

## APPENDIX 1

### MARYLAND DEPARTMENT OF THE ENVIRONMENT

#### NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGE PERMIT APPLICATION SUMMARY

#### HARFORD COUNTY

##### PART I. STATEMENT OF AUTHORITY

###### A. United States Environmental Protection Agency

Section 402 of the Clean Water Act (CWA) prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Under the provisions of the NPDES regulations, stormwater discharges from municipal separate storm sewer systems are considered point sources that require an NPDES permit.

###### B. State of Maryland

The Maryland Department of the Environment (MDE) has been granted authority by the United States Environmental Protection Agency (EPA) to issue NPDES permits in accordance with statutory requirements promulgated by the CWA. The Environment Article, Title 9, Subtitle 3, Part IV, Annotated Code of Maryland requires a discharge permit for any activity that could cause or increase the discharge of pollutants into waters of the State. Additionally, Code of Maryland Regulations (COMAR) 26.08.04 requires MDE to administer the NPDES program as part of the State's own discharge permit system. These regulations also define municipal separate storm sewer systems as point sources of pollution subject to NPDES permit requirements.

###### C. Permittee Responsibilities

Section 402(p) of the CWA, as amended by the Water Quality Act of 1987, requires NPDES permits for stormwater discharges from medium municipal separate storm sewer systems. A medium municipal separate storm sewer system is defined in the CWA as serving a population of 100,000 or more but less than 250,000. Harford County, according to the United States Department of Commerce's 1990 Census, has a total population of 182,132 and is therefore considered a medium municipality. As a result, the County was required to submit a two-part NPDES permit application. Harford County submitted an NPDES stormwater application that was prepared to satisfy the EPA's regulations for permitting stormwater discharges from municipal separate storm sewer systems. Appendix 1 summarizes the County's NPDES stormwater application. NPDES regulations require permit conditions that effectively prohibit non-stormwater discharges and reduce the discharge of pollutants to the "maximum extent practicable." Specific permit conditions are summarized in Permit #MS-HA-94-004 and Appendix 2. Appendix 3 outlines MDE's long-term monitoring database and a spreadsheet for the reporting and tracking of NPDES data is included as Appendix 4. Additionally, NPDES

regulatory requirements can be found in Appendix 5.

## **PART II. BACKGROUND**

### **A. Problems Associated with Stormwater Pollutants**

Pollutants in stormwater discharges from many sources are largely uncontrolled. The *National Water Quality Inventory, 1990 Report to Congress* provides a general assessment of water quality based on biennial reports submitted by the States under Section 305(b) of the CWA. This report indicates that roughly 30% of identified cases of water quality impairment are attributable to stormwater discharges. During rain events that produce runoff, numerous pollutants including sediment, nutrients, bacteria, oil, metals, and pesticides are washed into storm sewer systems from diffuse sources such as construction sites, residential neighborhoods, commercial areas, parking lots, roads, and industrial facilities. Additionally, illegal dumping, sanitary sewer system leaks, and illicit connections to storm sewer systems can be significant sources of pollutants. Some of the more serious effects to receiving waters are the contamination of drinking water supplies, restrictions on water contact recreation, loss of wildlife habitat, decreases in the number and variety of aquatic organisms, and fish kills.

### **B. History of NPDES Stormwater Program**

Efforts to improve water quality under the NPDES program have traditionally focused on reducing pollutants in point source discharges from industrial facilities and municipal sewage treatment plants. In response to the need for controlling stormwater discharges, Congress amended the CWA in 1987 requiring the EPA to establish NPDES requirements for stormwater discharges. In November 1990, EPA issued final stormwater regulations for eleven categories of industry and certain municipal separate storm sewer systems. As part of the municipal stormwater program, jurisdictions in Maryland operating medium municipal storm sewer systems must submit a two-part application to MDE outlining programs for monitoring and controlling stormwater discharges. Required information includes Legal Authority, Source Identification, Discharge Characterization, Management Programs, Assessment of Controls, and Fiscal Resources.

### **C. Maryland's Perspective**

Maryland's efforts to reduce stormwater pollution have focused on protecting and restoring the water quality of Chesapeake Bay. The Maryland General Assembly passed the Erosion and Sediment Control Law in 1970 to control runoff from construction sites and in 1982 passed the Stormwater Management Act which requires that appropriate Best Management Practices (BMP) be used in order to maintain after development, as nearly as possible, the pre-development runoff conditions. Additionally, the Chesapeake Bay Program, a cooperative effort among the major Bay states and the federal government, has elevated the importance of stormwater management programs in Maryland by establishing a 40% nutrient reduction goal to the Chesapeake Bay and, more recently, by focusing cleanup efforts on the Bay's tributaries. Although Maryland's existing programs will aid local jurisdictions in satisfying NPDES stormwater requirements, additional stormwater control measures will be needed for full compliance with the federal program.

