2021

Annual NPDES MS4 Report

Prepared for:

Maryland Department of the Environment

Water Management Administration

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Baltimore, Maryland 21230

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Department of the Environment

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12/31/2021

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National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer Systems

2021 Annual Report

Prepared for

Maryland Department of the Environment
Water Management Administration
1800 Washington Boulevard
Baltimore, Maryland 21230

Prepared by

Prince George's County Government
Department of the Environment
Stormwater Management Division
1801 McCormick Drive, Suite 500
Largo, Maryland 20774

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EXECUTIVE SUMMARY

This report summarizes the activities carried out by various departments and agencies within Prince George's County in accordance with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit during fiscal year (FY) 2021, the period of July 2020 through June 2021. This year's report is a continuation of the major revisions initiated in previous reports.

In FY 2021, the County vigorously continued its efforts to reduce pollutants entering its waterways in accordance with the objectives of the MS4 permit. These efforts cut across a wide swath of agencies and programs. In FY 2021, the County's notable accomplishments toward meeting the MS4 goals included:

Restoration Accomplishments

- To date, 4,177 acres of impervious area have been treated and over 2,100 acres were in active planning, design, or construction in FY 2021.
- Through its Rain Check Rebate Program, 325 environmental sensitive design BMPs were installed in FY 2021 on private properties, treating 1.81 acres. This program provides great incentives for property owners to minimize stormwater runoff and prevent stormwater pollution in the County waterways, while at the same time providing a great educational platform for the neighborhood residents.
- Under its Stormwater Stewardship Grant Program, three projects completed treating around 11 impervious acres in FY 2021. These projects include on-the-ground efforts such as tree planting and water quality retrofit projects including rain gardens, and bio-retention practices.

Illicit Discharge Detection and Elimination Inspections (MS4 Regulated Land)

- County inspectors evaluated 150 outfalls in spring/summer 2021 to ascertain the presence of illicit discharges. Of these outfalls, 67 received chemical testing with two (2) sites recording parameters above pollutant thresholds. Property owners acted to resolve these discharge problems such that all issues were resolved satisfactorily by the end of the reporting period.
- Regular inspection of 129 commercial and industrial sources identified 54 water quality concerns which the County staff then investigated and worked with property owners to resolve satisfactorily.

Litter Control

- Trash reduction in the Anacostia watershed included approximately 105,671 pounds of litter.

- The County conducted several countywide trash reductions, litter reduction, and recycling programs. Specifically, the County continued several measures, including continuing its Adopt-A-Stream program, using the PGCLitterTRAK mobile app tracking tool, involving communities and municipalities in the Clean Sweep Initiative in the Anacostia watershed, and continuing the County's trash trap projects.

Outreach and Education

- The County hosted over 90 environmental education and outreach events, mostly virtual due to COVID 19, that promoted environmental awareness, green initiatives, and community involvement in reducing pollutants to its waterways.

- The County's Tree Planting Program planted 6,981 new trees under its Right Tree, Right Place Program.

Monitoring and Assessment

- The County continued its chemical, physical, and biological monitoring and assessment of the Bear Branch watershed. Slight improvements in water quality were noted, this information can be found in Prince George's County, Maryland—Long-Term Stormwater Monitoring Program —Bear Branch Annual Report 2021, included on the DVD.

- Black Branch monitoring contract was delayed due to procurement backlog caused by Covid-19. In July 2021 the work was approved, and monitoring has resumed.

Land Development and SWM Controls

- In FY 2021, 140 concept plans for stormwater control were approved.

Land Development Inspection Enforcement

- The County staff performed 11,417 stormwater construction inspections and 14,623 sediment control inspections.

These achievements are further described in this report, with supporting details provided in the MS4 geodatabase and the additional documents on the accompanying DVD to this report.

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ABBREVIATIONS

ACP	Alternative Compliance Program
ADA	American with Disabilities Act
ARP	Anacostia Restoration Plan
ASD	Animal Services Division, DoE
AWCAC	Anacostia Watershed Citizens Advisory Committee
AWS	Anacostia Watershed Society
B-IBI	Benthic-index of biotic integrity
BMP	Best management practices
BOD_5	5-day biochemical oxygen demand
C	Celsius
CA	Community association/civic association/condominium association
CBLP	Chesapeake Bay Landscape Professional
CBT	Chesapeake Bay Trust
CAB	County Administrative Building
CFR	Code of Federal Regulations
CIP	Capital Improvements Program
CKAR	Central Kenilworth Avenue Revitalization Community Development Corporation
CO	Carbon monoxide
COMAR	Code of Maryland Regulations
COPE	Community Outreach Promoting Empowerment, DoE
CPCS	Capital Projects Construction Section, DoE
CPDS	Capital Projects Design Section, DoE
CRI	Community Referenced Instructional Program
Cu	Total copper
CWA	Clean Water Act
CWP	Clean Water Partnership
DC	District of Columbia
DIR	Director's Office, Department of the Environment
DoE	Prince George's County Department of the Environment
DO	Director's Office
DPIE	Department of Permitting, Inspections and Enforcement
DPW	Department of Public Works
DPW&T	Prince George's County Department of Public Works and Transportation
DVD	Digital versatile disc
E. coli	*Escherichia coli*
ECO	ECO City Farm
EED	Environmental Engineering Division, Health Department
EFC	Environmental Finance Center
EHDC	Environmental Health/Disease Control Division
EMC	Event mean concentration
EMS	Emergency Medical Services

EPA	U.S. Environmental Protection Agency
EPS	Environmental Programs Section
EPIC	Empowering People with Intellectual Challenges
ESD	Environmental site design
ESS	Engineering Services Section, DoE
ETHM	End Time Harvest Ministries
FD	Fire Department
FDA	U.S. Food and Drug Administration
Ft	Feet
FY	Fiscal year (the period from July 1 to June 30)
GIS	Geographic information system
HAZMAT	Prince George's County Hazardous Materials Team
HD	Prince George's County Health Department
HMD	Prince George's County Fire/Emergency Medical Services Department, Hazardous Materials Division
HOA	Homeowner association
I	Interstate
ICS	Inspection and Compliance Section
ID	Inspections Division, DPIE; also identification number
IDDE	Illicit discharge detection and elimination
IPM	Integrated pest management
KPGCB	Keep Prince George's County Beautiful
LED	Light-emitting diode
LID	Low impact development
LLC	Limited Liability Corporation
MAEOE	Maryland Association for Environmental and Outdoor Education
MBSS	Maryland Biological Stream Survey
MD	Maryland
MDE	Maryland Department of the Environment
MEP	Maximum extent practicable
MES	Maryland Environmental Service
µg/L	Micrograms per liter
MDNR	Maryland Department of Natural Resources
mg/L	Milligrams per liter
M-NCPPC	Maryland-National Capital Park and Planning Commission
MPN B/100 mL	Most probable number of Bacteria per 100 milliliters
MRF	Materials Recycling Facility
MSDS	Material Safety Data Sheet
MS4	Municipal Separate Storm Sewer System
MWCOG	Metropolitan Washington Council of Governments
NACA	Neighborhood Assistance Corporation of America
NDC	Neighborhood Design Center
NOI	Notice of intent
NO3+NO2	Total nitrate + nitrite

NPDES	National Pollutant Discharge Elimination System
OCS	Prince George's County Office of Central Services
OEPM	Office of Engineering and Project Management, DPW&T
OHM	Office of Highway Maintenance, DPW&T
OSDM	Office of Storm Drain Maintenance, DPW&T
Pb	Total lead
P_E	Precipitation estimated for target rainfall
PE	Professional Engineer
PFCC	People for Change Coalition
PGCLitterTRAK	Prince George's County litter reporting smartphone application
PG	Prince George's
PGCPS	Prince George's County Public Schools
pH	A measure of acidity or alkalinity of a solution (comes from potential of hydrogen)
POI	Point of investigation
ppm	Parts per million
PSS	Program Support Section, DoE
R&DS	Research and Development Section, DoE
RBP	Rapid bioassessment protocols
RRD	Resource Recovery Division, DoE (formerly known as Waste Management Division)
SIC	Standard industrial classification
SD	Sustainability Division, DoE (formerly known as Sustainable Initiatives Division)
SMD	Stormwater Management Division, DoE
SSD	Strategic Services Division
SPCC	Spill Prevention Control and Countermeasure
SRRD	Site/Road Plan Review Division, DPIE
SSG	Stormwater Stewardship Grant
STEM	Science, technology, engineering, and mathematics
SWANA	Solid Waste Association of North America
SWM	Stormwater management
SWMF	Stormwater management facility
SWMP	Stormwater management program
SWPPP	Stormwater pollution prevention plan
TBD	To be determined
TKN	Total Kjeldahl nitrogen
TMDL	Total maximum daily load
TNI	Transforming Neighborhoods Initiative
TP	Total phosphorus
TPH	Total petroleum hydrocarbons
TSS	Total suspended solids
UM	University of Maryland
UMES	University of Maryland Extension Service
USC	United States Code
WIP	Watershed implementation plan
WLA	Waste load allocation

WMATA	Washington Metropolitan Area Transit Authority
WSSC	Washington Suburban Sanitary Commission
YMCA	Young Men's Christian Association
Zn	Total zinc

ACKNOWLEDGEMENTS

The Prince George's County Department of the Environment, Stormwater Management Division, has prepared this 2021 NPDES MS4 Annual Report on behalf of Prince George's County. The status of the County's NPDES programs is based upon information solicited from County agencies that administer jurisdiction-wide stormwater programs and accomplishments achieved in partnership with State and Federal agencies and non-profit organizations providing grant and SRF funding and general support. Primary administrative and technical personnel responsible for compliance with the NPDES MS4 Permit are referenced in the "Permit Administration" section, beginning on page 23 of this report. The following groups also provide the County with programmatic assistance, information and/or ancillary funding to assist the County's efforts in protecting and improving water resources:

- Maryland-National Capital Park and Planning Commission
  - Department of Parks and Recreation, Department of Planning
- Maryland Department of Natural Resources
- Maryland Department of the Environment
- Neighborhood Design Center
- Prince George's County Agencies
  - Environment:
    - Director's Office: Communications and Community Engagement Section
    - Strategic Services Division: Budget and Procurement Section
    - Stormwater Management Division: Capital Projects Construction Section, Capital Projects Design Section, Environmental Programs Section, Inspection and Compliance Section
    - Resource Recovery Division: Disposal Section, Recycling Section, Project Management Section, Collections Section
    - Sustainability Division: Community Outreach Promoting Empowerment Section
  - Public Safety: Fire/Emergency Medical Services Department's Hazardous Materials Division
  - Health and Human Services Department: Health Department's Environmental Engineering Program
  - Office of Information Technology
  - Public Works and Transportation:
    - Office of Engineering and Project Management: Engineering Services Division
    - Office of Engineering and Project Management: Highway and Bridge Design Division
    - Office of Highway Maintenance: Special Services Division
    - Office of Storm Drain Maintenance: Storm Drainage Maintenance Division
    - Office of Transportation: Transit Planning Section
  - Permitting, Inspections and Enforcement: Site/Road Plan Review Division, Inspections Division, Enforcement Division, Building Plan Review Division
- Prince George's County Beautification Committee
- Prince George's County Public Schools
- United States Environmental Protection Agency, Region III
- United States Army Corps of Engineers
- Washington Metropolitan Council of Governments
- Washington Suburban Sanitary Commission

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INTRODUCTION

This report summarizes the activities carried out by various departments and agencies within Prince George's County in accordance with the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit during fiscal year (FY) 2021, the period of July 2020 through June 2021.

Following this chapter, each section of the permit is spelled out and the County's compliance activities related to that permit condition are described, with an emphasis on those actions taken in FY 2021. These chapters are organized by the four parts of the permit: (1) identification, (2) definitions, (3) water quality, and (4) standard permit conditions. However, the substance of the report is in the fourth part where the County's compliance activities related to numerous permit conditions are described extensively. Where important, the reader is directed to follow-up information in this report or on the accompanying DVD of the MS4 geodatabase.

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PART I: IDENTIFICATION

Permit Condition Part I: Prince George's County's NPDES MS4 Discharge Permit 11-DP-3314 MD0068284 covers stormwater discharges from the municipal separate storm sewer system in Prince George's County, Maryland, except for the City of Bowie. Discharges from the storm drain systems controlled by Prince George's County that may be subject to future NPDES MS4 stormwater program requirements may be added to this Permit at the discretion of the Maryland Department of the Environment (MDE). This permit was issued on January 2, 2014 and will remain in effect through January 1, 2019.

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PART II: DEFINITIONS

Permit Condition Part II: As required by MDE, terms used in this permit are defined in relevant chapters of Title 40 of the Code of Federal Regulations (CFR) Parts 122-I24 or the Code of Maryland Regulations (COMAR) 26.08.0 I, 26.I7.0 I, and 26.I7.02. Terms not defined in CFR or COMAR shall have the meanings attributed by common use.

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PART III: WATER QUALITY

Permit Condition Part III: As required by MDE, the Prince George's County must manage, implement, and enforce a stormwater management program (SWMP) in accordance with the Clean Water Act (CWA) and corresponding stormwater National Pollutant Discharge Elimination System (NPDES) regulations, 40 CFR Part 122, to meet the following requirements:

1. *Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland's receiving water quality standards;*
2. *Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) §1342(p)(3)(B)(iii); 40 CFR §122.44(k)(2) and (3); and*
3. *Comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit.*

Compliance with all the conditions contained in PARTs IV through VII of this permit shall constitute compliance with §402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any EPA approved stormwater WLAs for this permit term.

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PART IV: STANDARD PERMIT CONDITIONS

A. PERMIT ADMINISTRATION

Permit Condition Part IV. A: Prince George's County shall designate an individual to act as a liaison with the Maryland Department of the Environment (MDE) for the implementation of this permit. The County shall provide the coordinator's name, title, address, phone number, and email address. Additionally, the County shall, in its annual reports, submit to MDE an organizational chart detailing personnel and groups responsible for major NPDES program tasks in this permit. MDE shall be notified of any changes in personnel or organization relative to NPDES program tasks.

Jeff DeHan, Associate Director, Stormwater Management Division, Department of the Environment, Prince George's County, is the current liaison for the implementation of this permit. Table A-1 below identifies the lead program management and current technical personnel. Table A-2 provides addresses of the coordinating agencies and Figure A-1 through Figure A-13 provides organization charts detailing personnel and groups responsible for major NPDES program tasks.

Table A-1. Key Prince George's County Staff

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
Permit Administration	DoE/SMD	Jeff DeHan, Associate Director Stormwater Management Division jmdehan@co.pg.md.us 301-883-5838	Sudhanshu Mishra, Assistant Associate Director Stormwater Management Division SPMishra@co.pg.md.us 301-883-5906
Legal Authority	Office of Law	County Attorney 301-952-5225	N/A
Source Identification	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Chambal Pandey, Engineer IV Environmental Programs Section cpandey@co.pg.md.us 301-883-5175
Storm Drain System	DoE/DPIE	Yonas Tesfai, Engineer III Site/Road Plan Review Division YSTesfai@co.pg.md.us 301-636-2060	Tony Newsome, Engineer II Site/Road Plan Review Division, DPIE acnewsome@co.pg.md.us 301-883-7647
Industrial Commercial Sources	DoE/SMD	George Nicol, Section Head Inspection Programs Section gsnicol@co.pg.md.us 301-883-5976	Paul DeSousa, Code Enforcement Officer, Inspection and Compliance Section pddesousa@co.pg.md.us (301) 883-5871
Urban Best Management Practices (BMP)	DoE/SMD	Frank Galosi, Section Head Capital Projects Design Section flgalosi@co.pg.md.us 301-883-5876	See program manager

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
		James M. Lyons, Administrator Clean Water Partnership jmlyons@co.pg.md.us 301-883-3634	
Impervious Surfaces	DoE/SMD	Sudhanshu Mishra, Assistant Associate Director Stormwater Management Division SPMishra@co.pg.md.us 301-883-5906	Charles Walsh, IT Project Coordinator IV Environmental Programs Section cwalsh@co.pg.md.us
Monitoring Locations	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Chambal Pandey, Engineer IV Environmental Programs Section cpandey@co.pg.md.us 301-883-5175
Water Quality Improvement Projects	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Chambal Pandey, Engineer IV Environmental Programs Section cpandey@co.pg.md.us 301-883-5175
Management Programs			
Stormwater Management			
Implementing SWM Design Policies and Principles	DPIE/SRRD	Mary Giles, PE, Associate Director Site/Road Plan Review Division mcgiles@co.pg.md.us 301-636-2060	Rey de Guzman, Chief Site/Road Plan Review Division redeguzman@co.pg.md.us 301-636-2060
SWM Programmatic Information	DPIE/SRRD	Rey de Guzman, Chief Site/Road Plan Review Division redeguzman@co.pg.md.us 301-636-2060	Yonas Tesfai, Engineer III Site/Road Plan Review Division YSTesfai@co.pg.md.us 301-636-2060
SWM Design Manual	DPIE/SRRD	Mary Giles, PE, Associate Director Site/Road Plan Review Division mcgiles@co.pg.md.us 301-636-2060	Rey de Guzman, Chief Site/Road Plan Review Division redeguzman@co.pg.md.us 301-636-2060
Erosion and Sediment Control and SWM Construction Inspections	DPIE/ID	Ramesh Patel, Code Enforcement Officer, Inspections Division RSPatel@co.pg.md.us 301-883-3820	See program manager
Private BMP Inspection and Enforcement	DoE/SMD	George Nicol, Section Head Inspection and Compliance Section gsnicol@co.pg.md.us 301-883-5976	Satinder Sachdeva, Engineer III Inspection and Compliance Section sssachdeva@co.pg.md.us 301-883-5830
Public BMP Inspection and Maintenance	DPW&T/OSDM	Charlie Griffith, Associate Director Office of Storm Drain Maintenance cgriffith@co.pg.md.us 301-768-0332 (Cell)	Michael Snyder, Division Chief Storm Drainage Maintenance Division

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
Erosion and Sediment Control			
Erosion and Sediment Control	DPIE/ID	Ramesh Patel, Code Enforcement Officer, Inspections Division RSPatel@co.pg.md.us 301-883-3820	See program manager
Quarterly Grading	DPIE/SRDD	Rey de Guzman, Chief Site/Road Plan Review Division redeguzman@co.pg.md.us 301-636-2060	Yonas Tesfai, Engineer III Site/Road Plan Review Division YSTesfai@co.pg.md.us 301-636-2060
Illicit Connection and Enforcement Program			
Field Screening and Outfall Sampling	DoE/SMD	George Nicol, Section Head Inspection and Compliance Section gsnicol@co.pg.md.us 301-883-5976	Paul DeSousa, Code Enforcement Officer Inspection and Compliance Section pddesousa@co.pg.md.us (301) 883-5871
Commercial Industrial Area Surveys	DoE/SMD	George Nicol, Section Head Inspection and Compliance Section gsnicol@co.pg.md.us 301-883-5976	Paul DeSousa, Code Enforcement Officer Inspection and Compliance Section pddesousa@co.pg.md.us (301) 883-5871
Investigation and Enforcement	DoE/SMD	George Nicol, Section Head Inspection and Compliance Section gsnicol@co.pg.md.us 301-883-5976	Paul DeSousa, Code Enforcement Officer, Inspection and Compliance Section pddesousa@co.pg.md.us (301) 883-5871
	HD/EED	Susan W. Thweatt, Program Chief Environmental Engineering/Policy Program swthweatt@co.pg.md.us 301-883-7682	See program manager
	FD/EMS	Christian Wargo, Chief Fire/EMS Department CBWargo@co.pg.md.us 301-262-6325	Jesse Constantino, Captain Fire/EMS Department JRConstantino@co.pg.md.us 301-262-6325
Trash and Litter			
Program Assessment and Public Education and Outreach	DoE/SD	Dawn Hawkins-Nixon, Associate Director Sustainability Division dhnixon@co.pg.md.us 301-883-5839	See program manager
Trash and Litter Control – Private Property	DPIE	Ruby Sherrod, Associate Director Enforcement Division RJSherrod@co.pg.md.us	See program manager

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
		301-883-6067	
Street Sweeping	DPW&T/OHMD	Vernon Stinnett, Associate Director Office of Highway Maintenance vlstinnett@co.pg.md.us 301-499-8556	Michael Brown, Division Chief Special Service Division mobrown@co.pg.md.us 301-499-8520
Recycling, Trash and Garbage Collection, Public Education	DoE/RRD	Marilyn Naumann, Associate Director Resource Recovery Division merybak@co.pg.md.us 301-780-6315	See program manager
Property Management and Maintenance			
SWPPP	DoE/SMD	George Nicol, Section Head Inspection and Compliance Section gsnicol@co.pg.md.us 301-883-5976	Ken Krantz Inspection and Compliance Section kekrantz@co.pg.md.us 301-883-5958
Street Sweeping	DPW&T/OHMD	Vernon Stinnett, Associate Director Office of Highway Maintenance vlstinnett@co.pg.md.us 301-499-8556	Michael Brown, Division Chief Special Service Division mobrown@co.pg.md.us 301-499-8520
Storm Drain Maintenance	DPW&T/OSDM	Charlie Griffith, Associate Director Office of Storm Drain Maintenance cgriffith@co.pg.md.us 301-768-0332 (Cell)	Michael Snyder, Division Chief Storm Drain Maintenance Division, Office of Highway Maintenance 301-499-8522
Vegetation Management	DPW&T/OHMD	Vernon Stinnett, Associate Director Office of Highway Maintenance vlstinnett@co.pg.md.us 301-499-8556	Michael Brown, Division Chief Special Service Division mobrown@co.pg.md.us 301-499-8522
Roadside Litter Control	DPW&T/OHMD	Vernon Stinnett, Associate Director Office of Highway Maintenance vlstinnett@co.pg.md.us 301-499-8556	Michael Brown, Division Chief Special Service Division mobrown@co.pg.md.us 301-499-8522
Snow and Ice Control	DPW&T/OHMD	Vernon Stinnett, Associate Director Office of Highway Maintenance vlstinnett@co.pg.md.us 301-499-8556	See program manager
Public Education			
Community Outreach and Education	DoE/SD	Mary Abe, Section Head Natural Resource Protection and Stewardship	Carole Barth, Planner II Community Outreach Promoting Empowerment

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
		mabe@co.pg.md.us 240-539-0511	cabarth@co.pg.md.us 301-883-3264
	DoE/Director Office	Linda Lowe, Public Information Specialist Communications and Community Engagement Section lmlowe@co.pg.md.us 301-883-5952	See program manager
Restoration Plans and TMDL			
Watershed Assessments	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	See program manager
Restoration Plans	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Consultant Services
Public Participation	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	See program manager
TMDL Compliance			
Water Quality Retrofits	DoE/SMD	Frank Galosi, Section Head Capital Projects Design Section flgalosi@co.pg.md.us 301-883-5876	See program manager
Construction of SWM Retrofits	DoE/SMD	Joanna Smith, Section Head Capital Projects Construction Section jmsmith@co.pg.md.us 301-883-5991	See program manager
Local and Bay TMDL Load Reduction and Tracking Program	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Chambal Pandey, Engineer IV Environmental Programs Section cpandey@co.pg.md.us 301-883-5175
Program Evaluation	DoE/SMD	Jeff DeHan, Associate Director Stormwater Management Division jmdehan@co.pg.md.us 301-883-5838	Sudhanshu Mishra, Assistant Associate Director Stormwater Management Division SPMishra@co.pg.md.us 301-883-5906
Assessment of Controls			
Watershed Restoration Assessment	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Consultant Services

Permit Condition	Department/ Division	Manager, Title/ E-mail Address, Telephone	Technical Personnel, Title/ E-mail Address, Telephone
Stormwater Management Assessment	DoE/SMD	Jerry Maldonado, Section Head Environmental Programs Section jgmaldonado@co.pg.md.us 301-883-5943	Consultant Services
Program Funding			
	DoE/SSD	Michelle Russell, Deputy Director Department of the Environment mwrussell@co.pg.md.us 301-952-3954	Latasha Coates, Budget Analyst Budget and Procurement Section LCoates@co.pg.md.us 301-952-3300

Table A-2. Department Addresses

Department/ Division/Section	Address
DoE/DO:	Department of the Environment, Director's Office 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SMD:	Department of the Environment, Stormwater Management Division (SMD) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SMD/CPDS:	Department of the Environment, SMD, Capital Projects Design Section (CPDS) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SMD/CPCS:	Department of the Environment, SMD, Capital Projects Construction Section (CPCS) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SMD/ICS:	Department of the Environment, SMD, Inspection & Compliance Section (ICS) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SMD/EPS:	Department of the Environment, SMD, Environmental Programs Section (EPS) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SD:	Department of the Environment, Sustainability Division (SD) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SD/ESS:	Department of the Environment, SD, Engineering Services Section (ESS) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/SD/ NRP&S:	Department of the Environment, SD, Natural Resource Protection & Stewardship (NRP&S) 1801 McCormick Drive, Suite 500, Largo, MD 20774
DoE/RRD:	Department of the Environment, Resource Recovery Division (RRD) 3500 Brown Station Road, Upper Marlboro, MD 20774
DPW&T:	Department of Public Works and Transportation (DPW&T) 9400 Peppercorn Place, Suite 300, Largo, MD 20774
DPW&T/OEPM:	Department of Public Works and Transportation, Office of Engineering & Project Management (OEPM) 9400 Peppercorn Place, Suite 400, Largo, MD 20774
DPW&T/OHMD:	Department of Public Works and Transportation, Office of Highway Maintenance (OHM) 8400 D'Arcy Road, Forestville, MD 20747
DPW&T/OSDM	Department of Public Works and Transportation, Office of Storm Drain Maintenance (OSDM) 8400 D'Arcy Road, Forestville, MD 20747
DPIE:	Department of Permitting, Inspections and Enforcement (DPIE) 9400 Peppercorn Place, Suite 230, Largo, MD 20774
HD/EHDC:	Health Department, Environmental Health/Disease Control Division 9201 Basil Court, Suite 318, Largo, MD 20774

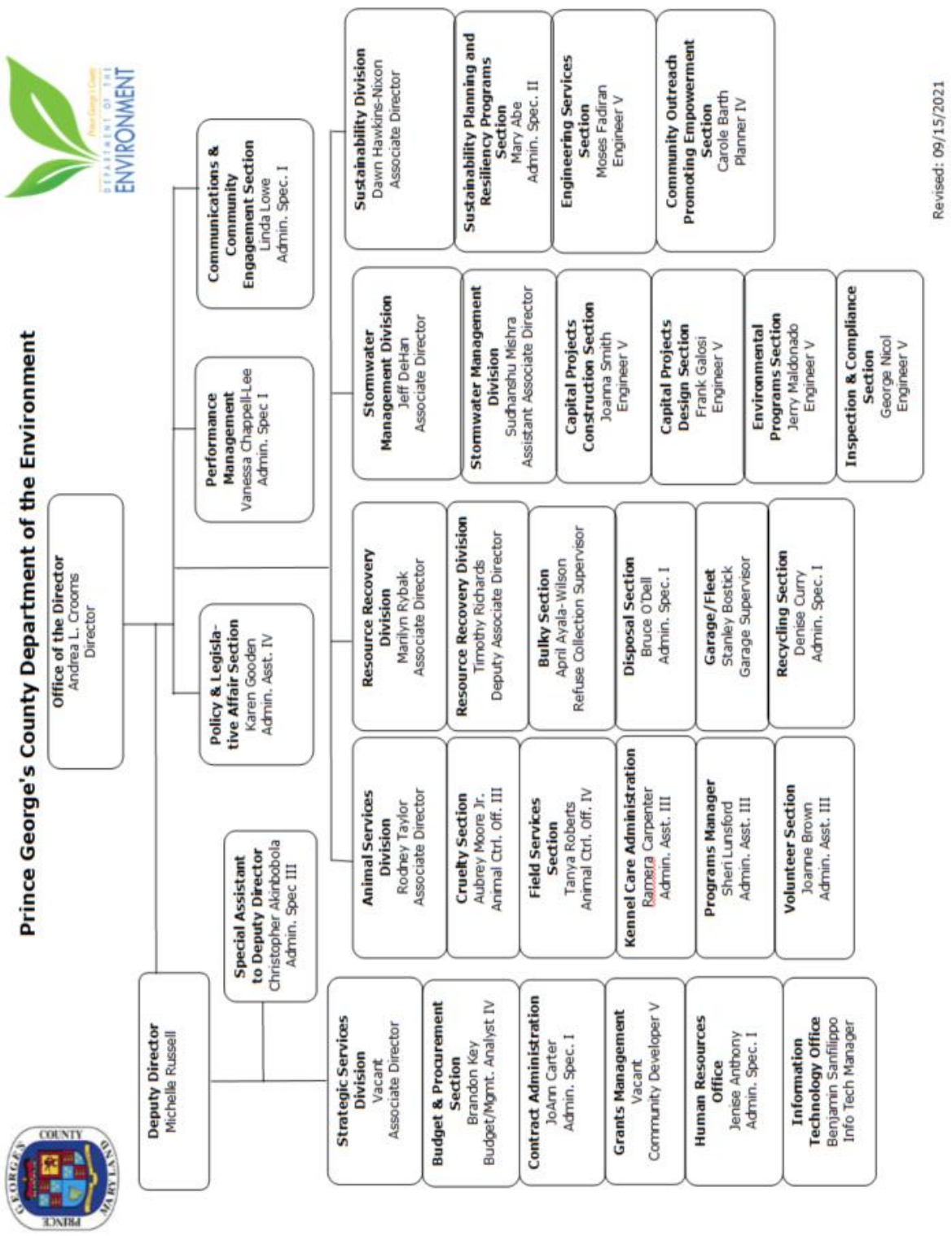

Figure A-1. Department of the Environment - Office of the Director Organizational Chart

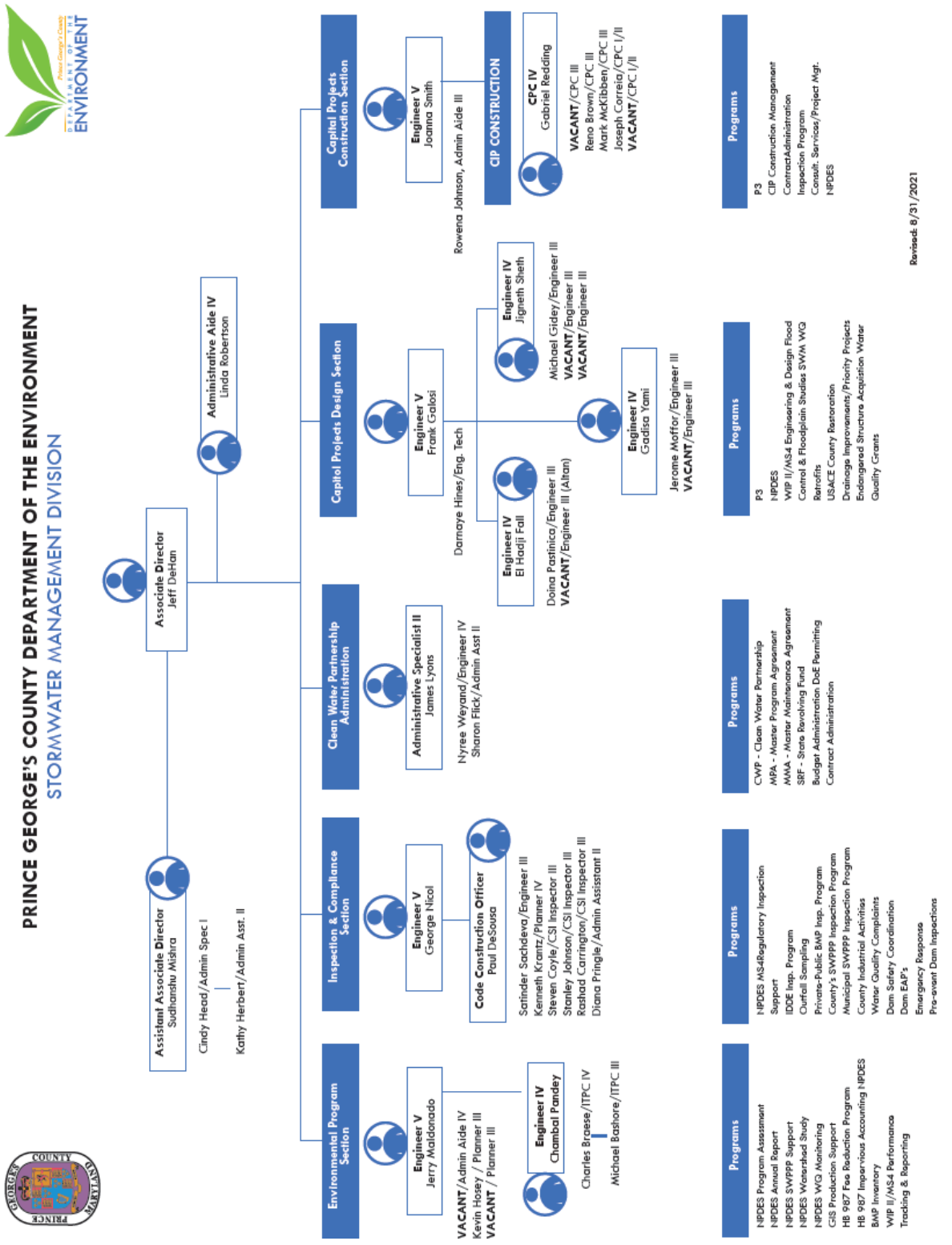

Figure A-2. Department of the Environment - Stormwater Management Division Organizational Chart

