current or future uses will cause unacceptable increases in flood heights, velocities, and frequencies.

7.2.5 Impervious Surfaces Evaluation

The permit requires the collection of data on the percentage of impervious area located in flood plain boundaries for all existing and proposed development. Since the effective date of the Permit, this has been done for proposed developments through the construction plan information submitted with construction permit applications under DCMR, Title 20. DOH WPD has initiated a program to collect data to evaluate impervious surfaces for both proposed and existing development in floodplains.

8.0 STORM WATER POLLUTION CONTROL: MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES MANAGEMENT

8.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

8.1.1 Permit Requirements

Part III.B.5 of the Permit pertains to the Control of Pollution from Municipal Landfills and Other Municipal Waste Facilities.

8.1.2 Compliance Summary

The management plan for storm water pollution control with respect to municipal landfills and municipal waste facilities emphasizes:

- Municipal waste reduction, and
- The prioritization of municipal waste reduction controls

Section 8.2 below provides details of these activities.

8.2 MUNICIPAL LANDFILLS AND OTHER MUNICIPAL WASTE FACILITIES POLLUTION CONTROL ACTIVITIES

8.2.1 Municipal Waste Reduction Program

The District is entirely urban with a large percentage of its land surface paved and/or highly developed. Similarly, the land use within the waste handling facilities is predominantly paved and/or highly developed. The management program for the municipal facilities targets the nonpoint source runoff from the facility, with particular focus on the control of pollutants that build up on the paved and/or developed portions of the facility site.

Regulatory programs directly supporting the District's nonpoint source storm water protection and waste reduction efforts include the DOH's Nonpoint Source Management

Plan II, which cites the Solid Waste Management and Multi-Material Recycling Act of 1988. This Act requires the recycling of certain wastes, thereby materially reducing the activities at waste handling facilities, further reducing resulting storm water pollution. The District provides recycling service to residential and multi-family residences of 4 units and requires commercial businesses and government offices to have a private recycling contract.

In FY 2003, The District agencies collected an estimated 160,511 tons of solid waste plus another 21,633 tons of recyclables. In FY 2003, the amount of privately collected and commercially collected waste to the District was 549,315 tons of solid waste, with 169,468 tons of that total as recyclables from commercial collection companies. The total volume of waste managed by the District, combining private/commercial and District collections, was 717,445 tons.

The District's government does not operate any solid waste disposal sites within the District. Instead, municipal solid waste collected by DPW is deposited at one of two municipal waste transfer stations operated by DPW. Under contract with a private firm, the waste is disposed of at the Fairfax County Energy Resource Recovery Facility in Fairfax County, Virginia.

The District is currently refurbishing the municipal solid waste transfer stations at Fort Totten and Benning Road. The refurbishment includes improvements in the paving and drainage systems at both sites. The District government solid waste handling sites are mechanically swept several times per week.

DPW's evening street cleaning and other night operations are managed through a single facility at New Jersey and "K" Streets, SE. This site has undergone approximately \$240,000 worth of operating and infrastructure improvements since FY 2001.

The District's government has established a solid waste facility permitting process for private solid waste transfer stations, which includes performance standards for operators of transfer stations. This process is under review to incorporate best practices from cities across the country. DPW is developing a program to conduct water quality monitoring for the District's municipal waste facilities including waste transfer stations and equipment storage and maintenance facilities.

8.2.2 Prioritization of Municipal Waste Reduction Controls

The Permit requires the District to develop priorities and procedures for implementing control measures for pollutant reduction at sites within the District's MS4. The initial phase of the program included procedures to evaluate, inspect, and monitor regulated sites. Based on the evaluation of the results of this monitoring, the District's solid waste management now includes waste reduction, recycling, and disposal.

9.0 MONITOR AND CONTROL OF STORM WATER POLLUTANTS FROM HAZARDOUS WASTE SITES

9.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

9.1.1 Permit Requirements

Part III.B.6 of the Permit pertains to the Monitoring and Control of Pollutants from Hazardous Waste Sites.

9.1.2 Compliance Summary

The management program for storm water pollution control from hazardous waste sites emphasizes:

- Identification and mapping of facilities, and
- The monitoring of storm water discharge

Section 9.2 below describes these activities.

9.2 MONITORING AND CONTROL OF POLLUTANTS FROM HAZARDOUS WASTE SITES ACTIVITIES

9.2.1 Monitoring of Pollutants From Hazardous Waste Sites

The formal procedures DOH Hazardous Waste Division (HWD) follows to control the impact and extent of hazardous waste on the MS4 are presented in the following three documents.

- “Hazardous Waste Management” – describes the procedures for proper identification, handling, and reporting of hazardous materials required of waste facility operators.
- “Strategic Plan for Enhancement of Environmental Health Administration Hazardous Waste Division” – details a general plan for hazardous waste monitoring and control.

- “Standard Operating Procedures” – provides the standard operating procedures for hazardous waste reporting.

DOH WQD developed inspection protocols to govern field investigations, including the investigation of facilities that generate or store hazardous waste. Compliance and enforcement officers wrote a plan to prevent, detect, and remove illicit discharges. The document identifies several source categories that are relevant to the District of Columbia and generally describes the actions the Division could take to address these sources. For example, sanitary wastewater, car wash wastewater, automotive sources, and laundry wastewaters are among the potential sources of pollutants. While regular inspections and recommendations to use recycle/reuse programs might be preferred approaches for the automotive industry, public outreach might be more appropriate for controlling materials like grass clippings, leaf litter and pet waste.

DOH initiated the discharge monitoring program in January 2001. Samples collected in both dry weather and wet weather conditions are analyzed for a full suite of hazardous components. This data will provide information for screening hazardous materials released in storm water runoff from hazardous waste sites.

Illicit discharge detection is another component of the program to identify facilities that are contributing a substantial pollutant loading to the MS4. Identifying and sampling discharge from connections provides information that may identify hazardous waste facilities with illicit connections.

9.2.2 Industrial Facilities Database

DOH WQD has prepared a database that includes facilities in the District that are registered with federal and state regulators because they generate, store, or have released hazardous materials. DOH WQD will continue to update federal and District facilities information as needed based on the MS4 monitoring effort.

As noted in Section 5.0, the following facilities located in the District are included:

- **Hazardous Waste Treatment, Disposal, and/or Recovery Plants** - The District contains 1 RCRA TSD, 22 RCRA Large Quantity Generators (LQGs), and 76 RCRA Small Quantity Generators (SQGs).

- **Industrial Facilities Subject to SARA Title III** - The Industrial Facility Database includes 30 sites within the District that are subject to regulation under SARA Title III. Two facilities that release toxic chemicals to the air, water, and land in reportable quantities are under SARA Title III, Section 313.

9.3 HOW THIS PROGRAM MEETS REQUIREMENTS OF THE CLEAN WATER ACT

Full implementation of this program is critical with respect to the Clean Water Act. The primary method by which the Act imposes limitations on pollutant discharges is the nationwide permit program established under Section 402 and the NPDES program. Under the NPDES program, any person responsible for the discharge of a pollutant or pollutants into any waters of the United States from any point source must apply for and obtain a permit.

DOH HWD conducts inspections of RCRA hazardous waste facilities to determine compliance with hazardous waste regulations. Records compiled by HWD show that 97 on-site compliance evaluation inspections were conducted between October 1, 2002 and September 30, 2003. While HWD inspections do not directly address water quality, inspectors report spills that could pose a water quality threat to DOH or WASA for further water quality investigation.

10.0 STORM WATER POLLUTION CONTROL: PESTICIDES, HERBICIDES, AND FERTILIZER APPLICATION MANAGEMENT

10.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

10.1.1 Permit Requirements

Part III.B.7 of the Permit outlines the requirements for pesticide, herbicide, and fertilizer applications.

10.1.2 Compliance Summary

The management plan for storm water pollution control of pesticides, herbicides and fertilizers entails a mixture of programs emphasizing efforts to control pesticide, herbicide, and fertilizer applications. A summary of these activities includes:

- Control programs for pesticide, herbicide and fertilizer application on District and private property
- Public education programs, and
- Discharge monitoring programs

Section 10.2 below provides details of these activities.

10.2 PESTICIDE, HERBICIDE, AND FERTILIZER APPLICATION ACTIVITIES

10.2.1 Control Program on District Property

DOH continues to implement the District's Pesticide Management Program. The DOH Pesticide Management Program outlines the mission, goals, and implementation of the regulations that affect commercial applications of pesticide and herbicides. The program outlines the requirements for certification and training for the application of pesticides and herbicides in the District. The program also outlines requirements for enforcement actions, and programs for protecting endangered species, workers, and groundwater.

10.2.2 Control Program on Private Property

DOH also provides educational programs to private property owners through pamphlets distributed to residents. The pamphlets address lawn care service, the District Nutrient Management Program, and Integrated Pest Management. The purpose of the programs is to better inform the public on the proper use and disposal of pesticides, herbicides, and fertilizers, and safer alternative methods. The programs provide education and outreach activities designed to educate citizens about environmentally sound practices with regard to the use of pesticides in the yard or garden and the introduction of “good” pests into the garden. An example of educational pamphlets distributed as part of this program is presented in Appendix 10-A. In 2003, DOH WPD distributed information to 200 teacher workshop participants and provided information at the Lily Festival at Kenilworth Gardens, at the Anacostia Fair, and at the Peace Health Fair community event. The Division has an IPM video that it distributes along with supporting brochures.

10.3 IMPLEMENTATION REPORT

The public information program has been fully implemented; District residents are currently informed on the proper use of pesticides, herbicides, and fertilizers. Additionally, DOH personnel regularly conduct public information sessions at various public fairs and festivals. In 2003, DOH WPD distributed information at the Greater Washington Urban Water Festival and the Lily Festival at Kenilworth Gardens, the Anacostia Fair and the Peace Health Fair community event. Section 15 of this report details Public Education activities in the District targeted at reducing storm water pollutants in the MS4 including pesticides, herbicides, and fertilizers.

10.4 SOURCE CHARACTERIZATION SCREENING

Pesticides are monitored as part of the overall wet- and dry-weather outfall monitoring program. Pesticides have been detected in some of the samples collected from the outfalls. During calendar year 2003, contractors hired by DOH WQD focused sampling efforts on outfalls in the Rock Creek subwatershed (in keeping with the scheduled rotation between subwatersheds). In September and October 2003 wet-weather samples were collected once from three outfalls approved for sampling by EPA. Two additional outfalls located near the intersection of Portal Dr. and 16th St., N.W. and the intersection of Broad Branch and 30th St., N.W. were sampled during the October wet-weather event. In November six approved sites were sampled during dry weather. Pesticides were detected in some of the samples collected from these outfalls. The parameters detected include aldrin, chlordane, dieldrin, 4,4'-DDT, heptachlor, and heptachlor epoxide.