## **PART III. APPLICATION SUMMARY**

## A. Jurisdiction Description

### 1. Physical Data

Harford County is located in the northeastern part of Maryland and encompasses approximately 369 square miles (236,392 acres) of land. Chesapeake Bay forms the County's southeast boundary while the Susquehanna River defines its northeast boundary. The Mason and Dixon Line and York County, Pennsylvania form Harford County's northern boundary. The Little Gunpowder Falls forms the County's longest segment of boundary against Baltimore County to the west. Harford County lies primarily (75%) in the physiographic region known as the Piedmont Plateau while a small portion (25%) to the south is in the Atlantic Coastal Plain.

According to the 1990 Census, Harford County has an estimated population of 182,132. The Maryland Office of Planning (MdOP) estimates an annual growth rate between 1990-2000 of 1.47% which results in a projected population of 196,001 within the next 5 years. The County is rapidly becoming urbanized in the southern area and there are also extensive rural and agricultural areas throughout the County. Existing urbanized areas consist of older communities, however, there are many fast growing suburban and light industrial areas. The City of Aberdeen, City of Havre de Grace, and Town of Bel Air are the only separate incorporated municipalities within Harford County. The County does not have authority over the storm drain systems found in these localities.

### 2. Hydrologic Information

Harford County's stream network can be divided into four major watersheds. These watersheds include the Lower Susquehanna River Sub-basin, the Upper Chesapeake Bay, the Little Gunpowder Falls, and the Bush River Basin. The Piedmont Plateau area of Harford County can be best described as gently rolling to very hilly and extensively dissected by narrow valleys with steep banks. The Atlantic Coastal Plain area of the County is characterized by broad lowlands that form large estuaries. Elevation in Harford County ranges from sea level to just more than 800 feet above sea level. Hydrologically, approximately 40% of the County drains easterly to the Susquehanna River, 10% southwesterly to the Gunpowder River, 30% southeasterly to the Bush River, with the remaining 20% draining directly to Chesapeake Bay. Many of the County's southeastern streams are tidally influenced.

According to the *Soil Survey of Harford County Area, Maryland (United States Department of Agriculture, August 1975)*, the climate in Harford County is "continental marked by temperate contrasts between summer and winter." Weather systems move predominantly from the west to the east. In its Part 2 NPDES stormwater application, the County estimated that the average annual precipitation, based on mean monthly precipitation, is 41.35 inches. Annual precipitation extremes of less than 33 inches to more than 66 inches have occurred. For the most part, precipitation is distributed evenly throughout the year and there are approximately 113.2 days with 0.1 inch or more of precipitation. The average annual snowfall is 22 inches but varies considerably from year to year.

Harford County has a history of occasional flooding. Most flooding events have occurred during mid and late summer and are associated with tropical storms, hurricanes,

and locally-intense thunderstorms. Major areas susceptible to flooding include the City of Havre de Grace, portions of the City of Aberdeen, and the Joppatowne/Ramsey Island areas. Many areas in the southern part of the County are also subject to occasional flooding due to the influence of tides. Major flooding occurred in Harford County in September 1975 as a result of Hurricane Eloise. Tropical Storm Agnes produced the flood of record in June 1972 and resulted in the complete inundation of the City of Havre de Grace. The estimated recurrence interval for this storm event has been estimated to be 435 years based on gage height and discharge records.

MDE's *Maryland Water Quality Inventory, 1989-1991* describes the surface water quality in Harford County as "fair to good" with fishing and water contact sports as acceptable uses. However, elevated nutrient and bacterial levels occur due to agricultural and urban runoff and municipal wastewater discharges. In a 1989 county survey, the Harford County Health Department described all County waters as having elevated bacterial levels and advised against water contact during that year. Similarly, elevated suspended sediment loads have been noted due to construction activities and agricultural runoff.