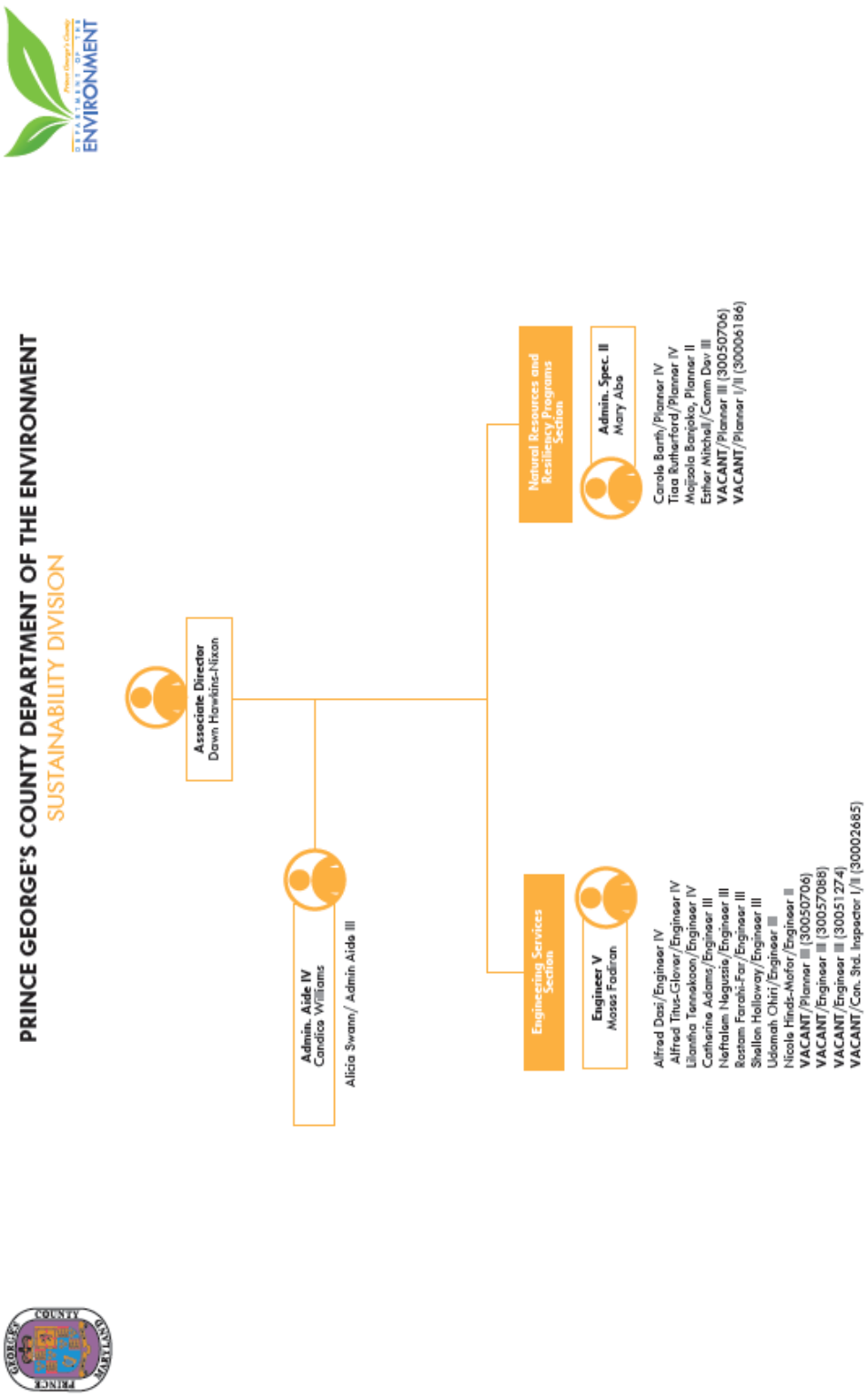

Figure A-3. Department of the Environment - Sustainability Division Organizational Chart

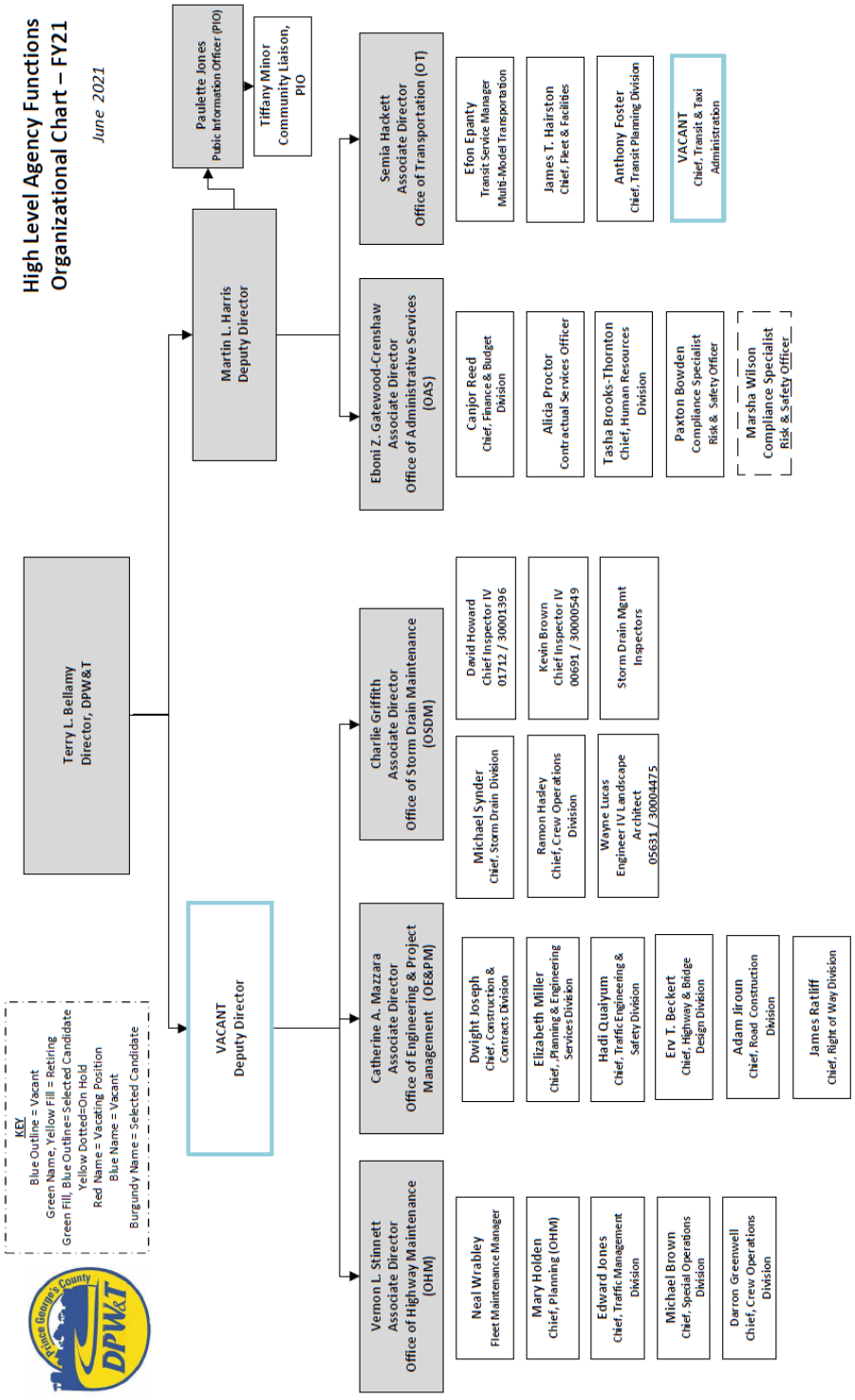

Figure A-4. Department of Public Works and Transportation - Office of the Director Organizational Chart

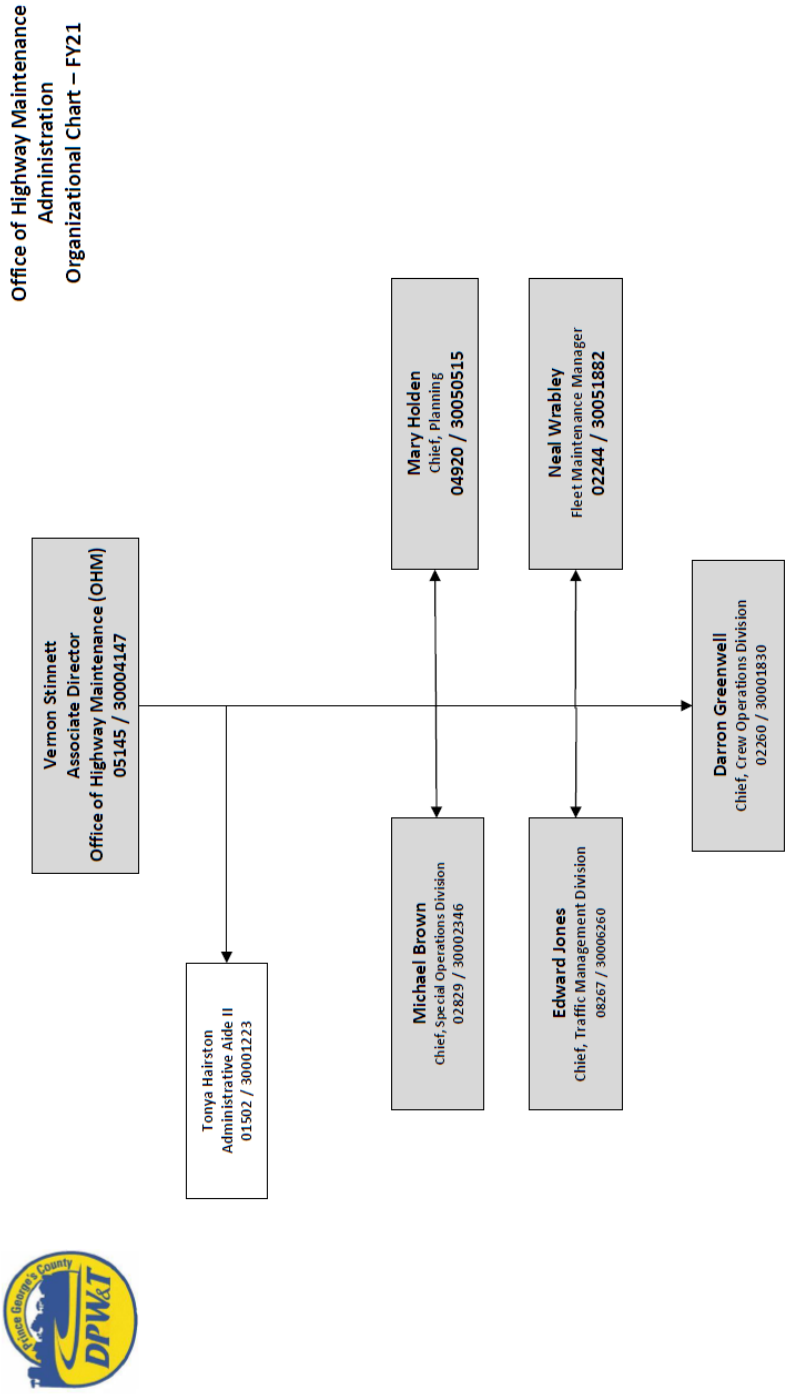

Figure A-5. Department of Public Works and Transportation - Office of Highway Maintenance (OHM) Organizational Chart

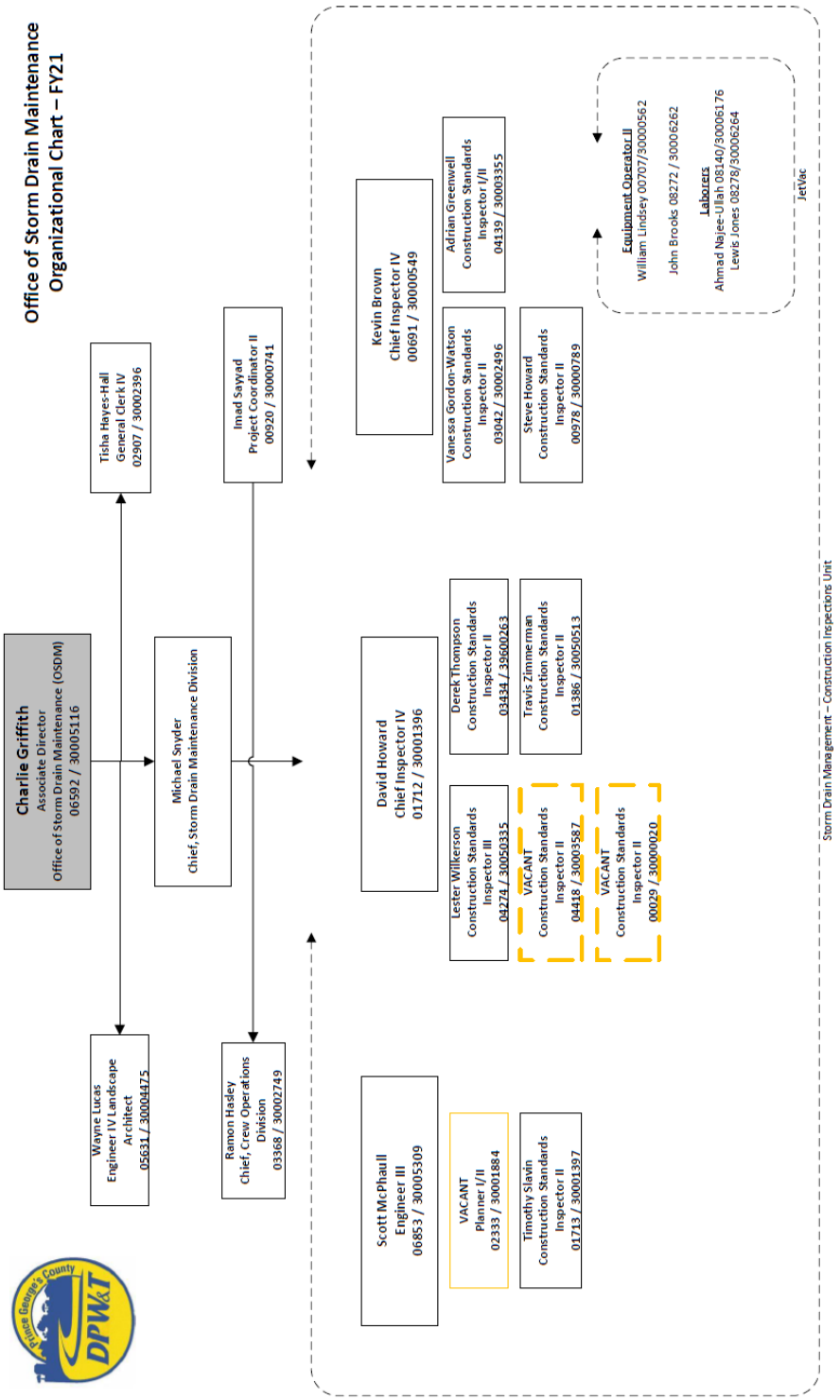

Figure A-6. Department of Public Works and Transportation, OHM - Storm Drain Maintenance Division Organizational Chart

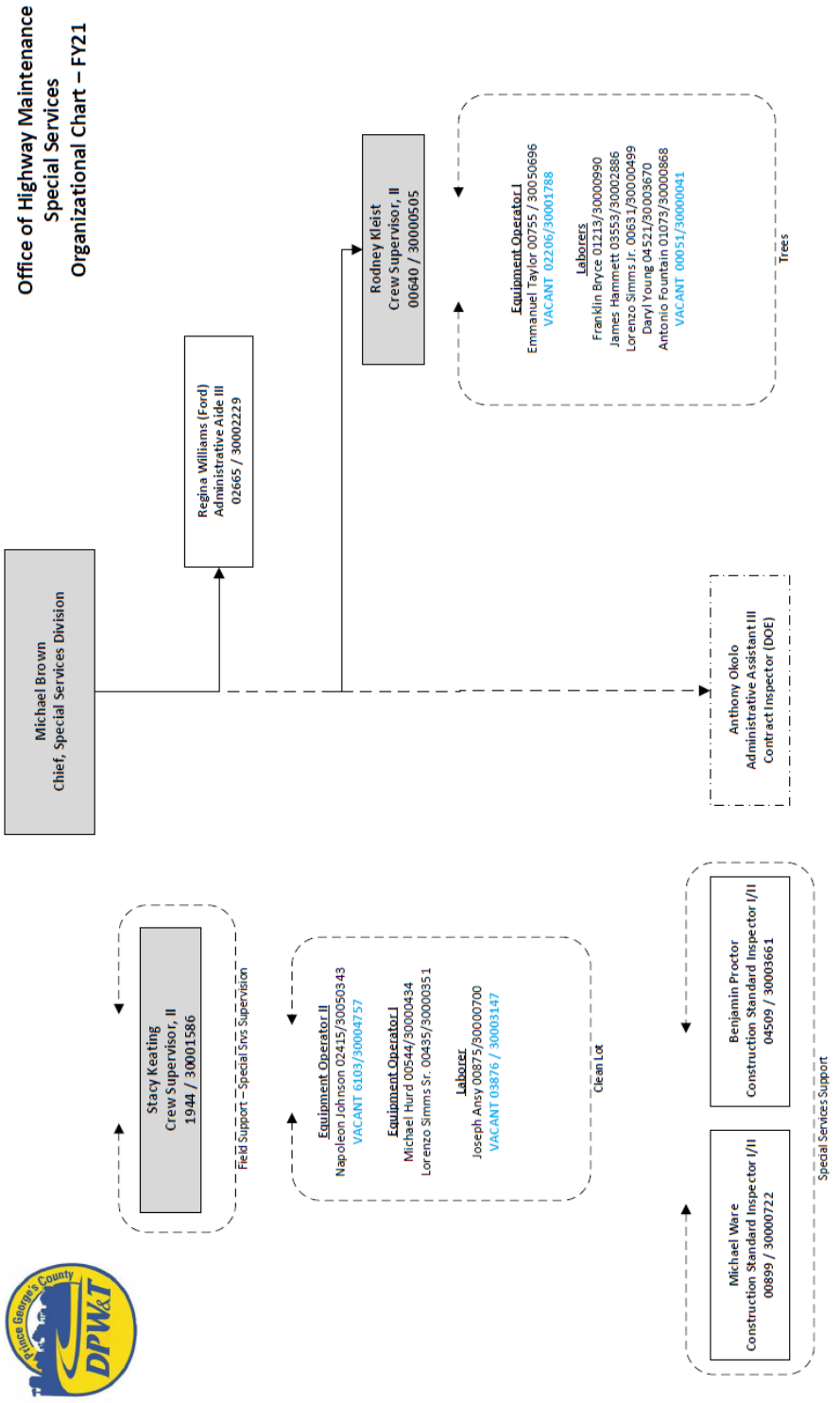

Figure A-7. Department of Public Works and Transportation (OHM) -Special Services Division

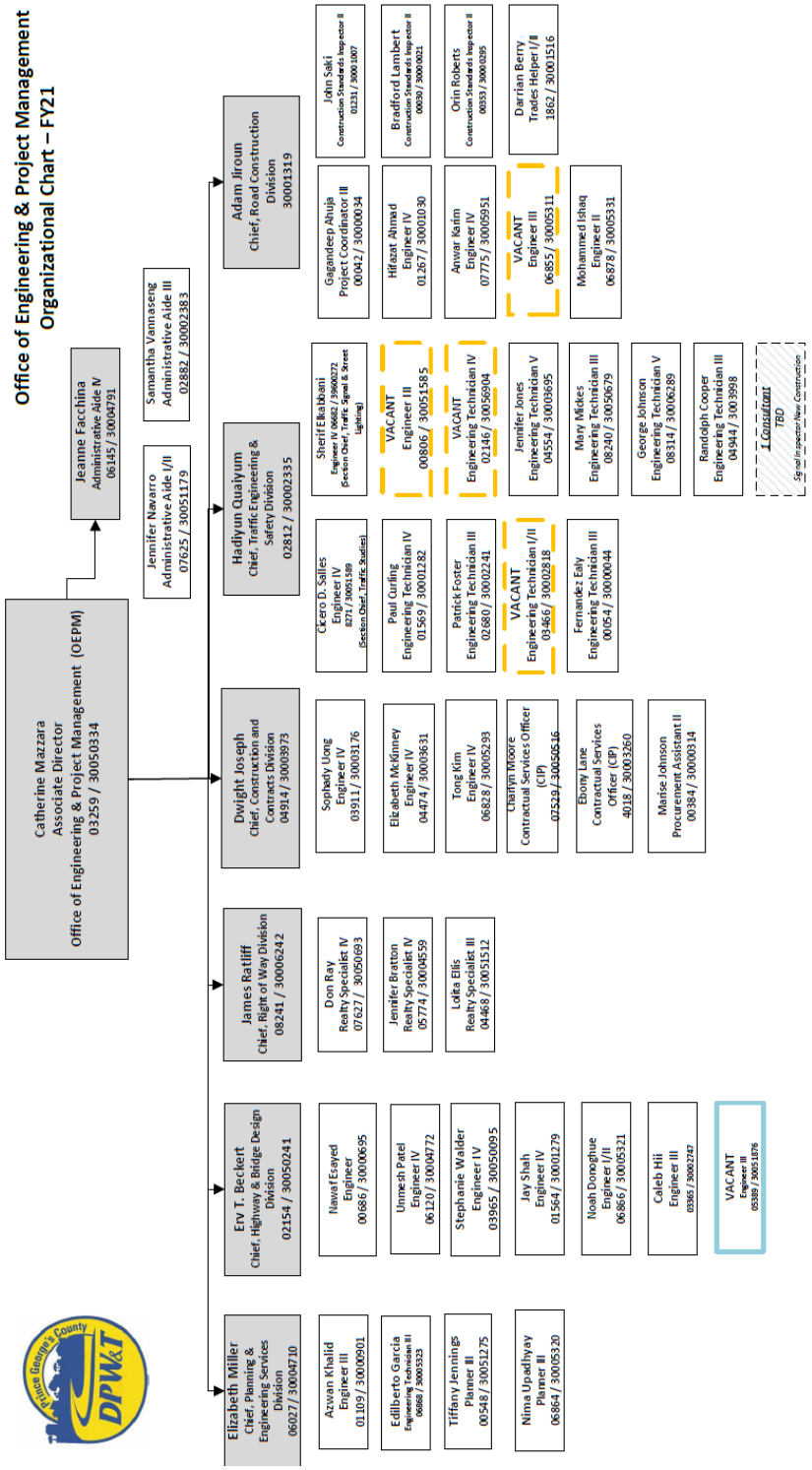

Figure A-8. Department of Public Works and Transportation - Office of Engineering and Project Management Organizational Chart

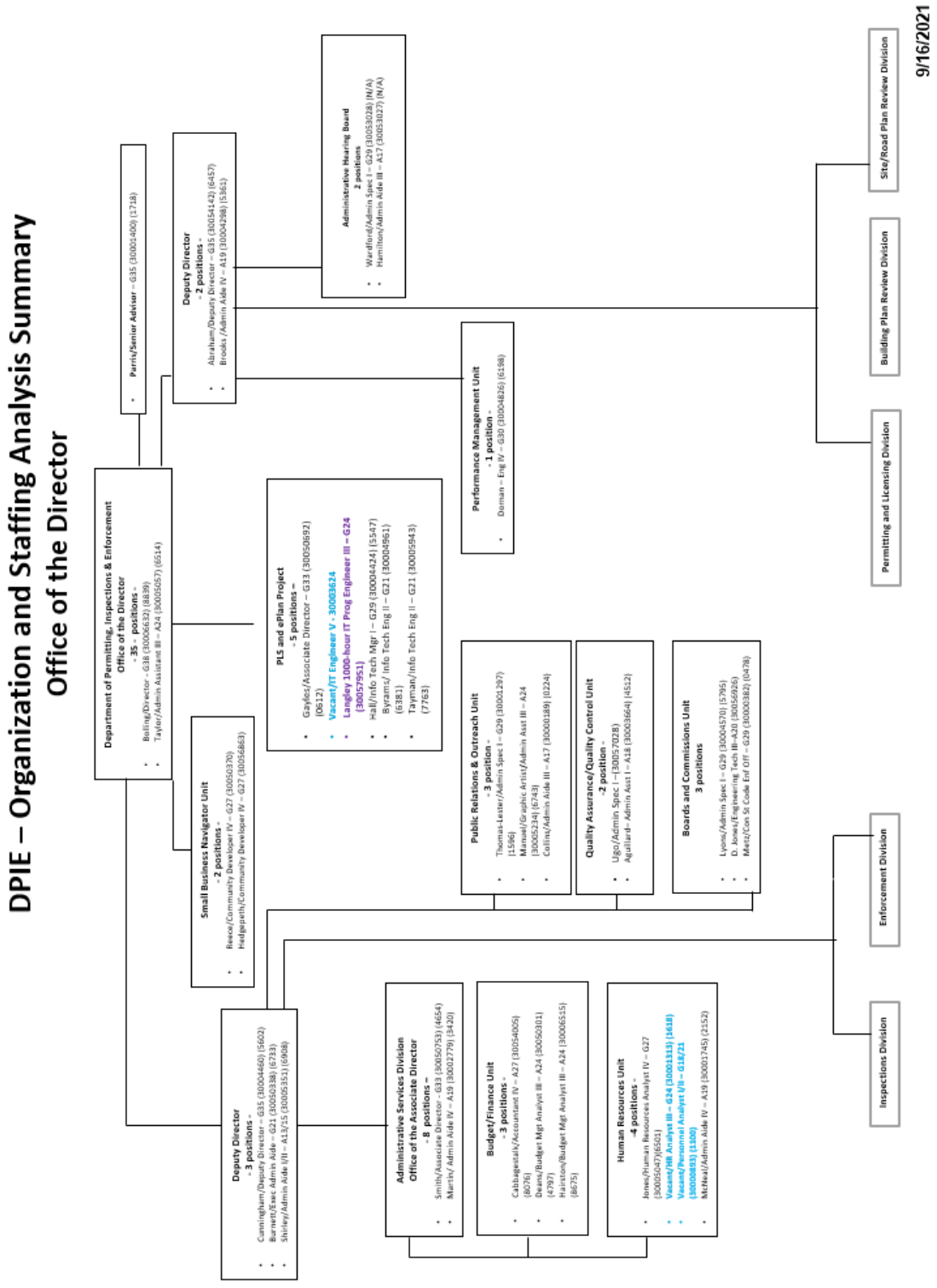

Figure A-9. Department of Permitting, Inspections and Enforcement - Organization and Staffing Analysis Summary, Office of the Director

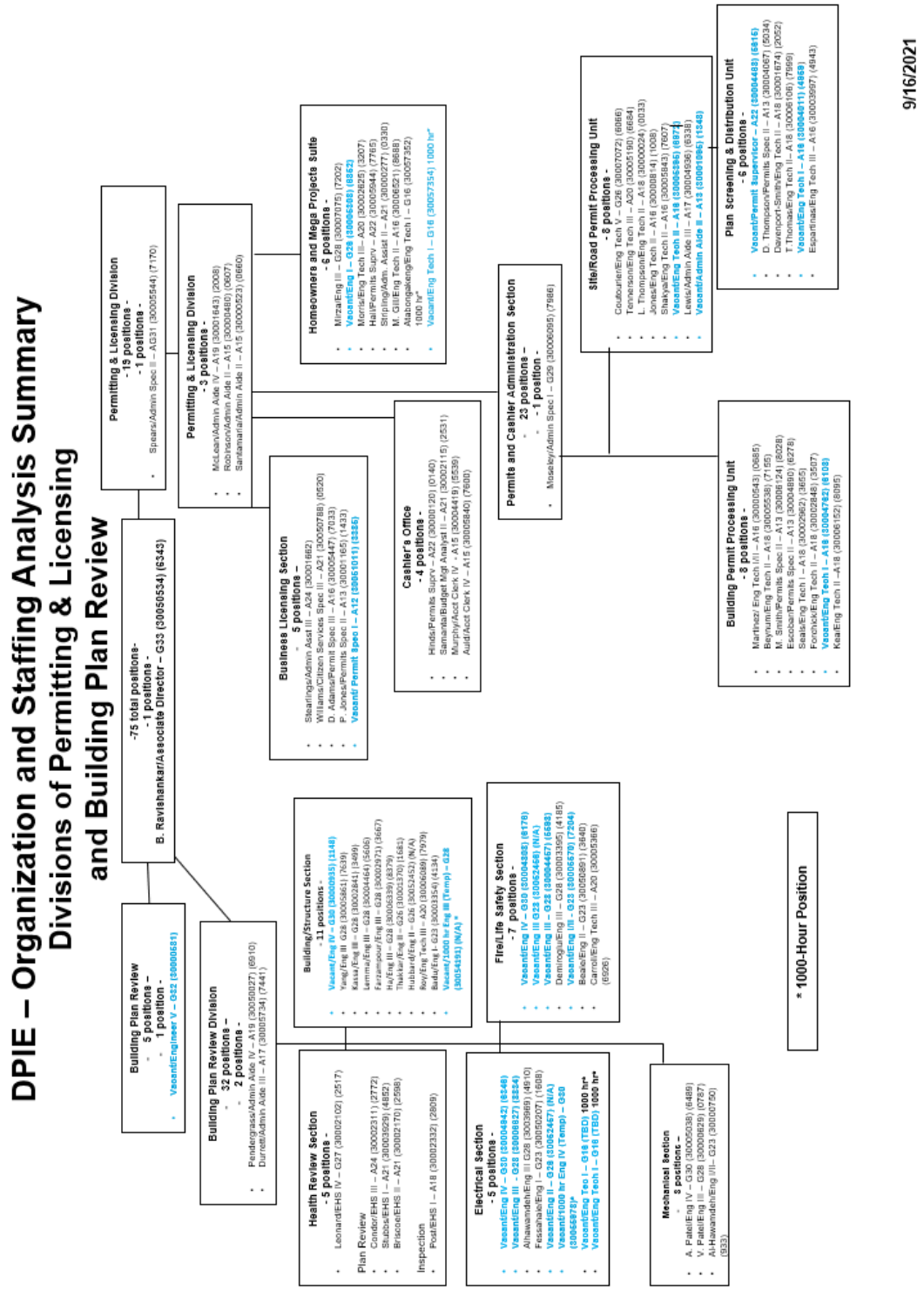

Figure A-10. Department of Permitting, Inspections and Enforcement - Organization and Staffing Analysis Summary, Permitting and Licensing Division and Building Plan Review