Several of the detections were in samples collected during the November dry-weather sampling event. DOH WQD will use available information on land use patterns in the sewershed and chemical specific data to support the investigation of these detections.

Additional details of sample set activities are included in Section 16 of this report. Analytical results for pesticides can be found in the 2004 DMR submitted together with this Annual Report.

11.0 STORM WATER POLLUTION CONTROL: DEICING ACTIVITIES MANAGEMENT

11.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

11.1.1 Permit Requirements

Section III.B.8 of the Permit is titled Deicing Activities, details the permit requirements to minimize the impact of deicing materials on water quality.

11.1.2 Compliance Summary

The management plan for storm water pollution control in deicing activities emphasizes:

- Evaluation of deicer materials
- Application of deicer materials, and
- Storage of deicer materials

Section 11.2 below provides details regarding these activities.

11.2 DEICER EVALUATION

The District has completed a comparison of deicing products, studies of alternative chemicals and deicing techniques. The comparison outlines the results of deicer testing conducted in ten states (including Maryland and Virginia) in comparing the chemical and physical characteristics of deicers, their impacts to soil, water and environment, and a comparison of the cost of sodium chloride salt versus various deicing alternatives. The comparison of deicing products is included in Appendix 11-A. Iceban[®] was recommended as a viable alternative to sodium chloride salt in each of the studies reviewed. Based upon the comparison of deicing products, the District will continue to use Iceban[®] on bridge surfaces to reduce pollutant loading to receiving waters from deicing activities.

11.3 APPLICATION OF DEICER MATERIALS

DDOT's primary obligation in snow management and deicing activities is to provide for the safe movement of emergency vehicles and other vehicular traffic as quickly as possible following winter storms. DDOT employs a variety of techniques, including plowing, salt application and deicing chemical application on various roads, depending on the amount and type of precipitation expected. For most storms with expected precipitation of two (2) inches or less, the snow management plan calls for the use of salt on roadways and a chemical deicing liquid at some bridge locations. For snow events of two (2) inches or greater, snow plowing operations are used in addition to salt and deicing chemicals.

DDOT uses the corn-based snow and ice melting product IceBan[®] as a pre-treatment on selected highways and bridges. The manufacturer of IceBan states that it is entirely organic, and reduces the corrosive effects and increases the effective range of salt.

11.4 DEICER MATERIALS STORAGE FACILITIES

The District operates a salt storage site at Potomac Avenue and R Street, SW and 1246 "W" Street, NE. A new salt storage facility has been constructed at Fort Drive, NW, just east of the Fort Reno reservoir, and an additional facility at 401 Faragut Street, NE has been constructed. The new sites include storm water management facilities to control runoff from the site and minimize pollutants in runoff.

12.0 STORM WATER POLLUTION CONTROL: SNOW REMOVAL MANAGEMENT

12.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

12.1.1 Permit Requirements

Part III.B.9 requires the Permittee to establish a program and operating plan to ensure excessive quantities of snow and ice control materials do not enter the District's water bodies.

12.1.2 Compliance Summary

The management plan for storm water pollution control through snow removal emphasizes:

- Snow and deicer control program, and
- Alternative snow removal plan

Section 12.2 below provides details regarding these activities.

12.2 SNOW AND DEICER CONTROL PROGRAM

Information on the District's activities to evaluate the use and application of chemical deicers, salt, sand, and/or sand/deicer mixtures in an effort to minimize the impact of these materials on water quality is provided in Section 11 "Deicing Activities."

DDOT regularly prepares a Performance Measures Report that includes targets and achievements for a number of performance measures, including snow removal. The goal for snow removal is to have 85 percent of the main roads passable within 12 hours of a 4- to 8-inch snow storm. This goal was exceeded during the November 2003 to February 2004 snow season, when 100 percent of the main roadways were passable within the 12-hour timeframe. A total of 10 snow events occurred during this time period.

The DDOT Winter Storm Plan and current performance measures are included in Appendix 12-A of this report.

12.3 ALTERNATE SNOW REMOVAL PLAN

The DDOT Winter Storm Management Plan matrix submitted as part of the upgraded SWM Plan indicates that snow is not dumped near or into waterways during snow emergencies or in advance of major events except under the specific direction of federal authorities. Dumping of snow in areas adjacent to water bodies, wetlands, or drinking water sources is not part of the District's snow management plan, and will be avoided unless necessitated by snow emergencies.

The District does not have alternative snow stockpile areas identified but, if required, would use District parkland or Federal lands (with Federal Agency approval) in upland areas, away from streams or rivers. Additionally, the District's new salt storage facilities will include storm water control features to reduce pollution in adjacent waters. Both new facilities include berms to control water runoff from salt storage and loading areas. The runoff is directed to several inlets that lead to a retention facility where pollutants settle out before the storm water is released to the MS4.

The existing NPDES Permit allows the District to develop an alternate snow removal plan and submit it to the EPA for approval prior to its implementation. The existing snow removal plan is regularly reviewed and updated to provide optimum snow removal to the District. Any alternate plans and suggestions proposed by the DDOT staff are considered in this review. In this manner, the current snow removal plan reflects the most efficient use of the equipment and manpower of the DDOT.

13.0 STORM WATER POLLUTION CONTROL: MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES

13.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

13.1.1 Permit Requirements

Part III.B.10 of the Permit pertains to the Management Plan to Detect and Remove Illicit Discharges.

13.1.2 Compliance Summary

The storm water pollution control management plan for detection and removal of illicit discharges entails a mixture of program activities that include the following:

- Illicit discharge detection and elimination
- Illicit discharge prevention
- Floatable reduction
- Waste collection
- Inspection and enforcement, and
- Spill response

Section 13.2 below provides details regarding these activities.

13.2 MANAGEMENT PLAN TO DETECT AND REMOVE ILLICIT DISCHARGES ACTIVITIES

The DPW Solid Waste Education and Enforcement Program (SWEEP) seeks to maintain clean public space by investigating illegal dumping complaints, overgrown lots, poor trash containerization and other sanitation violations. Generally, SWEEP staff will try to work with property owners to bring the property into compliance with the District code. If SWEEP staff cannot obtain voluntary compliance from a property owner, the Department may clean the property and charge the property owner twice the cost of the clean-up effort. This cost will be added to the property owner's next property tax bill. The SWEEP program is authorized for a staff of 32 field investigators.

DOH WQD has implemented an ongoing program to detect illicit discharges as described in the upgraded SWM Plan and the Permit, and to prevent improper disposal into the

storm sewer system as required by Federal regulations. DOH WQD personnel continued to investigate potential illicit discharges in response to reports by citizens or government personnel. Generally, a citizen might be prompted to make a call to the District of Columbia Office of Emergency Management upon noticing a suspicious color or odor to streams or upon witnessing illegal waste dumping. Office of Emergency Management directs calls about these types of complaints to DOH. DOH WQD personnel collect information about the location and physical characteristics of the discharge in preparation for a site visit. Often DOH WQD is able to respond immediately by sending their personnel into the field. Depending on the characteristics of the discharge described, DOH WQD might alternatively refer the case to another appropriate District agency (e.g., in the case of water main breaks or other sewer infrastructure problems WASA is contacted to resolve the problem). Depending on the extent and site of the discharge, federal entities such as U.S. EPA, U.S. Coast Guard, or National Park Service may be called upon for assistance with sample analysis, investigation, or containment.

In 2003, DOH WQD conducted 25 complaint-driven investigations in the areas of Watts Branch, Mill Creek, Foundry Branch, Pope Branch, Oxon Run, and numerous other sites. Table 13-1 briefly summarizes these complaint-driven illicit discharge investigations.

Another means that DOH WQD used to detect and eliminate illicit discharges was visual inspection of the outfalls. Inspectors periodically traveled through different portions of a sewershed to look at the condition of MS4 outfalls and the waters to which they discharge. Almost 20 investigations in 2003 were prompted by the unreported flows DOH WQD personnel observed while conducting other field activities (such as visual outfall inspections). WASA personnel also performed visual inspections while maintaining catch basins and the MS4 infrastructure.

Additionally, the District continued its efforts to eliminate suspected illicit discharges to the MS4 through site visits to individual facilities to ensure compliance. With the addition of full-time enforcement and compliance personnel to DOH WQD, more proactive facility inspections occurred in 2003. More than 55 facility inspections or investigations were conducted. DOH WQD issued 11 directives. DOH WQD also issued corrective action notices to the persons designated as being responsible for maintenance of the impacted storm water management facilities. Three facilities were referred to the Plumbing Inspection Branch of DCRA for the purpose of obtaining the appropriate Building Code citations for violations requiring stronger enforcement action. Aside from issuing notices for violations of District and Federal clean water regulations, DOH WQD

Table 13-1 Complaint-driven Illicit Discharge Investigations and Corrective Actions Taken

SITE	PROBLEM	CORRECTIVE ACTION
Spring Valley	Muddy discharge caused when a company laying cable at River Road and Chesapeake Street accidentally damaged a water line.	The pipe was repaired.
16th Street and V Street, SE	Standing water caused by a broken water line near the apartment building at 1635 V Street, SE.	DOH WQD used chlorine testing to confirm that the flow was municipal water. It was evident that excavation had occurred, although the construction companies hired to refurbish the apartment complex told inspectors that they had not authorized digging. The company was made responsible for the damage caused by digging. DOH took no further action as this area is served by the combined sewer system.
3105 Naylor Road, SE	Sewage overflow.	DOH WQD notified DCRA plumbing inspector and the Building and Land Management Supervisor for further investigation. DOH also made two additional visits to the apartment complex and the MS4 outfall associated with this drainage area (an outfall located at 30 th Street and Southern Avenue, SE). DOH found that the problem seems to have abated. DOH has received no additional complaints about this site.
5000 Fitch Place, NE	Sewage overflow.	DOH WQD notified WASA, and WASA promptly corrected the problem.
Mill Creek area	Water discolored (brownish) by sediment during WASA's scheduled maintenance and replacement of area hydrants, including dewatering and water pumping activities.	DOH WQD notified WASA of need to control sediments during their two-week non-emergency roadwork cross connection removal activities.
Nash Street and Texas Avenue, SE	On two separate occasions, DOH Fish & Wildlife reported illicit discharges in the Pope Branch area. First, a greenish discharge with a sanitary odor was reported. The next day, they reported observing a soapy discharge.	The discharge appeared to be sporadic. DOH WQD traced both discharges to the MS4 outfall at the headwaters of Pope Branch located near Nash Street and Texas Avenue, SE. DOH WQD began an investigation and conducted dye tests at several facilities by Alabama Street and Pennsylvania Avenue that all turned out negative. The source was not determined from these tests.