All of Harford County's watersheds have been listed as impacted by nonpoint source pollution in MDE's 1989 *Nonpoint Source Assessment Report*. Additionally, these watersheds have also been listed as impaired by toxic substances from point or nonpoint sources of pollution. A large segment of the Bush River watershed has been included in MDE's 304(1)(1)(a)(ii) list of waters impaired by toxic substances due to unspecified toxic pollutants in waters on or around the U.S. Army's Aberdeen Proving Ground. The lower Susquehanna River has also been identified on this list due to elevated cadmium levels. In 1990, at least two fish kill incidents caused by toxic substances were documented. None of the lakes or ponds in Harford County were listed as impaired or threatened in the *Maryland Water Quality Inventory, 1989-1991*. However, the Edgewater Village Pond has experienced water quality problems due to sedimentation and nutrients from urban runoff.

Water bodies of special interest include the Susquehanna River which is the largest river on the East Coast of the United States. The Susquehanna River receives runoff from a 27,500 square mile drainage area, originates in south-central New York State, and discharges into Chesapeake Bay in Maryland. The mainstem of the river has been impounded by the Conowingo Dam forming a 5,000 acre interstate reservoir. The Conowingo Dam is located approximately 15 miles upstream from the mouth of the river at Chesapeake Bay. Fish kills have been documented below Conowingo Dam due to low oxygen levels and turbidity levels at the mouth of the Susquehanna River are high enough to impair submerged aquatic vegetation (SAV) growth.

Deer Creek has been designated as a State Scenic River by the Maryland General Assembly. The lower 2 miles of Deer Creek have also been classified as a "critical habitat" for the Maryland Snail Darter, an endangered fish species, by the U.S. Fish and Wildlife Service. Gashey's Run has been classified as "critical habitat" for the Maryland Snail Darter as well. Additionally, Otter Point Creek, a tidal tributary, has been included in the National Estuarine Reserve Program.

## **B. Programmatic Components**

The NPDES stormwater permit application process for municipal separate storm sewer

systems is specified in 40 CFR 122.26(d). The two-part application process was devised to provide a basis for reducing and eliminating pollutants in stormwater discharges from medium municipal separate storm sewer systems. Part 1 of the application process requires applicants to submit information regarding existing programs and legal authority, identify sources of pollutants, field screen major outfalls to detect illicit connections, and propose strategies to characterize discharges. The Part 2 application process requires the demonstration of adequate legal authority, additional information on pollutant source identification, characterization of stormwater discharges, a proposed stormwater management program, an estimate of the effectiveness of stormwater controls, and a fiscal analysis. The following sections (1 through 6) provide a summary of Harford County's application.

## **1. Legal Authority**

A summary of Harford County's NPDES stormwater application submittal, specific to the regulatory requirements for adequate legal authority, is as follows:

*§122.26(d)(2)(i) "(A) Control...the contribution of pollutants...associated with industrial activity...;"*

Pursuant to the Environment Article, Title 4, Annotated Code of Maryland, Harford County has adopted ordinances necessary to implement a stormwater management program. Additionally, the County has been delegated erosion and sediment control enforcement authority since 1985. Compliance with the requirements in the County Code, Section 214, Article II (Sediment Control and Stormwater Management) should adequately control the quantity and quality of stormwater that is discharged to Harford County's municipal separate storm sewer system from construction activities and development. In its NPDES stormwater application, the County reported that it is amending Section 214, Article II and has created an Article III (Protection of Water Quality, Streams, Wetlands and Floodplains) to obtain adequate legal authority to require water quality controls for any activity which causes pollution of waters within the County. Adoption of these amendments will also enable investigation of illicit storm drain connections.

*§122.26(d)(2)(i) "(B) Prohibit...illicit discharges...;"*

Section 256-58 of Harford County's pretreatment ordinance prohibits any non-permitted discharge of any liquid waste or wastewater onto any publicly or privately owned property or waterway within the County. The County reported that any person who is caught illegally discharging into the County storm drain system could be prosecuted under this section. Additionally, Section 109-6A requires any owner or person with a possessory interest in land to maintain the land in a safe and sanitary condition and to remove, in accordance with the law, all solid and other waste and wastewaters in a safe and sanitary manner.

*§122.26(d)(2)(i) "(C) Control...spills, dumping or disposal of materials other than storm water;"*

Harford County Code §109-3C regulates the disposal of solid, infectious, or laboratory

wastes; septate; liquid waste; and hazardous wastes. These regulations require documentation of safe and sanitary disposal and in some instances require a permit or license. Section 214 of the County Code is being amended to specifically prohibit discharge of waters containing toxic material or any substance which will result in the pollution of waters within the County.