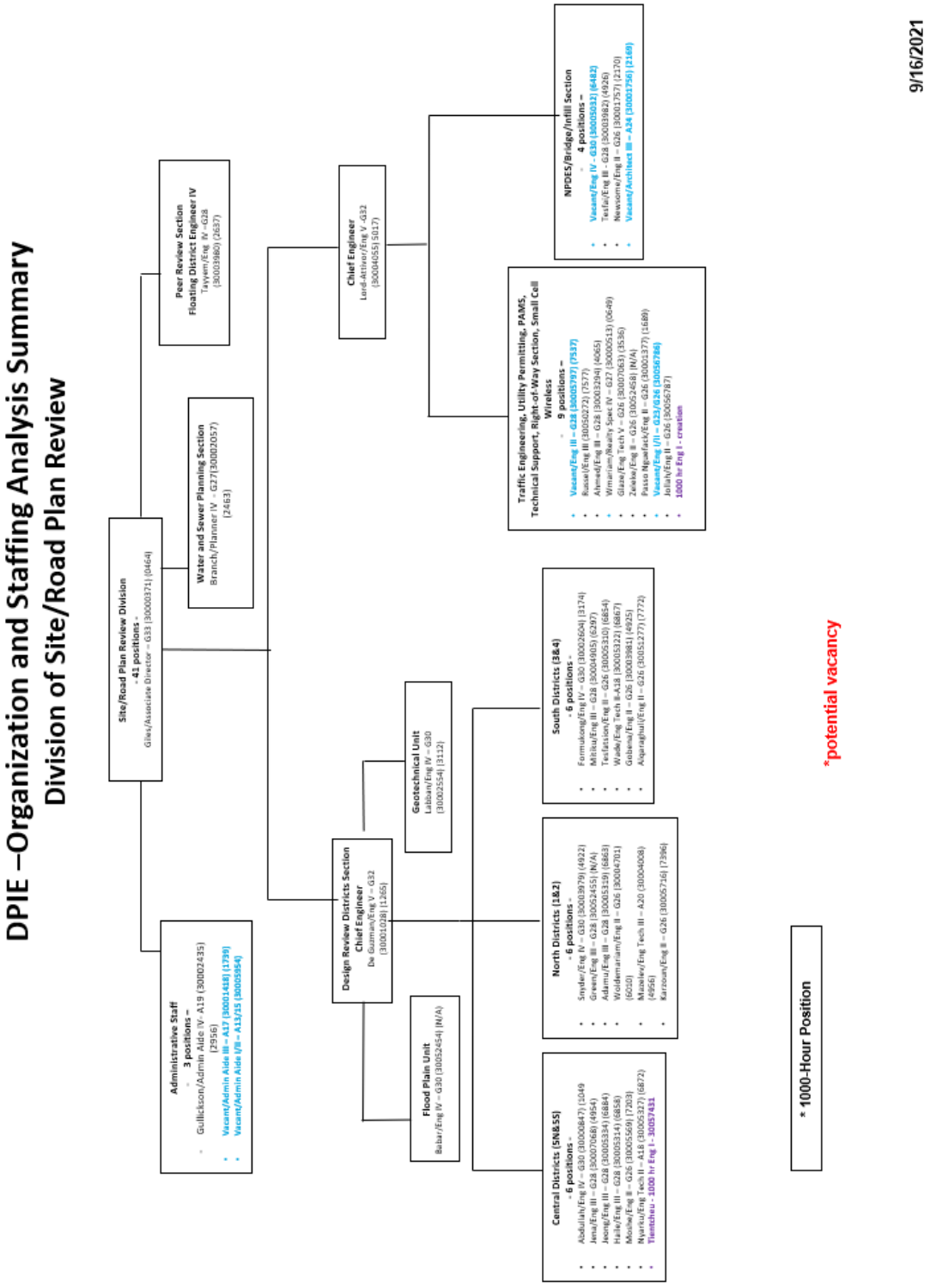

Figure A-11. Department of Permitting, Inspections and Enforcement - Organization and Staffing Analysis Summary, Site/ Road Plan Review Division

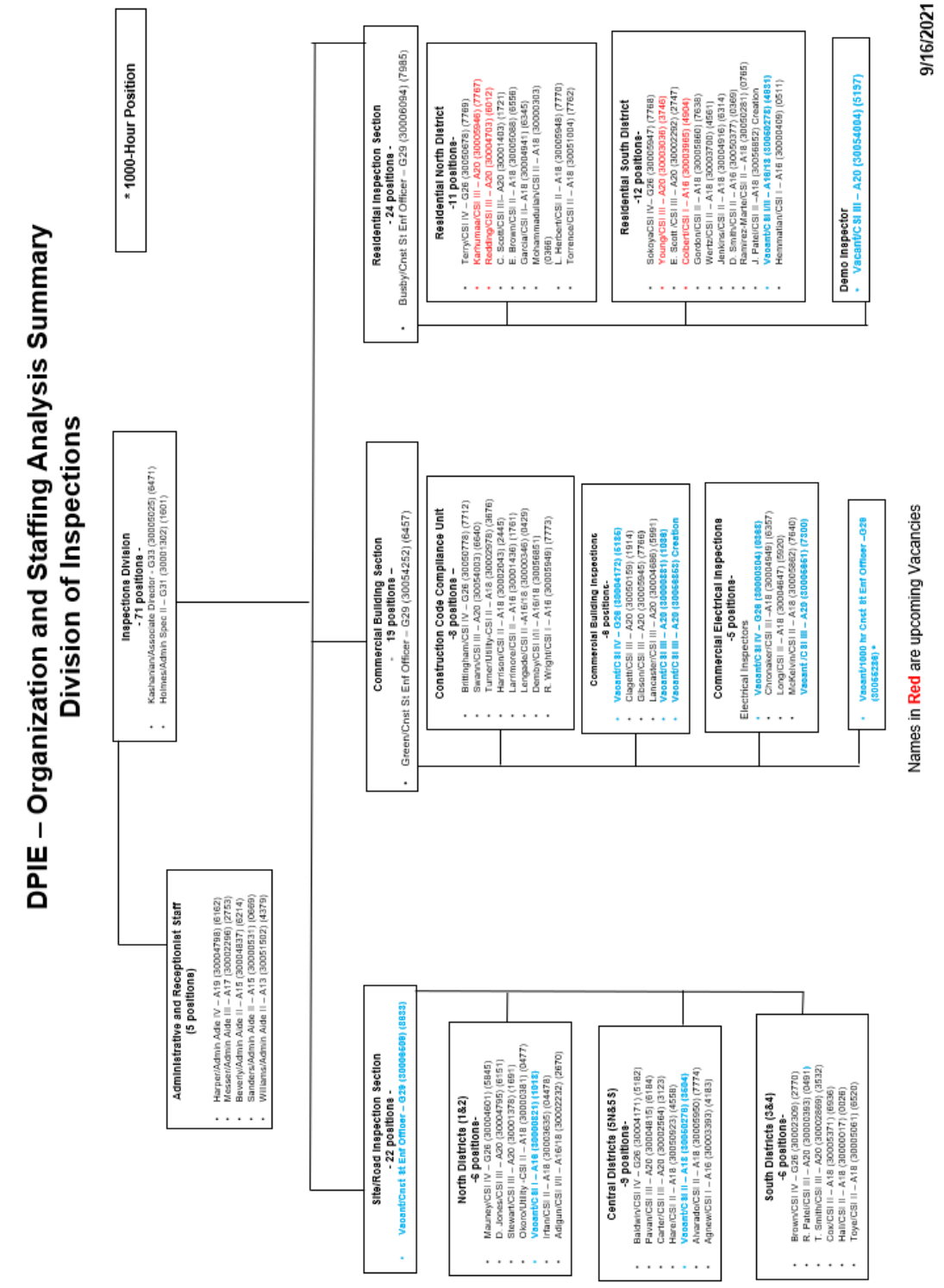

Figure A-12. Department of Permitting, Inspections and Enforcement - Organization and Staffing Analysis Summary, Inspections Division

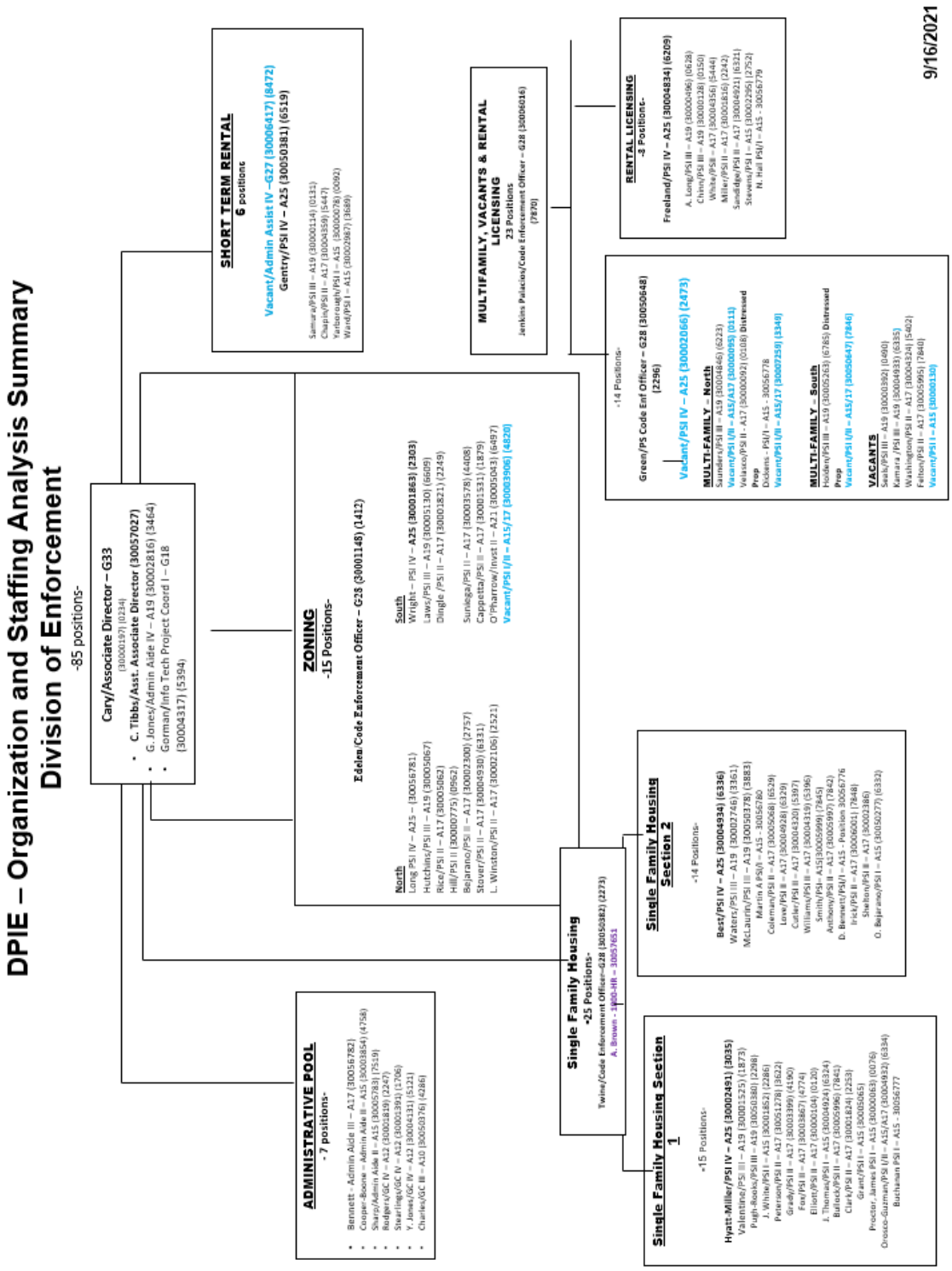

Figure A-13. Department of Permitting, Inspections and enforcement - Organization and Staffing Analysis Summary, Enforcement Division

B. LEGAL AUTHORITY

Permit Condition Part IV. B: Prince George's County shall maintain adequate legal authority in accordance with NPDES regulations 40 CFR Part 122.26 throughout the term of this permit. In the event that any provision of its legal authority is found to be invalid, the County shall notify MDE within 30 days and make the necessary changes to maintain adequate legal authority. All changes shall be included in the County's annual report.

In 1993, Prince George's County revised its "Grading, Drainage and Erosion Control" ordinance to provide the County with adequate legal authority to directly perform the activities described in 40 CFR 122.26(d) (2) (i). Legal authority was recertified by the County attorney in 1999 and was accepted by MDE.

Prince George's County continues to maintain adequate legal authority throughout the term of its NPDES MS4 permit. There were no changes made during this reporting period to invalidate this legal authority.

C. SOURCE IDENTIFICATION

1. STORM DRAIN SYSTEM

Permit Condition Part IV. C. 1: The storm drain system information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. Storm drain system information will include all infrastructure, major outfalls, inlets, and associated drainage areas delineated.

In FY 2021, the County's drainage infrastructure (manhole, inlet, and outfall) is currently at 83,500 records and 4,989 drainage areas associated with these structures. The outfalls along with their outfall locations and associated drainage areas have been provided on DVD in the MDE's MS4 geodatabase.

2. INDUSTRIAL AND COMMERCIAL SOURCES

Permit Condition Part IV. C. 2: The Industrial and Commercial Sources information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. The Industrial and Commercial Sources will include industrial and commercial land uses and sites that the County has determined have the potential to contribute significant pollutants.

The County completed an analysis for industrial and commercial sources and a geodatabase containing this information was submitted to MDE on June 10, 2016. For this reporting period, the inventory of the industrial and commercial sources remains unchanged from that submittal.

3. URBAN BEST MANAGEMENT PRACTICES (BMPS)

Permit Condition Part IV. C. 3: The Urban Best Management Practices (BMPs) information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. The Urban best management practices (BMPs) stormwater management facility data shall include outfall locations and delineated drainage areas.

The urban BMPs along with their outfall locations and associated drainage areas have been provided on DVD in the MDE's MS4 geodatabase. For FY 2021, the inventory includes a total of 81,929 urban BMPs. A summary of the records of each BMP types is provided in the Table C-1.

Table C-1. Summary of the BMP inventory provided in the Geodatabase for BMPs

BMP Inventory	Geodatabase Table	Number of Records	Completed in Permit Term	Total Completed
New Development BMPs	BMP	4,449	1,855	2,594
Restoration BMPs	RestBMP	779	675	762

BMP Inventory	Geodatabase Table	Number of Records	Completed in Permit Term	Total Completed
Stream Restoration and Outfall Stabilization	AltBMPLine	108	38	54
Storm Drain Vacuuming, Street Sweeping, Tree Planting, and Impervious Area Elimination	AltBMPPoly	75,698	41,014	41,019
Septic Denitrification or Connection to WWTP	AltBMPPoint	895	192	895
TOTAL		81,929	43,774	45,324

4. IMPERVIOUS SURFACES

Permit Condition Part IV. C. 4: The Impervious Surfaces information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. The Impervious surfaces dataset shall include public and private land use delineated; controlled and uncontrolled impervious areas based on, at a minimum, Maryland's hierarchical eight-digit sub-basins.

An analysis of the MS4 regulated permit area and associated impervious area has been completed and a description of the methodology with GIS data was provided to MDE in the previous reporting. For FY 2020, an update of the MS4 regulated permit area and associated impervious areas has been provided on DVD in the MDE's MS4 geodatabase.

5. MONITORING LOCATIONS

Permit Condition Part IV. C. 5: The Monitoring Locations information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. The information shall include locations established for chemical, biological, and physical monitoring of watershed restoration efforts and the 2000 Maryland Stormwater Design Manual;

The watershed restoration monitoring in the Bear Branch watershed is provided on DVD in the MDE's MS4 geodatabase. Black Branch monitoring contract was delayed due to procurement backlog caused by Covid-19. In July 2021 the work was approved, and monitoring has resumed.

Permit Condition Part IV. C. 6: The Water Quality Improvement Projects information shall be submitted annually for all County watersheds within the permit area in geographic information system (GIS) format with associated tables as required in PART V of this permit. The information shall include projects proposed, under construction, and completed with associated drainage areas delineated.

6. WATER QUALITY IMPROVEMENT PROJECTS

The information regarding Water Quality Improvement Projects at their various stages (proposed, design, under construction, and completed), with associated tables including their drainage areas delineated, is provided in the MDE's MS4 geodatabase format under the feature classes RestBMP, AltBMP Line, AltBMP Point, AltBMP Polygon, and Impervious Surface Associated Tables on the DVD.

For FY 2021, the BMP inventory includes 946 projects that were either in planning, under construction, or completed phases since fourth generation permit inception. These projects are being implemented through various programs including the Capital Improvements Program (CIP), the Clean Water Partnership (CWP), the countywide Green/Complete Streets Program, redevelopment projects by developers, septic system upgrades and septic system removal and DoE's Comprehensive Community Cleanup Program.

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D. MANAGEMENT PROGRAMS

1. STORMWATER MANAGEMENT PROGRAM

Permit Condition Part IV. D. 1. a. (i): The County shall implement the stormwater management design policies, principles, methods, and practices found in the latest version of the 2000 Maryland Stormwater Design Manual. This includes complying with the Stormwater Management Act of 2007 (Act) by implementing Environmental Site Design (ESD) to the Maximum Extent Possible (MEP) for new and redevelopment projects.

The County's Department of Permits Inspections and Enforcement (DPIE) incorporated MDE's three phase comprehensive review for all new and redevelopment projects, in accordance with the processes established in the *Prince George's County Stormwater Management Design Manual* and the Prince George's Soil Conservation District's *Soil Erosion and Sediment Control-Pond Safety Reference Manual*.

Permit Condition Part IV. D. 1. a. (ii): The County shall implement the stormwater management design policies, principles, methods, and practices found in the latest version of the 2000 Maryland Stormwater Design Manual. This includes tracking the progress toward satisfying the requirements of the Act and identifying and reporting annually the problems and modifications necessary to implement ESD to the MEP.

As critical decisions on stormwater controls are made during the concept plan phase, the County's DPIE uses a geodatabase to track stormwater implementation policy decisions, maintenance responsibility, watershed location, and types of BMPs. The geodatabase has the capacity of tracking new and redevelopment activities to ensure that all projects include an evaluation of ESD practices as a first option in controlling stormwater.

The geodatabase provides the County with a tool to identify development trends and to track progress in implementing ESD to the maximum extent possible. The County conducted an extensive analysis of stormwater controls approved at the concept plan stage of the process. A representative example of this type of data analysis is provided in Table D-1.

Table D-1. Stormwater Management Concept Plan Approvals by Watershed in FY 2021

MDE 8-digit code	Watershed Name	Number of Plans	Proposed Impervious Area (Acres)	Disturbed Area (Acres)
02131101	Patuxent River lower	2	2.795	24.705
02131102	Patuxent River middle	3	3.512	44.23
02131103	Western Branch	32	145.2706	109.719
02140201	Patuxent River upper	13	38.134	61.531
02140108	Zekiah Swamp	1	0.5	0.7
02140111	Mattawoman Creek	5	18.72	41.4
02140201	Potomac River U tidal	13	34.2105	52.895
02140203	Piscataway Creek	7	19.97	61.861
02140204	Oxon Creek	7	26.614	47.688

MDE 8-digit code	Watershed Name	Number of Plans	Proposed Impervious Area (Acres)	Disturbed Area (Acres)
02140205	Anacostia River	57	132.2343	140.6515
TOTAL		***140***	***421.96***	***585.38***

Permit Condition Part IV. D. 1. a. (iii): The County shall implement the stormwater management design policies, principles, methods, and practices found in the latest version of the 2000 Maryland Stormwater Design Manual. This includes reporting annually the modifications that have been made or need to be made to all ordinances, regulations, and new development plan review and approval processes to comply with the requirements of the Act.

There have been no updates to the County's Stormwater Management Design Manual, however DPIE over the past year has produced three Techno-grams related to stormwater management procedures/policies. These Techno-grams cover the following topics:

1. Techno-gram 2-2019 – "Revised 100-year Stormwater Management Quantity Control", which informs every one of which areas in the County require 100-year storm control.
2. Techno-gram 3-2020 - "Site Plan Requirement", which establish requirements for a legible site plan to be submitted with all non-residential building and grading permit.
3. Techno-gram 4-2020 - "Floodplain Requirements and Procedures", which clarify the floodplain requirement in County Code and County's Stormwater Management Design Manual.

Over the past year DPIE has been working on ensuring that the Maintenance Agreements for private stormwater devices are obtained prior to permit closure. Maintenance Agreements are checked at the time of Building Permit review and at the time of as-built review.

Permit Condition Part IV. D. 1. b: Maintaining programmatic and implementation information including, but not limited to:

i. Number of Concept, Site Development, and Final plans received. Plans that are re-submitted as a result of a revision or in response to comments should not be considered as a separate project;
ii. Number of redevelopment projects received;
iii. Number of stormwater exemptions issued; and
iv. Number and type of waivers received and issued, including those for quantity control, quality control, or both. Multiple requests for waivers may be received for a single project and each should be counted separately, whether part of the same project or plan. The total number of waivers requested and granted for qualitative and quantitative control shall be documented.

Stormwater program data shall be recorded on MDE's annual report database and submitted as required in PART V of this permit.

A summary of the stormwater controls during the concept plan approval phase in FY 2020 is provided below:

1. 140 Concept Plans approved
2. 106 Site Development Plans reviewed

3. 165 Final Plans reviewed
4. 29 Redevelopment Projects
5. 73 Stormwater Exemptions granted, a list is included on the DVD under Management Programs\Concept Exemption
6. No waivers were granted

The development of the geodatabase is also being utilized to meet the internal reporting mandates of Subtitle 32 of the Prince George's County Code:

Sec. 32-201. Annual Report

Starting in 2013, the Department shall issue an annual report and analysis by December 31st to the County Executive and the County Council on the implementation of and compliance with the stormwater management provisions contained in this Division, including projects that received administrative waivers under Section 32-170 (d), incentives under Section 32-175 (e) and variances under Section 32-176.

Permit Condition Part IV. D. 1. c: The County shall maintain construction inspection information according to COMAR 26.17.02 for all ESD treatment practices and structural stormwater management facilities including the number of inspections conducted and violation notices issued by Prince George's County

Construction inspections are performed by DPIE within three districts. The total number of site/road inspectors for FY 2021 was 17. During this reporting period, these inspectors performed a total of 11,417 stormwater inspections and issued 10 violations (Table D-2). The DPIE staff in the Site/Road Inspections Section continues to perform routine and demand inspections, in an effort to gain full compliance with the approved plans and permits.

Table D-2. History of Notice of Violation issued since Calendar Year 2014

Calendar year	Inspection	Notice of Violation (NOV)	Stop Work Orders (SWO)	Citations
2021	11,417	10	25	10
2020	9,701	12	14	76
2019	9,527	19	25	145
2018	10,590	21	23	132
2017	8,980	8	04	065
2016	7,111	13	02	102
2015	7,350	42	03	37
2014	7,957	30	20	55

Permit Condition Part IV. D. 1. d: The County shall conduct preventative maintenance inspections, according to COMAR 26.17.02, of all ESD treatment systems and structural stormwater management facilities at least on a triennial basis. Documentation identifying the ESD systems and structural stormwater management facilities inspected, the number of maintenance inspections, follow-up inspections, the enforcement actions used to ensure compliance, the maintenance inspection schedules, and any other relevant information shall be submitted in the County's annual reports.

The County's Department of the Environment (DOE) and the Department of Public Works (DPW&T), during this reporting period conducted preventive maintenance inspections on to ensure functional operation of installed BMPs. The inspection records of the completed BMPs for triennial inspections are provided in the MDE's MS4 geodatabase on DVD. A summary of the inspection records is provided in Table D-3.

Table D-3. Summary of Inspection Records

Inspection Inventory	Geodatabase Table	Number of Records
New Development BMPs	BMPInspections	4,449
Restoration BMPs	RestBMPInspections	762
Stream Restoration and Outfall Stabilization	AltBMPLineInspections	54
Tree Planting	AltBMPPolyInspections	26,969
TOTAL		**32,234**

These BMPs are inspected and maintained by three different programs: 1) preventive maintenance inspection of private owned storm water management facilities by the Department of Environment (DoE); 2) preventive maintenance inspection of public owned storm water management facilities by the Department of Public Works and Transportation (DPW&T); and 3) initial inspection, retrofits, and on-site BMP functionality verification provided by Clean Water Partnership (CWP).

2. EROSION AND SEDIMENT CONTROL

Permit Condition Part IV. D. 2. a: The County shall implement program improvements identified in any MDE evaluation of the County's erosion and sediment control enforcement authority;

In a letter dated May 14, 2021, MDE delegated erosion and sediment control enforcement authority to the County through June 30, 2023.

Under this authority, inspections are performed within three districts. The total number of site/road inspectors for FY 2021 was 17. During this reporting period, these inspectors performed a total of 14,623 sediment control inspections and issued 129 violations. DPIE staff in the Site/Road Inspections Section continues to perform routine and demand inspections, in an effort to gain full compliance with the approved plans and permits.

Permit Condition Part IV. D. 2. b: The County shall conduct responsible personnel certification classes to educate construction site operators regarding erosion and sediment control compliance at least three times per year.

"Responsible Personnel Certification" courses were scheduled by the County's Inspections Division. However, the advent of the on-line course hosted by MDE resulted in no students registering for the County's class. MDE advised the County in an April 13, 2015 letter, that the on-line training offered by MDE satisfies the County's MS4 permit obligations. The County will continue to ensure that on-site operators have received this training. Below is a list of County inspectors who have obtained the certification:

1. Andre Stewart

2. Eric Hall
3. David Jones
4. Adigun Wasiu
5. Alvarado Alejandro
6. Robert Agnew
7. Toye Montez
8. Jason Carter *
9. Joe Brown
10. Patrick Hare
11. Baldwin Graham
12. Irfan Irfanullah
13. Scottie Mauney
14. Ramesh Patel
15. Dave Cox
16. Benjamin Okoro
17. Thomas Smith
18. Pavan Chitran

** Working as Chief Union Stewart*

Permit Conditions Part IV. D:
2. c: Program activity shall be recorded on MDE's annual report database and submitted as required in PART V of this permit; and
2. d: Reporting quarterly, information regarding earth disturbances exceeding one acre or more. Quarters shall be based on calendar year and submittals shall be made within 30 days following each quarter. The information submitted shall cover permitting activity for the preceding three months.

During the 2021 reporting period, Prince George's County reported a total of 110 projects with earth disturbances of an acre or more. The total earth disturbance for these 110 projects was 1,394.69 acres. Copies of the disturbed area databases were forwarded to MDE throughout the year on a quarterly basis. Overall grading permit information for FY2021 is provided on the DVD in the MS4 geodatabase.

Permit Condition Part IV. D. 3: Prince George's County shall continue to implement an inspection and enforcement program to ensure that all discharges to and from the MS4 that are not composed entirely of stormwater are either permitted by MDE or eliminated. Activities shall include, but not be limited to:

- *a. Field screening at least 150 outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit. Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County's storm drain system;*
- *b. Conducting annual visual surveys of commercial and industrial areas as identified in PART IV.C.2 above for discovering, documenting, and eliminating pollutant sources. Areas surveyed shall be reported annually;*
- *c. Maintaining a program to address and, if necessary, respond to illegal discharges, dumping, and spills;*
- *d. Using appropriate enforcement procedures for investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and*
- *e. Reporting illicit discharge detection and elimination activities as specified in PART V of this permit.*

3. ILLICIT DISCHARGE DETECTION AND ELIMINATION

For the FY 2021 inspections, DoE contracted Consultant services to perform field screening of 150 major storm drain outfalls throughout the County. Initially, this effort started in 2015, and focused primarily on the Anacostia watershed; however, in 2016, the target area was expanded to include the entire County.

From 2015 to 2020, the consultant used an automated field inspection tool developed in 2015 to perform the inspections. The field application allows field inspectors to access County geographic information system (GIS) inventory of storm drains, best management practices, streets, property ownership, etc., facilitate recording of field data, and to automatically generate inspection reports. Beginning in 2021, a new web-based inspection tools developed by ESRI in 2021 was used to perform the inspections. The new web-based tools allow for real time data syncing and live updates.

The outfall screening was conducted from April 2021 through June 2021, with 152 inspections being conducted at 150 outfalls. A two-person field crew visited each site following 72 hours of dry weather. The physical condition of each site was recorded on the web-based field inspection tool. If a dry-weather flow was present, a sample was taken and tested with a Hach chemical test kit. Tests were conducted for temperature, pH, ammonia, dissolved oxygen, turbidity, detergents, chlorine, copper, phenols, and fluoride. When a chemical test was conducted, and the results showed a high concentration for any contaminant, the site was retested after four hours but within 24 hours to verify the results.

It is important to note that a dry-weather flow does not indicate an illicit discharge. Groundwater intrusion into storm drains is common; additionally, permitted discharges may be occurring. To determine if an illicit discharge was present, the results of the chemical tests performed were compared with the accepted statewide averages described in Dry Weather Flow and Illicit Discharges in Maryland Storm Drain Systems (MDE, 1997). Using the statewide averages, the 1997 study provides a threshold for each constituent, based on watershed land use. The results from the chemical tests performed during the 2021-reporting year were compared with this threshold to determine which results are considered abnormal for each constituent, and to make recommendations as to which storm drain systems should be investigated further as having possible illicit connections. Numerical thresholds for dissolved oxygen, turbidity, and fluoride are not published. The need for follow-up investigations based on these parameters was determined on a case-by-case basis. The thresholds used for the investigations are as follows:

- pH outside the range of 5.5 to 8.5
- 0.5 ppm detergents
- 0.4 ppm chlorine
- 0.17 ppm phenols
- 0.21 ppm copper
- 1.0 ppm ammonia

When a confirmed high concentration of a contaminant was found, field crews followed the stormdrain system upstream attempting to locate the source of the contamination. Additional tests at upstream structures were conducted as needed in an effort to track the contamination upstream to the source, especially where two systems converged.

All data collected during the illicit discharge screening were recorded in a database conforming to the MDE formatting requirements. This database is provided on DVD in the MDE's MS4 geodatabase.

The results show that, of the 152 inspections, 67 observed dry-weather flow. A chemical test was performed for all 67 inspections observing dry-weather flow. Two (2) sites were found to be generating pollutants higher than the threshold limits on at least one of the two inspection chemical tests. The outfall reports for these sites were forwarded to DoE's Code Enforcement Officer to investigate further and determine the source of the possible illicit discharge. Table D-4 below shows the details of the investigation and corrective actions taken to eliminate the illicit discharge observed at the eight outfalls.

Table D-4. Details of the Corrective Action Taken for the Illicit Discharges

Outfall ID	Corrective Actions
PG17OUT058695	At the time of the consultant's inspection, this outfall was found to be discharging water with high concentration of chlorine and ammonia. During the second test, the discharging water no longer had high concentrations of chlorine, but still had high concentrations of ammonia. The inspectors determined that the illicit flow originated from the loading dock at the Home Depot in College Park. The Code Enforcement Officer conducted an inspection of the property and was not able to locate the specific source which could be causing the high concentrations of ammonia. The Code Enforcement Officer then met with the manager of the business to discuss the investigation and requested the manager monitor any discharges into the drainage system. The County will continue to monitor the outfall at the next scheduled inspection. The issues have been resolved.
PG82OUT057002	At the time of consultant's inspection, this outfall was found to be discharging an intermittent sudsy foul-smelling water with high concentrations of ammonia and detergents and high turbidity. The inspectors determined that the illicit flow originated from 7501 Greenway Center Drive in Greenbelt. The Code Enforcement Officer conducted an inspection of the outfall and found an PVC discharge pipe in the upstream inlet structure. He was not able to locate where the pipe originated from. The PVC pipe was capped, and the illicit discharge was eliminated. The issues have been resolved.

The County also investigated the problems observed during the FY 2021 illicit discharge screening concerning structural problems, sediment deposits, erosion, floatables, and odors. Below are the details of our investigation and the actions taken to address these problems.

- Structural problems: The cases were referred to the County's DPW&T to investigate the outfall for structural problems. DPW&T investigated the outfalls and addressed the structural problems. The issue has been resolved.
- Sediment Deposits: The cases were referred to the County's DPW&T to investigate the sediment deposition at the outfall and in the storm drain systems. DPW&T investigated these outfalls and removed the sedimentation. They also investigated the storm drain systems to determine if sedimentation infiltrated the system through cracks in the storm drainpipes or through pipe separation of the joints. No cracks or pipe separation were found during their investigation. The issue has been resolved.
- Erosion: The cases were referred to the County's DPW&T to investigate the outfall with erosion issues. DPW&T repaired the erosion and placed additional riprap at the end of the outfalls to eliminate the erosion problems. The issue has been resolved.

- Floatables: The County's Volunteer Cleanup Program coordinated with community organizations to perform litter pickup at these outfalls. The community organizations have removed the trash and debris from these outfalls, and the surround areas. The issue has been resolved.
- Odors: The outfalls with the odor issues were investigated by DoE's Code Enforcement Officer. During the inspection, it was observed the cause odor was due to stagnant water and/or decaying leaf material within the pipes or storm drain inlet structures. The County's DPW&T also investigated the odor and found no illicit discharge that could be causing the odors. The issue has been resolved.