Table 13-1 - 1

SITE	PROBLEM	CORRECTIVE ACTION
3209 5 th Street, SE	Illicit discharge possibly related to a plumbing problem.	DOH WQD referred the case to the DCRA Plumbing Inspector for further investigation of a possible plumbing code violation.
2700 Pennsylvania Avenue, SE	Sediment transported to an MS4 outfall located east of the John Phillip Sousa Bridge as a result of the disturbance cause by DPW repair work at 2700 Pennsylvania Avenue.	DOH WQD notified DPW of need to control sediments during repair work.
3314 Oxon Run Road, SE	Complaint of disturbed sediment from housing construction site entering catch basins.	DOH WQD visited the site, but did not observed sediment entering catch basin. No further action taken.
North Portal Drive, NW	Concrete mix in streambed. [Which stream?]	DOH WQD responded then continued a multi-agency investigation with Montgomery County Environmental Quality, D.C. Environmental Crimes Unit, and National Park Police. A Silver Spring, Maryland construction company was identified as the source. Montgomery County Environmental Quality and National Park Police continued the investigation with intent to bring civil and/or criminal charges against the company.
Soapstone Valley, NW	Illicit discharge originating from a sand filter as a result of work done by a plumbing company.	DOH WQD began the investigation with National Park Police. The National Park Police continued the investigation.
1630 Q Street, SE	Standing water with odor in a homeowner's backyard.	This turned out to be a plumbing issue that DOH WQD referred to the D.C. Government Complaint Database.
1101 Connecticut Avenue, NW	Citizen observed debris and liquid with sanitary odor being routinely hosed from an alley to catch basins located at 17 th Street and L Street, NW.	DOH WQD investigated and warned the responsible property manager to cease using the catch basins for this purpose. During a later site visit, DOH WQD determined that the manager had taken the proper corrective action.
16th Street and Fort Stevens Drive, NW	Maryland Environmental Services, a DOH contractor, discovered and reported a dark and odorous discharge from an MS4 outfall during routine outfall sampling.	DOH WQD conducted dye tests at four apartment complexes and a school in the area to determine the source of the discharge. Neither of the tests positively identified them as sources.
53 Todd Place, NE	Sanitary overflow.	DOH WQD determined that the problem occurred in an area served by the combined sewer system and referred the caller to DCRA or WASA.

Table 13-1 - 2

SITE	PROBLEM	CORRECTIVE ACTION
Mississippi Avenue and Southern Avenue, SE	DOH WPD reported a grayish discharge from an MS4 outfall located at this intersection.	DOH WQD investigators visited the site, but did not observe a discharge. No further action was taken.
Mill Creek area	Discoloration of creek water reported.	DOH WQD investigated and observed sedimentation on the creek bed suggestive of a potential water main break. Upon further investigation a witness stated that a construction company cracked a water main. The case was referred to WASA. WASA contracted Greeley & Hanson, LLC to investigate. Their investigation is still in progress.
Hickey Run area	DOH Fish & Wildlife reported that they observed discolored water.	DOH WQD photographed the discharge and conducted visual inspections of the area to locate the source of the discharge. The storm drain system at New York Avenue was identified as the source. The affected MS4 outfalls cover the serve the whole Hickey Run watershed, which has been prioritized for targeted enforcement and compliance inspections by DOH WQD.
1827 Adams Mill Road, NW	Green discharge from the Exxon station at this location.	The facility used Hound Dog Industrial Concrete Cleaner (which turns green) to clean the concrete surface on their property. According to the Material Safety Data Sheet for the detergent it is not biodegradable. The cleaner was running past clogged drains to the street. DOH WQD Inspectors informed the manager that full repairs to the facility drainage network on the Exxon property must be made immediately to limit drainage to the Lanier/Adams Mill Road catch basin. The facility also received the recommendation to suspend use of the detergent. The inspectors noted that the facility is in the combined sewershed, but on follow-up the facility has cleaned the clogs from drains on their property as required and started using an acceptable detergent to clean the concrete surface area
4619 Hillside Road, SE	Flooding of private property.	Storm water flows across backyard, and it is suspected that a stream used to flow across the property. DOH WQD determined that the flooding is not an MS4 issue.

Table 13-1 - 3

SITE	PROBLEM	CORRECTIVE ACTION
2903 Park Drive, SE	Discharge from private sanitary sewer line onto a neighbor's property.	Investigators found out that the sewer line of the home at 2903 Park Drive had been damaged during plumbing repairs. The owner was told to have the line repaired immediately. During follow-up visits, inspectors saw that the repair work was underway.
1900 Anacostia Drive, SE	Accidental release of Jet Propellant 8, NATO F35 fuel from a tanker at a National Park Police facility.	Inspectors went to the scene and also observed the Anacostia River. They did not find petroleum sheen on the river after several hours. A contractor was hired to remove free product from the MS4. DOH WQD and WASA monitored the MS4 for sheen and odor, but found none.
Hunt Place, NE	Reported sludge in Watts Branch	Investigators did not observe the discharge described, but note that a trash transfer station and an auto repair shop are adjacent to Watts Branch, and the area is served by at least four MS4 outfalls.
2121 West Virginia Avenue, NE	Illicit discharge of automotive fluids to the MS4 from AYT Auto Service in the Hickey Run watershed.	Inspectors found automotive fluids, oil, and auto parts being improperly managed. DOH WQD issued a notice of violation to the facility, scheduled a return visit to confirm corrective action had been taken, and provided the facility with some absorbent material to immediately protect an outdoor drain. On the follow-up compliance visit, the facility was satisfactorily performing corrective action.
2200 block Good Hope Road, SE	Flooding of condominium grounds adjacent to Fort Stanton Tributary	DOH determined that the flooding itself is not an MS4 issue, but referred the case to WASA.

Table 13-1 - 4

inspectors used the contact with facilities to discuss corrective action and pollution prevention with facility owners and operators.

DOH continued its efforts to verify the locations of MS4 outfalls and record latitude and longitude coordinates using GPS. DOH WQD identified approximately 190 MS4 outfall locations on older sewer maps (last updated in the 1950s and 1960s) created by the former D.C. Water and Sewer Utility Administration. During 2003, DOH WQD verified approximately 40 MS4 outfall locations for a total of 80 outfalls since outfall verification efforts began. In the course of verifying outfalls, inspectors conducted tests for free and total chlorine when possible/accessible.

DOH WPD has refined and updated the District's automated database system for tracking storm water management facilities inspected for maintenance to include tracking of construction projects with storm water management BMPs. The updated database system contains data for BMPs constructed since the inception of the program in 1988 and has enabled faster and more efficient rescheduling of inspections and retrieval of maintenance records.

In 2002, a multi-program effort was initiated to improve environmental compliance of automotive repair shops. Participants in the Environmental Education for the Compliance of Automotive Repair Shops (EE-CARS) include DC Office of Enforcement, Compliance, and Environmental Justice, US EPA, the DC Air Quality Division, and the DOH WQD. The inspections of automotive repair shops under EE-CARS considered multiple media (i.e., air, water, hazardous waste) and included an MS4 component. The MS4 Program used these inspections as an educational platform for informing the owners/managers of the facilities of their responsibility to the environment, the consequences of non-compliance, and to minimize illicit discharges to District waterways. In 2003, DOH WQD continued surveying the shops for the purposes of the MS4 program, focusing its efforts on Ward 5 and the Hickey Run watershed. Through its survey of more than 40 shops in the area, DOH WQD identified storm water compliance issues such as poor knowledge of facility drainage, storm water regulations and recycling/reuse options and inappropriate cleaning and waste disposal practices. In light of the findings, the MS4 Program is currently considering ways to specifically address these issues for this target population through a combination of education, compliance assistance and enforcement. DOH WQD used what they learned from the MS4-related inspections to provide input on the joint DOH and EPA contributed to EE-CARS by providing storm water relevant input on a draft compliance workbook intended to put

guidance, self-assessment exercises and other resources in the hands of automotive repair shop managers and raise their awareness of multimedia environmental concerns related to their business.

13.2.1 Illicit Discharge Prevention Program

The permit requires implementation of a program to prevent illicit discharges. As described above, illicit discharges are investigated based on strong suspicion or evidence of a discharge obtained through visual inspection, a complaint, or during routine facility inspections. Routine facility inspections combined with outreach may help to prevent illicit discharges from occurring, as investigations driven by visual inspection and complaints will help to detect and eliminate on-going discharges.

Outfall monitoring is another component of the MS4 Program that will help the District to detect potential problems with illicit discharge. DOH WQD continued to monitor pollutants at select storm water outfalls during wet weather events in order to determine storm water quality and detect storm water pollutants. In at least one instance last year (see Table 13-1), the presence of monitoring staff led to the report of a potential illicit discharge directly to DOH. The types of pollutants detected during monitoring can also inform the MS4 Program of which sources should be a priority for monitoring and inspection.

The District also continued dry weather monitoring for illicit connections and discharges in accordance with the Permit. One goal of the MS4 Program is to examine every storm sewer line that has flow during dry weather, identify the source of the flow, and categorize the flow (as unauthorized non-storm water, piped stream, etc.). Observing the outfalls during dry weather will ultimately enable the program to quickly identify and respond to flows that should not be occurring.

The results of outfall monitoring are reported to the EPA through Discharge Monitoring Reports and other reports required by the storm water permit. The DMR submitted with this Annual Report will provide the results of available outfall monitoring data associated with samples that were collected after April 19, 2003. Sample analysis results are summarized in Section 16.0 of this report.