*§122.26(d)(2)(i) "(D) Control...pollutants from one portion of the municipal system to another portion of the municipal system;"*

As stated above, the County does not have authority over the storm drain systems found in the City of Aberdeen, City of Havre de Grace, and Town of Bel Air. However, the County has authority to enter into agreements with these municipalities. For example, the County could draft an agreement with the City of Aberdeen that would allow for identification of storm drain outfalls within the City's jurisdiction.

MDE will issue an NPDES general permit that will cover the stormwater discharges from the separate incorporated municipalities in Harford County. Permit conditions will define specific municipal roles, responsibilities, and points of coordination that will control the contribution of pollutants from one portion of the storm sewer system to another. In addition, MDE will issue an NPDES general permit for State (other than the State Highway Administration) and an NPDES general permit for federal facilities located in Harford County. One of Harford's neighboring jurisdictions, Baltimore County, and the State Highway Administration (SHA) are required to apply to MDE for separate NPDES discharge permits for their respective storm sewer systems. Special permit conditions will be used to address inter-jurisdictional issues.

*§122.26(d)(2)(i) "(E) Require compliance..."*

Enforcement authority exists for the County's erosion and sediment control, stormwater management, pretreatment, and various other programs. Enforcement actions such as violation notices and civil citations may be utilized to promote compliance with associated regulations.

*§122.26(d)(2)(i) "(F) Carry out all inspection, surveillance, and monitoring procedures..."*

Harford County has inspection authority for construction and maintenance of its municipal separate storm sewer system. Existing regulations do not include provisions for inspection and enforcement to control illicit discharges.

## **Summary**

Harford County needs to complete the necessary revisions to the County Code that will provide it with the authority to perform the activities described in 40 CFR 122.26(d)(2)(i). Additionally, certification that Harford County possesses adequate legal authority according to 40 CFR 122.26(d)(2)(i) needs to be provided by the County Attorney.

## **2. Source Identification**

A summary of Harford County's NPDES stormwater application submittal, specific to the regulatory requirements for source identification, is as follows:

*§122.26(d)(1)(iii) "(A) A description of the historic use of ordinances..."*

In Harford County, the Department of Public Works has authority over the sanitary sewer system and uses Section 256, Article VIII (Sewage Collection and Treatment) of its Code to control the discharge of pollutants to publicly owned treatment works. Article VIII requires permits for industrial discharges. These permits require adherence to EPA pretreatment standards and establishes the County's authority to enforce and initiate penalties in cases of violation. Harford County has enforced its industrial waste regulations to prevent the introduction of pollutants that will interfere with the operation of the sewer system; contaminate waste sewage sludge; pass through the sewer system into receiving waters; or adversely affect the public health, safety, and welfare.

*§122.26(d)(1)(iii) "(B) A USGS 7.5 minute topographic map..."*

Harford County submitted 1:7200 topographic maps that included major outfall locations, identification numbers, outfall sizes, drainage areas, and runoff curve numbers. Additionally, the County identified stormwater management facility locations, County owned lands, and NPDES industrial dischargers on these maps. The County has completed the mapping requirements specified in the NPDES regulations.

*§122.26(d)(1)(iii)(B) "(1) The location of known municipal storm sewer system outfalls..."*

Two-hundred ninety (290) major outfalls were identified by Harford County on its Geographic Information System-based (GIS) maps. Additionally, the County listed each outfall by watershed and included information regarding outfall number for identification purposes, drainage area, runoff curve number, outfall size, and applicable map number.

*§122.26(d)(1)(iii)(B) "(2) A description of the land use activities...population densities...average runoff coefficient..."*

Land use information was obtained from recent aerial photography of the County, showing existing conditions. The County submitted present land use information on its GIS-based maps. Existing and 10-year projected population estimates were computed and listed for each of the County's ten major watersheds. Additionally, runoff coefficients for each land use within the County were submitted. Initially, in order to simplify the runoff coefficient calculations, the County classified all soil types as hydrologic soil group "C." Runoff coefficient estimates were refined by using specific hydrologic soil groups and land uses for each major outfall in order to estimate annual pollutant loads.

*§122.26(d)(1)(iii)(B) "(3) The location...of each currently operating or closed municipal landfill..."*

Harford County submitted information on the location and a description of the Harford Waste Disposal Center (Scarboro) which is the only landfill owned and operated by the County that currently accepts refuse. Information was also submitted regarding five closed municipal

landfill facilities within the County. These facilities are commonly referred to as the Tollgate, Mullins, Madonna, Perryman, and Abingdon landfills. All of the landfill facilities were identified on the County's GIS-based maps.