Commercial and Industrial Visual Surveys

DoE also contracted consultants to perform the Commercial and Industrial Visual Surveys. Concurrent with the development of the field tool used in outfall field screening, the County's consultant developed a polygon layer for the County that identified commercial and industrial areas. Field crews from AB Consultants visited these polygons within the target area identified for the IDDE field screening and performed inspections.

Within the commercial and industrial areas, field teams reviewed the drainage conditions, business practices, and overall site condition to determine if visual evidence of pollution was present that would not be detectable through the chemical tests. Field crews recorded suspicious practices found on commercial and industrial areas surrounding the 150 selected outfalls for IDDE inspections. Using the field inspection tool, commercial and industrial points were generated to indicate the location of the specific violations and polygons were created, verified, and attributed to track the areas that were visually inspected.

A total of 129 commercial and industrial complexes were inspected over the course of the inspections. A total of 54 potential water quality concerns was identified and reported to the County for follow-up investigation and/or enforcement. Of these potential water quality concerns, twenty (20) were improper storage of materials and containers; three (3) were wastewater dumped from building; four (4) were oil staining of the pavement; two (2) were tracking sediment into the roadway; three (3) were pavement staining from a restaurant grease waste container; eleven (11) were trash & debris around the property; five (5) were water runoff from vehicle washing; and six (6) were staining of the pavement. The County investigated each site and contacted each property owner to address these potential water quality concerns. The results of these investigations are noted below:

- Improper storage of materials and containers: The property owners were informed of containers not being properly stored. The property owners were required to either remove the containers from the property, place the containers under an outdoor covered area or store them within their facility. When the properties were re-inspected, it was observed that the property owners complied with the request. The issue has been resolved.
- Trash & Debris: The property owners were informed of the trash and debris around their property. The property owners were required to clean up their property. When the properties were re-inspected, it was observed that the property owners complied with the request. The County also worked with the property owners to educate them on good

housekeeping practices and to develop a routine maintenance schedule to eliminate trash & debris on their property. The issue has been resolved.

- Sedimentation: The property owners were informed of the sediment being tracked into the roadway. Under their permit and operation's guideline, the property owner is required to make sure sediment does not leave the property. If so, they are required to clean the sediment from the roadway. When the site was re-inspected, it was observed that the property owner was complying. The issue has been resolved.
- Grease waste containers: The property owners were informed of the grease spills from the waste containers and the potential water quality concerns it poses. The County worked with the property owners to educate them on good housekeeping practices and to eliminate any grease spills when disposing the grease waste. The issue has been resolved.
- Oil stains: The property owners were informed of the oil stains on the pavement within their property and around the used oil disposal containers, and the potential water quality concerns it poses. The County worked with the property owners to educate them on good housekeeping practices and to eliminate any oil spills when disposing the used oil. Also, required the property owners to repair any vehicle leaking automotive fluids and place containers under the vehicles to capture the fluids until the vehicles can be repaired. The issue has been resolved.
- Pavement stains: The property owners were informed of the staining of the pavement from their dumpsters. They stated to the Code Enforcement Officer the liquids were from store or office trash, and no chemical liquids are being dumped into the dumpsters. The property owners were educated on good housekeeping practices, ensuring no toxic liquids are placed in the dumpsters. The issue has been resolved.
- Wastewater: The property owners were informed of the dumping of wastewater by their employees. The property owners were required to stop all dumping of wastewater onto the pavement and dump it into the sanitary sewer system. The County also worked with the property owners and their employees to educate them on good housekeeping practices.
- Car washing: The property owners were informed about the water runoff from washing vehicles on their property and flowing into the nearby storm drain inlet structure. The property owners were required to stop using detergents when washing their vehicles and wash their vehicles within their facility. Also, recommended they use waterless car washing methods to eliminate The property owner complied with the request. The issue has been resolved.

Investigation and Enforcement Program

The County utilizes the full enforcement authority authorized by the County Code to investigate and eliminate illicit discharges. The County Code assigns the authority and responsibility for responding to and eliminating illicit discharges by type, activity or location. For instance, enforcement actions associated with violations involving the improper storage of materials and/or dumping on private property are governed under the zoning ordinance and housing and property codes. Environmental enforcement, including disturbed area, grading, sediment and erosion control, is authorized under the County Code, "Subtitle 32. Water Resources Protection and Grading Code." All of these enforcement responsibilities fall within the authority of the Inspection and Enforcement Divisions of DPIE. The prevention of human exposure to sewage is administered by the Health Department in accordance with

the on-site sewage disposal systems regulations. The initial response to all hazardous material spills is handled by the County's Fire/Emergency Medical Services Department, Hazardous Materials Division (HMD).

Illicit Discharges

DoE's Stormwater Management Division's Inspection and Compliance Section (ICS) receives illicit discharge/water quality complaint referrals through the County's Customer Call Center 311 system, through e-mails from State and local government agencies, through correspondences from the director's office, and through direct phone calls or e-mails from County residents. DoE also maintains close communications with environmental organizations throughout the County. In this capacity, ICS staff received three (3) complaints during this reporting period. Site investigations are performed on all incoming complaints except for complaints that clearly fall within the purview of another agency, such as sediment and erosion control. To expedite a County response to those complaints, DoE staff immediately refers the investigation and corrective action, if warranted, to the responsible agency.

- DoE received an e-mail from a concerned resident about a green substance flowing in a concrete drainage channel located near Arundel Road in Brentwood and the District of Columbia line. During the investigation, the inspector did not observe any oil sheen in the water which would indicate the substance was anti-freeze. After further investigation of the area up stream, it was discovered DC Water had been performing dye tests on their water lines to locate a water leak. The complaint was resolved.
- DoE received a call from a concerned resident regarding sediment laden water flowing in the concrete drainage channel near Allison Street. During the investigation, it was observed work being done in front of 4600 22nd Avenue in Mount Rainier by the Washington Suburban Sanitary Commission (WSSC) to repair a water line break. The sediment from the water line break entered the nearest stormdrain inlet structure which flowed into the concrete drainage channel. The repairs were made to the water line and the sediment was no longer entering the inlet structure. The complaint was resolved.
- DoE received a call from a concerned resident regarding sewage odor in the neighborhood located a Dawn Chorus Lane in Brandywine. The inspector conducted an investigation of the neighborhood and was also to smell the sewage odor but was not able to locate the source. The Washington Suburban Sanitary Commission (WSSC) was notified of the sewage odor and a work order was placed for them to investigate. During the WSSC's investigation, they discovered sewage overflowing from a sewer manhole due to a blockage in the sewer line. WSSC removed the blockage and took appropriate action to mitigate the sewage contamination around the area of the sewer manhole. The complaint was resolved.

Environmental Engineering Program

The Prince George's County Health Department responds to complaints about sanitary sewer overflows, failing and malfunctioning sewage disposal systems, solid waste and hazardous materials spills and dumping that may impact the waters of the State. During this reporting period the Health Department responded to 80 complaints/notifications to assess threats to local streams and waters of the state.

Illegal Dumping and Spills

DPW&T responds to illegal dumping occurring along the public road right-of-way. During FY 2021, the County received 3,700 litter service requests from citizens through the County's 311 system. DPW&T responded by removing the debris within five (5) working days of notification. Additional information on the County's road maintenance litter control is found under "Litter Control" on page 77.

HMD is responsible for handling the initial response to all hazardous material spills within the County. In FY 2021, the Hazardous Materials (HAZMAT) team responded to 155 calls for assistance. The number of responses per month is provided in Table D-5. Within each month, the HAZMAT responses have been subdivided into four categories: fuel, carbon monoxide (CO), chemical, and other. The details of these records can be obtained by contacting the Fire and EMS Department.

The fuel category indicates that the incident involved a response for a potential release of petroleum material. On calls involving the release of petroleum materials the responsible party is put on notice that the release must be reported in accordance with Maryland law (COMAR 26.10) by contacting MDE within two (2) hours of the release. This is done by issuance of a correction order to the responsible party. Additionally, a spill report is completed and forwarded to MDE's Emergency Response Division. This action begins the regulatory process to ensure that spills are handled in accordance with Maryland law. The HAZMAT team does not leave the scene until the hazard has been controlled, removed, or a third party has been contracted with to handle the release.

The carbon monoxide (CO) category indicates that the incident involves the potential presence of carbon monoxide and the possibility of sick persons due to their exposure. Carbon monoxide incidents typically require the use of atmospheric monitoring equipment to detect, locate, and quantify the presence of hazardous gases. Should these be detected the source of the release is typically secured to prevent the release of additional hazardous gas into the structure. Any hazardous gas detected is typically removed by natural or forced ventilation and the structure is not returned to the occupants until the atmosphere is rechecked. Should the source of the release be determined to be an appliance, the occupants may be issued a correction order to have the appliance serviced prior to use.

The chemical category indicates that the incident involves a response to a potential hazardous material other than petroleum. This could include materials from any of the nine Department of Transportation hazard classes. There are four levels of response, with resources dispatched in accordance with the potential hazard or quantity of material involved. In all cases, the HAZMAT team does not leave the scene until the hazard has been abated, controlled, removed, or a third party has been contracted with to handle the release.

The other indicates that hazardous materials units and personnel were utilized at emergency incidents or events to support operations and ensure the safety of personnel and the public. Typically, these incidents require the use of atmospheric monitoring equipment or equipment to detect, identify and quantify unknown materials. Additionally, units and personnel are strategically placed at locations to decrease response times at high profile events such as County sporting or political events.

Table D-5. Hazmat Calls in FY 2021

Month	Number of Hazmat Responses	Number of Actions Taken	Response Types				Resolved	Number of Cases Referred to MDE*
			Fuel	CO	Chemical	Other		
Jul-20	15	15	12	0	0	3	15	12
Aug-20	12	12	6	1	1	4	12	6
Sep-20	9	9	7	0	1	1	9	7
Oct-20	10	10	8	0	1	1	10	8
Nov-20	22	22	14	1	2	5	22	14
Dec-20	5	5	5	0	0	0	5	5
Jan-21	10	10	5	1	0	4	10	5
Feb-21	12	12	5	2	0	5	12	5
Mar-21	11	11	7	1	0	3	11	7
Apr-21	13	13	7	0	0	6	13	7
May-21	13	13	4	0	0	9	13	4
Jun-21	23	23	20	1	1	1	23	20
TOTAL	*155*	*155*	*100*	*7*	*6*	*42*	*155*	*100*

**Fuel responses are reported to MDE per Maryland law (COMAR 26.10)*

4. TRASH AND LITTER PROGRAM: ANACOSTIA TRASH TMDL

Permit Condition Part IV. D. 4. e: Report annually the progress toward implementing the trash reduction strategy. The report shall describe the status of trash elimination efforts including resources (e.g., personnel and financial) expended and the effectiveness of all program components including public education and outreach.

The County continued practices for litter removal in FY 2021 with expanded prevention efforts through messaging. We recognize that source reduction and the capture of disposable items, before such items become litter, are ultimately the most effective approach to reducing the litter load on the Anacostia River and its communities. The Litter Reduction Program devoted much of its effort to building capacity for litter prevention, messaging and capture over this fiscal year. In person litter reduction outreach events were suspended due to COVID19 social distancing requirements.

As a result of COVID-19 challenges, litter reduction efforts resulted in the removal of 105, 671.312 pounds of litter in the Anacostia River Watershed. The County's investments in litter prevention and capture measures have positioned the County to increase our litter load reduction efforts in FY 2021 and beyond. Though the County hopes to achieve our target reduction of 170,628 pounds in FY 2022, the impact of COVID-19 restrictions on litter collection and dramatic reduction of volunteer clean-up efforts cannot be overstated. However, by continuing to implement a countywide anti-litter marketing campaign, utilizing trash traps along three Anacostia tributaries, producing grade-specific activity books that focus on litter reduction and marine debris, and partnering with Prince George's County Public Schools (PGCPS) to host virtual environmental classes for students, the County hopes to overcome the challenges of COVID-19 social distancing restrictions to deliver as possible on our litter reduction goals.

During COVID-19 restrictions, the County continues to conduct countywide trash reduction efforts through contracted services for in-stream cleanups that extend into overbank areas. County staff is also

standing up virtual educational programs promoting litter reduction strategies and recycling in-lieu of in-person clean-up events. The virtual educational programs will continue to raise awareness for the adverse impact of litter on the environment and encourage environmental stewardship. Summaries of several programs and respective accomplishments are included in this reporting.

Cleanup Activities

Table D-6 outlines the enacted FY2021 measures and shows the respective accounting for load reductions for the Anacostia River. The County will continue to update and include this table in future MS4 annual reports to MDE.

For selected cleanup events within the Anacostia watershed, volunteers collected both point and nonpoint source trash conveyed through the MS4. A discount factor of 0.43 was applied to the total amount of trash collected for volunteer cleanup events to estimate the amount of trash conveyed through the MS4. After the .43 factor was applied, trash collected during these events was applied towards the FY2020 MS4 Permit reduction goal. This factor is reflective of the ratio of the TMDL's MS4 waste load allocation (WLA) to total trash as follows: (MS4 WLA)/ (WLA + LA) = 0.43 (43 percent).

For other cleanup events, bags of litter were collected in 33-gallon bags that equate to 25 pounds of litter per bag. Bagged items typically include bottles, cans, cups, bags, and other small items that could flow into a storm drain inlet and ultimately discharge to a local waterway. however, there is the potential for volunteers to put other items like sports balls or small oil containers in the bags. The trash workgroup, which is managed by the Metropolitan Washington Council of Governments (MWCOG), has determined a discount factor of 0.7 to account for the possible inclusion of these items in the volunteers' bags. Also, the trash workgroup determined a value of 0.917 to account for the weight of liquid in partially full containers. Plastic bottles are one of the most frequently collected items, in-stream, and community cleanups. Persons picking up the bottles during cleanup activities do not consistently empty the collected bottles before placing such bottles in recycling bags. Because collected trash might include the weight of water in partially full bottles, only a portion of the total trash weight is counted towards the annual MS4 waste load reduction.

The County continued the services of contractors to assist with roadside litter removal and in-stream cleanups in FY 2021. Contractors removed 79,340 pounds of trash (actual pounds without deductions) and 936 discarded tires. These contractors performed cleanups in-stream, within adjacent riparian buffers, and along roadways at various locations within the Anacostia watershed. The contractor cleanups accounted for approximately 72,744.78 pounds of the County's annual goal of 170,628 pounds per year. Both point source and non-point source trash were collected. Non-point source trash does not include large items.

As part of County's quality control for litter reduction activities by contractors, County staff conducted pre-inspections of contractor's work sites to assess type and composition of litter found on-site. Post-inspections of the sites were also performed to ensure the removal of litter especially for in-stream litter removal. For tires and loose items (e.g., buckets, cans, pieces of wood etc.), contractors segregated these items from the bagged litter. Loads of bagged litter and all loose items were weighed and disposed at the County landfill. Due to inconsistent reporting by the contractors of the number of bags of litter collected at each site, only weight tickets for loads consisting of bags of litter and loose items disposed at the County's landfill were used to calculate trash reduction achieved. A factor of 0.75

was applied to the weight of litter collection to account for loose items. The weight of tires has not been included in the load reduction computation.

Table D-6 summarizes the trash reduction resulting from litter reduction activities in the Anacostia watershed during FY2021. Approximately 147,081 pounds were removed from various locations within the watershed which included municipalities. Of the total tonnage collected, 250 pounds of litter were recorded in PGCLitterTRAK as collected within municipal jurisdictional boundaries during the COVID19 Pandemic that resulted in reduced government and public activity. Within the County jurisdictional boundaries, 146,831 pounds of litter was collected. Factoring in reductions for non-point source items and partially full beverage bottles and cans, the County claims a load reduction of 105,671.312 pounds for all efforts in FY2021.

Table D-6. Estimated Anacostia Watershed Trash Reduction in FY 2020

Activity Category	Activity/Location	Number of Bags of Trash Collected	Actual Amount (pounds)	Annual Load Reduction Counted (pounds)	Calculation Methodology
Community Cleanups	Various Individual clean ups in the Anacostia River Watershed	168	4,200	2,695.98	Total number of bags X 0.7 X 25 lbs. X 0.917 (accounts for liquid in bottles (glass and plastic) and cans
Additional Roadside Litter Removal-Contracted	Anacostia River Watershed	1,492	37,300	23,942.87	
Municipal Cleanups	Edmonston Various locations in Anacostia River Watershed (specific locations recorded in PGCLitterTRAK)	10	250	160.4	Total number of bags X 0.7 X 25lbs X 0.917 (accounts for liquid in bottles (glass and plastic) and cans
Corvias BMP Clean Ups	Various locations in Anacostia River Watershed (specific locations recorded in PGCLitterTRAK)	755	18,875	12,115.9	Total number of bags X 0.7 X 25lbs X 0.917 (accounts for liquid in bottles (glass and plastic) and cans
Contractor Services - Stream Area Cleanups	Briars Mill Branch (BHM)		5,420	4,065	Total load x 0.75 to account for non-MS4 items (exclusive of tires) which were disposed with bags at landfill
	Briars Mill Branch (Deltta)		4,840	3,630	
	Northwest Branch (Deltta)		10,060	7,545	
	Northwest Branch (BHM)		24,920	18,690	
	Northeast Branch (BHM)		1,860	1,395	
	Northeast Branch (Deltta)		10,960	8,220	
	Tidal River (BHM)		1,160	870	
	Quincy Run (BHM)		2,520	1,890	
	Nash Run (Deltta)		15,140	11,355	
	Paint Branch (Deltta)		2,240	1,680	

Activity Category	Activity/Location	Number of Bags of Trash Collected	Actual Amount (pounds)	Annual Load Reduction Counted (pounds)	Calculation Methodology
Bandalongs	Arundel Canal Bandalong		270	270	Total number of bags X 0.7 X 25lbs X 0.917 (accounts for liquid in bottles (glass and plastic) and cans
	Cabin Branch Bandalong		48	48	
	Guilford Run Bandalong		185	185	
Outreach and Education at Schools	Laurel High School		6,833	6,833	Trash load reduction = 0.12 x (school boundary area) x [(Low Density Res%) (1.19) + (Medium Density Res%) (19.26) + (High Density Res%) (7.88)]
TOTAL			147,081	105,591.15	

The Implementation Plan for the Anacostia River Watershed Trash Total Maximum Daily Load in Prince George's County, dated March 2015, set a trash reduction benchmark of 170,628 pounds per year. FY 2021 marks the 7th year of the County's NPDES MS4 permit cycle under this implementation plan. As the County moves into a new permit cycle, the County will continue to conduct community and stream cleanups, promote adoption of additional stream segments under the Adopt-a-Stream Program, install "No Dumping Signage," and add Big Belly trash and recycling stations at bus stops. The County ramped up anti-litter outreach and education efforts in FY 2020 with the kickoff of the County's anti-litter marketing campaign. We will build on this campaign through a partnership with the PGCPS green schools' program to complement the environmental education curriculum with anti-litter activity books. Permitting and installation of the County's third BandalongTM trash trap is projected by the end of FY 2021. This trap will further reduce the litter load on the Anacostia River in FY 2022 and future years by capturing floatables along the Cabin Branch (a tributary to Lower Beaverdam Creek). With the successful implementation of these activities and after COVID-19 restrictions are lifted, the County expects to meet the current annual trash load reduction target.

The results of instream monitoring performed by the Metropolitan Washington Council of Governments (MWCOG) from 2011 to 2021, are shown in Table D-7 and Table D-8. MWCOG monitors twice a year and conducts a bottle count at fifteen in-stream stations within the County. The table below illustrates the number of bottles surveyed at fifteen locations within the Anacostia watershed.

While the activities outlined in Table D-6 are specific to the Anacostia watershed, the County and volunteers performed litter removal and prevention activities in other areas of the County. These activities cannot be counted towards reducing the annual MS4 trash loads because the associated trash was either larger than point source items or the activities occurred outside of the Anacostia watershed.

Table D-7. Stream Monitoring Data – Plastic Bottle Composition by Volume of Trash Mix

Year	Number of Surveys per Year	Total Number of Items	Total Number of Plastic Bottles	Percent Plastic Bottles
2011	2	1,569	263	16.8

Year	Number of Surveys per Year	Total Number of Items	Total Number of Plastic Bottles	Percent Plastic Bottles
2012	1	288	62	21.5
2013	2	725	136	18.8
2014	2	817	93	11.4
2015	2	882	95	10.7
2016	2	1,755	185	10.5
2017	2	2,020	286	14.1
2018	2	2,436	705	28.9
2019	2	4,007	1,014	25.3
2020	2	2,935	637	21.7
2021	2	3,547	520	14.7

(Monitoring data was provided by MWCOG)

Table D-8. Stream Monitoring Data – Plastic Bottle Composition by Weight of Trash Mix

Year	Number of Surveys per Year	Total Weight (grams)	Total Plastic Bottle Weight (grams)	Percent Weight Plastic Bottles
2011	2	292,713	15,731	5.4
2012	1	19,037	4,320	22.7
2013	2	93,158	8,300	8.9
2014	2	73,758	7,410	10.0
2015	2	73,448	8,480	11.5
2016	2	158,153	15,065	9.5
2017	2	182,950	20,550	11.2
2018	2	209,318	38,645	18
2019	2	405,261	62,070	15.3
2020	2	215,729	33,747	15.6
2021	2	274,531	26,820	9.8

(Monitoring data was provided by MWCOG)

Comprehensive Community Cleanup Program

DoE administers the Comprehensive Community Cleanup Program. This program is designed to revitalize, enhance, and help maintain unincorporated areas of the County. It also involves conducting 21 concentrated cleanups each year. Through this program, DoE, DPIE and DPW&T work with local civic and homeowner associations to provide a wide range of cleanup and maintenance services over a 2-week period. Services provided by this program include bulky trash collection, the tagging and removal of abandoned vehicles, housing code/zoning ordinance violation surveys, storm drain outfall screening and sampling, roadside litter pickup, tree trimming, and storm drain maintenance. Due to COVID-19 closures and restrictions, this Comprehensive Community Clean Up Program suspended activity for FY2021**.**

Clean Up, Green Up Program (Going Green with Pride)

The Clean Up, Green Up (Going Green with Pride) program is sponsored by DPW&T's Office of Highway Maintenance. Groups across the County are encouraged to sign up and recruit volunteers to plant, beautify, and clean up the County on chosen dates in the spring and fall of each year. In the spring, the major focus of the program is to maintain plant beds and clean up trash in the communities.

The volunteers are provided with supplies of bags and gloves and sent to locations throughout the County to pick up trash. The event has been successful in cleaning several areas in a relatively short amount of time. The estimated trash capture for the Clean Up, Green Up (Going Green with Pride) activities in FY 2021 was 55.3 tons or 110,600 pounds of litter removed from communities across Prince George's County.

Roadside Cleanups

The County maintains multiple programs and partnerships to address trash along roadways. The litter pick up is performed by DPW&T and Department of Corrections crews, volunteers, and the State Highway Administration (SHA). Roadway collection programs include roadside cleanup on landfill approach roads, removal of litter from the County roadsides, Adopt-a-Road and Adopt-a-Median programs, removal of litter from non-roadside County property by DPW&T and a community service program by Department of Corrections. In addition, the County is responsible for some non-roadside cleanups of trash, debris (including debris resulting from evictions) and abandoned items from properties and right-of-way's other than roadsides. During this reporting period, DPW&T serviced 9,000 miles of roadway and collected and disposed of 75.11 tons or 150,225 pounds of trash and debris at the landfill.

Trash Monitoring Program

Per the approved September 2010 Anacostia watershed trash TMDL, Prince George's County is required by MDE and EPA to annually remove or prevent hundreds of tons of trash from potentially entering the Anacostia River. To accomplish this challenging task, the County must implement cost-effective trash reduction measures and annually monitor both stream and land-based trash levels to estimate load quantities better. MWCOG assists the County in determining stream and land-based trash levels and identifying existing major trash hot spots. This monitoring data helps the County to identify areas for litter removal, capture, and prevention activities. Also, the identification of trash sources further enables the County to specifically tailor trash education and outreach programs and better direct limited trash reduction resources to where there is the most need. Long-term monitoring is critical for assessing the effectiveness of both trash reduction and pollution prevention measures and initiatives and positions the County to meet its trash TMDL goals.

MWCOG employs the MDE-approved Anacostia tributary trash surveying field checklist for annually surveying 16 stream sites. These monitoring sites are depicted in Figure D-1. In-stream baseline trash surveys are performed two times per year (i.e., late spring/summer and early fall). Upstream and downstream coordinates are provided for each site. As part of the survey, the total number of trash items is recorded and cataloged according to 20 general types. Also, at five of the sites, MWCOG removes and weighs trash items from the first 250 feet of the survey reach. This task enables MWCOG to develop a very reasonable estimate of general instream trash accumulation/loading rates. Also, precipitation data is obtained from the nearest weather station. Stream by stream top trash item comparisons are graphically depicted. Photographic documentation of representative trash level conditions is also provided, and existing trash can be mapped using GIS software.

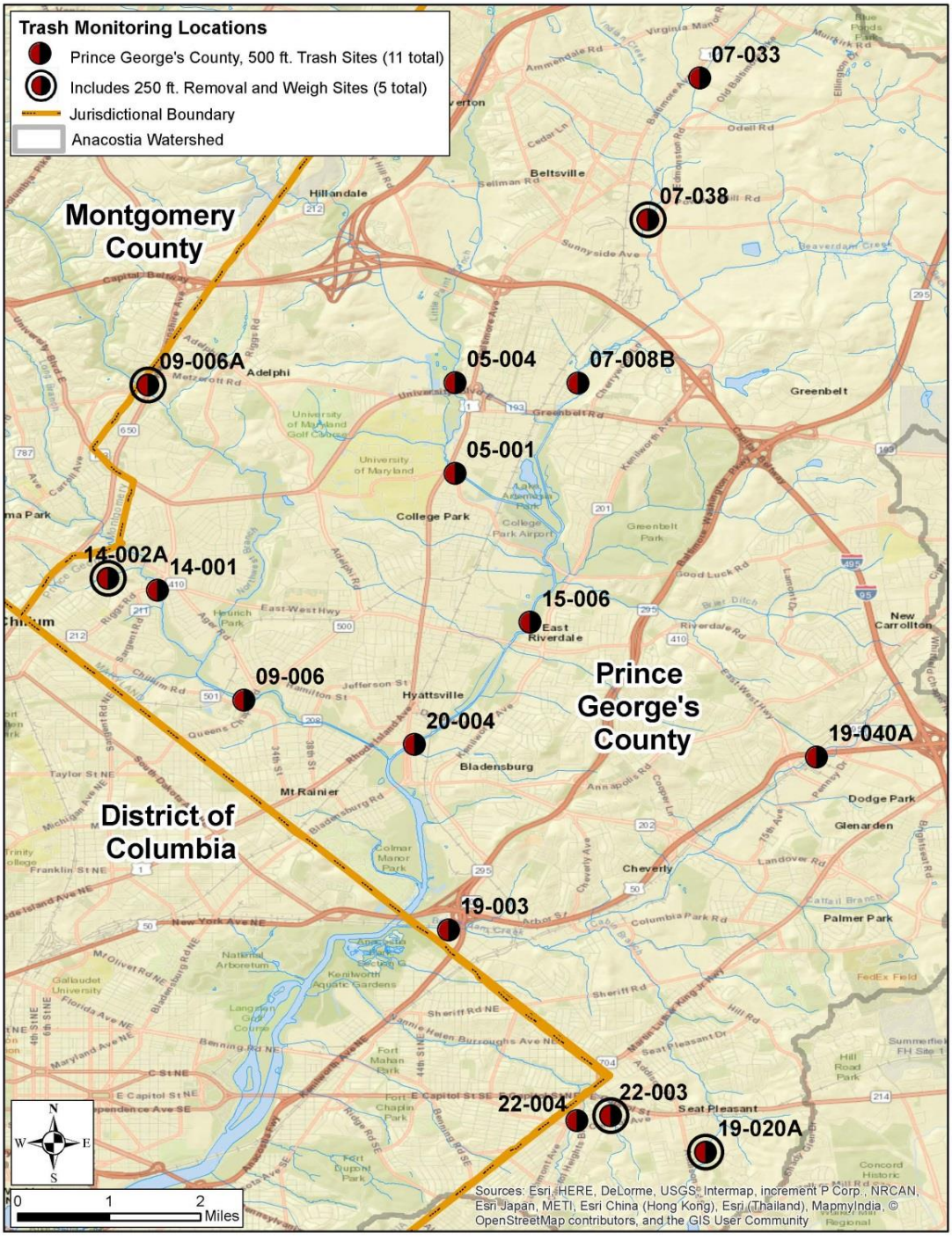


Figure D-1. Anacostia TMDL-Related Trash Monitoring Locations

Education and Outreach on Litter

The County engages in many education and outreach events focused on schools and the general public. These events include activities attempting to prevent litter through behavioral change. Such activities seek to generally inspire environmental stewardship while other activities explain the negative consequences of litter to foster the need for community litter control. Informational topics include some of the following issues: How to manage litter, how long trash remains in streams or land, and information about upcoming recycling and cleanup events. Other communication methods include printed flyers, brochures, promotions, and newsletters. Due to COVID19 related school and government closures, all in-person outreach events were suspended as of March 1, 2020 and this continued through June 2021.

Storm Drain Stenciling

The Storm Drain Stenciling Program raises community awareness and alerts community members of the connection between local storm drains and the Chesapeake Bay. While the County's stormwater management (SWM) program requires stenciling on all stormdrain inlets for new developments, this program focuses on stencils to educate residents of older communities. The County purchases the paint, tools, and stencils used by volunteers to stencil the "Don't Dump – Chesapeake Bay Drainage" message. In some communities, environment-centric murals have been painted on storm drain covers. In FY 2021, storm drain stenciling efforts were suspended due to COVID19 school and government closures.

Recycling

The Prince George's County Department of the Environment, Recycling Section has continued to support/promote the source reduction and waste diversion initiatives.

These efforts have contributed significantly to the County's state recognition as a leader in Waste Diversion for the past several years. Though an EPA grant, which funded curbside compost collection service for residential areas, has ended, the collection continues in these piloted areas, and the County has launched its first phase of expansion to service additional targeted communities. With the utilization of the GORE Mega Heap composting system, Prince George's County hosts the largest municipal composting facility of its kind on the East Coast and is aligned to accept and process an additional 32,000 tons of food scraps.

Realizing the importance of environmental sustainability, Prince George's County continues to prepare for the future. Keep Prince George's County Beautiful (KPGCB), the local affiliate of the nationally recognized Keep America Beautiful, in partnership with Prince George's County Public Schools, remains instrumental in supporting teachers and students in environmental education. KPGCB hosted 17 Green Team Seminars with the William S. Schmidt Outdoor Education Center and other environmentally conscientious partners. These seminars include presentations on litter reduction and hands-on activities that address the best waste management practices. This program is offered semi-annually in the spring and fall. However, in the second half of FY2021, due to COVID-19 restrictions, the County suspended these in-person events. The County is currently working to continue the program virtually and develop an online community newsletter. As part of the planned virtual outreach, speakers from various environmental groups will be provided a forum to promote programs and grant

opportunities to assist schools in achieving their environmental goals. It should be noted Prince George's County continues to lead the states with 138 certified Maryland Green Schools.

Tours of Facilities

Public education opportunities also include tours of County facilities, including the Brown Station Road Landfill and MRF. The intent of the tours is to provide information about proper solid waste disposal, how and where the County's municipal solid waste is disposed, and the availability of services and convenience centers for disposal of items that might otherwise be illegally dumped. Publicly available publications associated with these facilities also provide additional public outreach.

Please note that due to COVID-19 restrictions, County facilities remain operational but remain closed to the public. All public tours were suspended as of March 1, 2020, until further notice.

Enforcement

Illegal Dumping Enforcement

DPIE's Enforcement Division conducts on-site inspections of residential, commercial, and industrial properties to ensure such properties are properly maintained and in compliance with the County Code. This division enforces the housing and property maintenance codes for all residential dwellings, anti-litter and weed ordinances for properties in unincorporated areas, and the zoning ordinance for private properties.