Part of the MS4 Program illicit discharge prevention plan is outlined in the Water Pollution Control Contingency Plan first implemented in January 1999. The Water Pollution Control Contingency Plan provides guidance on timely and effective response

to hazardous substance releases that threaten to impact the natural resources of the District. DOH WQD plans to use GIS information and images of potentially contaminated sites to help the District secure specific areas and minimize potential health risks. Last year, the District began to revise the Water Pollution Control Contingency Plan to add important information on the handling of oil spills and biological terrorism. Spill response is described further in 13.2.6.

12.2.2 Floatable Reduction Program

The Anacostia River Floatable Debris Removal Program was initiated in August 1992 to remove floating debris from the Anacostia and Potomac Rivers on a routine basis. The program is operated by the WASA Department of Sewer Services, Inspection and Maintenance Division. The floating debris removal program utilizes a 12,000-lb capacity skimmer boat, a 6,000-lb capacity skimmer boat, and support boats to remove floatable debris from the rivers as well as trash which accumulates on the river banks and in mud flats at low tide. The boats pick up debris five days per week and remove up to 120 tons per month. The boat docking area and roll-off containers are located on the west bank of the Anacostia River in the vicinity of M and 14th Streets, SE. The District will continue to conduct the floatable reduction program utilizing skimmer boats on the Potomac and Anacostia Rivers.

The skimmer boats played a key role by removing 1,145 tons of debris in 2003 while 12 fabridams were removed under a rehabilitation contract. When the new fabridams are placed in service in March 2004, most of the floatable debris from the combined sewer system will be redirected and trapped at screens in sewer pumping stations. This will result in a significant reduction of pollution from combined sewer system in the waterways.

DOH has completed an evaluation, and plans to install a netting trash rack to remove floatable debris in a major MS4 outfall in the River Terrace neighborhood. This project, when completed, will greatly reduce the discharge of floatable debris to the Anacostia River in this reach. WASA has agreed to provide maintenance of the netting BMP.

The BMP system planned for installation in the National Arboretum on Hickey Run will remove floatable debris as well as treat storm water to remove oil and grease. It is estimated that the system could remove between 20 and 50 tons of floatable debris per year.

13.2.3 Wastes Collection Program

The Permit prohibits the discharge of used motor vehicle fluids, household hazardous wastes, grass clipping, leaf litter, and animal waste into separate storm sewers. The existing program for the collection of motor vehicle fluids and household hazardous waste has been expanded. Accepted materials include paint, batteries, pesticides, solvents, motor oil, furniture polish, nail polish and remover, and other possibly toxic items.

During the past year, two hazardous waste collection days, where residents may bring hazardous wastes for proper disposal, were conducted by DPW. Collection days were held on May 11th and October 11th.

The May 9th collection event included collections at Carter Baron Amphitheater when one hundred forty four (144) 55 gallon drums of household hazardous wastes were collected. These wastes included flammables, oxidizer, pesticides, acids, bases, motor oil, fluorescent bulbs, dry cell batteries, thermometers, and asbestos. The Care Environmental Corp. was subcontracted to perform the collection and packing of the waste for the District.

During the October 11, 2003 collection event, at Carter Baron Amphitheater, one hundred twenty seven (127) 55-gallon drums of waste flammables, paints, oxidizer, pesticides, acids, bases, motor oil, and antifreeze were collected. Also collected were boxes of fluorescent bulbs, mercury thermometers, and dry cell car batteries. Again, the Care Environmental Corp. was subcontracted to perform collection and packing of the waste for the District.

The next household hazardous waste collection day is planned for April 3, 2004 at two District locations: the Carter Baron Amphitheater and the Penn Branch Shopping Center parking lot at 3220 Pennsylvania Avenue, SE.

Collection events for electronics recycling were held on April 12th and September 13-14, 2003 at the Digital Expo. Tonnage of electronics recycled were 9.6 tons and 46.6 tons respectively.

Bagged grass clippings and leaves are collected throughout the year with regular garbage collection. Leaf litter is collected during November, December, and January by the DPW utilizing vacuum trucks. A discussion of leaf collection activities is provided in Section 4 of this report.

13.2.4 Inspection Plan

The Permit states that the Permittee will use a mix of strategies for the detection and elimination of illicit discharges. Facility inspections and visual inspections of the sewer system are integral parts of the plan to detect illicit discharges. Regarding facility inspections, DOH WQD has drafted a targeted enforcement protocol during the past year based on the analysis of the results of previous monitoring activities. This protocol targets for facility inspections areas that show high frequencies of detections and quantities of pollutants. It describes a stepped process by which inspectors will prioritize the District's water bodies according to level of impairment, correlate the pollutants to broad categories of potential sources, locate individual business that fall under the identified sources, plan compliance inspections for these facilities, and resolve compliance issues.

Inspectors use the outfall monitoring data to identify the problem pollutants and where they are appearing in the sewer system. Literature and professional experience can then be used to determine what kinds of sources or activities are associated with the problem pollutant. Concurrently, inspectors can use their knowledge of the sewer system, maps and other resources to begin tracing back to geographic origin of the pollutants. The industrial facilities database (discussed in Section 5.2.1) and GIS tools under development will be a powerful resource for completing this task. As portions of the MS4 infrastructure are verified and more facility information (on location and wastes generated) are collected through routine compliance inspections, the District will increase its capacity to quickly identify potential sources of illicit discharges in the geographic area of interest through the data integrated in the GIS. These tools would not only be used in response to illicit discharges that have already occurred, but to direct or focus the routine inspections in a manner that would also facilitate proactive interactions with businesses and prevent illicit discharges.

If a facility is found to be a contributor or potential contributor of the detected pollutants as a result of an inspection, DOH WQD will attempt to bring it into compliance with storm water regulations, which might entail education and/or recommendation for fines or other enforcement actions against the facility. New Notices of Infraction forms were developed and printed for enforcement purposes.

During 2003, the MS4 Program prepared a Statement of Work (which was approved in early 2004) that would allow them to document more detailed information about the MS4 outfalls during visual inspection based on the experience gained over the first three years

of the program. The procedure calls for the dispatching of personnel to various outfall locations to physically confirm the location of the outfalls and obtain GPS readings. A datasheet will be prepared for each outfall and a photograph of the each outfall (showing the outfall number) will be taken. The data collected about the outfalls will be used to update the MS4 Program's outfall database. Another part of the procedure entails investigating dry weather flows in an effort to differentiate between buried (or piped) streams and groundwater seepage from flows caused by illicit discharge. Personnel will use 1800s topographic counter maps that show the original location of streams and groundwater seepage and WASA's detailed storm sewer maps to help with this effort. Any true illicit discharges that are discovered will be investigated by DOH (or referred to WASA if the discharge is of sanitary sewage). The schedule for completing verification of outfall locations remains the same as put forth in the 2002 Upgraded Storm Water Management Plan, which is to complete verification of 50 percent of the system by the end of FY 2004.

13.2.5 Enforcement Plan

DOH WQD revised the "*Draft Water Quality Division Enforcement and Compliance Manual*" that describes inspection and enforcement efforts. A copy of the "*Draft Water Quality Division Enforcement and Compliance Manual*" is included in Appendix 13-A of this report. The manual is separate from, and broader than, the enforcement protocol described in Section 13.2.4. The manual establishes the guidelines for compliance inspections conducted by DOH WQD staff.

Enforcement of illicit connections is via an initial corrective action notice from DOH, and then referral to the Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs for legal enforcement action. The Plumbing Inspection Branch of the Department of Consumer and Regulatory Affairs is responsible for enforcement of illicit connections as violations of the plumbing codes. A discussion of enforcement activities is provided in Section 14.0 of this report.

As a general requirement, the Permit states that the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers shall be prohibited. The District already has legislation that prohibits the discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal waste into separate storm sewers. The Water Pollution Control Act of 1984,, D.C. Official Code 8-103 *et al*, provides that no person shall discharge a pollutant to the waters of the District. The Water Pollution

Control Act defines “pollutant” as any substance which may alter or interfere with the restoration or maintenance of the chemical, physical, radiological, and biological integrity of the waters of the District; or any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemicals, chemical wastes, hazardous wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, oil, gasoline and related petroleum products, and industrial, municipal, and agricultural wastes. Implementing regulations at 21 DCMR § 529 control storm water runoff for oil, grease, organic animal wastes and other discharges that violate the water quality standards of receiving waters in the District.

13.2.6 Spill Response Program

The Permit discusses implementing procedures to prevent, contain, and respond to spills that may discharge into the MS4, including the training of personnel in spill prevention and response procedures.

The Water Pollution Control Contingency Plan provides guidance on timely and effective response to hazardous substance releases that threaten to impact the natural resources of the District. The plan also addresses the pollution and resource assessment, mitigation, clean-up and follow-up actions resulting from non-permitted discharges. The procedures outlined in the contingency plan are followed for reports of illicit discharges.

To facilitate response to chemical or hazardous waste spills, DOH WQD has been collecting and consolidating information, such as facility and operator contact information, from various sources. This effort included the development of a spill control material list and spill assessment chart with physical and chemical properties of select contaminants clearly outlined and tailored for the spill response needs of the District.

DOH WQD staff visited selected sites to observe and better understand the activities that take place there, the materials used, and to see firsthand the physical features of the facilities. One such visit was made to the Washington D.C. Navy Yard coal-tar remediation site.

As outlined by the District’s Water Pollution Control Contingency Plan, DOH WQD emergency response staff will be taught to select effective BMPs for emergency situations based on site-specific considerations such as facility size, climate, rainfall index, geographic location, hydrology, soil type, environmental setting, volume and type

of discharge generated, and the number of outfalls. Personnel should be able to differentiate between passive and active BMPs and implement them as a result of training. Protocols are being developed to assay the various components of data collection and analysis for monitoring storm water pollution. As mentioned in Section 5.2.5 of this report, the Water Pollution Control Contingency Plan is being updated with current emergency reporting information and notification procedures. The revision also adds new information on response to oil spills and biological terrorism.