*§122.26(d)(1)(iii)(B) "(4) The location and permit number of any known discharge...that has been issued a NPDES permit;"*

Harford County obtained information on existing NPDES stormwater permits from MDE. Thirty-two (32) sites were identified and a database containing information on facility name, permit number, Maryland Grid Coordinate System location, and receiving stream was submitted.

*§122.26(d)(1)(iii)(B) "(5) The location of major structural controls..."*

Harford County submitted a database describing major structural stormwater management controls including information on structure name, structure type, outfall size, drainage area, watershed location, Maryland Grid Coordinate System location, and NPDES map sheet number.

*§122.26(d)(1)(iii)(B) "(6) The identification of publicly owned parks..."*

Harford County identified all publicly owned parks, recreation facilities, and open lands on its GIS-based maps.

*§122.26(d)(2) "(ii)...an inventory, organized by watershed...of each facility associated with industrial activity..."*

Harford County submitted an inventory of 319 industrial facilities including information on company name, address, watershed location, and phone number. Information regarding a description of principal activity or service was not included.

### **Summary**

Harford County has collected the data necessary to satisfy the source identification requirements. As new source identification data become available, the County will need to update its GIS. Permit conditions will require the continued updating and implementation of its GIS to assist the County in establishing priorities to control nonpoint source pollutants discharged from its storm sewer system.

### **3. Discharge Characterization**

A summary of Harford County's NPDES stormwater application submittal, specific to the regulatory requirements for discharge characterization, is as follows:

*§122.26(d)(1)(iv) "(A) Monthly mean rain and snow fall estimates..."*

Harford County submitted precipitation data that were compiled at Baltimore-Washington International (BWI) airport between 1951 and 1984. These data include mean monthly precipitation and snowfall depths, mean number of days with .01 inches or more of precipitation, and mean number of days with thunderstorms.

*§122.26(d)(1)(iv) "(B) Existing quantitative data..."*

Harford County reported that it has never performed any quantitative monitoring of discharges from its storm sewer system. Furthermore, no sampling or analytical procedures for outfall monitoring exist. However, as stated above, the *Maryland Water Quality Inventory, 1989-1991* noted that the County Health Department described all County waters as having high concentrations of bacteria and suspended sediments.

*§122.26(d)(1)(iv) "(C) A list of water bodies that receive discharges..."*

In its Part 1 application, Harford County provided a list of waters of the U.S. that receive discharges from its storm sewer system. This list contained a breakdown of water bodies from the largest watersheds to small creeks. In addition, the County included two streams (First Mine Branch and Second Mine Branch) that discharge to the Loch Raven Reservoir in Baltimore County on the list of water bodies that receive discharges from the County's storm sewer system.

*§122.26(d)(1)(iv) "(D) Results of a field screening analysis for illicit connections..."*

Using LaMotte Test Kits, the County completed field screening at 251 outfalls which satisfies the federal regulations. In areas where outfalls were submerged, samples were taken at manholes further upstream. From February through April, 660 man-hours were required to complete the Part 1 Application field screening requirements. MDE's field screening database was also completed and an analysis of the data collected indicated that copper and detergents were prevalent while chlorine and phenols were occasionally detected.

*§122.26(d)(1)(iv) "(E)...the location of outfalls or field screening points appropriate for representative data collection..."*

In its proposed characterization plan, Harford County selected five major outfalls to be used for Part 2 stormwater monitoring purposes. These five outfalls included two draining predominately residential land uses, two draining commercial land uses, and one draining an industrial land use. In addition, outfalls draining a residential and an industrial site were selected as alternatives.

All of the proposed outfalls were reviewed by MDE for potential problems. While some were discovered to be influenced by backwater making sample collection difficult, others were difficult to access. As a result, alternative outfalls representing the above land uses were selected and the County's characterization plan was subsequently approved.

*§122.26(d)(2)(iii) "(A) Quantitative data from...between five and ten outfalls representative of commercial, industrial, and residential..."*

Harford County is required to monitor three storm events at five land use specific outfalls for a total of 15 samples. The County has completed monitoring of two storms at outfall #4 and one storm at each of the remaining four outfalls for a total of six samples. Harford County will need to submit storm event monitoring data and analysis as the remaining nine samples are obtained.

*§122.26(d)(2)(iii) "(B) Estimates of annual pollutant loads...and the event mean concentration..."*

Pollutant load estimates were calculated using Schueler's "Simple Method". Rather than using

the limited results from its Part 2 monitoring, Harford County used default values for event mean concentration calculations. Use of the "Simple Method", in addition to default values, is acceptable until more comprehensive data are collected. As additional data become available, the County will need to provide more accurate pollutant load estimates.