Other related functions include:

- Regulating placement of signs on private property,
- Removing illegally posted signs in public rights-of-way,
- Inspecting all residential dwellings to ensure that they are maintained in a safe and secure manner consistent with the County Code, and
- Issuing licenses for all residential single-family rental properties.

In FY 2021, the Division issued 4,328 violation notices, 311 administrative citations, and 339 civil citations in response to trash-related complaints. The Division cleaned 302 vacant properties through the Clean Lot Program. Contractors were hired to remove and dispose of the illegally dumped items at these properties.

FY 2022 goals

For FY 2021, under ongoing COVID-19 restrictions, the County will continue to perform stream cleanups, community cleanups, and outreach and education, when possible. Initiatives such as Adopt-A-Stream, Environmental Crimes Team, and ongoing installation of Big Belly Trash receptacles will be expanded. The County will continue working with regional partners to standardize metrics that will be used to quantify load reduction.

Existing programs and strategies will continue to evolve based on the status of COVID-19 restrictions. The last of three (3) instream trash capture devices (BandalongTM) was installed in FY2021 at Cabin Branch. The County continues to install "No Dumping" at litter hot spots as identified in the 2010 Anacostia River Watershed Restoration Plan and Report, determined by staff, or reported by

residents. Warnings are provided in both English and Spanish. The roll-out of the marine debris student activity books and interactive website will take place and aid in reaching students despite the restrictions on in-person outreach.

During FY2021, the County's litter reduction programs will continue to evolve and adapt to the ongoing COVID-19 restrictions. Even with the ongoing restrictions to community engagement and outreach, the County will continue to strive to fulfill the current MS4 Permit target rate of 170,628 pounds per year for litter load reduction.

5. PROPERTY MANAGEMENT AND MAINTENANCE

Permit Conditions Part IV. D. 5. a: Prince George's County shall ensure that a Notice of Intent (NOI) has been submitted to MDE and a pollution prevention plan developed for each County- owned municipal facility requiring NPDES stormwater general permit coverage. The status of pollution prevention plan development and implementation for each County-owned municipal facility shall be reviewed, documented, and submitted to MDE annually.

In FY 2021, the County continued to provide compliance assistance for the County-owned and municipal-owned industrial properties listed in Table D-9. Compliance assistance took the form of ensuring that each facility was moving towards implementing the permit requirements. This reporting year, KCI, the contracted firm assisting the County in meeting the MS4 permit mandates, conducted quarterly and annual inspections. By focusing on improving compliance, the County continues to monitor corrective actions identified by KCI and to assist facilities in completing these corrective actions.

For FY 2021, the County continued to meet with the facility managers to discuss mechanisms to continue improving their record keeping, staff training, housekeeping, and be in compliance with the permit. In their annual meeting at the time of the comprehensive inspection, the facility managers, and the County set timelines for completing each corrective action.

The County currently provides compliance assistance to a total of nineteen (19) facilities under 12-SW permits. Ten (10) County facilities and nine (9) Municipal facilities.

Table D-9. County-Owned and Municipal-Owned Industrial Properties

Number	Name of Facility
DoE	
1	Abandoned Vehicle Impound Lot
2	Brown Station Road Sanitary Landfill
3	Missouri Avenue Convenience Center
4	Materials Recycling Facility
5	Prince George's County's Yard Waste Composting Facility
6	Sandy Hill Creative Disposal Project
OCS	
1	Park Central Vehicle Maintenance Facility
DPW&T	
1	Brandywine Facility
2	Ritchie Service Complex

Number	Name of Facility
3	Glenn Dale Facility
Municipal	
1	Town of Cheverly
2	City of College Park
3	City of Greenbelt
4	City of Hyattsville
5	City of Laurel
6	City of New Carrollton
7	Town of Riverdale Park
8	City of Seat Pleasant
9	Town of Bladensburg

On the next several pages, each facility and their achievements for FY 2021 are described, along with the status of their stormwater pollution prevention plans (SWPPP). Specifically, Table D-10 through Table D-28 detail the status of the County-owned and municipal-owned facilities during FY 2020. These achievements and the compliance control measures are discussed at the quarterly inspections with each facility manager. At the same time, areas for long-term planning are highlighted, and the facility managers and DoE discuss any problems, structural or procedural, that are preventing the facility from meeting the control measures. Specific reporting items for the SWPPPs for FY 2021 are also provided in the updated MS4 geodatabase on DVD.

DoE Facilities

Abandoned Vehicle Impound Lot

In FY 2021, This Property was turned over to the Prince George's County Police Department for the construction of a new training facility. Site plans are being developed and the site use is transitioning to a construction site. Table D-10 below shows the status of SWPPP implementation for this reporting period.

Table D-10. Abandon Vehicle Impound Lot (Vehicle Audit Unit) Current Status

Permit Number	County Contact
12SW0312	PGCPD
FY 2021 Completed Work Activities	
DOE staff has been reassigned and this facility has been transferred to the police Department.	
Long-Term Planning	
Stormwater Management: The facility is transitioning to the construction of a new training facility for the Police Department	

Brown Station Road Sanitary Landfill

The Brown Station Road Sanitary Landfill has accepted municipal waste since 1968. The landfill continued its efforts to improve the controls at the material stockpile area and increase monitoring and

maintenance of the ponds receiving runoff from the active cells. Table D-11 below shows the status of SWPPP implementation for this reporting period.

Table D-11. Brown Station Road Sanitary Landfill Current Status

Permit Number	County Contact
12SW0401	Eric Jackson, Engineer Resource Recovery Division (RRD), DoE
FY 2021 Completed Work Activities	
Training: Site-specific facility SWPPP training was conducted for facility staff. Equipment and Vehicle Wash: The landfill regularly maintained an environmentally compliant wash facility. Discharge Monitoring: The landfill staff conducted visual monitoring at all outfalls. Record Keeping: Complete SWPPP records were kept at the facility.	
Long-Term Planning	
BMP Maintenance: Routine maintenance is being performed on the ponds and perimeter ditches. The staff will continue to perform the quarterly monitoring samples. Continue to work on housekeeping.	

Missouri Avenue Convenience Center

The Missouri Avenue Convenience Center is one of the two convenience centers for County residents living outside of the residential collection services. Trash, used oil and antifreeze, and various recycling materials are collected and transferred to the Brown Station Road Sanitary Landfill for disposal. During all opening hours, the convenience center has one on-site laborer who is responsible for good housekeeping and assisting customers. Management and oversight of the facility is from the staff at the Brown Station Road Landfill. Table D-12 below shows the status of SWPPP implementation for this reporting period.

Table D-12. Missouri Avenue Convenience Center Current Status

Permit Number	County Contact
12SW2466	Eric Jackson, Engineer Resource Recovery Division (RRD), DoE
FY 2021 Completed Work Activities	
Oil and Antifreeze Recycling: The staff conducted regular maintenance of spill pallets in the collection area. Training: Site-specific facility SWPPP training was conducted for facility staff. Record Keeping: Complete SWPPP records were kept at the facility.	
Long-Term Planning	
BMP Maintenance: The stormwater management facility is routinely maintained.	

Materials Recycling Facility

The County's Materials Recycling Facility (MRF) is currently operated by the Maryland Environmental Service (MES) under their environmental compliance standards. The facility staff continued working with the consultant for inspection support and with the Stormwater Management Division to monitor SWPPP implementation. Table D-13 below shows the status of SWPPP implementation for this reporting period.

Table D-13. Materials Recycling Facility Current Status

Permit Number	County Contact
12SW1224	Desmond Gladden, Contract Manager Resource Recovery Division (RRD), DoE
FY 2021 Completed Work Activities	
Training: Site-specific facility SWPPP training was conducted for facility staff. BMP Maintenance: The facility conducted and documented regular maintenance of oil grit separators. Record Keeping: Complete SWPPP records were kept at the facility. Discharge Monitoring: The staff conducted visual monitoring at all outfalls.	
Long-Term Planning	
Record Keeping: The staff will continue to maintain SWPPP records at the facility.	

Prince George's County's Yard Waste Composting Facility

The County's Yard Waste Composting Facility, commonly known as "Western Branch," is permitted individually by MDE with the individual discharge permit NPDES MDE 0065111. The facility is owned by Prince George's County, but is operated by MES who is responsible for environmental compliance. Table D-14 below shows the status of SWPPP implementation for this reporting period.

Table D-14. Prince George's County Yard Waste Composting Facility Current status

Permit Number	County Contact
12DP2792	Eric Jackson, Engineer Resource Recovery Division (RRD), DoE
FY 2021 Completed Work Activities	
BMP Maintenance: The stormwater management facility is routinely maintained. Record Keeping and Inspection: The staff performed regular facility inspections and complete SWPPP records were kept at the facility. Discharge Monitoring: The facility continued monitoring under the parameters of the individual permit. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
SWPPP Compliance: The facility will continue compliance efforts according to permit.	

Sandy Hill Creative Disposal Project

The Sandy Hill Creative Disposal Project stopped accepting waste in 2000. The landfill currently holds a 12-SW permit where the facility is being monitored for material storage and transfer (including leachate), pond maintenance, spill prevention, and countermeasures. As with the other County facilities, the consultant assists in monitoring the facilities' progress in 12-SW. Table D-15 below shows the status of SWPPP implementation for this reporting period.

Table D-15. Sandy Hill Creative Disposal Project Current Status

Permit Number	County Contact
12SW0314A	Eric Jackson, Engineer Resource Recovery Division (RRD), DoE

Permit Number	County Contact
FY 2021 Completed Work Activities	
Stormwater Management: Improvements of the drainage swales at the facility were completed and the stormwater management ponds were routinely maintained. Training: Site-specific facility SWPPP training was conducted for facility staff. Record Keeping: The staff performed regular facility inspections and complete SWPPP records were kept at the facility.	
Long-Term Planning	
Discharge Monitoring: The staff will regularly conduct visual monitoring at all outfalls.	

Office of Central Services Facility

The Office of Central Services (OCS) is in compliance with the 12-SW Permit. Table D-16 below shows the status of SWPPP implementation for this reporting period for OCS' Central Vehicle Maintenance Facility.

Table D-16. Central Vehicle Maintenance Facility Current Status

Permit Number	County Contact
12SW2173	Richard Hilmer, Fleet Administrator Facilities Operation and Management Division, OCS
FY 2021 Completed Work Activities	
Training: Site-specific facility SWPPP training was conducted for facility staff. Discharge Monitoring: The facility conducted quarterly discharge monitoring. Stormwater Management: The oil/grit separator and the dry pond are routinely maintained and are functioning properly.	
Long-Term Planning	
SWPPP Compliance: The facility will continue compliance efforts, in accordance with the permit.	

DPW&T Facilities

All DPW&T SWPPPs were updated in January 2015, with 12-SW permit coverage issued by MDE in February 2015. Non-structural BMPs, such as spill prevention and response and good housekeeping programs, are well developed and carried out by a team at each facility. Major site improvements, including a redesign of the site in accordance with current stormwater management design criteria, is underway at the Brandywine Facility. Construction completion is expected in 2021. Quarterly visual monitoring was suspended beginning in the 2nd quarter of 2020, due to the COVID 19 pandemic. The County Executive instituted mandatory telework and restricted access to County facilities due to severity of COVID in Prince George's County.

Table D-17. DPW&T Facility Overview

DPW&T Facility Name	Main Function(s)	Usage Duration	Activities
Brandywine Facility	District 4 Snow Event Response Material Storage/Services for South County	Year-Round	The facility is currently being reconstructed. Staff was

DPW&T Facility Name	Main Function(s)	Usage Duration	Activities
			relocated to Ritchie Facility in spring of 2020.
Ritchie Service Complex	Command Center and Snow Event Response and for Districts 2, 3 and 5 Materials Storage Main Maintenance Depot	Year-Round	Equipment Maintenance, Road Crew Dispatch, Materials Storage, OHM Headquarters
Glenn Dale Facility	District 1 Snow Event Response Material Storage/Services for North County	Year-Round	Crew Dispatch for North County

Table D-18 through

Table D-20 show the status of SWPPP implementation for the DPW&T facilities.

Brandywine Facility

Table D-18. Brandywine Facility Current Status

Permit Number	County Contact
12SW1223	Mary Holden, Program Manager Office of Highway Maintenance, DPW&T
FY 2021 Completed Work Activities	
Staff has not used the facility during the reporting year except for loading plow vehicles with salt during the winter season. Construction of the salt barn was completed prior to the snow season. Training has been delayed due to COVID 19 social distancing restrictions. Once the restrictions have been lifted training will be conducted. As the site has been redeveloped, the operation and maintenance of SWM BMPs will be emphasized in the training. Records are being kept at the Ritchie facility while to facility is under construction.	
Long-Term Planning	
Site Improvements: Major site improvements, including a redesign of the site in accordance with current stormwater management design criteria and a truck wash is nearly complete at the Brandywine Facility.	

Ritchie Service Complex

Table D-19. Ritchie Service Complex Current Status

Permit Number	County Contact
12SW0521	Mary Holden, Program Manager Office of Highway Maintenance, DPW&T
2021 Completed Work Activities	
Staff Education and Training: In-person onsite training has been delayed due to COVID 19 social distancing mandates. Once the mandates have been lifted training will commence. Records kept on site. Record Keeping: Record keeping is compliant with the permit including a chemical storage inventory and an MSDS catalog.	
Long Term Planning	
BMP Maintenance: Preventative maintenance of the stormwater facilities has been scheduled for the fall of 2021.	

Glenn Dale Facility

Table D-20. Glenn Dale Facility Current Status

Permit Number	County Contact
12SW1234	Mary Holden, Program Manager Office of Highway Maintenance, DPW&T
2021 Completed Work Activities	
Staff Education and Training: In-person onsite training has been delayed due to COVID 19 social distancing mandates. Once the mandates have been lifted training will commence. SPCC: The facility maintained good spill records for the fiscal year. Record Keeping: Record keeping is compliant with the permit including a chemical storage inventory and an MSDS catalog.	
Long Term Planning	
BMP Maintenance: Annual maintenance for the oil and grit separator by DPW&T personnel was performed.	

Municipal NPDES General Industrial Discharge Permit Status

The permit status of the nine Prince George's County municipalities with 12-SW industrial permit coverage is described in the next few pages. Table D-21 through Table D-28 show the status of SWPPP implementation for each municipality.

Town of Cheverly

Table D-21. Town of Cheverly DPW Current Status

Permit Number	County Contact
12SW0197	Kristi Gardner, Department of Public Works Director
FY 2021 Completed Work Activities	
BMP Maintenance: Oil/grit separator is routinely maintained. Record Keeping: Complete SWPPP records were kept at the facility. Training: Site-specific facility SWPPP training was conducted for facility staff. Record Keeping: Complete SWPPP records were kept at the facility.	
Long-Term Planning	
Housekeeping: The facility will improve housekeeping.	

City of College Park

Table D-22. City of College Park DPW Current Status

Permit Number	County Contact
12SW2148	Robert Marsili, Assistant Director of Operations and Facilities

Permit Number	County Contact
FY 2021 Completed Work Activities	
Record Keeping: Complete SWPPP records were kept at the facility. BMP Maintenance: Stormwater management facilities are routinely maintained. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
Discharge Monitoring: The City continues to conduct quarterly discharge monitoring.	

City of Greenbelt

Table D-23. City of Greenbelt DPW Current Status

Permit Number	County Contact
12SW2145	Jim Sterling, Department of Public Works Director
FY 2021 Completed Work Activities	
Record Keeping: Complete SWPPP records were kept at the facility. Discharge Monitoring: The facility conducted quarterly discharge monitoring. Training: Site-specific facility SWPPP training was conducted for facility staff. BMP Maintenance: Bioretention facilities are routinely maintained.	
Long-Term Planning	
SWPPP Compliance: The facility will continue compliance efforts, in accordance with the permit.	

City of Hyattsville

Table D-24. City of Hyattsville DPW Current Status

Permit Number	County Contact
12SW2150	Leslie Riddle, Department of Public Works Director
FY 2021 Completed Work Activities	
Record Keeping: Complete SWPPP records were kept at the facility. BMP Maintenance: Oil/grit separator and rain garden are routinely maintained. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
DPW Facility: The DPW facility is currently under Construction. Site plan to be modified to reflect new conditions.	

City of Laurel

Table D-25. City of Laurel DPW Current Status

Permit Number	County Contact
12SW1841	Courtney Clardy, SWPPP Coordinator

Permit Number	County Contact
FY 2021 Completed Work Activities	
Training: Site-specific facility SWPPP training was conducted for facility staff. Record Keeping: Complete SWPPP records were kept at the facility. BMP Maintenance: StormCeptor and oil/grit separator are routinely maintained.	
Long-Term Planning	
Housekeeping: Continue improving housekeeping for the used oil recycling center.	

City of New Carrollton

Table D-26. City of New Carrollton DPW Current Status

Permit Number	County Contact
12SW2144	Andre Triplett, Department of Public Works Director
FY 2021 Completed Work Activities	
Housekeeping: Good housekeeping methods were improved for the salt dome and heavy equipment. BMP Maintenance: Oil/grit separator and bioretention facility are routinely maintained. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
Housekeeping: The City continues to improve in their record keeping, in accordance with the permit.	

Town of Riverdale Park

Table D-27. Town of Riverdale Park DPW Current Status

Permit Number	County Contact
12SW2146	James Davis, Department of Public Works Operations Manager
FY 2021 Completed Work Activities	
BMP Maintenance: Bioretention facility is routinely maintained. Record Keeping: Complete SWPPP records were kept at the facility. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
Housekeeping: The Town continues to improve in its housekeeping of the facility, in accordance with the permit.	

City of Seat Pleasant

Table D-28. City of Seat Pleasant DPW Current Status

Permit Number	County Contact
12SW2143	Jenchesky Santiago, Administrative Assistant

FY 2021 Completed Work Activities
Stormwater Management: Construction of the new facility is completed and now the site plan will be updated to show any changes. Housekeeping: The staff performed good housekeeping through the facility. Training: Site-specific facility SWPPP training was conducted for facility staff.
Long-Term Planning
Record Keeping: The city has modified site plan and continued improving record keeping at the facility.

Town of Bladensburg

Table D-29. Town of Bladensburg DPW Current Status

Permit Number	County Contact
12SW3437	Purnell Hall, Director of Public Works
FY 2021 Completed Work Activities	
Housekeeping: The staff performed good housekeeping through the facility. Training: Site-specific facility SWPPP training was conducted for facility staff.	
Long-Term Planning	
Record Keeping: The town continues to improve it's recordkeeping of the facility, in accordance with the permit.	

Permit Conditions Part IV. D. 5. b: The County shall continue to implement a program to reduce pollutants associated with maintenance activities at County-owned facilities including parks, roadways, and parking lots. The maintenance program shall include these or MDE approved alternative activities:

- *i. Street sweeping;*
- *ii. Inlet inspection and cleaning;*
- *iii. Reducing the use of pesticides, herbicides, fertilizers, and other pollutants associated with vegetation management through increased use of integrated pest management;*
- *iv. Reducing the use of winter weather deicing materials through research, continual testing and improvement of materials, equipment calibration, employee training, and effective decision-making; and*
- *v. Ensuring that all County staff receives adequate training in pollution prevention and good housekeeping practices.*

The County shall report annually on the changes in any maintenance practices and the overall pollutant reductions resulting from the maintenance program. Within one year of permit issuance, an alternative maintenance program may be submitted for MDE approval indicating the activities to be undertaken and associated pollutant reductions.

Street Sweeping

The County's street sweeping operations are limited to selected arterial, collector, and industrial streets, with service to residential subdivision streets provided on a request-only basis. Even though, this program does not meet MDE's requirements based on frequency of operation, the MDE has allowed County to use mass loading approach to claim IA credits per 2014 MDE guidance. The County has not claimed an IA credit from this program in this fiscal year; however, intends to use mass loading approach for inlet cleaning and street sweeping programs next year onwards to meet restoration goal of 6,105 by FY2024. We recently re-initiated sweeping operations in March 2020. The contractor performed two (2)

cycles in each of our service areas between October 2020 and June 2021. A summary of the work is provided in Table D-30 below.

Table D-30. Street Sweeping Summary

Route No.	Start date	End date	Miles Swept	Tons for disposal
Spring Arterial Roadways	October 8, 2020	October 29, 2020	123.6	29.24
Fall Arterial Roadways	November 2, 2020	November 13, 2020	330.4	38.54
Spring Arterial Roadways	June 9, 2021	June13, 2021	134.3	25.12
Fall Arterial Roadways	June 18, 2021	June 30, 2021	310.5	28.67
TOTAL			898.8	121.57

Storm Drain Maintenance – Inlet, Storm Drain, and Channel Cleaning

Storm drain maintenance is typically targeted in two focus areas, the 21 communities annually served by the Comprehensive Community Cleanup Program and in response to citizen complaints for clogged and malfunctioning systems. During this reporting year, the County cleaned an estimated 70,000 linear feet of storm drainpipe.

DPW&T's Storm Drain Maintenance Division is also responsible for major channel maintenance. There are 69 major channels which were inspected and cleaned/cleared on a 3-year cycle. During this reporting period, maintenance was performed on an estimated 40,000 linear feet of channel.

Unpaved Shoulder Maintenance

DPW&T's Office of Highway Maintenance (OHM) Division administers road maintenance programs to eliminate standing water, enhance green space, and reduce herbicide usage. Litter crews utilize small equipment to cut the tight areas and roadside shoulders are mowed in a 6-week cycle during the growing season (March 15 through October 15). Roadside vegetation is maintained mechanically. Herbicide use is restricted to the spraying of sidewalk joint, monolithic concrete median areas, fence lines, guard rail areas and riprap areas that cannot be mowed. Herbicide is applied by licensed contractors in accordance with contractual application rates. DPW&T does not utilize pesticides or fertilizers on any lands under their maintenance purview. In FY 2021, the County followed these protocols.

Litter Control

The County maintains an aggressive litter control and collection program along County-maintained roadways. The litter service schedule is based on historical collection data, where the most highly littered roadways are serviced as often as 24 times per year. Major collector, arterial, and primary roadways are serviced bi-weekly. Locations of the litter pickup routes are shown in Figure D-2. Over 9,700 miles of roadway were serviced in the litter control program in this reporting period.

During this reporting period, DPW&T received 3,700 citizen requests for illegal dumping and litter removal through the County's 311 system. Illegal dumping in the right-of-way is removed within five (5)

working days of notification. Cumulatively, DPW&T litter control programs removed 1,399 tons of debris and solid waste from County roadways during this reporting period.

Snow and Ice Control Program

The Snow and Ice Removal Program relies on a wide source of information including temperature probes, weather forecasts via an Accuweather subscription service, and individuals monitoring the road conditions, to determine when the application of anti-icing and/or de-icing materials is warranted. Temperature probes embedded in the roadways provide key information used to determine an appropriate treatment for snow and ice control. Roadway temperature is a more reliable indicator of icy roadways conditions then the air temperature. Additionally, the DPW&T command staff prepares operational goals at the onset of every operational shift. Operational goals, which detail the deicing instructions for each shift, are developed in accordance with the storm forecast, actual air and roadway temperature measurements and projected conditions during the shift. Conference calls are conducted with snow district staff to collect updated road conditions from operators four times per shift. Modifications to operational goals are continually adjusted in response to current and project conditions.

During this reporting year, the County mobilized for seven (7) snow and ice control events. The 2020-2021 snow and ice control season was unique, as Prince George's County did not receive any accumulating snow, greater than two (2) inches, during any of the seven (7) mobilizations. As a result, the County had to reply on deicing as a primary strategy to ensure roadways remained safe instead of the preferred strategy of plowing roadways to ensure safe road conditions.

Of the seven (7) events, five (5) were minor in intensity and duration and roadways temperature probes indicated above freezing road surface conditions. Salt application was limited to icy areas identified by operators in the field, on bridges, hills and known cold spots. A total of 6,073 tons were used during these five (5) events which was 35% of the annual usage. Once during late January and once during late February, the County mobilized for significant multiday storms with intermittent snow, sleet and freezing rain. The County utilized 6,344 tons of salt during the January 31 through - February 2, 2021 event, where the forecasted accumulating snow never developed but three (3) days of sleet and freezing rain enveloped the area. Again, between February 18th and 20th 2021, a 3-day storm developed and the type of precipitation that fell was primarily sleet, light snow, and freezing rain creating very icy road conditions. With multiple days of freezing precipitation, that cannot be removed by plowing, the use of deicing materials was the primary strategy for snow fighting. Total salt usage for this winter season was 17,500 tons at a cost of $1,120,500. During the 2020-2021 winter season the County mobilized for three (3) events and utilized just 810 tons at a cost of just over $46,000.

Every year, prior to the dry run exercise, DPW&T and OHM conducts mandatory snow and ice control training for all staff and contractors. Each job classification is provided with specific training for their job duties assigned in the snow operations. Plow operators are provided with equipment training; district foremen and managers are provided with operations training, including how to implement operational goals and procedures. All operators are trained is sensible salting practices. As the County upgrades their fleet of trucks, the trucks are being equipped with newer technology that will better gauge and track the application of salt. DPW&T continues to implement operational activities to help manage and reduce salt application including replacing older equipment with newer, better functioning

spreaders and hoppers and continued training of equipment operators in the proper application and loading of salt.

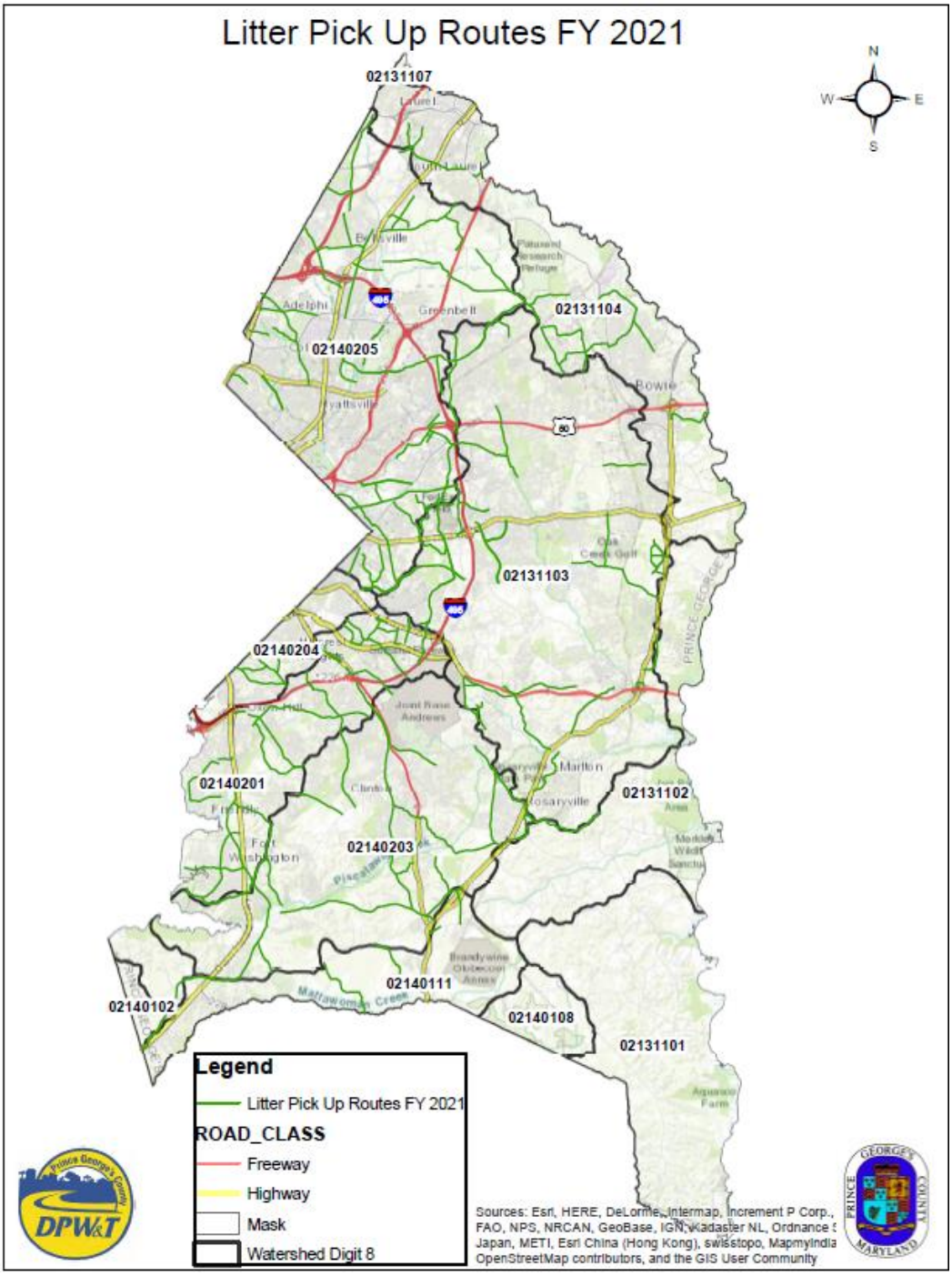


Figure D-2. Litter Pick Up Routes in FY 2021

6. PUBLIC EDUCATION

Permit Condition Part IV. D. 6. a: Prince George's County shall maintain a compliance hotline or similar mechanism for public reporting of water quality complaints, including suspected illicit discharges, illegal dumping, and spills.

CountyClick 311 is Prince George's County's main source of government information and access to non-emergency services through its call center. Citizens may also utilize alternative forms of communication for lodging water quality complaints, such as through email or by direct calling. More information regarding the investigation and enforcement actions taken to resolve water quality complaints is provided under "Environmental Engineering program" on page 56.

Permit Conditions Part IV. D. 6. b: The County shall continue to implement a public outreach and education campaign which provide information to inform the general public about the benefits of:

- *A. Increasing water conservation;*
- *B. Residential and community stormwater management implementation and facility maintenance;*
- *C. Proper erosion and sediment control practices;*
- *D. Increasing proper disposal of household hazardous waste;*
- *E. Improving lawn care and landscape management (e.g., the proper use of herbicides, pesticides, and fertilizers, ice control and snow removal, cash for clippers, etc.);*
- *F. Residential car care and washing; and*
- *G. Proper pet waste management.*

DoE seeks every opportunity to promote environmental awareness, green initiatives, and community involvement to protect the County's natural resources and promote clean and healthy communities. As human behavior is a significant source of stormwater pollution, the County provides a vast array of volunteer opportunities and services to control pollutants at the source, to prevent stormwater pollution, and to restore watersheds. The County also integrates water quality outreach as a vital component of watershed restoration projects.

Because of the Covid-19, DoE avoided in-person contact and hosted over 90 virtual environmental events. These events provided information or discussed benefits of one or more categories described in the bulleted items A through G of the permit condition *Part IV.D.6.b* above throughout of the County Boundary (Figure D-3). In addition to its extensive environmental public participation programs, which are primarily targeted to the County's adult population, DoE is also committed to the environmental education of the County's youth.

A list of the FY 2021 DoE outreach events, a brief description, and participants count are provided in the DVD under Management Programs/Public Outreach and Education folder.

During these events, information was provided to the general public and interested parties about various incentive-based programs that are designed to reduce stormwater pollution through direct or indirect means. These programs are discussed below in detail.