DPW has incorporated spill response actions into employee training as part of best housekeeping practices for equipment storage and maintenance facilities. Good housekeeping involves using practical, cost-effective methods to identify ways to maintain a clean and orderly facility and keep contaminants out of the separate storm sewer. It includes establishing protocols to reduce the possibility of mishandling chemicals or equipment and training employees in good housekeeping techniques. These protocols must be described in the facility SWM Program and communicated to appropriate facility personnel. A spill or release episode includes any spillage or leakage of fuel from fuel storage tanks, piping, dispensing equipment, or vehicles. If the spill totals less than 25 gallons, the Fuel Services Supervisor is immediately notified. The Fuel Services Supervisor will then follow established DPW procedures to clean up the spill. If the spill totals more than 25 gallons, notification is given the District Underground Storage Tank Division, the DC Fire Prevention Division, and the Fleet Services Administration. Response procedures may include tank gauging, vapor monitoring, groundwater monitoring, and secondary containment. The response procedure will also include sample collection of soil and other material that will be analyzed for known and unknown contaminants. A spill assessment chart will be developed with physical and chemical properties clearly outlined in the response plan. Spill response plans will also include lists of materials containing the following: acid neutralizing agents, oil absorbents, biohazard absorbents, approved absorbents rolls, absorbents containers and fuel tank breathers.

14.0 STORM WATER POLLUTION CONTROL: ENFORCEMENT PLAN

14.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

14.1.1 Permit Requirements

The Permit in Part III.B.11 requires that the Permittee develop and implement an enforcement plan for carrying out the objectives of the SWM Plan.

14.1.2 Compliance Summary

The storm water pollution control enforcement plan emphasizes:

- Legal authority
- Enforcement activities and resources
- Documentation of violations, and
- Assessment of enforcement effectiveness

Section 14.2 below provides details regarding these activities.

14.2 ENFORCEMENT ACTIVITIES

14.2.1 Legal Authority

Chapter 5 – Water Quality and Pollution of the DCMR and the Soil Erosion and Sediment Control Amendment Act of 1994, respectively, provide the legal authority to enforce the erosion and sediment control provisions of the SWM Plan. Removal of illicit connections to the MS4 is enforced through the Plumbing Inspection Branch of the DCRA. Enforcement authority prohibiting the dumping of used motor vehicle fluids is provided in D.C. Laws 5-188 and 10-177.

14.2.2 Enforcement Activities and Resources

DOH WQD enforcement procedures are addressed in the “*Draft Water Quality Division Enforcement and Compliance Manual*”, which was updated in FY 2003. This manual details the written enforcement strategy outlining how enforcement actions, such as violation notices, notices of infraction, and stop work orders, are issued and adjudicated. The strategies outlined in the manual provide the standard operations procedures for inspection and enforcement efforts within the District. A copy of the “*Draft Water Quality Division Enforcement and Compliance Manual*” is included as Appendix 13-A of this report.

DOH WPD and the District Police Environmental Crimes unit work jointly to investigate illicit discharges and enforce the District water quality regulations. As a result of illicit discharge investigations, DOH WQD personnel issued more than 10 directives last year. DOH WQD personnel issued corrective action notices to the persons they determined were responsible for maintenance of the impacted storm water management facilities. DOH WQD contacted the Plumbing Inspection Branch of DCRA for assistance with obtaining the proper Building Code citations under which to recommend enforcement action against three facilities.

DOH WPD has allocated three environmental engineers and two environmental specialists in support of these activities. These staff members are fully dedicated to storm water management issues related to implementation of the SWM Plan and the Permit.

14.2.3 List of Violations

A list of all violations and enforcement actions is included in the Office of Adjudication and Hearings Docket and Case-Tracking Sheet. The Office of Adjudication and Hearings Docket is provided as Appendix 6-D of this report.

14.2.4 Assessment of Effectiveness

During FY 2003, DOH WPD reviewed 1,720 construction plans and approved 1,567 of them. A total of 6,036 on-site inspections were performed to enforce erosion and sediment control, and storm water requirements. As a result of these inspections, 212 cases were referred for enforcement actions. This represents a significant increase (54%) from FY 2002, when 138 enforcement actions were taken.

15.0 STORM WATER POLLUTON CONTROL: PUBLIC EDUCATION

15.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

15.1.1 Permit Requirements

The Permit in Part III.B.12 requires that the District “develop a public education program” to reduce pollutant loading from the MS4 to receiving waters.

15.1.2 Compliance Summary

The storm water pollution control public education program entails a mixture of programs emphasizing the MS4 web site, education and outreach activities, household hazardous waste collection events, the pesticide, fertilizer and pet waste programs, industrial and construction site operators programs and cooperative programs with other agencies. A summary is these compliance activitiesincludes:

- Public Web site development
- Education and outreach
- Household hazardous waste collection and disposal
- Pesticides, fertilizer and pet wastes program
- Industrial facility program
- Construction site operators program, and
- Agency cooperation program

Section 15.2 below provides details regarding these activities.

15.2 PUBLIC EDUCATION ACTIVITIES

Public education activities conducted during the past year are described in detail in this section.

15.2.1 Public Web Site Development

On March 1, 2002, WASA launched an updated public web site for the agency. As part of the update, five pages of information regarding the MS4 program were created. In addition to the default opening page titled, "Separate Storm Sewer System," four pages were maintained and updated:

- **Overview** – Get a general overview of the Municipal Separate Storm Sewer System (MS4).
- **Municipal Separate Storm Sewer System (MS4) Permit** – Learn about current regulations governing MS4s and how DC WASA is responding.
- **What Can I Do?** – Learn what you can do to help local water quality.
- **Contact Information** – Find contact information and additional resources for CSS- and MS4-related issues.

The default welcome page for the MS4 pages can be found on the WASA web site at: <http://www.dcwasa.com/education/ms4/default.cfm>

Since its launch, the MS4 web page has been updated regularly to include current information on activities such as the public hearings. The pages will continue to be updated with additional public education material on topics such as hazardous waste disposal, recognizing and reporting illicit discharges, public participation, and other topics related to the MS4.

15.2.2 Education and Outreach

DOH WPD has developed several outreach programs targeted to teachers, environmental educators and students throughout the District. These programs are:

- **Environmental Education Resource Center** – This center provides resources and materials that teachers and other environmental educators may use to enhance the classroom curriculum and implement conservation projects.

- **Conservation Education (Project Learning, Project WET, Project WILD)** – These internationally recognized programs are utilized to train educators in innovative techniques for exploring a wide range of environmental concepts with students and teaching critical thinking skills that lead to environmental stewardship (grades K-12).
- **Teacher Training Workshops** – Assist teachers in fulfilling their teaching and learning standards while helping students develop environmental ethics and responsible stewardship.
- **Pollution Prevention** – DOH has issued several grants to promote Pollution Prevention activities impacting the quality of storm water runoff. Under one grant, an environmental organization will conduct a pollution minimization assessment. Students at three high schools will be taught how to conduct the assessment, report and discuss findings, and implement practices to reduce the amount of pollution identified in their schools. Under another grant, an environmental organization will develop and distribute outreach materials on IPM targeting city community gardeners. Lastly, funding will be provided to continue a newly established Green Marinas Program in the District.

DOH WPD is planning a workshop and trade show to educate the regulated community on the technical and compliance issues related to our erosion control and storm water management program. The theme of the workshop is “Innovative Approaches to Ultra Urban Erosion and Sediment Control and Storm Water Best Management Practices.” The workshop is schedule for April 28-29, 2004, at the campus of the University of the District of Columbia, 4200 Connecticut Avenue, NW, Washington, DC. the University of the District of Columbia and the Mid-Atlantic Chapter of the International Erosion Control Association will cosponsor the workshop.

This workshop will focus on:

- Emerging scientific and best available technological solutions to urban soil erosion and sediment control and storm water management.
- The wide-reaching ramifications of the new NPDES Phase II regulations for storm water discharge through municipal separate storm sewer system (MS4s), as it affects new construction projects.

- New construction guidelines in the 2003 District of Columbia Standards and Specifications for Soil Erosion and Sediment Control and the 2003 Storm Water Management Guidebook.
- Industry-leading companies showcasing new products, services and technologies in the trade show.
- Ideas, knowledge, lessons learned and case studies presented by top-notch researchers, practitioners, regulators, developers, engineers, landscape architects and contractors.

15.2.3 Household Hazardous Waste Collection and Disposal

The District promotes the collection and disposal of household hazardous waste through collection days. During the past year, two hazardous waste collection days, where residents may bring hazardous wastes for proper disposal, were conducted by DPW. Collection days were held on May 9th and October 11th at the Carter Baron Amphitheater. These activities are promoted through the use of a public education pamphlet and press releases discussing solid and household hazardous waste. A copy of the pamphlet is provided in Appendix 15-A.

Materials accepted during the household hazardous waste collection days include motor vehicle fluids and household hazardous materials such as: paint, batteries, pesticides, solvents, motor oil, furniture polish, nail polish and remover, and other possibly toxic items. Details of the 2003 collection days are provided in Section 13.2.4. The Care Environmental Corp. was subcontracted to perform collection and packing of the waste for the District. A listing of the items collected during the May and October events is presented in Appendix 15-B of this report.

The next household hazardous waste collection day is planned for April 3, 2004 at two District locations: the Carter Baron Amphitheater and the Penn Branch Shopping Center parking lot at 3220 Pennsylvania Avenue, SE. A copy of the typical press release for the event is presented in Appendix 15-B of this report.

Collection events for electronics recycling were held on April 12th and September 13-14, 2003 at the Digital Expo. Pamphlets and public information was distributed both before

and during the Expo promoting the collection of household wastes. Tonnages of electronics recycled were 9.6 tons and 46.6 tons respectively.

DOH WPD also provides educational opportunities for residents of the District to increase awareness of the proper disposal methods for household hazardous wastes. In 2003, WPD provided 223 participants at 12 workshops with a packet of information on how to “*De-Tox Your Home, Alternatives to Toxic Household Products (Chesapeake Bay Foundation)*” and information on radon in the home. Additionally, WPD’s Nonpoint Source video *River Connections* provides instruction on the proper disposal of motor oil and antifreeze. The video was given to ten teachers to shown to their classes and copies were lent to several District schools.

While DOH WQD helped with programs like EE-CARS (e.g., by surveying automotive repair shops and reviewing the draft EE-CARS compliance manual), DOH WQD placed more attention on providing on-site compliance recommendations over the past year. During routine inspections, inspectors make recommendations to facility managers concerning the storage, handling, and disposal of hazardous chemicals.

15.2.4 Pesticides, Fertilizer, and Pet Wastes Program

Pesticides

DOH WPD has developed an education and outreach program entitled “*Integrated Pest Management/Nutrient Management.*” The purpose of the program is to better inform the public on the proper use, proper disposal, and safer alternatives to pesticides. The programs provide education and outreach activities designed to educate citizens about environmentally sound practices with regard to the use of pesticides in the yard or garden and the introduction of “good” pests into the garden. In 2003, DOH WPD distributed information to 200 teacher workshop participants and provided information at the Lily Festival at Kenilworth Gardens, the Anacostia Fair, and at the Peace Health Fair community event. The Division has an IPM video that it distributes along with supporting brochures.