*§122.26(d)(2)(iii) "(C) A proposed schedule to provide estimates...of the seasonal pollutant load..."*

The County stated it will initially use the "Simple Method" to estimate pollutant loads. Annual and seasonal pollutant loads will be calculated and refined as additional water quality data are collected from the remaining Part 2 storm events and during the permit term. For seasonal pollutant loads, emphasis will be placed on analysis of nutrients in spring and summer and the effects of deicing activities on water quality in the winter. In addition, the County proposes to use some type of water quality model for future loading estimates and will decide on that model after discussions with MDE.

*§122.26(d)(2)(iii) "(D) A proposed monitoring program...for the term of the permit..."*

For its long-term monitoring program, the County proposed to monitor six outfall sites and one in-stream monitoring station. The proposed in-stream station, located in Bynum Run, has a drainage area of approximately 1072 acres that includes industrial, residential, commercial, and agricultural land uses. Residential, commercial, and industrial land uses account for one-third of the total drainage area of the watershed.

### **Summary**

Harford County needs to complete its Part 2 monitoring requirements for characterizing the discharges from its five outfalls representing residential, commercial, and industrial land uses. Additionally, as data become available from its long-term monitoring program, the County will need to refine its pollutant load estimates.

### **4. Management Programs**

A summary of Harford County's NPDES stormwater application submittal, specific to the regulatory requirements for management programs, is as follows:

*§122.26(d)(2)(iv) "(A) A description of structural and source control measures..."*

In addition to existing programs such as erosion and sediment control, stormwater management, and structural and source control, Harford County proposes to implement the following: stormwater management retrofit projects; a pesticide and herbicide education program; a comprehensive illicit connection/discharge inspection and enforcement program; and a public awareness program.

*§122.26(d)(2)(iv) "(A)(1) A description of maintenance activities...for structural controls..."*

The County reported that it inspects all stormwater management facilities after the first year of operation, conducts maintenance inspections at least once every 3 years thereafter, and requires any necessary corrective action. Information submitted in its NPDES municipal separate storm

sewer system permit application indicates that Harford County possesses adequate inspection and enforcement procedures to ensure maintenance of stormwater management facilities.

*§122.26(d)(2)(iv)(A) "(2) A description of planning procedures...to reduce...pollutants...from areas of new development and significant redevelopment...;"*

Harford County has an extensive planning and development review process that addresses the reduction of pollutant discharges from areas of new development. The County's existing stormwater management program requires pre-development discharge levels to be maintained after development. The proposed revisions to the County Code should ensure that present deficiencies regarding the lack of stormwater quality control requirements will be addressed. As part of the planning process, projects must meet the County's zoning code, subdivision regulations, road specifications, Health Department regulations, stormwater management regulations, etc.

Various environmental requirements are encompassed in the County's development review process. Compliance with programs that minimize the impacts to wetlands, establish stream buffers, require tree preservation, reduce phosphorous levels by 10% or more within the State's "Critical Areas", etc. is required in order to obtain project approval and permits. Upon receiving technical approval of a stormwater management plan, fees and performance bonds must be submitted in order to receive applicable permits.

*§122.26(d)(2)(iv)(A) "(3) A description of practices for operating and maintaining public streets...;"*

Harford County's Bureau of Highways is responsible for road maintenance including trash and debris cleanup, vegetation control, and storm drain maintenance. As a preventative practice to reduce nonpoint source pollutants, the Bureau conducts street sweeping. Of the 915 total miles of County roadways, approximately 840 miles were swept during 1992. The County reports that its Bureau of Highways does not use herbicides, pesticides, or fertilizer for vegetation control in conjunction with the operation and maintenance of public streets. Additionally, the County reported that salt used for deicing roads is stored in dome-type structures.

*§122.26(d)(2)(iv)(A) "(4) A description of procedures to assure that flood management projects assess the impacts on the water quality...;"*

The Federal Emergency Management Agency (FEMA) and Maryland Department of Natural Resources (DNR) require the County to have a comprehensive flood management plan. Proposed flood management projects are evaluated for their water quality and wetland impacts and are subject to an exhaustive review process that includes environmental impact assessments. State water quality certification and waterway construction permits are required prior to flood control project construction. The County reported that it will assess all existing stormwater management facilities and County owned properties to determine their feasibility for water quality retrofitting.