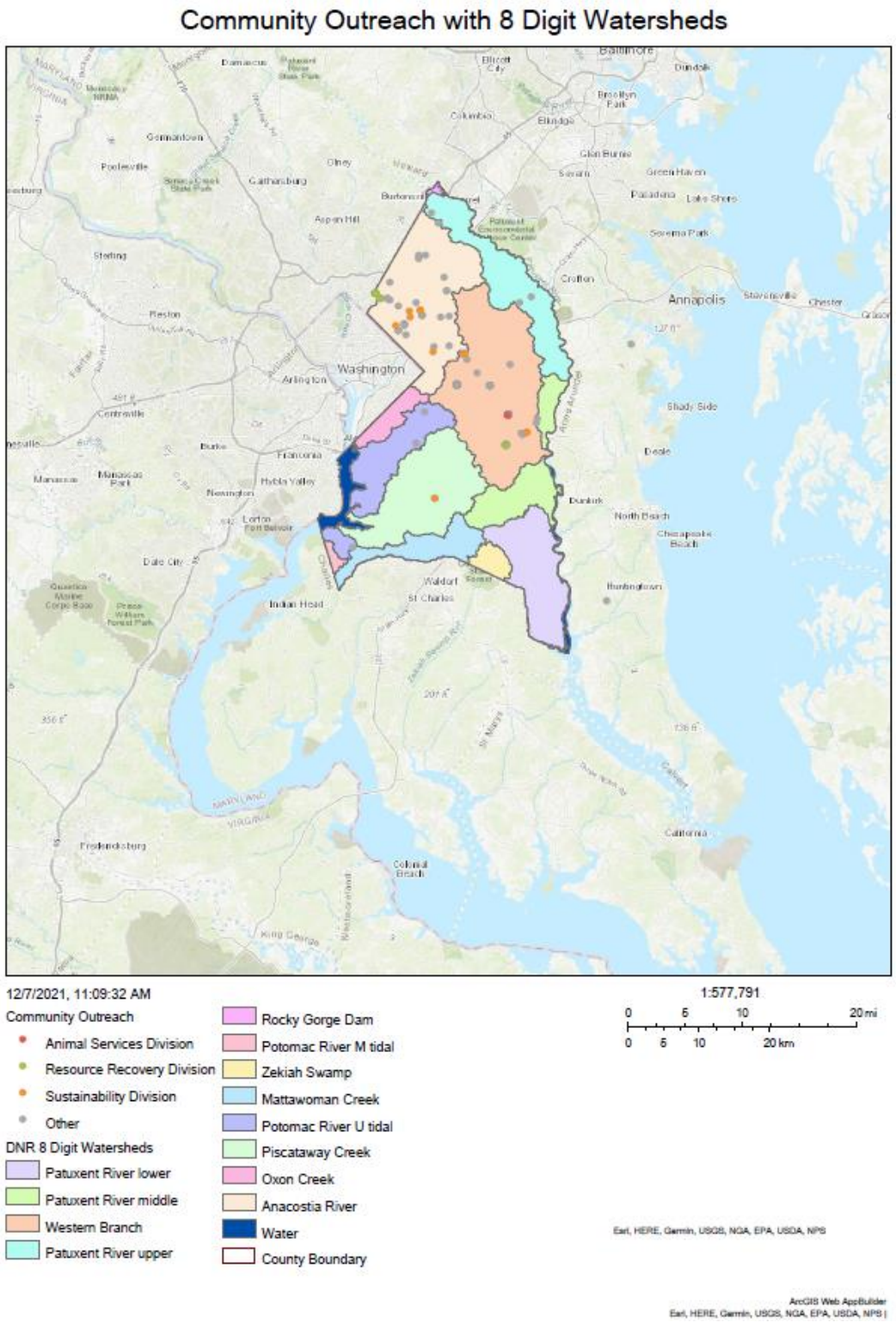
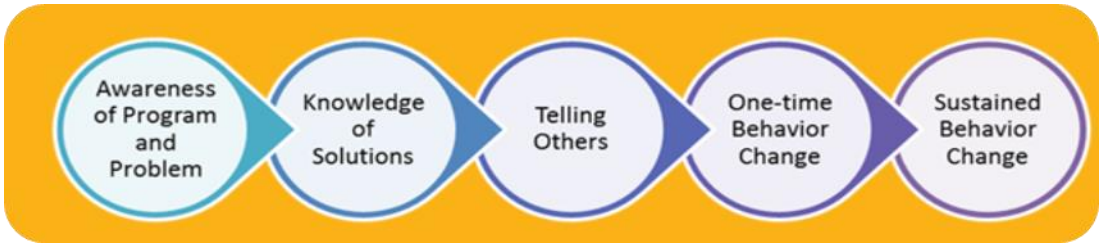


Figure D-3. Public Outreach Events

Natural Resource Protection and Stewardship (formerly Community Outreach Promoting Empowerment)

Last fiscal year, the Natural Resource Protection and Stewardship (NRPS) Section continued to partner with local communities, schools, homeowner associations, watershed groups, civic groups and municipalities to find ways to inform and engage residents despite COVID restrictions. These partnerships promote environmental stewardship and long-term behavior change as well as driving participation in DoE programs. Over time, such partnerships become "force multipliers" extending DoE's impact. As part of the DoE's outreach and education effort various games, workshops and activities were used to promote anti-litter, native shrub/tree planting and stormwater stewardship.

In this reporting period, DoE through its Sustainability Division participated in or held 70 events reaching almost 3,000 people to engage communities and individuals in restoration, promoting sustainable solutions and leveraging community action. This is an increase of about 1,000 participants despite having about 20% fewer events compared to FY20. Almost all these events were virtual. In 2021, the Natural Resource Protection and Stewardship programs were also realigned to support the County's ongoing Climate Action Plan process. The Draft Climate Action Plan will be released for public comment November 1, 2021. Future programmatic efforts and outreach endeavors will engage the public in climate resilient stormwater management practices and other community-wide efforts to build climate resilience.



Pet Waste Campaign

The pet waste management initiative aims to educate residents about the issue, change personal behaviors, and implement best practices at the individual, community, and municipal level. The program started in 2017and has worked with 35 municipalities and HOAs. More than 200 pet waste stations have been installed in communities across the County.

During FY 2021, 19 stations were installed by six (6) municipalities / HOAs (Table D-31). However, since many communities were struggling to maintain staffing levels during the pandemic, DoE temporarily suspended the installation of pet waste stations. DoE expects to resume that portion of the pet waste campaign in the calendar year 2022.

In FY 2021, DoE released a video to educate residents about the problems caused by pet waste and to encourage them to pick up after their pets: https://www.princegeorgescountymd.gov/3689/Scoop-That-Poop The video debuted at the Fall 2020 Community Partners meeting and it is available for community use.

Also, in FY2021, DoE began providing "scoop the poop" signs to Homeowners Associations (HOAs) and Civic Associations. The signs are a great option for communities that want to initiate a pet waste

campaign but lack funds for maintaining a pet waste station. The signs are available in two versions: one designed for playgrounds and the other for general high-use areas (Figure D-4). In FY2021, 8 communities installed 36 signs (Table D-31).

Figure D-4. Signs designed for playgrounds and general high-use areas

DoE also began work on the Pet Waste Management Program Guidebook for Municipalities, HOAs and Civic Associations. The guidebook (currently being finalized) is a resource for communities interested in building effective local pet waste outreach campaigns. It covers topics such as defining and documenting the problem, determining the most suitable program for your community, and how to assess your progress.

Table D-31. Participating Communities in FY2021.

Civic Association, HOA, or Municipality	Signs and Stations
Town of Riverdale Park	No stations, just educational materials
Town of Mount Rainier	5 stations, plus educational materials
Town of Upper Marlboro	5 stations, plus educational materials
Rosedale Estates HOA	3 stations, plus educational materials
Fox Chase One HOA	2 stations, plus educational materials
Presidential Heights HOA	1 station
Greenwood Manor HOA	3 stations, 5 signs, 20 leash dispensers
Montpelier HOA	5 signs, 20 leash dispensers
Barnaby Manor Civic Association	5 signs, 20 leash dispensers
Carole Highlands Neighborhood Association	5 signs, 20 leash dispensers
Forestville Knolls Civic Association	5 signs, 20 leash dispensers
Lewisdale Neighborhood Association	3 signs, 20 leash dispensers
Sunny Acres Civic Association	3 signs

Civic Association, HOA, or Municipality	Signs and Stations
Crowne Meadows HOA	5 signs, 20 leash dispensers
Village of Oak Grove HOA	5 signs, 20 leash dispensers

Rain Check Rebate Program

Prince George's County is committed to improving the quality of life for its communities by promoting green solutions to stormwater runoff. The Rain Check Rebate Program allows property owners to receive rebates for installing program-approved stormwater management practices. Homeowners, businesses, and nonprofit entities (including housing cooperatives and churches) can recoup some of the costs of installing the practices covered by the program.

Per County Bill CB-86-2014, changes were made to the Rain Check Rebate Program to entice property owners to participate in the program. First, the maximum lifetime rebate allowable to County property owners (residential projects) was increased from $2,000 to $4,000. Second, nonprofit organizations are now eligible to receive a rebate prior to construction with an approved application and an authorized property owner agreement. Third, the amount of the rebates was modified. Fourth, homeowner associations, condominium associations, and civic associations are now eligible for up to a maximum lifetime rebate of $20,000 per property.

The County has continued to use the brochures to promote the Rain Check Rebate Program, to raise stormwater pollution awareness, and to educate the residential, business, and industrial sectors on rebates available to them for installing approved stormwater BMPs. These brochures provide a brief and informative overview of a specific practice and provide helpful, non-technical information on BMPs, including how they improve the County's water resources. The County may use one or more of these materials, depending on the event audience, to promote stormwater awareness and environmental stewardship. Materials provided to the communities also included links to resources for audiences seeking additional information or more detailed advice. The following brochures were used in the past year.

- "Green Roofs: Benefit You and Your Community"
- "Cisterns: Benefit You and Your Community"
- "Pavement Removal: Benefit You and Your Community"
- "Rain Barrels: Benefit You and Your Community"
- "Permeable Pavement: Benefit You and Your Community"
- "Rain Gardens: Benefit You and Your Community"
- "Urban Tree Canopy: Benefit You and Your Community"

M-NCPPC Environmental Outreach and Education

M-NCPPC offers a wide variety of education programs and outreach opportunities through their Special Programs Division and Natural and Historical Resources Division. They have classroom programs that educate students on subjects such as watersheds, wetlands, native plants, stormwater, pollution, wildlife, insects, dinosaurs and much more. M-NCPPC naturalists and park rangers also attend career days at Prince George's County schools. Through each career day staff shares their environmental knowledge and passion. These are great opportunities to educate students and encourage them to become stewards of the environment.

M-NCPPC staff also offers on-site programs, so that classes can visit one of their nature centers or waterfront parks. Programs at these sites include river ecology boat tours, nature hikes and other hands-on activities. Patuxent River Park and Bladensburg Waterfront Park are unique sites that offers a wide variety of on-site programs for adults and students. Bladensburg Waterfront Park and Patuxent River Park partners with many state and national agencies to conduct wetland and water quality research along the Patuxent River.

Boat tours are one of best ways to engage people in environmental stewardship. It provides them an opportunity to experience the waterways. Bladensburg Waterfront Park and Patuxent River Park arrange boat tours, often combined with trash pick-up, invasive removal or other service activity that promotes environmental stewardships and helps reduce stormwater pollution. In addition, Bladensburg arranges events that focused on landscaping practices (erosion, chemicals, native plants, or pollinators) and river cleanup.

M-NCPPC has a very strong volunteer program. They have thousands of volunteers each year who give their time towards environmental projects. These projects include river cleanups, pond cleanups, park/trail cleanups, non-native invasive plant removal, nest box monitoring, water quality monitoring, and public education. All volunteer programs have a strong educational component.

Some of these volunteer opportunities are one-time projects, but M-NCPPC also has a strong Adopt-A-Trail and Adopt-A-Park programs. Local schools, churches, groups, and families make a 2-year commitment to taking care of a specific section of trail or park. Many of the trail sections run parallel to streambeds, and so by adopting the trail, many of these groups also clean the streams.

Adopt-A-Road

DPW&T partners with community groups to clean up County roadways. DPW&T provides each group with grabbers, safety vests, gloves, and trash bags. The goal is for each group to clean up a roadway approximately four times per year, but the frequency and dedication to quarterly cleanups varies. Trash collected during the cleanup is left along the roadway, usually in the vicinity of the Adopt-a-Road sign. DPW&T crews then pick up the trash collected by the communities as part of routine road maintenance. The tonnage collected is captured under the achievements of the Litter Control Program.

BMP Inspection Program for Private Stormwater Management Facilities

The County is cognizant that the successful implementation of its preventive maintenance inspection program requires extensive outreach to the regulated community, as property owners may be unaware of the legal responsibility for BMP inspection and maintenance. One-to-one outreach is also conducted with property owners of private stormwater facilities or their representative during the inspection process. To further emphasize the need for compliance, the County provides property owners and on-site managers with a written assessment of the inspection results and a compliance schedule.

Household Hazardous Waste

The “Household Hazardous Waste and Electronics Recycling” brochure promotes the proper disposal of chemicals and hazardous waste and recycling opportunities available to County residents. The brochure, both in English and Spanish, stresses the importance of the safe disposal of hazardous

waste and opportunities for recycling unwanted electronic devices. The County maintains a permanent household hazardous waste acceptance site, open and free-of-charge to County residents, at the Brown Station Road Sanitary Landfill in Upper Marlboro. The County contracts with Care Environmental Corporation, a licensed hazardous waste disposal company, to ensure the proper handling and disposal of all hazardous materials collected at the site. Additionally, the County continues to provide a "front door" waste pickup service option for elderly or disabled residents who qualify for this free service.

Conservation Landscaping

UMD Extension (UME) Master Gardeners Bay-Wise Landscape Management Program

University of Maryland (UMD) Extension Bay-Wise Landscape Management Program is a statewide program operated by UMD Extension Master Gardeners in (24) counties. Bay-Wise Master Gardeners go through two (2) days of training and a 1-day practicum before judging residential and commercial properties. UMD Extension Master Gardeners in Prince George's County trained an additional 7 Bay-Wise Master Gardeners in FY21. The Bay-Wise Landscape Program supports a holistic approach to cleaning the Bay by promoting the following best management practices: Sustainable gardening, small scale stormwater best management practices (rain barrels, rain gardens, etc.), composting, xeriscape, fertilizing wisely, recycling yard waste, native plantings, and Integrative Pest Management (IPM).

The UMD Master Gardeners also teach County residents techniques to decrease toxins, nutrients, and sediments flowing into our streams and the Chesapeake Bay. Master Gardeners also provide homeowners solutions on how to help reduce stormwater runoff by directing downspouts to garden or lawn areas and installing rain barrels and rain gardens. Prince George's County recognizes and demonstrates the importance of this program by funding the County Master Gardener Coordinator's position at UMD Extension. The talents and skills of the Master Gardener Coordinator instruct recruits, leads plant clinic workshops, and UMD Extension sustainable landscaping education and outreach programs.

Yard Certifications in Stormwater Management for FY 2020

- During this time period, University of Maryland Extension Master Gardener Volunteers in Prince George's County certified eight (8) residents' yards and 2 vegetable gardens as BayWise. Residents whose yard is certified as BayWise receive a certificate and yard sign.
- The towns of Cheverly and Cottage City continue to actively disseminate information to residents encouraging Bay-Wise certification of their home's landscapes.

Community Events

- Zoom and Facebook presentations on the "Ten Bay-Wise Landscape Management Best Practices."
- Seed-starting webinar
- Vegetable Gardening 101.

Homegrown Heroes

Fairmount Heights High School (FHHS) is in a food desert, and one way to combat a food desert is to grow food locally. FHHS has a greenhouse and hydroponics unit, but in the fall of 2020, with school being online due to COVID 19, a new approach was needed. Prince George's County Master Gardener coordinator Esther Mitchell teamed up with a science teacher from FHHS to help 30 FHHS students grow some vegetables at home as part of their science project. Efforts are now underway to stand up similar programs in other under-served communities.

Edible Demonstration Garden at the D'Arcy Road Facility

The edible demonstration garden located at the DPW&T's D'Arcy Road Facility provides County employees and local residents contact with nature. The natural setting of the garden is ideal for environmental education and horticulture programs whose goals are to demonstrate that an edible landscape is sustainable, affordable, and productive.

The edible garden sometimes referred to as a learning landscape, uses Bay-Wise landscaping practices that focus on water quality. Gardeners can contribute to a cleaner local waterway by adhering to the following environmentally-sound landscaping approaches:

- Feed the soil and fertilize wisely
- Water efficiently
- Plant wisely
- Recycle yard waste
- Manage garden pests with integrated pest management
- Protect the soil with mulch or cover crops
- Control stormwater runoff

Right Tree, Right Place Program

The Right Tree, Right Place Program is an urban risk management tree program developed by DPW&T to systematically remove and replace dead, dying, and high-risk street trees. Many of these trees were Bradford Pears and Ash trees killed by the Emerald Ash Borer. During FY20, tree work continued to concentrate on the removal of ash trees and large Bradford pear trees. By the end of the fiscal year, almost all Ash street trees in the County, and almost all Bradford Pears of greater than 23" trunk diameter in the PGC inventory have been removed.

In addition, the program seeks to increase the urban tree canopy along County roads. The Neighborhood Design Center (NDC) serves as a design and outreach consultant to DPW&T, working directly with community members and organizations to provide designs and recommendations that are relevant to each unique neighborhood. Choosing the right tree for the right place safely and sustainably improves the tree canopy and transforms communities. Healthy street trees beautify neighborhoods, support human health, increase property values, and benefit our environment.

Planting appropriate street trees in urban and suburban landscapes transforms neighborhoods. The program continues to be well received by those who enjoy the aesthetic and environmental benefits of street trees, and NDC fields dozens of calls each week with requests for trees, tree removal, and clarification of the work being performed in communities. Figure D-5 illustrates the communities where

projects were conducted in FY 2021. Table D-32 lists the number of trees planted since program inception.

Table D-32. Right Tree, Right Place Program Accomplishments (2011-2020)

NPDES Year	Trees Planted (approximate) [1]
July 1 - October 31, 2011	1,400
November 1, 2011 - October 31, 2012	4,500
November 1, 2012 - December 31, 2013	4,300
January 1, 2014 - July 01, 2014	5,300
July 1, 2014 - June 30, 2015	5,157
July 1, 2015 - July 01, 2016	3,242
July 1, 2016 – June 30, 2017	4,700
July 1, 2017 – June 30, 2018	4,800
July 1, 2018 – June 30, 2019	6,699
July 1, 2019 – June 30, 2020	7,025
July 1, 2020 – June 30, 2021	6,981
TOTAL	*54,104*

[1] *The total also includes trees planted under the Transforming Neighborhoods Initiative.*

In the fiscal year 2021, the COVID 19 pandemic largely shifted the program's administration and approaches, namely surrounding community engagement strategies. Because of COVID-19, the RTRP program has had to cancel all in-person community meeting presentations, fieldwork, and in-person interaction until further notice. The RTRP program has historically relied on human interaction; including with older residents, to function. However, reception to virtual meeting platforms was overwhelmingly positive. RTRP staff presented at 25 community meetings, and the process may be even more inclusive than physical meetings since residents do not need to leave their homes.

Growing Green with Pride Day (previously known as Clean Up Green Up)

This one-day, countywide landscape beautification effort has been bringing communities together for over 10 years. DPW&T provides free plant material with the promise that community groups will plant in public spaces, including schools, streetscapes, neighborhood entrances, and municipal centers.

Homeowner associations, schools, civic associations, municipalities, and other neighborhood groups can register via an application on DPW&T's or the general Prince George's County website. These groups recruit their own volunteers and garden tools to plant trees, shrubs, perennials, and/or bulbs on Growing Green with Pride day which is usually held in October. In addition, the volunteers complete weeding, mulching, and general cleaning projects in County maintained public spaces.

NDC partners with DPW&T, and other agencies, by providing design and technical assistance to any interested groups. FY 2021 Growing Green with Pride events were held on October 24, 2020, and May 1, 2021 but only for roadside litter and illegal dumping removal. No planting was done due to the nationwide Covid-19 pandemic. The achievement realized through this partnership is detailed in Table D-33.

Table D-33. Growing Green with Pride Program Achievements in FY 2021

Achievement	Amount
Sites	62
Volunteers	1391
Trees Installed	0
Shrubs Installed	0
Perennials and Ornamental Grasses Planted	0
Spring Flowering Bulbs Planted	0
Landscape Designs by NDC	0
Litter and Debris Collected	55 tons

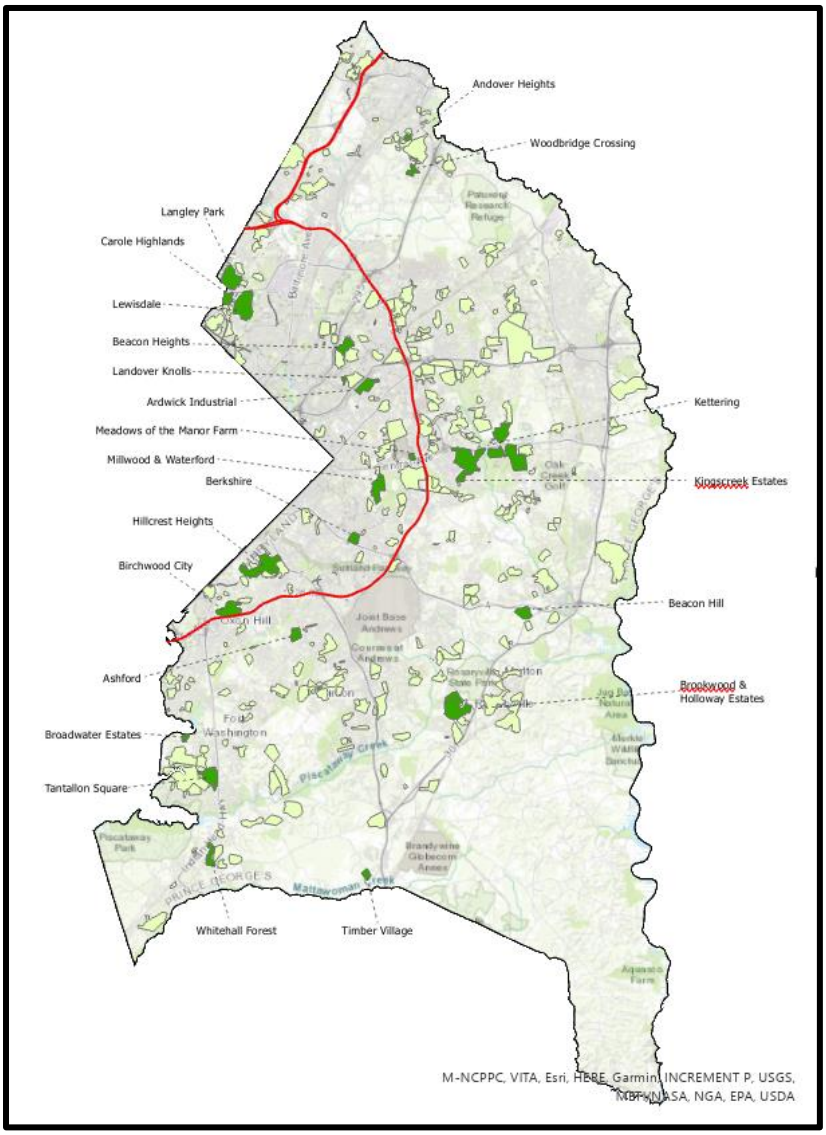


Figure D-5. Right Tree, Right Place Program Project Areas

Arbor Day

Since schools were still virtual during Arbor Day 2021, Prince George's County was unable to celebrate at Mattaponi Elementary School as planned. Instead, 40 trees were planted by volunteers at 38th street Park in Hyattsville. These trees will help protect the Northwest Branch of the Anacostia River from stormwater runoff.

Prince George's Beautification/Tree Planting Committee

The Prince George's County Beautification Committee is an all-volunteer organization dedicated to honoring the landscaping efforts of those in the community who make a difference through landscape beautification. The annual Beautification Awards Ceremony recognizes excellence in gardening and landscape sustainability. There was no award ceremony in the fall of 2020 due to COVID-19, but landscape judging took place as usual during spring 2021. Entries are judged on excellence in gardening and landscape sustainability by specially trained Prince George's Master Gardeners. Ove 200 landscapes were recognized, and a virtual award ceremony is planned for the fall of 2021.

Tree ReLeaf Grant Program

Trees are known to provide numerous public health and social benefits. Trees clean the air, beautify neighborhoods and landscapes, conserve energy, reduce water pollution and soil erosion, cool city streets, increase property values, and provide food and habitat for wildlife, among other benefits. They also provide a focal point to bring communities together. Although 51% of the County has tree cover, many urban communities have only 8%.

Tree ReLEAF is a countywide program that provides up to $5,000 to civic, neighborhood, community, homeowner organizations, schools and libraries to plant native trees and shrubs in public or common areas. A municipality can receive up to $10,000 for plantings. The program requires a 50-percent match, which in turn provides a hands-on opportunity for applicants to learn how to properly plant and care for trees and shrubs.

During this reporting period, the Tree ReLEAF Program continued to operate with reduced staff, and COVID-19 restrictions also impacted the program. One (1) Tree ReLeaf project was completed resulting in a planting of 76 native trees and shrubs (see Table D-34).

Table D-34. Tree ReLeaf Program Achievements in FY 2020

Applicant	Number of Trees and Shrubs	Amount	Watershed
City of Hyattsville	76	$9,000.00	Anacostia

Arbor Day Every Day Program

Prince George's County's DoE works to increase urban tree canopy for all and engage students and residents in tree planting and care. Planting projects support the County's Green School initiatives and complements social study, math, science, and art curriculums.

The Arbor Day Every Day Program seeks to increase native trees and shrubs planted on school property by working with County schools. The program educates students on the everyday importance

of trees, empowers them to enhance their community, and provides funds or trees for planting projects. DoE assists with the development of planting and maintenance plans, orders and arranges delivery of trees and materials, marks the holes for plants based on the planting plan, and provides training on planting and care. DoE also coordinates with the Board of Education to ensure that plantings will not interfere with planned construction or maintenance projects.

The schools are responsible for year-round care for two years and recruiting staff to dig holes and plant the trees. Schools interested in applying to the Arbor Day Every Day program submit an intent-to-apply form, schedule a consultation with DoE staff, and fill out a program application. DoE then works with the schools to develop the planting and post-planting maintenance plan. During the last fiscal year, DoE was unable to implement any Arbor Day Every Day plantings due to school closures and COVID-19 restrictions.

DoE also continued supporting the County's Green School program by providing Professional Development for Green School Teachers on the role trees play in managing stormwater and sequestering carbon. During the last fiscal year, DoE also continued working with the Treating and Teaching Program. Treating and Teaching is a collaborative effort between the Anacostia Watershed Society, Prince George's County, the Chesapeake Bay Trust, and several nonprofit partners. This program trains teachers from Prince George's County Public Schools on how to utilize their school grounds, including stormwater management projects installed, as educational tools to support their curriculum. DoE also provides trees for outdoor classrooms for Treating and Teaching through the Arbor Day Every Day program. During the last fiscal year, DoE participated in the review of 15 applications for outdoor learning spaces.

Tree Planting Demonstration Program

During the last fiscal year, DoE was unable to conduct any tree planting demonstrations due to COVID-19 restrictions.

Stormwater Stewardship Grants for Trees

Neighborhoods abundant with trees are healthier places to live and suffer less crime. We all deserve to live in such neighborhoods, but some Prince George's County residents do not. DoE targets these under-served communities through its Stormwater Stewardship grants. Local nonprofits and municipalities work with community residents to select appropriate trees for residents' yards. See Figure D-6 for the targeted areas. In FY2021, 589 trees were planted by Stormwater Stewardship grantees. See Figure D-7 for tree planting locations.

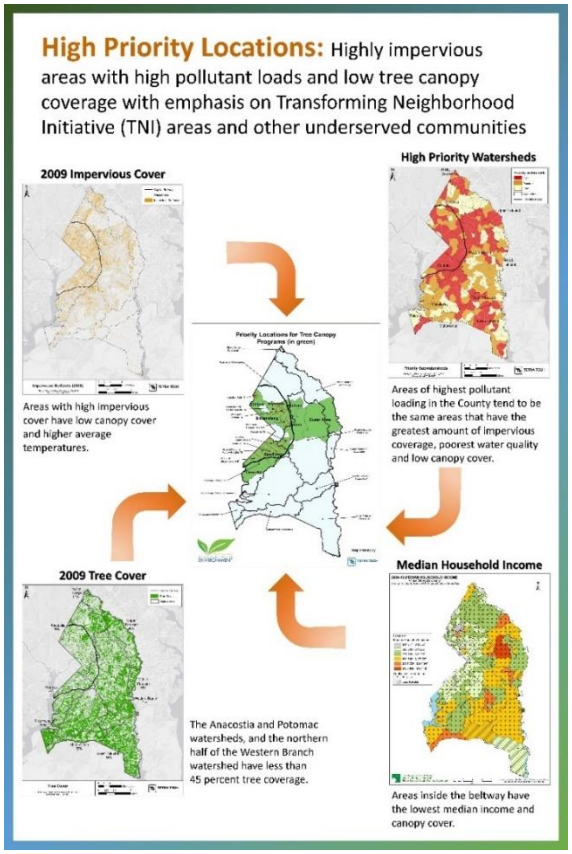


Figure D-6. High Priority Locations

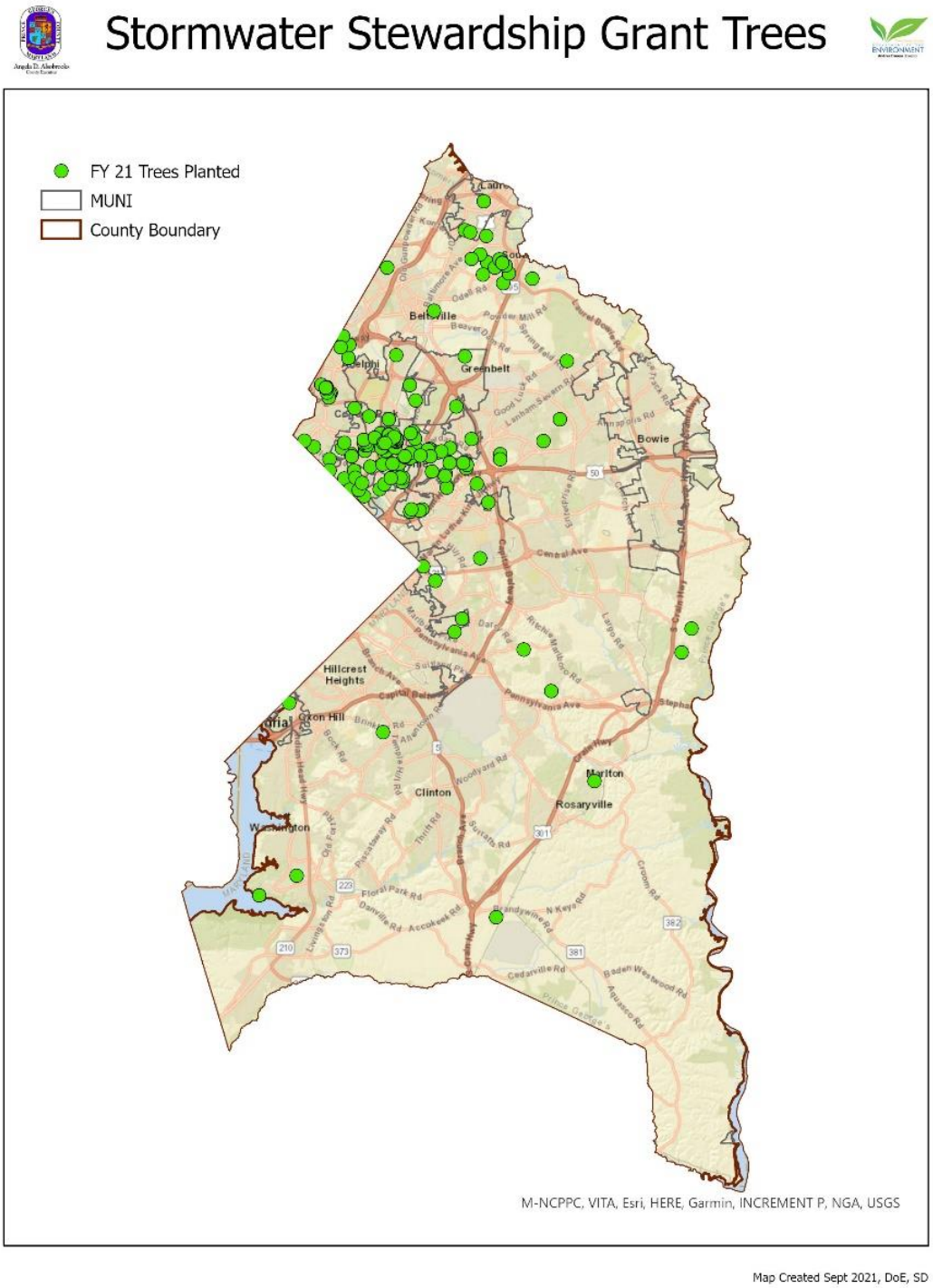


Figure D-7. Stormwater Stewardship Grant Trees

Permit Conditions Part IV. D. 6. c: Provide information regarding the following water quality issues to the regulated community when requested:

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

In early spring 2015, DoE initiated the publication of the Clean Water Program guidebook series for the regulated community in general and in particular for municipalities to: (1) understand the role and responsibilities for implementing strong, effective local stormwater programs, and (2) build effective, local public education and community engagement programs. Sample cover pages from the guidebook series are shown in Figure D-8. The guidebook provides information on the following:

- County and State NPDES permit requirements
- Associated roles and responsibilities of the County and municipalities along with pertinent examples
- Resources for incorporating various required elements into a local stormwater management program
- Public education and community engagement
- Trash and litter control

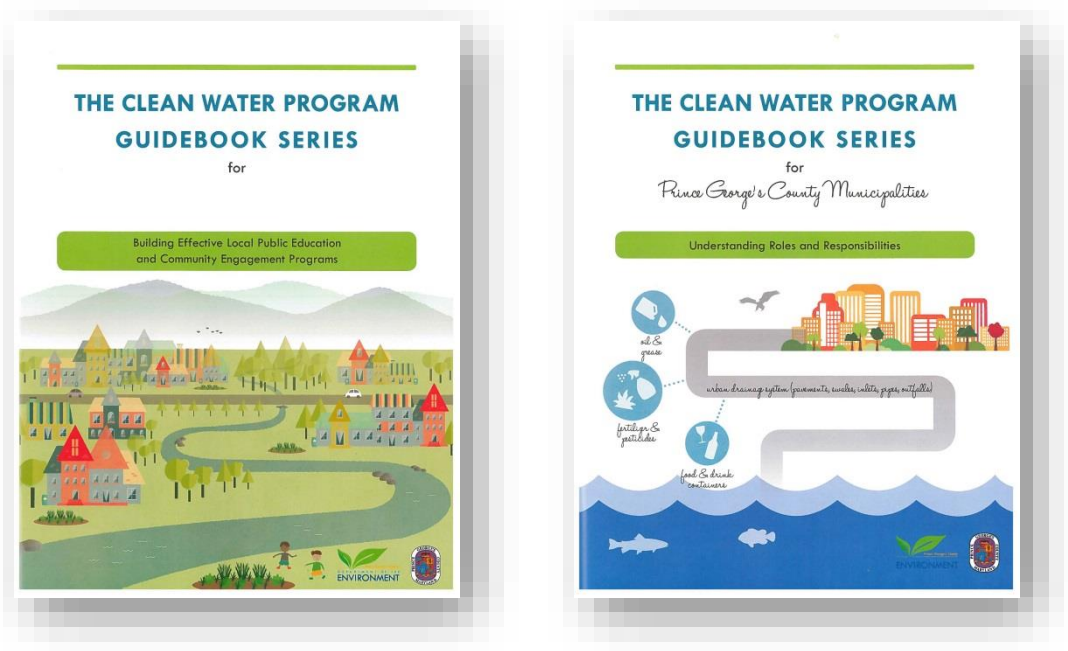


Figure D-8. The Clean Water Program Guidebook Series

Litter Control, Recycling, and Composting

Litter Control

Storm Drain Stenciling

Information on the County's storm drain stenciling efforts was provided earlier in the "Education and Outreach on Litter/Storm Drain stenciling" section on page 65.