District residents are educated on the proper application of pesticides through the Integrated Pest Management Program. This program gives residents guidance on how to choose an appropriate pesticide, how to choose a pest control company, and what regulatory requirements there are regarding commercial companies applying pesticides.

This pamphlet also informs residents that there is a water quality impact associated with the application of too much pesticide.

Fertilizer

Through DOH WPD's nutrient management program, the public is educated about the proper amount of fertilizer to use on a lawn. In addition to fertilizer use, this program addresses the proper way to mow, the use of mulches and the effects of applying too much mulch.

Pet Wastes

DOH WPD has developed an education and outreach program entitled "Scoop Your Pet's Poop." This program is designed to inform citizens of their legal obligation to manage their pet's waste and to explain the reasons why it is important to do so. In 2003, DOH WPD provided 1,000 "Scoop Your Pet's Poop" brochures to DOH's Animal Disease Prevention Division and 200 to DPW's SWEEP program. Further, DOH WPD distributed these brochures to 258 participants at educator workshops, as well as at the Lily Festival at Kenilworth Gardens and at the Peace Health Fair community event.

Currently there are laws in the District requiring pet owners to remove animal wastes. A brochure outlining the requirements of the law is available to registered pet owners to inform them that runoff from animal waste is a source of nutrient pollution in the waters of the District.

15.2.5 Industrial Facility Program

DOH WPD performs outreach to industrial facilities through seminars and conferences for managers of industrial facilities. DOH WPD personnel use inspections to promote awareness of the proper methods of storage of chemicals for managers of industrial facilities. Based on what they observe on-site, the inspectors can make facility-specific recommendations to improve the facility's compliance with storm water regulations. As the materials are available the inspectors may also use these opportunities to distribute prepared public outreach materials that still appropriately address the facility operations.

15.2.6 Construction Site Operators' Program

DOH continues to distribute a video demonstrating the proper maintenance of the sand filter water quality structure, which is a commonly used BMP on construction sites in the District. DOH maintains a list of qualified storm water management facilities maintenance contractors registered to do business in the District. The list is made available to all persons responsible for the maintenance of individually owned private storm water management facilities. To ensure proper maintenance of storm water management facilities, DOH has established guidelines of inspection procedures as required by District of Columbia Municipal Regulations, Title 21, Section 534.1. DOH policy requires the submission and approval of a work plan before restorative maintenance activity of the filter bed for any District sand filter facility can proceed.

Also, as part of the District's environmental compliance project, DOH WPD staff conducted a seminar for Washington Gas Light Company project managers, engineers, construction inspectors, and contractors. The presentations covered topics such as sediment control and storm water management plan review, permit application processes, and DOH WPD inspection and enforcement process. Seminars of this nature can help improve compliance from the regulated community, and ultimately benefit the environment by reducing the generation, release, or deposition of sediment into District waters.

15.2.7 Agency Cooperation Program

The District continues to maintain partnership arrangements with regional and local organizations. A thorough discussion of partnerships and cooperative efforts, including public education, between the DOH and other Federal, regional, and local agencies and organizations appears in the Nonpoint Source Management Plan II. These partnerships help promote storm water pollution control issues.

Regional Organizations

District agencies are currently working with the Interstate Commission on the Potomac River Basin (ICPRB), the Metropolitan Washington Council of Governments (MWCOC), and the Anacostia Watershed Restoration Committee (AWRC)

District agencies and the ICPRB have identified and developed information on toxics problems, and they have made plans with other agencies that have jurisdiction over upstream waters to work together on reducing the levels of toxics in the rivers.

Together with the AWRC, DC agencies have improved water quality, wetlands, forest cover, and ecological integrity of fish habitat in the Anacostia Watershed, and trash removal.

Local and Federal Government Agencies

EPA is providing technical and program support to the Nonpoint Source programs of the District.

Through the DC Urban Initiative, the US Department of Agriculture Natural Resources Conservation Service (NRCS) is conducting a soil erosion assessment for DC Parks and Recreation property throughout the District. NRCS has provided public outreach at various environmental fairs and training courses on stormwater management, and runoff from commercial and residential activities.

DOH and NRCS is currently drafting a memorandum of understanding to complete the revision and updating of the District Soil Survey. The primary items agreed upon that are required and updated are:

1. Digital soil data that meets established USDA's standards:
2. Augment soil information in areas previously mapped as various phases of Udorthents, specifically in regard to: correlating Udorthents to soil series; inventorying soil properties in order to develop hydrologic soil groups in runoff curves and in the District storm water management program; and linear extensibility data for the Christiana soil map unit.

The National Park Service maintains federal land holdings that border District waterways. The National Park Service has begun restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, and Lower Anacostia Park, and continues to work on the Fort DuPont BMP Construction site and the installation of BMPs at the parking lot for the Anacostia Park.

The US Army Corps of Engineers is also involved in the restoration activities at the Kingman Lake Wetland, Kenilworth Marsh, Anacostia Fringe Wetlands, lower Anacostia Park Habitat Restoration, and debris removal from the Anacostia River.

The US Geological Survey maintains gauging stations along Rock Creek and Watts Branch that provide data for the discharge monitoring program described in Section 16.0 of this report.

Universities

Universities in the District provide research and support services to the MS4 programs of the District government. These services include assessment of petroleum and hydrocarbons in groundwater, groundwater hydrology and wetlands, toxic organic compounds, educational videos and projects on nonpoint sources and pollution prevention. In addition, they provide interns for public educational and biological monitoring programs.

Howard University's Department of Engineering completed a study of best management practices for DDOT in October 2002. The report is discussed in Section 4.2 of this report. Howard University is currently preparing design standards for inclusion in DDOT construction projects.

Nonprofit/Environmental Group Partnerships

District agencies have worked with the Anacostia River Business Coalition (ARBC), a group of 22 businesses that are adjacent to the Anacostia River. ARBC's mission is to prevent toxic discharges from reaching the Anacostia River. The coalition has conducted pollution prevention workshops intended to raise public awareness about trash, oil, fertilizer, pesticides, and prevention methods.

DPW works closely with Keep Washington Beautiful, inc to place and maintain 40 learning terminals at select DC Public Schools sites. The terminals are utilized by the teachers and students to engage in research and instructional delivery in the area of environmental education. A listing of the terminal sites is provided in Appendix 15-C.

DPW also works with neighborhood groups to provide tools, trash bags and graffiti paint out kits for neighborhood cleanups under the Helping Hand Program. One hundred

eighty (180) cleanups are provided each year through this program. Similarly, DPW works with neighborhood groups to provide 30 block party cleanups per month.

The Anacostia Watershed Society Citizen Advisory Committee works to improve water quality in the Anacostia. In 2003, this group and DOH WPD organized a public workshop on low impact development.

An interagency and community task force, the Watts Branch Task Force, addresses impairments to Watts Branch. They have coordinated restoration and clean-up efforts on Watts Branch, developed public outreach and education, improved communication between residents, and developed collaborative efforts.

The Pope Branch Citizens Group works to improve water quality along Pope Branch by controlling erosion through various tree, shrub, and flower planting, and improvements to ground cover. This group has also been directed on how to report illegal dumping activities and arrange for bulk trash pickup, and has received support from the ARBC.

The Mayor's Environmental Council consists of public and private sector members who help guide the administration on specific environmental issues such as sustainable economic development, smart growth, transportation, environmental health and children, and reclamation, preservation, and protection of the Anacostia River.

A discussion of the roles of non-governmental Agencies is included in the Nonpoint Source Plan, which is in Appendix 6-A of this report.

15.2.8 Library Submittals

The Permittee has established a system to ensure that Permit records and documents are available for public review in a single location at the Martin Luther King, Jr. Public Library. All annual and semi-annual reports are being placed on file. In addition, DOH WPD has placed a copy of all IPM and Nutrient Management Information on file at the Martin Luther King, Jr. Library.

15.2.9 Meeting the Requirements of the Clean Water Act

In urban areas, water pollution occurs when water moving over land picks up pollutants such as sediment, bacteria, nutrients, and toxicants and carries them to nearby waters. A cost-effective way to reduce water pollution from this storm water runoff is by preventing

the pollution at the onset. Pollution prevention is more cost effective than remediation. DOH WPD accepts the premise that most citizens would protect their environment given the correct information. DOH WPD considers effective environmental education a natural complement to its regulatory functions. Realizing that habits formed early in life are more enduring, the outreach program has a major youth component.

DOH WPD has raised awareness of point and nonpoint pollution sources in the community and prevention methods through its outreach to educational and community groups. These educational efforts begin by teacher training days, community outreach, and various fairs and festivals in the District. This methodology exposes children to their effect on the surface runoff and storm water discharges at an early age. This effort has developed a pollution prevention mindset and is more cost effective than developing ways of mitigating runoff.

16.0 STORM WATER POLLUTION CONTROL: MONITORING AND REPORTING REQUIREMENTS

16.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

16.1.1 Permit Requirements

Part IV of the Permit describes monitoring and reporting requirements. The monitoring program consists of:

- Storm event discharge monitoring
- Dry weather monitoring, and
- Wet weather screening program

16.1.2 Compliance Summary

The storm water pollution control monitoring and reporting program emphasizes the monitoring of representative outfalls in the MS4, the analysis of sampling event, and the estimation of system wide potential loadings. The following sections provide details regarding the sampling events and loading estimates including:

- Sampling location
- Criteria for storm water discharge sampling
- Narrative descriptions of storm events sampled
- Pollutants and water quality standards for analysis, and
- Estimation of event mean concentration
- System wide annual pollutant loading

16.2 STORM EVENT MONITORING AND WET WEATHER SCREENING ACTIVITIES

On June 7, 2002 DOH WQD requested the approval of six alternate MS4 monitoring locations along Rock Creek (Appendix 16-A). The outfalls were selected, per 122.26(d)(2)(iii)(A), based on representative land use in their drainage basins, drainage

basin areas, and hydraulic conditions in the storm sewer lines upstream for the outfalls. In April 2003, the EPA issued a second amendment to the NPDES Permit, which includes “a change in the location of the current MS4 monitoring stations from the stations in the Anacostia subwatershed to the Rock Creek subwatershed and kept the Hickey Run TMDL station as required by the MS4 Permit”. In order to better characterize discharges from MS4 to Rock Creek, two additional sites were monitored during wet weather. Site 7 (Portal Dr. and 16th St.) and Site 8 (Broad Branch Rd. and 30th St.) were not proposed as MS4 program representative monitoring locations and will not be listed in the reissued permit. A listing of the eight sampling stations and their associated acreages is provided in Table 16-1.