*§122.26(d)(2)(iv)(A) "(5) A description of a program to monitor pollutants from operating or closed municipal landfills...;"*

The Harford Waste Disposal Center (Scarboro) is the County's only active municipal landfill and the facility has stormwater management controls implemented in accordance

with landfill permits issued by MDE's Waste Management Administration (WAS). Landfills are also subject to the County's erosion and sediment control and stormwater management plan review processes and implementation requirements.

*§122.26(d)(2)(iv)(A) "(6) A description of a program to reduce...pollutants...associated with the application of pesticides...;"*

The Maryland Department of Agriculture's (MDA) Pesticide Application Law requires certification and licensing of pesticide applicators. The County presently does not have any programs that address the responsible use of fertilizers or herbicides but proposes to initiate an outreach program to educate the public regarding the proper use of these potential pollutants. Educational programs will be implemented through the development and dissemination of pamphlets and public displays.

*§122.26(d)(2)(iv) "(B) A description of a program...to detect and remove...illicit discharges...The program shall include:"*

*§122.26(d)(2)(iv)(B) "(1) A description of a program...to prevent illicit discharges...;"*

Harford County has developed a program to detect and remove illicit connections, address water quality complaints, investigate and monitor water quality problems, and obtain baseline sampling data for discharges to its storm sewer system. The County proposes to field screen all outfalls in each watershed at least once every three years.

*§122.26(d)(2)(iv)(B) "(2) A description of...on-going field screening activities...;"*

As part of its program to prevent illicit discharges, Harford County proposes to conduct field screening of outfalls in each watershed at least once every three years. The County has combined its 10 watersheds into 3 groups for field screening purposes. The first group is comprised of Church Creek, James Run, and Bynum Run watersheds. Field screening activities will occur in this first group during calendar year 1994. Outfalls in the remaining two groups will be field screened during calendar year 1995 and 1996. Field screening activities will not be conducted by the County in the Aberdeen Proving Grounds watershed because the land area and storm drain system in this watershed is federally owned.

*§122.26(d)(2)(iv)(B) "(3) A description of procedures...to investigate portions of the separate storm sewer system...;"*

The County submitted a detailed outline of procedures for identifying illicit connections and discharges. Illicit connection investigations will be conducted in response to citizen complaints and field screening efforts. Chemical testing, as well as visual and olfactory observation will be utilized as investigative measures.

*§122.26(d)(2)(iv)(B) "(4) A description of procedures to prevent, contain, and respond to spills...;"*

Harford County's Division of Emergency Operation, Hazardous Materials Response Team (HAZMAT) is the primary responder for spills. HAZMAT interacts with the local

Volunteer Fire Departments and MDE to contain spills. Additionally, a Local Emergency Planning Committee (LEPC) is operational in Harford County. The LEPC is responsible for developing an emergency response plan to prepare for and respond to chemical emergencies. The LEPC also receives emergency release and hazardous chemical inventory information from local industries.

*§122.26(d)(2)(iv)(B) "(5) A description of a program to promote...public reporting of...illicit discharges...;"*

As part of its public outreach program, the County will utilize press releases and pamphlets for promoting public reporting of illicit discharges. These media will include general water quality information and phone numbers for additional information.

*§122.26(d)(2)(iv)(B) "(6) A description of educational activities...;"*

The County proposes to initiate a public outreach program as discussed above. In addition, the County will disseminate information to the public regarding the proper management of used oil, used antifreeze, toxics, and hazardous materials. The Harford County Public School System has developed an extensive environmental education curriculum for all elementary, middle, and high school students. This program is designed to provide background knowledge and understanding about the environment.

*§122.26(d)(2)(iv)(B) "(7) A description of controls to limit infiltration of seepage...;"*

Harford County described procedures for reporting wastewater flows due to overflow or line breaks. However, a description of a program to limit infiltration of seepage from sewer lines into its storm sewer system was not included. The County needs to conduct routine inspection and repair of its sewer system to eliminate seepage.

*§122.26(d)(2)(iv) "(C) A description of a program to monitor and control pollutants...from municipal landfills...The program shall:"*

*§122.26(d)(2)(iv)(C) "(1) Identify priorities and procedures for inspections...;"*

Harford County did not describe a program to control pollutants in stormwater discharges from industrial facilities. Although permit issuance, inspection, enforcement, and monitoring will remain MDE's responsibility, nothing should preclude Harford County from bringing an enforcement action against a source of pollution from either an illicit connection or an industrial activity. Therefore, the County will need to coordinate efforts with MDE to assure that unpermitted non-stormwater dischargers acquire permits.