Volunteer Neighborhood Community Cleanup Program

The Volunteer Neighborhood Cleanup Program, facilitated by DoE, assists communities in cleanup efforts to control litter. Active participation in the cleanup of a local neighborhood, park, road, street, or pond removes potential stormwater pollutants and builds community pride. Many participating groups further enhance and beautify their areas by planting trees, sowing seeds, weeding, watering, and mowing grass. Due to COVID, no new activity took place during this reporting period.

Comprehensive Community Cleanup Program (CCCP)

Information on this program was provided earlier in the "Cleanup Activities/Comprehensive Community Cleanup Program" section in chapter IV.D.4 on page 62.

Recycling

The RRD of DoE administers County services and programs to reduce solid waste, including recycling, composting, and hazardous materials recovery and disposal. The County continues to host countywide recycling events, as listed in Table D-35 , to shred documents and dispense free mulch recycled from Christmas trees. These events offer residents of the County an opportunity to conserve natural resources, save energy, and reduce the amount of waste going to the landfill, all positive actions that help to protect the environment. In FY2021 Approximately 29 individuals toured the Organics Composting Facility, (OCF/Western Branch.) Materials Recycling Facility (MRF)Tours were conducted virtually. As a result of the unforeseen COVID-19 outbreak, in person tours were postponed or held virtually.

Table D-35. FY 2021 Countywide Waste Reduction Participation Events

Name of Event (Participant)	Date of Event	No. of Participants
Tour of Western Branch	September 28, 2020	3
Tour of Western Branch	January 14, 2021	6
Tour of Western Branch – Audubon Naturalist Society (ANS): Virtual Tour	February 25, 2021	2 in person attendees 54 virtual student attendees
Tour of Western Branch	April 19, 2021	7
Tour of Western Branch	May 10, 2021	6
Tour of Western Branch	June 24, 2021	5

Name of Event (Participant)	Date of Event	No. of Participants
Perrywood Elementary School Virtual School Tour	January 21, 2020	18
Elena Wilcox Virtual Tour	August 7, 2020	30
Haulers Meeting	August 24, 2020	26

Single-Stream Recycling

The County's single stream recycling program is promoted through direct mail, press releases, newspaper advertisements, displays, and speaking engagements. The County's MRF processes glass bottles and jars, plastic containers, aluminum, steel and bi-metal cans, paper, aseptic containers, and newspaper from 176,218 residences served by the residential curbside single-stream recycling program and merchants (commercial sector). Today, the County's MRF is operating with the latest state-of-the-art equipment to accommodate single-stream recycling, processing over 68,000 tons annually.

An educational single-stream recycling display is housed at the MRF and can travel to community events, public libraries and office buildings throughout the County. In addition, an online video of the MRF operations is available. Tours of the MRF are open to the public, schools, and recycling coordinators by appointment.

County Office Recycling Program

On October 1, 2011, the CORP began single-stream recycling in County offices. An outreach campaign was developed to educate employees on the transition from dual-stream to single-stream collection and increase the amount of recycling collected from County offices. The CORP, which has been in existence since 1990, now serves 89 local County offices; all locations are serviced on a regular pickup schedule. All forms of paper and commingled materials are collected from these facilities by a County contractor. A recent expansion to the CORP includes the addition of exterior side-by-side recycling and trash collection containers being placed at the entrances of eleven County office buildings. On average 11.27 tons of recyclables are collected monthly with 10 locations also recycling toner cartridges. Nearly 1 ton of toner cartridges are recycled annually through a agreement with PMK Toner.

Source Reduction & Recycling

The Source Reduction – Stop Waste Before it Starts brochure, available in English and Spanish, provides tips for reducing waste at home, in the yard, and in the office. The brochure also promotes the use of reusable bags rather than non-biodegradable plastic shopping bags. In order to reinforce their recycling and source reduction message, Recycling Section (RS) staff regularly distributes outreach materials, gives presentations, and offers giveaways at community and other special events. Additionally, plastic bags are now banned from yard waste collection. Instead, the public will utilize paper yard waste bags, which can be composted or re-used. Furthermore, plastic bags are banned from the recycling program as this material is detrimental to processing equipment at the Materials Recycling Facility. There is an ongoing public outreach campaign to inform the public to return plastic bags to participating stores for recycling and to utilize reusable bags to avoid plastic disposal bags altogether. To further encourage re-use, DOE distributes reusable bags at special events and speaking engagements.

Business Recycling and Source Reduction

Businesses play an important role in the County recycling programs with approximately one-half of the solid waste stream coming from the business sector. Businesses also account for two-thirds of the County's current recycling rate. The Recycling Section is enforcing mandatory recycling laws that went into effect in 2014 for the commercial sector and multi-family properties.

Recycling staff assists in developing and implementing successful source reduction plans and recycling programs. The types of assistance may include site visits for identifying waste that can be recycled, matching interested businesses with local mentors who have successful recycling programs, or providing technical assistance needed to start up a recycling program. Prince George's County has also implemented a Polystyrene Ban. DoE has hired Recycling inspectors to enforce recycling mandates in the multi-family, commercial and industrial sectors.

Composting

Food Scraps

During this reporting period, the County entered the first phase of its Food Scrap Composting Expansion Program to service approximately 800 households. The program will continue to evolve as additional expansions are proposed to occur in the next fiscal year. In FY21, the Prince George's County Organics Composting Facility diverted 17,880.90 tons of food scraps from the landfill utilizing it to produce a 100% organic soil amendment marketed and sold to support the operation.

Yard Waste

The Prince George's County Organics Compost Facility (aka Western Branch), operated by the Maryland Environmental Service (MES), accepts yard waste from more than 172,000 households in the County. As shown in Figure D-9, the OCF received over 42,000 tons of yard waste in FY21. In person tours of the OCF were cancelled due to the COVID-19 pandemic outbreak. Approximately 29 individuals visited the facility during the fiscal year before the shutdown.

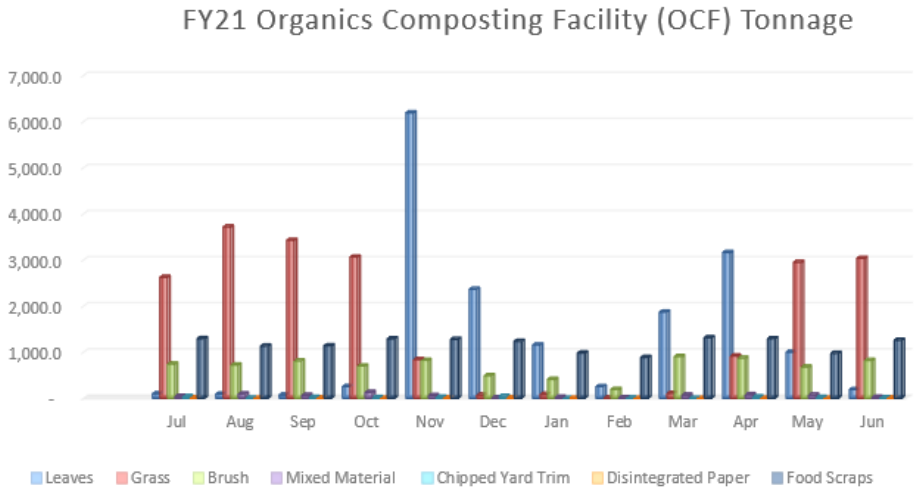


Figure D-9. Yard Waste Composting – FY 2021

Car Care, Mass Transit, and Alternative Transportation

Each year, vehicles release hundreds of tons of harmful emissions into the air we breathe. As atmospheric deposition of nitrogen in the region is a significant source of pollutants, carpooling, vanpooling, bicycling, and using mass transit helps to reduce emissions and protect both air and water quality. Sharing a ride, taking public transportation, and bicycling means fewer vehicles on the road, making the commute to work smoother, quicker, less expensive, easier, and cleaner for everyone. DPW&T provides many services to the residents of Prince George's County, as described below.

Ride Smart

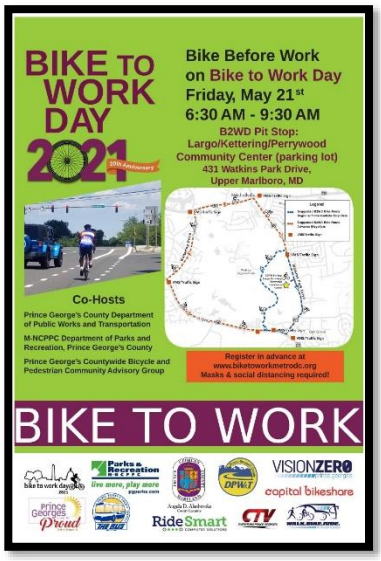
The RideSmart commuter website, a service of DPW&T, is designed to provide commuters and employers in the County with a comprehensive list of transportation solutions available throughout the Washington metropolitan area.

Ride Matching Network

The County continues to participate in the Commuter Connections ride-matching network, a free carpool and vanpool match service available to persons living and/or working in the County. This service is part of a network of Washington metropolitan commuter transportation organizations and is coordinated by the Metropolitan Washington Council of Governments (MWCOG).

Biking to Work

Prince George's County Department of Public Works & Transportation in partnership with Maryland National Capital Park and Planning Commission co-hosted a Pit Stop for 2021 Bike to Work Day on Friday, May 21, 2021. The event was held at Largo/Kettering/Perrywood Community Center.



Bike Share

Guided by a bike share feasibility study completed in 2016, Prince George's County launched Capital Bikeshare on June 1, 2018 with stations along the Route 1/Baltimore Avenue corridor and stations in Largo. Today, the County is Prince George's Proud to offer bikeshare as an alternative transportation option at 24 bikeshare stations within Prince George's County and over 550 bikeshare stations throughout the Capital Bikeshare System in Maryland, Washington DC and Virginia. In December 2019, a new 15 dock Capital Bikeshare Station was installed at the National Harbor Carousel making this station the newest of the 24 bike share stations installed within the County. In February of 2020, Prince George's County launched a Capital Bikeshare for All equity program, providing qualifying individuals a $5 annual membership for Capital Bikeshare. This latest program makes Capital Bikeshare even more accessible for persons of all incomes.

Bicycle and Pedestrian Program

Prince George's County's Bicycle and Pedestrian Program utilizes the 6 E's of safety to improve and increase walking and biking in Prince George's County. The 6'E's are: Engineering, Education, Enforcement, Equity, Emergency Response and Evaluation. These 6 E's are the keys to success in achieving Vision Zero. The County constructs sidewalks, crosswalks, and bicycle lanes to provide safe areas for pedestrians and bicyclists. It also conducts traffic safety education to the general public and targets education efforts at high crash areas of the County as well as targeting special populations such as students through school safety assemblies. Police departments promote traffic safety through enforcement efforts such as radar for speeding, sobriety checkpoints, and seatbelt enforcement. Fire/EMS not only respond to vehicle crashes, but they also promote traffic safety through car seat/booster checks and walk to school safety events. Information for commuters on biking to work is available through Commuter Connections and Ride Smart programs.

Vanpool Subsidy Program

Since the startup period for a new vanpool is the most difficult time, any qualifying individual who starts a new vanpool is eligible to receive a generous startup subsidy from the County. This program assists residents seeking to start a new vanpool with startup costs and assistance with finding passengers. This three-month subsidy program covers 100 percent of the first month's vehicle rental fee (not to exceed $700), 50 percent of the second month's vehicle rental fee (not to exceed $350), and 25 percent of the third month's vehicle rental fee (not to exceed $175). A County Rideshare coordinator is also available to assist groups in forming a vanpool and maintaining ridership.

Park and Ride

The County, in partnership with the State of Maryland and private parking lot owners, maintains 12 free park and ride fringe parking lots, conveniently located throughout the County. These lots provide ideal locations for meeting a carpool, vanpool, or for connecting with TheBus, Metrobus, or other local transit systems. The 12 lots are:

1. Bowie Fringe Parking: MD Route 197 and Northview Drive
2. South Laurel: MD Route 197 and Briarcroft Lane
3. Montpelier: MD Route 197 and Brock Bridge Road
4. Clinton Fringe Parking: MD Route 5 and Woodyard Road
5. Equestrian Center: MD Route 4 in Upper Marlboro
6. Fort Washington: MD Route 210 and East Swann Creek Road
7. Oxon Hill Fringe Parking: MD Route 210 and Oxon Hill Road

8. Beltway (I-494/I-95): I-95 and the Capital Beltway
9. Laurel Fringe Parking: Sandy Spring Road and Van Dusen Road
10. Accokeek Fringe Parking: MD Route 373 and MD Route 210
11. Bowie Market Place: MD Route 450 and Stoneybrook Drive
12. Penn Mar Shopping Center: Donnell Drive and Marlboro Pike

Metrorail

Operated by the Washington Metropolitan Area Transit Authority (WMATA), Metrorail currently serves 91 stations throughout the Washington metropolitan area, much of it underground. The system intersects at various points, along 117 miles of track, making it possible for passengers to travel anywhere on the system. Currently, 15 Metrorail stations are located in the County providing access and convenience to most County residents. The County is one of WMATA's compact jurisdictions and subsidizes the cost of all WMATA bus and rail service provided in the County. DPW&RT staff work cooperatively with WMATA to plan and enhance existing and future public transit services to complement the County Executive's and Council members' goals to meet the transportation needs of County residents, visitors, and employees.

TheBus, CALL-A-BUS, and CALL-A-CAB

TheBus is Prince George's County's public transit system. Schedule information and bus vehicle real time arrivals are available at http://www.princegeorgescountymd.gov/1120/TheBus or through www.NextBus.com. Area specific transit guides offer comprehensive information on public transportation, including transit options. Compared to previous years, ridership has been lower in FY 2021 due to reduced operations under COVID and stay at home orders directives by the Maryland Governor and the County Executive. The Department is developing initiatives to increase ridership and provide alternative service delivery models for our residents.

The County also provides a demand response, curb-to-curb service Call-A-Bus, a complementary ADA/Paratransit, curb-to-curb service. Service is available to all residents of Prince George's County who are not served by or cannot use existing bus or rail services. However, priority is given to senior and persons with disabilities. Persons with disabilities must provide their own escort, if needed. Service animals are allowed for the visually impaired.

The Taxicab Licensing Section of the Office of Transportation (formerly in the Department of Environmental Resources) licenses 1,062 taxicab operators to provide fee-based services to residents and visitors in the County. A subsidy service provided by the County via Maryland state grants is the Call-A-Cab coupon service for seniors and disabled patrons. This program enables seniors and disabled patrons to purchase reduced-price taxicab coupons.

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E. RESTORATION PLANS AND TMDL

1. WATERSHED ASSESSMENTS

Permit Conditions Part IV. E. 1:
a: By the end of the permit term, Prince George's County shall complete detailed watershed assessments for the entire County. Watershed assessments conducted during previous permit cycles may be used to comply with this requirement, provided the assessments include all of the items listed in PART IV.E.1.b. below. Assessments shall be performed at an appropriate watershed scale (e.g., Maryland's hierarchical eight or twelve-digit sub-basins) and be based on MDE's TMDL analysis or an equivalent and comparable County water quality analysis; and
b: Watershed assessments by the County shall:

i. Determine current water quality conditions;
ii. Include the results of a visual watershed inspection;
iii. Identify and rank water quality problems;
iv. Prioritize all structural and nonstructural water quality improvement projects; and
v. Specify pollutant load reduction benchmarks and deadlines that demonstrate progress toward meeting all applicable stormwater WLAs.

Prince George's County, population 871,233 (2011 Maryland State Data Center), is located in the south-central portion of Maryland with a geographic area of 498 square miles, 487 square miles of land and 11 square miles of water. A major drainage divide bisects the County in a north-south direction, with approximately half of the County draining in an easterly direction to the Patuxent River, and the remaining half of the County draining in a westerly direction to the Potomac River. Lands draining to the Patuxent River are primarily located in the County's rural tier, with the exception of the Western Branch watershed. A map of the County's major watersheds is shown in Figure E-1.

As required by the permit, the County conducted its watershed countywide watershed assessment that included the following:

- Current water quality conditions;
- Results of a visual watershed inspection;
- Identify and rank water quality problems;
- Water quality improvement effectiveness; and
- Pollutant load reduction benchmarks.

A complete report of the countywide watershed assessment with supporting documents was provided on the DVD in the "Countywide Watershed Assessment" folder in FY 2018 submittal.

2. RESTORATION PLANS

Permit Condition Part IV. E. 2. a. Para 1: Within one year of permit issuance, Prince George's County shall submit an impervious surface area assessment consistent with the methods described in the MDE document "Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits" (MDE, June 2011 or subsequent versions). Upon approval by MDE, this impervious surface area assessment shall serve as the baseline for the restoration efforts required in this permit.

The County completed its initial impervious surface area baseline assessment that was submitted with the 2014 annual report. The revised assessment along with the supporting documents was submitted to MDE on May 20, 2015. On July 17, 2015, MDE conditionally agreed with the impervious area baseline assessment provided that the County would make final adjustments.

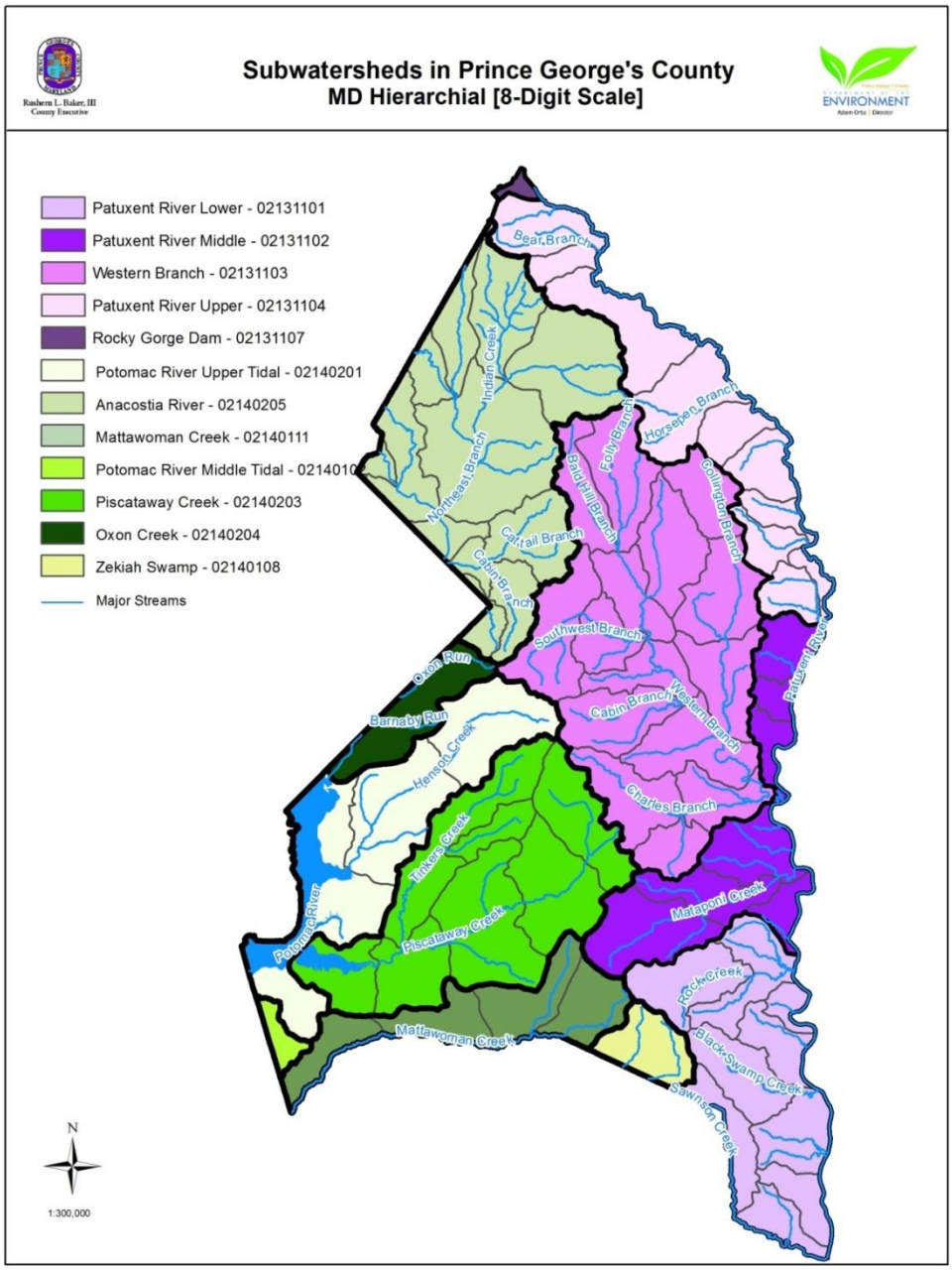


Figure E-1. Major Watersheds

Permit Condition Part IV. E. 2. a. Para 2: By the end of this permit term, Prince George's County shall commence and complete the implementation of restoration efforts for twenty percent of the County's impervious surface area consistent with the methodology described in the MDE document cited in PART IV.E.2.a. that has not already been restored to the MEP. Equivalent acres restored of impervious surfaces, through new retrofits or the retrofit of pre-2002 structural BMPs, shall be based upon the treatment of the WQv criteria and associated list of practices defined in the 2000 Maryland Stormwater Design Manual. For alternate BMPs, the basis for calculation of equivalent impervious acres restored is based upon the pollutant loads from forested cover.

The county has put forth a plan to restore 6,105 acres by the end of CY 2024. As of FY 2021, the County has already restored 4,177 acres towards this goal. Over 2,100 impervious acres of restoration is either in active planning (concept plan), design or construction.

Permit Condition Part IV. E. 2. b: Within one year of permit issuance, Prince George's County shall submit to MDE for approval a restoration plan for each stormwater WLA approved by EPA prior to the effective date of the permit. The County shall submit restoration plans for subsequent TMDL WLAs within one year of EPA approval. Upon approval by MDE, these restoration plans will be enforceable under this permit. As part of the restoration plans, Prince George's County shall:

i. Include the final date for meeting applicable WLAs and a detailed schedule for implementing all structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives necessary for meeting applicable WLAs;

ii. Provide detailed cost estimates for individual projects, programs, controls, and plan implementation;

iii. Evaluate and track the implementation of restoration plans through monitoring or modeling to document the progress toward meeting established benchmarks, deadlines, and stormwater WLAs; and

iv. Develop an ongoing, iterative process that continuously implements structural and nonstructural restoration projects, program enhancements, new and additional programs, and alternative BMPs where EPA approved TMDL stormwater WLAs are not being met according to the benchmarks and deadlines established as part of the County's watershed assessments.

The TMDL restoration plans were developed and submitted to MDE in December 2015. No further action is required by the County as this requirement is deemed completed.

3. PUBLIC PARTICIPATION

Permit Conditions Part IV. E. 3: Prince George's County shall provide continual outreach to the public regarding the development of its watershed assessments and restoration plans. Additionally, the County shall allow for public participation in the TMDL process, solicit input, and incorporate any relevant ideas and program improvements that can aid in achieving TMDLs and water quality standards. Prince George's County shall provide:

a. *Notice in a local newspaper and the County's web site outlining how the public may obtain information on the development of watershed assessments and stormwater watershed restoration plans and opportunities for comment;*
b. *Procedures for providing copies of watershed assessments and restoration plans to interested parties upon request;*
c. *A minimum 30 day comment period before finalizing watershed assessments and stormwater watershed restoration plans; and*
d. *A summary in each annual report of how the County addressed or will address any material comment received from the public.*

In mid-July 2014, two public meetings were held during the initial development phase of the restoration plans. At these meetings, the County staff broadly presented the County's vision and method to develop the restoration plans. The draft restoration plans were then finalized in October 2014. The plans were posted online for public review and comment. The County finalized all plans and submitted them to MDE for review and approval in 2015. Consequently, no further work was required to be completed in FY 2021 for this permit condition.

4. TMDL COMPLIANCE

Permit Condition Part IV. E. 4: Prince George's County shall evaluate and document its progress toward meeting all applicable stormwater WLAs included in EPA approved TMDLs. An annual TMDL assessment report with tables shall be submitted to MDE. This assessment shall include complete descriptions of the analytical methodology used to evaluate the effectiveness of the County's restoration plans and how these plans are working toward achieving compliance with EPA approved TMDLs. Prince George's County shall further provide:

a. *Estimated net change in pollutant load reductions from all completed structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives;*

The County continues to perform various restoration activities that are outlined in its restoration plans. The Clean Water Partnership (formerly called the Private Public Partnership) continues to design and build water quality restoration projects. Similarly, the County is continuing to implement projects throughout the County and has active projects in various stages that cover over 4,000 acres of impervious area (see Table E-37).

The County is in the progress of updating its TMDL load reduction accounting methodology. This update will align nutrient and sediment baseline, target, and progress loads with the new MDE methodology and data in the MDE's TMDL Implementation Progress and Planning Tool (TIPP Tool) and its 2021 draft Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated. The County is looking onward to new guidance and calculation methodologies, therefore, the TMDL

compliance tables in this report are updated to match the methodology and data in the TIPP Tool and draft guidance in anticipation of the changes in the upcoming MS4 permit renewal.

Because of this change, the baseline and target progress loads that are presented in this annual report will not be directly comparable to previous annual reports. These new baseline and target loads will be reflected in planned updates to restoration plans over the next two years, when MDE will have chance to review our revised loads. In addition, the County reevaluated past restoration progress and updated the yearly progress reductions. Baseline and target loads should be considered draft until reviewed by MDE.

In this annual report, the County is also updating the geography that is reported in each of the tables. The County's draft MS4 permit lists several local TMDLs using smaller geographies. For instance, in the draft MS4 permit, MDE requests that load reductions for nutrients and sediment are presented by tidal and nontidal portions of the Anacostia River watershed. This annual report presents progress on the two portions, whereas in prior MS4 annual reports, the County combined those portions into one table for the entire Anacostia River watershed. Figure E-2 presents the local TMDL and Chesapeake Bay TMDL allocation watersheds to help readers understand the different reporting geographies.

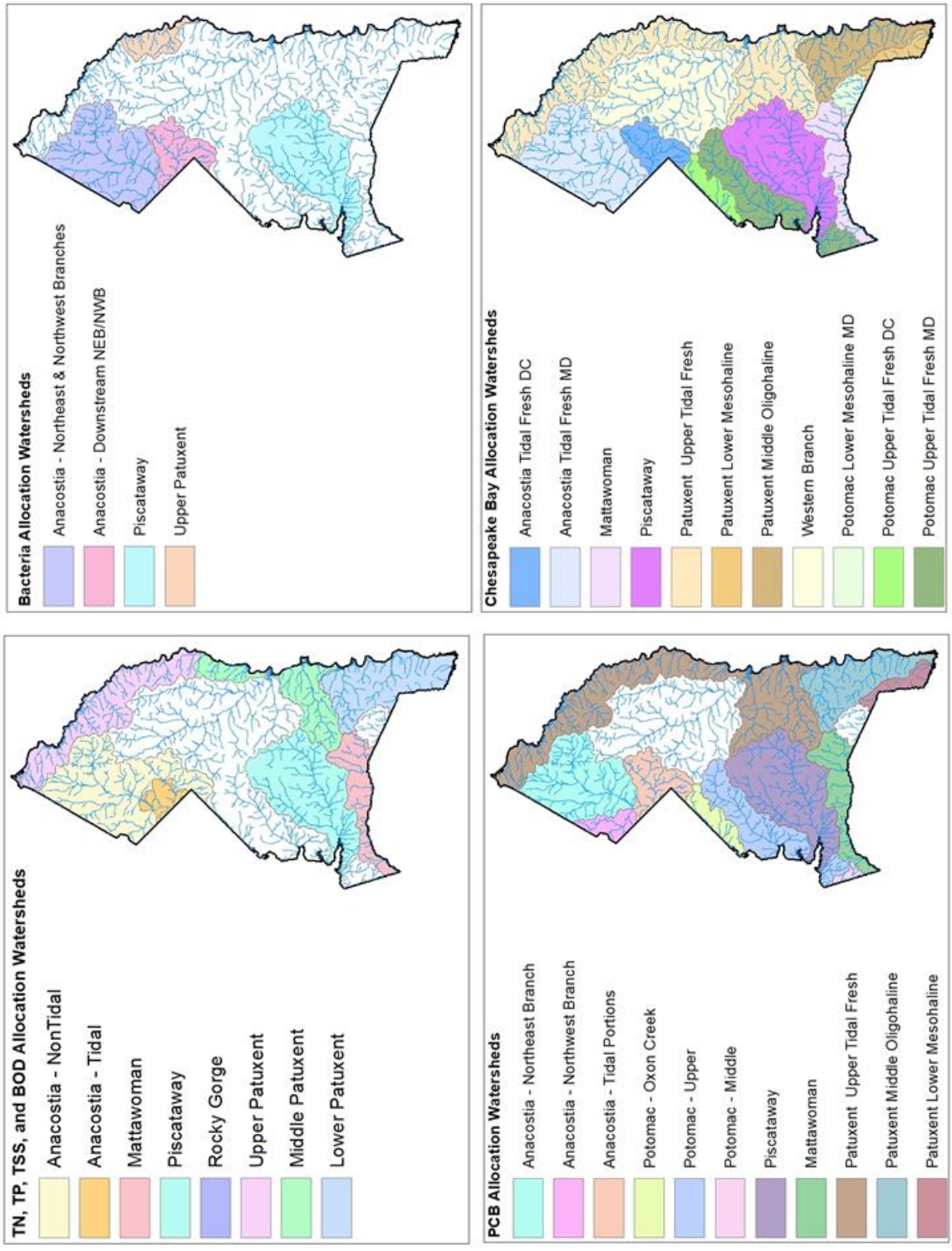


Figure E-2. Local TMDL and Chesapeake Bay Allocation Watersheds.