Under contract with DOH, Maryland Environmental Services started collecting samples in the Rock Creek subwatershed in September. By the close of 2003 a total of 10 samples had been collected from Rock Creek representative outfalls, of which four outfalls were sampled once each during wet weather and all six were sampled once during dry weather. Table 16-2 summarizes the dates of sample collection for each outfall and the weather condition (wet or dry) at the time of sampling.

DOH WQD is in the process of contracting a laboratory to analyze water samples for both wet and dry weather screenings. Following permit requirements, aqueous samples were analyzed at an analytical laboratory for pollutants commonly found in urban storm water runoff. Details of monitoring procedures, as well as specific pollutants and water quality parameters of concern are discussed in the QAPP. In addition, rain duration and intensity data were collected for the sampled storm events and used with sub-basin areas and pollutant concentrations present to determine system-wide event mean pollutant concentrations and annual pollutant loads for the District’s MS4. Complete results of the sample analysis results for 2003 will be stored in the screening program comprehensive database.

During calendar year 2004, DOH WQD plans to begin monitoring in the Potomac River watershed as part of the rotation pattern agreed upon under Amendment 2 to the permit.

Table 16-1 Rock Creek MS4 Representative Outfalls and Acreage		
Site Number	Sampling Location	Estimated Acreage of Drainage Area
1	Walter Reed – Fort Stevens Drive	25
2	Military Road and Beach Drive	37
3	Soapstone Creek – Connecticut Ave and Ablemarle Street	330
4	Melvin Hazen Valley Branch – Melvin Hazen Park and Quebec Street	146
5	Klinge Valley Creek – Devonshire Place and 30 th Street	52
6	Normanstone Creek – Normanstone Drive and Normanstone Parkway	45
7	Portal and 16 th Street	*
8	Broad Branch – Broad Branch and 30 th St., NW near the Ivory Coast Embassy.	540

* No acreage of drainage area has been estimated because much of the drainage area is in Maryland.

Table 16-2 2003 MS4 Outfall Sampling Events

REPRESENTATIVE OUTFALL	SAMPLE DATE	WEATHER
(1) Walter Reed (Fort Stevens Drive)	9/12/2003	Wet
	11/4/2003	Dry
(2) Military Road & Beach Drive	9/12/2003	Wet
	11/4/2003	Dry
(3) Soapstone Creek (Connecticut Avenue & Albemarle Street)	11/4/2003	Dry
(4) Melvin Hazen Valley Branch (Melvin Hazen Park & Quebec Street)	11/4/2003	Dry
(5) Klingle Valley Creek (Devonshire Place & 30th Street)	10/14/2003	Wet
	11/4/2003	Dry
(6) Normanstone Creek (Normanstone Drive and Normanstone Parkway)	11/4/2003	Dry

16.2.1 Criteria For Storm Water Discharge Sampling

The regulations require that storm water runoff at each of the nine outfalls be sampled from three storm events. An allowable storm event defined in 40 CFR 122.21 (g)(7) must meet the following criteria:

- The storm event must contain greater than 0.1 inch of precipitation.
- Each storm event must be at least 30 days apart from a previously sampled storm.
- Each storm event must be preceded by a period of 72 hours during which no more than 0.1 inch of precipitation has been recorded.

- The rainfall intensity of each storm event must be within 50% of the average median rainfall volume and duration for the region.

Historical rain data for the District Metropolitan Area were collected from records maintained at the National Oceanographic and Atmospheric Administration (NOAA). Monthly summaries from 1949 through 1996 from the National Airport data collection station were used to determine the mean storm event precipitation and duration values for each month. Storms sampled during the characterization study theoretically fall within a 50th to 150th percentile of a representative storm for the appropriate month. The monthly rain data summary and the anticipated rainfall ranges required for sampling are given in Appendix 16-B. The average monthly rainfall in the District is 3.26 inches with an average rainfall duration of 7.38 hours. The average number of rainfall events per month is seven. Using the above criteria, a representative storm event ranges from 0.23 to 0.69 inch of precipitation with a duration ranging from 3.69 to 11.07 hours.

Appendix 16-B presents a table of the actual, predicted normal, and average precipitation for the Washington, DC area for the period of January 2003 through December 2003.

16.2.2 Narrative Descriptions of Storm Events Sampled

Data logging rain gauges were installed at six of the District's monitoring stations. Selected rain gauge site locations and the monitoring stations they represent are described in Appendix 16-C along with rain events for which samples were collected. Narrative descriptions of each sampled storm event are presented in the 2004 Discharge Monitoring Report. Appendix 16-D provides a summary table of the precipitation accumulation and duration, and time to the previous event for the rainfall events sampled.

16.2.3 Pollutants and Water Quality Standards for Analysis

Each composite storm water sample was analyzed at the laboratory for the parameters defined in the QAPP. The list of parameters, the detection limits, and EPA-approved methods utilized for monitoring activities are also included in the QAPP, which is included in Appendix 16-E.

DOH maintains the records of monitoring information including:

- Description of Sampling
 - Location/Collection Time
 - Sampling Collection

- Field Test
- Maryland Environmental Services personnel who collected samples

- Storm Event Data
 - Date and duration of the storm events samples
 - Rainfall measurements
 - Duration between storm event sampled and the end of the previous measurable storm event
 - Estimate of the total volume of the discharge sampled

- Sampling Difficulties/Field Notes

- QA/QC Review and Clarification
 - Field Test Results
 - Laboratory Results Tables
 - Atlantic Coast Laboratories Data
 - Lancaster Laboratories Data
 - Triangle Laboratories Data
 - Martel Laboratories Data

Analytical results for detected pollutant concentrations from all monitoring events to date are presented in Appendix 16-F of this report.

16.3 REPORTING ACTIVITIES

A detailed discussion of the monitoring results is presented in the Discharge Monitoring Report (DMR). Generally, the DMR describes the monitoring sites, sample collection, record keeping, monitoring results, and estimates of loadings over a full year. The DMR submitted with this Annual Report (under separate cover) represents the outfall monitoring activities that occurred after April 19, 2003. The first samples were collected at Rock Creek outfalls in September 2003.

Annual pollutant loading from the MS4 for the 12 pollutants associated with urban storm water (EPA 1992)¹ is estimated in this section. To provide improved statistical integrity, the complete data set of analytical results from samples collected since the inception of the MS4 Permit in April 2000 was utilized to estimate annual loading. For each pollutant, a system-wide event mean concentration was estimated, and the annual loading calculated by the Simple Method as described in the following sections.

16.3.1 Estimation of Event Mean Concentrations

System-wide event mean concentrations (EMC) are estimated following procedures described in EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems* (EPA, 1992).

The EMC is defined as:

Where: C_i = Event Mean Concentration

T = Median Concentration of the Samples

$$C_i = T \left(\sqrt{1 + CV^2} \right)$$

CV = Coefficient of the Variance of the Samples

16.3.2 Annual Pollutant Loading

The MS4 annual pollutant loads for each of the sewersheds where wet weather monitoring was conducted in 2003 were calculated by the Simple Method. These calculations utilized the single sample results in place of the event mean concentrations together with the total area and land use distribution within the MS4 area of the District. The Simple Method can estimate pollutant loads without extensive rainfall-runoff volume data using the sample analysis results available. Generally, the Simple Method is expected to overestimate pollutant loads as compared to more dynamic models that incorporate pollutant concentration and runoff coefficients as functions of initial conditions and rainfall intensity and duration in estimating total pollutant loads.

¹U.S. Environmental Protection Agency. 1992. *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Storm Sewer Systems*. EPA/833/B-92/002.

The Simple Method is given by the following equation:

$$Li = 1/12 * P * CF * Rvi * Ci * Ai * 2.72 \quad (1)$$

Where:

- Li = Annual Pollutant load (lb/outfall/yr)
- P = Annual Precipitation (in./yr)
- CF = Correction factor (0.9) to adjust for storms where no runoff occurs
- Rvi= Runoff coefficient for the area served by the outfall
- Ci = Event mean concentration of pollutants (mg/L)
- Ai = Sewershed area (acres)
- 1/12 = Conversion factor
- 2.72 = Conversion factor

Annual precipitation was estimated as 39.1 inches by averaging 47 years (1947-1996) of annual records for Washington National Airport. The sewershed area was obtained from the sewershed coverage. A key parameter in Equation 1 is the runoff coefficient, Rvi, which is directly related to imperviousness and land use. Conventionally, a weighted average runoff coefficient for the area served by each outfall is used. A runoff coefficient for each land use category within a sewershed was estimated. Two coverages, land use and sewershed, were overlaid to generate sewershed area with a single land use category, imperviousness and runoff coefficient. Land use categories, impervious surfaces, and runoff coefficients were calculated for each category and presented in Appendix 16-G.

MS4 system-wide annual pollutant loads for the 12 required pollutants were estimated and are presented in Table 16-2 together with the estimated system-wide EMC calculated for each pollutant.

**TABLE 16-2. 2003 ANNUAL POLLUTANT LOADING (POUNDS/YEAR) FOR
PRIORITY POLLUTANTS (mg/L) OF THE DISTRICT'S MONITORING
STATIONS DURING WET WEATHER EVENTS.**

PARAMETER	WET WEATHER
Walter Reed-Ft. Stevens (1)	
TSS	13,385.0
BOD	9,807.9
COD	17,885.1
TDS	7,615.6
TN	422.3
TKN	311.5
TP	46.2
DP	40.4
Cadmium	0
Copper	5.1
Lead	2.1
Zinc	17.0
Military Road & Beach Dr. (2)	
TSS	16,896.4
BOD	2,368.7
COD	19,580.9
TDS	17,685.9
TN	415.3
TKN	205.3
TP	33.2
DP	22.1
Cadmium	0
Copper	14.7
Lead	4.9
Zinc	36.2
Klinge Valley Creek (5)	
TSS	8,212.2
BOD	1,642.4
COD	10,881.1
TDS	13,755.4
TN	443.5
TKN	178.6
TP	61.6
DP	49.3
Cadmium	0
Copper	15.8
Lead	22.0
Zinc	11.7

PARAMETER	WET WEATHER
Broad Branch (8)	
TSS	238,815
BOD	52,312
COD	254,736
TDS	473,080
TN	8,893
TKN	4,776
TP	1,205
DP	1,228
Cadmium	1.8
Copper	209.2
Lead	63.7
Zinc	291.1

A review of the storm event data reveals minor or no loads of volatile organic compounds, acid extractable compounds, base/neutral extractable compounds, pesticides, 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 coliform, and fecal streptococcus should be noted.