*§122.26(d)(2)(iv)(C) "(2) Describe a monitoring program..."*

As stated above, the County did not describe a program to control pollutants in stormwater discharges from industrial facilities. Monitoring downstream of landfills, hazardous waste sites, and industrial facilities is required by MDE through industrial NPDES permits. Quarterly testing is performed and results are compared to background

data. If any pollutants are detected above the background data, further monitoring is required to identify specific pollutant quantities. Again, the County will need to coordinate efforts with MDE to assure that industrial facilities are in compliance with stormwater discharge permit requirements.

*§122.26(d)(2)(iv) "(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites...which shall include:"*

*§122.26(d)(2)(iv)(D) "(1) A description of procedures for site planning...;"*

MDE has delegated erosion and sediment control enforcement authority to Harford County since 1985. The Department of Public Works (DPW) performs erosion and sediment control inspections. Erosion and sediment control plan review and approval is performed by the Harford Soil Conservation District (SCD). As stated above, Harford County has proposed revisions to its planning and development review process that will address the reduction of pollutants being discharged from areas of new development and redevelopment.

*§122.26(d)(2)(iv)(D) "(2) A description of requirements for non-structural and structural best management practices;"*

Erosion and sediment control plan approval is required prior to initiating any earth disturbance greater than 5,000 square feet or 100 cubic yards. As stated in the Legal Authority Section, Harford County has adopted ordinances necessary to implement a stormwater management program. Compliance with the regulations contained in the County's proposed Sediment Control and Stormwater Management Ordinance should adequately control the quantity and quality of stormwater that is discharged to Harford County's municipal separate storm sewer system from construction activities.

*§122.26(d)(2)(iv)(D) "(3) A description of procedures for inspecting sites...;"*

Erosion and sediment control inspections are performed at construction sites once every two weeks as required by State law to ensure compliance with approved erosion and sediment control plans. A detailed description of inspection procedures is contained in MDE's December 1992 review of the County's erosion and sediment control program.

*§122.26(d)(2)(iv)(D) "(4) A description of appropriate educational and training measures for construction site operators."*

Maryland law requires persons in charge of on-site clearing and grading operations or sediment control to obtain "responsible personnel" certification by completing an approved training class. Harford County conducts "responsible personnel" certification classes to

educate construction site operators regarding erosion and sediment control requirements. Since 1991, 172 construction personnel have completed the County's certification program.

## **Summary**

Comprehensive management programs for erosion and sediment control and stormwater management currently exist in Harford County. Emphasis will be placed on public education and participation programs and implementation of an illicit connection detection program. Additionally, the County will need to coordinate industrial permitting and monitoring efforts with MDE and initiate procedures to limit infiltration of seepage from sewer lines to its storm sewer system.

## **5. Program Funding**

A summary of Harford County's NPDES application submittal, specific to the regulatory requirements for program funding, is as follows:

*§122.26(d)(2) "(vi) For each fiscal year to be covered by the permit, a fiscal analysis...shall include a description of the source of funds...to meet the necessary expenditures..."*

Harford County submitted a proposed operating budget for its NPDES program for fiscal years 94-98. The budget submission totals \$1.7 million to cover education, monitoring, retrofitting, and illicit discharge investigation activities. Erosion and sediment control, stormwater management, and landfill functions will be carried out under separate budgets. The County reported that funding for its NPDES program will be obtained through General Funds.

### **Summary**

Harford County reported that current revenue sources are adequate to fund the many components of its stormwater management and NPDES programs. However, a fiscal analysis of the capital, operation, and maintenance expenditures necessary to comply with specific NPDES requirements will need to be developed by the County.

## **6. Assessment of Controls**

A summary of Harford County's NPDES application submittal, specific to the regulatory requirements for assessment of controls, is as follows:

*§122.26(d)(2) "(v) Estimated reductions in loadings...expected as a result of the... management program..."*

A summary regarding the type of stormwater facilities constructed in Harford County from May 1992 to May 1993 was submitted and pollutant load reduction estimates from a study conducted for EPA's *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Application for Discharges from large and medium Municipal Separate Storm Sewer Systems (Woodward-Clyde Federal Services, November 13, 1991)* were referenced. The County reports that it will refine pollutant load estimates for structural controls based upon information obtained from its long-term monitoring efforts. Additionally, the County has proposed to use surrogate parameters for estimating reductions in loadings as a result of nonstructural controls such as educational programs.

### **Summary**

Harford County will need to estimate the expected reductions in pollutant loads as a result of its proposed management programs. Additionally, these estimates will need to be refined as data is obtained from the County's long-term monitoring program.