The District experienced a lapse in the monitoring of the Hickey Run site during calendar year 2003 due to unforeseen budget constraints placed on DOH WQD. DOH WQD realized the MS4 budget was not loaded for 2002. In May 2003, when the budget was loaded, the official procurement request was made. The paperwork was not completed until August 27, 2003 just one month before the contract would terminate in September 2003. This would not provide enough time for DOH to collect and analyze representative samples from Hickey Run for 2003. However monthly ambient water quality monitoring of Hickey Run indicates that oil and grease analyses were less than 5 mg/L (Table 16-3).

**TABLE 16-3. AMBIENT OIL AND GREASE MONITORING AT HICKEY RUN,
JANUARY – NOVEMBER 2003.**

Date	Site	Oil & Grease (mg/L)
January 6, 2003	THR01	<5
	THR05	<5
February 3, 2003	THR01	<5
	THR05	<5
March 17, 2003	THR01	<5
	THR05	<5
April 14, 2003	THR01	<5
	THR05	<5
May 12, 2003	THR01	<5
	THR05	<5
June 9, 2003	THR01	<5
	THR05	<5
July 14, 2003	THR01	<5
	THR05	<5
August 11, 2003	THR01	<5
	THR05	<5
September 9, 2003	THR01	<5
	THR05	<5
October 14, 2003	THR01	<5
	THR05	<5
November 11, 2003	THR01	<5
	THR05	<5

16.4 DRY WEATHER MONITORING

During dry weather, DOH investigators use visual and dye test inspection techniques of facilities within watersheds troubled with intermittent illicit discharges to determine and locate suspected sources.

Dye testing is used to test sewer lines for infiltration, locate sewer lines, check lines for illegal connections, prove septic bypasses, and detect leaks in a closed system. Standard Operating Procedures for “Dye Testing to Find Sanitary Sewer Leaks” is pending.

Identifying DC storm water outfalls also involves free and total chlorine testing at all locations with flow during dry weather. The test results are being retained for evaluation. The storm water outfalls with chlorine levels exceeding storm water standards will be further investigated after the outfall identification is completed.

16.5 IDENTIFICATION OF WATER QUALITY IMPROVEMENTS OR DEGRADATION

The sample analysis results reported in the Discharge Monitoring report have been utilized in the continued evaluation of the MS4 system to identify retrofits and modifications necessary to meet the requirements of the Clean Water Act, the requirements of this Permit, and to continue to improve water quality in the District.

17.0 HICKEY RUN STORM WATER POLLUTION CONTROL USING THE TOTAL MAXIMUM DAILY LOAD

17.1 PERMIT REQUIREMENTS AND COMPLIANCE SUMMARY

17.1.1 Permit Requirements

The Permit in Part VI describes the permit requirements relating to the Hickey Run Total Maximum Daily Load (TMDL).

17.1.2 Compliance Summary

The storm water pollution control program for Hickey Run emphasizes compliance with the Hickey Run TMDL for oil and grease. Activities emphasize:

- Evaluation of the Hickey Run watershed,
- Monitoring of Hickey Run for oil and grease,
- Evaluation of BMPs to reduce pollutants in Hickey Run, and
- Development of a cooperative agreement with the National Arboretum for the installation and maintenance of the BMP.

Section 17.2 below provides details regarding these activities.

17.2 HICKEY RUN TMDL ACTIVITIES

Hickey Run is a small tributary to the Anacostia River. The headwaters of Hickey Run are part of the MS4 with four outfalls located close together. Through these four outfalls, the storm sewer gives way to an open stream channel. The creek then flows through the National Arboretum for less than a mile before meeting the Anacostia River. Figure 17-1 illustrates the Hickey Run sewersheds and outfalls.

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 do not properly dispose of waste oil. Also, oil and grease flush into the storm sewer system during rainstorms.

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 joint effort of DOH and EPA to address automotive service shops and positively impact the health of the Hickey Run watershed continued in 2003. The Environmental Education for the Compliance of Auto Repair Shops (EE-CARS) effort began with the selection of automotive service shops in Ward 5 for a survey because they were considered potential sources of the oil and grease that had impacted Hickey Run. Ward 5 was selected because it is where Hickey Run is located, and the ward contains more industrially zoned areas than any other ward in the city. In December 2001, surveyors from OECEJ and EPA canvassed Ward 5. Of the 108 automotive service shops identified in Ward 5, 57 were in the Hickey Run watershed. DOH Office of Enforcement, Compliance, and Environmental Justice (OECEJ), DOH WQD, and EPA began to survey the compiled a list of automotive service shops in the area in 2002. The survey helped the agencies to locate and obtain information on the nature of the businesses, and its completion was the first step in the overall approach for reducing oil and grease pollution in this watershed. Other elements of the approach include the following:

- Characterization of facilities
- Industry profile and predominant pollution types
- Baseline inspections
- Design and implementation of public education programs, and
- Compliance

The information obtained through the surveys is being used to improve the compliance of automotive repair shops with environmental rules and regulations. In December 2003, DOH Office of Enforcement, Compliance, and Environmental Justice published the EE-CARS Compliance Workbook (see Appendix 17-A). The workbook was designed to provide auto shop managers with information on environmental regulations, licensing, and environmental concerns associated with typical repairs as well as special repairs and operations. EE-CARS is distributing the workbook to select shops that participated in the initial survey and is encouraging these shops to participate in a voluntary compliance

program. The workbook contains a self-certification form, which the EE-CARS program asked the shops to return to DOH by March 31, 2004 in order to participate in the voluntary program. EE-CARS is extending an opportunity for the shops to comply with applicable rules and regulations before traditional enforcement measures are practiced.

Environmental Business Performance Indicators are being developed to serve as indicators for understanding both compliance status and overall environmental performance of facilities. The facility data that is collected through the voluntary program will be analyzed statistically to assess the level of compliance and the need for further action within the watershed.

Following the initial survey, DOH WQD continued making visits to the more than 40 automotive repair shops in the Hickey Run watershed during 2003 to carry out MS4 Program duties to minimize illicit discharges to D.C. waterways.

17.2.1 Monitoring

The District experienced a lapse in the monitoring of the Hickey Run site during calendar year 2003 due to unforeseen budget constraints placed on DOH WQD. DOH WQD realized the MS4 budget was not loaded for 2002. DOH's MS4 budget was not loaded at the start of FY 2003. The paperwork was not completed until August 27, 2003 just one month before the contract would terminate in September 2003. This would not provide enough time for DOH to collect and analyze representative samples from Hickey Run for 2003. However monthly ambient water quality monitoring of Hickey Run indicates that oil and grease analyses were less than 5 mg/L. The ambient sample analysis results are presented in Section 16 of this report, and in the 2004 Discharge Monitoring Report submitted together with this Annual Report.

17.2.2 Evaluation of BMPs

The District has begun the evaluation of BMPs that will reduce pollutants including oil and grease discharged from the MS4 to Hickey Run. In 2001, The Center for Watershed Protection conducted an evaluation of BMPs that could be potentially installed in Hickey Run near New York Avenue. A structural BMP was recommended by The Center for Watershed Protection. The BMP consists of a centrifugal separation device as the primary treatment combined with a netting trash rack. When coupled with supplemental sorbents the device is able to treat oil and grease at low rainfall intensities.

In October 2002, the District prepared a draft MS4 management plan for the four Hickey Run sewersheds titled, “*Hickey Run Action Plan to Comply with MS4 Permit Requirements.*” A copy of the draft plan text is presented in Appendix 17-B. This plan reviews and evaluates data, and provides recommendations for structural and non-structural BMPs and education programs and activities designed to reduce oil and grease loading from the MS4 outfall to Hickey Run. This document is being used as the basis for storm water pollution control activities designed to comply with the oil and grease TMDL.

17.2.3 Cooperative Agreement With National Arboretum

The District has conducted ongoing discussions with the National Arboretum, which controls the land downstream of the outfalls. Discussions were done in the following general steps:

- In an action separate from the MS4, Congress allocated \$500,000 (in FY 2001) to the National Arboretum to install a trash control device on Hickey Run.
- The District suggested combining the Arboretum’s trash netting system with a device to remove oil and grease. DOH provided a grant to the Center for Watershed Protection (CWP) to evaluate appropriate trash and oil and grease trapping BMPs. This device is discussed in Section 7.2.2 above.
- Following discussions with the USDA regarding the use of land within the National Arboretum, the Storm Water Administrator drafted a Memorandum of Understanding (MOU) in November 2001, which detailed the BMP to be built in the Arboretum and the commitments required of USDA, DOH and WASA.
- After several iterations a final MOU has been signed by WASA and DOH, and with the expected signature of USDA, construction of the BMP is expected to begin in FY 2005.

In 2003, The Storm Water Administration conducted an evaluation of other, upstream locations for construction of BMP(s). This evaluation determined that the construction of

a BMP at these locations would be difficult if not impossible due to the location of the storm sewers under major traffic arteries, and the shallow slope of the storm sewers.

The only cost effective site for implementing a pollution control device that would meet the permit requirement is the storm water outfall to the Hickey Run located in the National Arboretum. No action can be taken to complete the design and install any pollution control device at this site without the agreement of the National Arboretum.

In 2002, DOH WPD transferred funds to the US Fish and Wildlife Service to conduct a habitat assessment of Hickey Run. The US Fish and Wildlife Service has been asked to make recommendations for needed stream restoration and for the possible creation of a marsh at the mouth of the stream. These possible restorations, together with the proposed pollution control device at the MS4 outfall will contribute to improve water quality in Hickey Run, and the Anacostia River.

17.2.4 Public Education

As discussed in 17.2 above, a compliance workbook for automotive repair shops was published through the multi-program EE-CARS effort. The workbook contains important educational material about environmental regulations and licensing applicable to D.C.'s automotive repair shops with an invitation to participate in a voluntary compliance program.