County progress towards local TMDLs

As mentioned above, nutrient and sediment loads were calculated using methodology and data from the MDE TIPP Tool and their draft 2021 guidance. Neither the TIPP Tool nor guidance has information for loading rates or BMP efficiencies for bacteria, BOD, or PCBs. The loads for BOD and bacteria are based on the land use loading rate and BMP efficiency data from County's 2014 local TMDL restoration plans, however, they have been recalculated with new land use and BMP information. Loads for polychlorinated biphenyls (PCBs) were determined using sediment loads and the potency factors from the corresponding PCB TMDL, while BMP sediment efficiencies were used because PCBs tend to be associated with sediments. Target loads should be considered draft until reviewed by MDE.

During discussions with MDE' TMDL staff, MDE indicated that progress towards meeting bacteria and PCB TMDLs will be tracked through programmatic activities such as watershed monitoring, source elimination, and public outreach. Final MDE guidance on bacteria and PCB TMDL is expected in late 2021. Future MS4 annual reports might not include information on load reductions based on the expected MDE guidance. Additionally, MDE has stated that they will not develop BMP loading rates and instead feel that if a permittee meets its nutrient reduction, that the BOD reduction for that watershed will be met. Table E-1 lists the local TMDLs and their associated tables.

Table E-1. Local TMDLs and Associated Tables.

Watershed	Total Nitrogen	Total Phosphorus	Total Suspended Solids	Biochemical Oxygen Demand	Bacteria	Polychlorinated Biphenyls (PCBs)
Anacostia	E-3: NonTidal E-4: Tidal	E-3: NonTidal E-4: Tidal	E-3: NonTidal E-4: Tidal	E-3: NonTidal E-4: Tidal	E-5: Upstream & downstream of NEB/NWB confluence	E-6: Tidal, Northeast Branch, Northwest Branch
Mattawoman	--	E-7: Entire Watershed	--	--	--	E-7: Entire Watershed
Piscataway	--	--	E-8 :Entire Watershed	--	E-8 :Entire Watershed	E-8 :Entire Watershed
Potomac	--	--	--	--	--	E-14 :Oxon Creek, Upper, Middle
Lower Patuxent			E-9: Entire Watershed			E-13: Patuxent Mesohaline, Oligohaline
Middle Patuxent	--	--	E-10: Entire Watershed	--	--	E-13: Patuxent Tidal Fresh
Upper Patuxent	--	--	E-11: Entire Watershed	--	E-11: Bacteria impaired section	E-13: Patuxent Tidal Fresh
Rocky Gorge	--	E-12: Entire Watershed	--	--	--	--

Table E-2 through Table E-13 show the pollutant load reductions for the local TMDLs from all completed projects.

Table E-2. Anacostia River – Non-Tidal Local TMDL: Current Achieved Reductions

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]	Biochemical Oxygen Demand (lbs./year) [4]
Target Load Reduction[1]	149,650.10	18,453.15	50,564,680	339,364.58
BMP Reduction – Up to 2013[2]	1,804.42	761.94	2,746,364	8,790.41
4th Generation Permit				
BMP Reduction – FY 2014[3]	0.69	0.18	379	2.67
BMP Reduction – FY 2015	107.21	95.70	348,671	4.75
BMP Reduction – FY 2016	113.80	17.81	49,307	497.91
BMP Reduction – FY 2017	3,666.53	557.66	1,099,259	2,603.87
BMP Reduction – FY 2018	3,108.85	640.07	2,171,666	17,283.93
BMP Reduction – FY 2019	194.36	31.44	95,943	1,030.59
BMP Reduction – FY 2020	945.46	195.08	527,814	3,912.23
BMP Reduction – FY 2021	3,148.44	805.51	1,747,161	8,820.97
Total BMP Reduction	11,285.35	2,343.45	6,040,200	34,156.91
Percent Reduction of Target	8%	13%	12%	10%

1 TMDL required load reduction for MS4 areas.
2 Reductions achieved through end of 2013 (permit term started in January 2014).
3 Only covers half of FY 2014 (January to June).
4 lbs. = pounds

Table E-3. Anacostia River - Tidal Local TMDL: Current Achieved Reductions

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]	Biochemical Oxygen Demand (lbs./year) [4]
Target Load Reduction[1]	27,520.31	3,414.00	9,801,895	65,387.15
BMP Reduction – Up to 2013[2]	319.58	63.22	215,904	2,350.28
4th Generation Permit				
BMP Reduction – FY 2014[3]	0.21	0.07	121	1.22
BMP Reduction – FY 2015	6.15	0.90	2,815	35.33
BMP Reduction – FY 2016	3.22	0.47	1,390	5.82
BMP Reduction – FY 2017	69.55	15.08	36,388	403.23
BMP Reduction – FY 2018	9.07	1.33	3,686	41.75
BMP Reduction – FY 2019	16.60	2.20	7,319	88.70
BMP Reduction – FY 2020	471.10	251.29	126,622	117.58
BMP Reduction – FY 2021	446.31	113.06	278,785	1,018.94
Total BMP Reduction	1,022.20	384.40	457,126	1,712.57
Percent Reduction of Target	4%	11%	5%	3%

1 TMDL required load reduction for MS4 areas
2 Reductions through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-4. Anacostia River – Bacteria Local TMDLs: Current Achieved Reductions

Pollutant	Bacteria (MPN B/year)[4]	
	Downstream of Northeast/Northwest Confluence	Upstream of Northeast/Northwest Confluence
Target Load Reduction[1]	968,889	1,625,966
BMP Reduction – Up to 2013[2]	8,666	17,528
4th Generation Permit		
BMP Reduction – FY 2014[3]	0	16
BMP Reduction – FY 2015	138	37
BMP Reduction – FY 2016	89	1,822
BMP Reduction – FY 2017	4,988	3,852
BMP Reduction – FY 2018	4,853	37,898
BMP Reduction – FY 2019	490	3,403
BMP Reduction – FY 2020	2,826	8,514
BMP Reduction – FY 2021	3,057	19,776
Total BMP Reduction	16,440	75,318
Percent Reduction of Target	2%	5%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 MPN B = Most probable number of bacteria per 100 milliliters

Table E-5. Anacostia River – PCB Local TMDLs: Current Achieved Reductions

Pollutant	PCB (lbs./year)[4]		
	Anacostia River Tidal	Northeast Branch	Northwest Branch
Target Load Reduction[1]	1.74×10^{1}	2.37×10^{-1}	7.59×10^{-2}
BMP Reduction – Up to 2013[2]	2.54×10^{-1}	3.58×10^{-3}	1.22×10^{-3}
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.00	2.74×10^{-4}	1.37×10^{-4}
BMP Reduction – FY 2015	1.41×10^{-3}	8.26×10^{-5}	1.18×10^{-4}
BMP Reduction – FY 2016	1.06×10^{-3}	7.41×10^{-4}	4.29×10^{-4}
BMP Reduction – FY 2017	1.39×10^{-1}	3.72×10^{-2}	2.33×10^{-2}
BMP Reduction – FY 2018	1.28×10^{-1}	8.55×10^{-3}	6.41×10^{-4}

Pollutant	PCB (lbs./year) [4]		
	Anacostia River Tidal	Northeast Branch	Northwest Branch
BMP Reduction – FY 2019	5.91×10^{-3}	3.14×10^{-4}	2.17×10^{-4}
BMP Reduction – FY 2020	6.18×10^{-2}	4.06×10^{-3}	2.18×10^{-5}
BMP Reduction – FY 2021	6.69×10^{-2}	5.11×10^{-3}	6.06×10^{-5}
Total BMP Reduction	4.04×10^{-1}	5.63×10^{-2}	2.49×10^{-2}
Percent Reduction of Target	2%	24%	33%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-6. Mattawoman Creek Local TMDL – Current Achieved Reductions

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	PCB (lbs./year) [4]
Target Load Reduction[1]	8,865.44	1,031.61	2.08×10^{-4}
BMP Reduction – Up to 2013[2]	0.00	0.00	0
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.00	0.00	0
BMP Reduction – FY 2015	0.95	0.18	2.31×10^{-7}
BMP Reduction – FY 2016	0.00	0.00	0
BMP Reduction – FY 2017	20.14	13.06	1.59×10^{-2}
BMP Reduction – FY 2018	470.20	114.26	1.22×10^{-4}
BMP Reduction – FY 2019	0.00	0.00	0
BMP Reduction – FY 2020	101.67	23.61	4.21×10^{-5}
BMP Reduction – FY 2021	369.48	335.00	0
Total BMP Reduction	962.44	486.11	1.60×10^{-2}
Percent Reduction of Target	11%	47%	Target Met[5]

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 Lbs. = pounds
5 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-7. Piscataway Creek – Current Achieved Reductions

Pollutant	Total Suspended Solids (lbs./year) [4]	Bacteria (MPN B/year)[5]	PCB (lbs./year) [4]
Target Load Reduction[1]	17,633,254	472,186	1.41×10^{-3}
BMP Reduction – Up to 2013[2]	768,186	3,225	1.42×10^{-4}

Pollutant	Total Suspended Solids (lbs./year) [4]	Bacteria (MPN B/year)[5]	PCB (lbs./year) [4]
4th Generation Permit			
BMP Reduction – FY 2014[3]	31	0	0
BMP Reduction – FY 2015	51,029	5	1.33×10^{-4}
BMP Reduction – FY 2016	8,469	453	6.24×10^{-5}
BMP Reduction – FY 2017	128,936	4,157	9.17×10^{-1}
BMP Reduction – FY 2018	936,510	13,607	6.23×10^{-4}
BMP Reduction – FY 2019	71,751	2,959	1.25×10^{-4}
BMP Reduction – FY 2020	5,758	276	3.12×10^{-6}
BMP Reduction – FY 2021	2,352,024	0	
Total BMP Reduction	3,554,509	21,457	9.26×10^{-2}
Percent Reduction of Target	20%	5%	Target Met[6]

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds
5 MPN B = Most probable number of Bacteria per 100 milliliters
6 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-8. Lower Patuxent Local TMDL – Current Achieved Reductions

Pollutant	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	3,269,828
BMP Reduction – Up to 2013[2]	0
4th Generation Permit	
BMP Reduction – FY 2014[3]	0
BMP Reduction – FY 2015	39
BMP Reduction – FY 2016	0
BMP Reduction – FY 2017	32,208
BMP Reduction – FY 2018	4,103
BMP Reduction – FY 2019	0
BMP Reduction – FY 2020	0
BMP Reduction – FY 2021	4,042,619
Total BMP Reduction	4,078,969
Percent Reduction of Target	Target Met[5]

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds
5 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-9. Middle Patuxent Local TMDL – Current Achieved Reductions

Pollutant	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	3,586,359
BMP Reduction – Up to 2013[2]	0
4th Generation Permit	
BMP Reduction – FY 2014[3]	135
BMP Reduction – FY 2015	0
BMP Reduction – FY 2016	104
BMP Reduction – FY 2017	17,799
BMP Reduction – FY 2018	6,831
BMP Reduction – FY 2019	0
BMP Reduction – FY 2020	0
BMP Reduction – FY 2021	0
Total BMP Reduction	24,869
Percent Reduction of Target	1%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-10. Upper Patuxent Local TMDL – Current Achieved Reductions

Pollutant	Total Suspended Solids (lbs./year) [4]	Bacteria (MPN B/year)[5,6]
Target Load Reduction[1]	1,776,893	20,770
BMP Reduction – Up to 2013[2]	1,050,772	0
4th Generation Permit		
BMP Reduction – FY 2014[3]	132	0
BMP Reduction – FY 2015	33,871	0
BMP Reduction – FY 2016	436	0
BMP Reduction – FY 2017	19,261	10
BMP Reduction – FY 2018	305,835	0
BMP Reduction – FY 2019	0	0
BMP Reduction – FY 2020	2,159,446	1,445
BMP Reduction – FY 2021	604,004	0
Total BMP Reduction	3,122,984	1,455
Percent Reduction of Target	Target Met[7]	7%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

5 MPN B = Most probable number of Bacteria per 100 milliliters
6 The bacteria TMDL only covers a portion of the Upper Patuxent watershed.
7 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-11. Rocky Gorge Local TMDL: Current Achieved Reductions

Pollutant	Total Phosphorus (lbs./year) [4]
Target Load Reduction[1]	12.15
BMP Reduction – Up to 2013[2]	0
4th Generation Permit	
BMP Reduction – FY 2014[3]	0
BMP Reduction – FY 2015	0
BMP Reduction – FY 2016	0
BMP Reduction – FY 2017	0.27
BMP Reduction – FY 2018	0
BMP Reduction – FY 2019	0
BMP Reduction – FY 2020	0
BMP Reduction – FY 2021	0
Total BMP Reduction	0.27
Percent Reduction of Target	2%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-12. Patuxent River Watershed – Local TMDLs: Current Achieved Reductions

Pollutant	PCB (lbs./year) [4]		
	Patuxent Lower Mesohaline	Patuxent Middle Oligohaline	Patuxent Tidal Fresh
Target Load Reduction[1]	N/A[5]	N/A[5]	1.05×10^{-1}
BMP Reduction – Up to 2013[2]	0	0	6.80×10^{-5}
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	1.94×10^{-4}
BMP Reduction – FY 2015	0	0	6.78×10^{-5}
BMP Reduction – FY 2016	0	0	3.03×10^{-4}
BMP Reduction – FY 2017	9.46×10^{-5}	4.73×10^{-2}	7.56×10^{-2}
BMP Reduction – FY 2018	2.86×10^{-6}	6.46×10^{-6}	3.47×10^{-3}
BMP Reduction – FY 2019	0	0	3.78×10^{-6}
BMP Reduction – FY 2020	0	0	5.47 × 10-3

Pollutant	PCB (lbs./year)[4]		
	Patuxent Lower Mesohaline	Patuxent Middle Oligohaline	Patuxent Tidal Fresh
BMP Reduction – FY 2021	0	0	5.56 × 10-6
Total BMP Reduction	9.74×10^{-5}	4.73×10^{-2}	8.51 × 10-2
Percent Reduction of Target	Target Met[5]	Target Met[5]	81%

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds
5 While MDE developed a PCB TMDL for these watersheds, the County was not given a target load reduction.

Table E-13. Potomac River Watershed – PCB Local TMDLs: Current Achieved Reductions

Pollutant	PCB (lbs./year)[4]			
	Potomac River - Middle	Potomac River – Oxon Run	Potomac River – Upper	Wicomico (incl. subsegments Zekiah)
Target Load Reduction[1]	1.44×10^{-5}	8.03×10^{-2}	1.92×10^{-1}	0[5]
BMP Reduction – Up to 2013[2]	0	0	1.29×10^{-5}	0
4th Generation Permit				
BMP Reduction – FY 2014[3]	0	0	3.07×10^{-5}	0
BMP Reduction – FY 2015	0	0	0	0
BMP Reduction – FY 2016	0	2.30×10^{-4}	9.05×10^{-3}	0
BMP Reduction – FY 2017	1.58×10^{-5}	1.09×10^{-2}	4.49×10^{-2}	0
BMP Reduction – FY 2018	0	0	4.50×10^{-3}	0
BMP Reduction – FY 2019	0	1.24×10^{-5}	1.82×10^{-3}	0
BMP Reduction – FY 2020	0	5.66×10^{-5}	1.27×10^{-3}	0
BMP Reduction – FY 2021	0	1.71×10^{-4}	9.62×10^{-4}	0
Total BMP Reduction	1.58×10^{-5}	1.14×10^{-2}	6.26×10^{-2}	0
Percent Reduction of Target	Target Met[6]	14%	33%	N/A[5]

1 TMDL required load reduction for MS4 areas
2 Reductions achieved for 2009 through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds
5 Wicomico is listed in the County's draft MS4 permit; however, the County did not receive a load reduction as part of this TMDL.
6 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Permit Condition Part IV. E. 4:
b. A comparison of the net change in pollutant load reductions detailed above with the established benchmarks, deadlines, and applicable stormwater WLAs;

Local TMDL Benchmarks

Table E-14 through Table E-25 show County's anticipated annual restoration targets to meet local TMDLs, in addition to the actual achieved reductions and reductions from BMPs in the planning design, or construction phases. These new targets replace the original time estimates developed in the County's 2014 restoration plans and are based on the County's progress up to the current reporting year. The projected yearly reductions and end dates in this report have been adjusted since last year's annual report using the average annual reductions completed and projected in each watershed to determine the revised TMDL end date. As mentioned above, the County will be reevaluating and updating the local restoration plans using guidance and input from MDE. These updates will include revising the restoration plan end dates. Target loads were recently recalculated as part of an ongoing County effort and should be considered draft until reviewed by MDE.

Table E-14. Annual Load Reduction Targets for Anacostia Watershed Non-Tidal Local TMDLs

Pollutant	Total Nitrogen (lbs./year) [2]	Total Phosphorus (lbs./year) [2]	Total Suspended Solids (lbs./year) [2]	Biochemical Oxygen Demand (lbs./year) [2]	Status
2014 *(Actual)*[1]	0.69	0.18	379	2.67	Reduced
2015 (Actual)	107.21	95.70	348,671	4.75	Reduced
2016 (Actual)	113.80	17.81	49,307	497.91	Reduced
2017 (Actual)	3,666.53	557.66	1,099,259	2,603.87	Reduced
2018 (Actual)	3,108.85	640.07	2,171,666	17,283.93	Reduced
2019 (Actual)	194.36	31.44	95,943	1,030.59	Reduced
2020 (Actual)	945.46	195.08	527,814	3,912.23	Reduced
2021 (Actual)	3,148.44	805.51	1,747,161	8,820.97	Reduced
2022 (*Planned*)	229.29	203.43	724,998	82.16	Planned
2023 (*Planned*)	1,450.49	298.67	1,160,849	4,316.86	Planned
2024 (*Planned*)	224.93	152.37	207,430	807.39	Planned
2025 (*Planned*)	0.00	0.00	0	0.00	Planned
2026 (*Planned*)	0.00	0.00	0	0.00	Planned
2027 (*Planned*)	2,907.08	2,635.75	9,612,733	0.00	Planned
Estimated annual reduction through (YEAR)	1,150 (2138)	402 (2053)	1,267,586 (2047)	2,812 (2128)	Projected
Total	**149,650.10**	**18,453.15**	**50,564,680**	**339,364.58**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds

Table E-15. Annual Load Reduction Targets for Anacostia River Tidal Local TMDLs

Pollutant	Total Nitrogen (lbs./year) [2]	Total Phosphorus (lbs./year) [2]	Total Suspended Solids (lbs./year) [2]	Biochemical Oxygen Demand (lbs./year) [2]	Status
2014 *(Actual)*[1]	0.21	0.07	121	1.22	Reduced

Pollutant	Total Nitrogen (lbs./year) [2]	Total Phosphorus (lbs./year) [2]	Total Suspended Solids (lbs./year) [2]	Biochemical Oxygen Demand (lbs./year) [2]	Status
2015 (Actual)	6.15	0.90	2,815	35.33	Reduced
2016 (Actual)	3.22	0.47	1,390	5.82	Reduced
2017 (Actual)	69.55	15.08	36,388	403.23	Reduced
2018 (Actual)	9.07	1.33	3,686	41.75	Reduced
2019 (Actual)	16.60	2.20	7,319	88.70	Reduced
2020 (Actual)	471.10	251.29	126,622	117.58	Reduced
2021 (Actual)	446.31	113.06	278,785	1,018.94	Reduced
2022 (*Planned*)	0.00	0.00	0	0.00	Planned
2023 (*Planned*)	167.45	148.10	539,987	30.61	Planned
2024 (*Planned*)	132.75	117.65	407,568	49.09	Planned
2025 (*Planned*)	0.00	0.00	0	0.00	Planned
Estimated Annual Reductions Through (YEAR)	110 (2260)	54 (2073)	117,057 (2093)	149 (2448)	Projected
Total	**27,520.31**	**3,414.00**	**9,801,895**	**65,387.15**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds

Table E-16. Annual Load Reduction Targets for Anacostia River – Bacteria Local TMDLs

Pollutant	Bacteria (MPN B/year)[2]		Status
	Downstream of Northeast/Northwest Confluence	Upstream of Northeast/Northwest Confluence	
2014 *(Actual)*[1]	0	16	Reduced
2015 (Actual)	138	37	Reduced
2016 (Actual)	89	1,822	Reduced
2017 (Actual)	4,988	3,852	Reduced
2018 (Actual)	4,853	37,898	Reduced
2019 (Actual)	490	3,403	Reduced
2020 (Actual)	2,826	8,514	Reduced
2021 (Actual)	3,057	19,776	Reduced
2022 (*Planned*)	0	310	Planned
2023 (*Planned*)	0	10,952	Planned
2024 (*Planned*)	418	2,016	Planned
2025 (*Planned*)	0	0	Planned
Estimated Annual Reduction Through (YEAR)	1,405 (2699)	7,383 (2230)	Projected
Total	**968,889**	**1,625,966**	**Target**

1 Only covers half of FY 2014 (January to June).
2 MPN B = Most probable number of bacteria per 100 milliliters

Table E-17. Annual Load Reduction Targets for Anacostia River – PCB Local TMDLs

Pollutant	PCB (lbs./year) [2]			Status
	Anacostia River Tidal	Northeast Branch	Northwest Branch	
2014 *(Actual)*[1]	0	2.74×10^{-4}	1.37×10^{-4}	Reduced
2015 (Actual)	1.41×10^{-3}	8.26×10^{-5}	1.18×10^{-4}	Reduced
2016 (Actual)	1.06×10^{-3}	7.41×10^{-4}	4.29×10^{-4}	Reduced
2017 (Actual)	1.39×10^{-1}	3.72×10^{-2}	2.33×10^{-2}	Reduced
2018 (Actual)	1.28×10^{-1}	8.55×10^{-3}	6.41×10^{-4}	Reduced
2019 (Actual)	5.91×10^{-3}	3.14×10^{-4}	2.17×10^{-4}	Reduced
2020 (Actual)	06.18×10^{-2}	4.06×10^{-3}	2.18×10^{-5}	Reduced
2021 (Actual)	6.69×10^{-2}	5.11×10^{-3}	6.062×10^{-5}	Reduced
2022 (*Planned*)	0	6.70×10^{-3}	4.16×10^{-3}	Planned
2023 (*Planned*)	0	2.49×10^{-3}	0	Planned
2024 (*Planned*)	2.49×10^{-2}	8.68×10^{-2}	3.00×10^{-2}	Planned
2025 (*Planned*)	0	0	0	Planned
Estimated Annual Reduction Through (YEAR)	3.57×10^{-2} (2497)	1.27×10^{-2} (2028)	4.92×10^{-3} (2025)	Projected
Total	**17.43**	**2.37×10^{-1}**	**7.59×10^{-2}**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds

Table E-18. Annual Load Reduction Targets for Mattawoman Creek Local TMDLs

Pollutant	Total Nitrogen (lbs./year) [2]	Total Phosphorus (lbs./year) [2]	PCB (lbs./year) [2]	Status
2014 *(Actual)*[1]	0.00	0.00	0	Reduced
2015 (Actual)	0.95	0.18	2.31×10^{-7}	Reduced
2016 (Actual)	0.00	0.00	0	Reduced
2017 (Actual)	20.14	13.06	1.59×10^{-2}	Reduced
2018 (Actual)	470.20	114.26	1.22×10^{-4}	Reduced
2019 (Actual)	0.00	0.00	0	Reduced
2020 (Actual)	101.67	23.61	4.21×10^{-5}	Reduced
2021 (Actual)	369.48	335.00	0	Reduced
2022 (*Planned*)	0.00	0.00	0	Planned
2023 (*Planned*)	0.00	0.00	0	Planned
2024 (*Planned*)	15.18	9.84	1.20×10^{-2}	Planned
2025 (*Planned*)	0.00	0.00	0	Planned

Pollutant	Total Nitrogen (lbs./year) [2]	Total Phosphorus (lbs./year) [2]	PCB (lbs./year) [2]	Status
Estimated Annual Reductions Through (YEAR)	81 (2119)	41 (2035)	2.34×10^{-3} (2009)	Projected
Total	**8,865.44**	**1,031.61**	**2.08×10^{-4}**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds

Table E-19. Annual Load Reduction Targets for Piscataway Creek Local TMDLs

Pollutant	Total Suspended Solids (lbs./year) [2]	Bacteria (MPN B/year) [3]	PCB (lbs./year) [2]	Status
2014 *(Actual)*[1]	31	0	0	Reduced
2015 (Actual)	51,029	5	1.34×10^{-4}	Reduced
2016 (Actual)	8,469	453	6.24×10^{-6}	Reduced
2017 (Actual)	128,936	4,157	9.17×10^{-2}	Reduced
2018 (Actual)	936,510	13,607	6.23×10^{-4}	Reduced
2019 (Actual)	71,751	2,959	1.25×10^{-4}	Reduced
2020 (Actual)	5,758	276	3.12×10^{-6}	Reduced
2021 (Actual)	2,352,024	0	0	Reduced
2022 (*Planned*)	5,942,804	0	0	Planned
2023 (*Planned*)	2,389,479	0	0	Planned
2024 (*Planned*)	171,866	1,424	8.49×10^{-2}	Planned
2025 (*Planned*)	1,277,200	0	0	Planned
Estimated Annual Reduction Through Year (YEAR)	1,111,322 (2025)	1,907 (2257)	Target Met[4]	Projected
Total	**17,633,254**	**472,186**	**$>1.41 \times 10^{-3}$**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 MPN B = Most probable number of bacteria per 100 milliliters
4 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-20. Annual Load Reduction Targets for Lower Patuxent Local TMDLs

Pollutant	Total Suspended Solids (lbs./year) [2]	Status
2014 (Actual)[1]	0	Reduced
2015 (Actual)	39	Reduced
2016 (Actual)	0	Reduced
2017 (Actual)	32,208	Reduced
2018 (Actual)	4,103	Reduced
2019 (Actual)	0	Reduced
2020 (Actual)	0	Reduced
2021 (Actual)	4,042,619	Reduced

Pollutant	Total Suspended Solids (lbs./year) [2]	Status
2022 (*Planned*)	0	Projected
2023 (*Planned*)	442,800	Projected
2024 (*Planned*)	197	Projected
2025 (*Planned*)	0	Projected
Estimated Annual Reduction Through (YEAR)	Target Met[3]	Projected
Total	**>3,269,828**	**Projected**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-21. Annual Load Reduction Targets for Middle Patuxent Local TMDLs

Pollutant	Total Suspended Solids (lbs./year) [2]	Status
2014 *(Actual)*[1]	135	Reduced
2015 (Actual)	0	Reduced
2016 (Actual)	104	Reduced
2017 (Actual)	17,799	Reduced
2018 (Actual)	6,831	Reduced
2019 (Actual)	0	Reduced
2020 (Actual)	0	Reduced
2021 (Actual)	0	Reduced
2022 (*Planned*)	0	Planned
2023 (*Planned*)	1,066,400	Planned
2024 (*Planned*)	2,288	Planned
2025 (*Planned*)	0	Planned
Estimated Annual Reductions Through (YEAR)	91,130 (2049)	Projected
Total	**3,586,359**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds

Table E-22. Annual Load Reduction Targets for Upper Patuxent Local TMDLs

Pollutant	Total Suspended Solids (lbs./year) [2]	Bacteria (MPN B/year)[3,4]	Status
2014 *(Actual)*[1]	132	0	Reduced
2015 (Actual)	33,871	0	Reduced
2016 (Actual)	436	0	Reduced
2017 (Actual)	19,261	10	Reduced

Pollutant	Total Suspended Solids (lbs./year) [2]	Bacteria (MPN B/year)[3,4]	Status
2018 (Actual)	305,835	0	Reduced
2019 (Actual)	0	0	Reduced
2020 (Actual)	2,159,446	1,445	Reduced
2021 (Actual)	604,004	0	Reduced
2022 (Planned)	609,326	0	Planned
2023 (Planned)	0	0	Planned
2024 (Planned)	385,472	21	Planned
2025 (Planned)	131,981	0	Planned
Estimated Annual Reductions Through (Year)	Target Met[5]	123 (2178)	Projected
Total	**> 1,776,893**	**20,770**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 MPN B = Most probable number of bacteria per 100 milliliters
4 The bacteria TMDL only covers a portion of the Upper Patuxent watershed.
5 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-23. Annual Load Reduction Targets for Rocky Gorge Local TMDL

Pollutant	Total Phosphorus (lbs./year) [2]	Status
2014 *(Actual)*[1]	0	Reduced
2015 (Actual)	0	Reduced
2016 (Actual)	0	Reduced
2017 (Actual)	0.27	Reduced
2018 (Actual)	0	Reduced
2019 (Actual)	0	Reduced
2020 (Actual)	0	Reduced
2021 (Actual)	0	Reduced
2022 (Planned)	0	Planned
2023 (Planned)	88.40	Planned
2024 (Planned)	0.84	Planned
2025 (Planned)	0	Planned
Estimated Annual Reduction Through (YEAR)	Target Met[3]	Projected
Total	**12.15**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-24. Annual Load Reduction Targets for Patuxent River Watershed – Local TMDLs

Pollutant	PCB (lbs./year) [2]			Status
	Patuxent Lower Mesohaline	Patuxent Middle Oligohaline	Patuxent Upper Tidal Fresh	
2014 (Actual)[1]	0	0	1.94×10^{-4}	Reduced
2015 (Actual)	0	0	6.78×10^{-5}	Reduced
2016 (Actual)	0	0	3.03×10^{-4}	Reduced
2017 (Actual)	9.46×10^{-7}	4.73×10^{-2}	7.56×10^{-2}	Reduced
2018 (Actual)	2.86×10^{-8}	6.46×10^{-6}	3.47×10^{-3}	Reduced
2019 (Actual)	0	0	3.78×10^{-6}	Reduced
2020 (Actual)	0	0	5.47 × 10-3	Reduced
2021 (Actual)	0	0	5.56×10^{-6}	Reduced
2022 (Planned)	0	0	0	Planned
2023 (Planned)	0	0	0	Planned
2024 (Planned)	6.30×10^{-5}	4.26×10^{-4}	7.44×10^{-2}	Planned
2025 (Planned)	0	0	3.43×10^{-4}	Planned
Estimated Annual Reduction Through (YEAR)	Target Met[3]	Target Met[3]	Target Met[3]	Projected
Total	**>0**	**>0**	**1.05×10^{-1}**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

Table E-25. Annual Load Reduction Targets for Potomac River Watershed – PCB Local TMDLs

Pollutant	PCB (lbs./year) [2]			Status
	Potomac River - Middle	Potomac River – Oxon Run	Potomac River – Upper	
2014 *(Actual)*[1]	0	0	3.07×10^{-5}	Reduced
2015 (Actual)	0	0	0	Reduced
2016 (Actual)	0	2.30×10^{-4}	9.05×10^{-3}	Reduced
2017 (Actual)	1.58×10^{-5}	1.09×10^{-2}	4.49×10^{-2}	Reduced
2018 (Actual)	0	0	4.50×10^{-3}	Reduced
2019 (Actual)	0	1.24×10^{-5}	1.82×10^{-3}	Reduced
2020 (Actual)	0	5.66×10^{-5}	1.27×10^{-3}	Reduced
2021 (Actual)	0	1.71×10^{-4}	9.62×10^{-4}	Reduced
2022 (Planned)	0	0	0	Planned
2023 (Planned)	0	0	0	Planned
2024 (Planned)	3.15×10^{-5}	1.27×10^{-2}	6.13×10^{-2}	Planned

Pollutant	PCB (lbs./year) [2]			Status
	Potomac River - Middle	Potomac River – Oxon Run	Potomac River – Upper	
2025 (Planned)	0	0	3.46×10^{-4}	Planned
Estimated Annual Reduction Through (YEAR)	Target Met[3]	2.01×10^{-3} (2050)	1.03×10^{-2} (2028)	Projected
Total	**$>1.44 \times 10^{-5}$**	**8.03×10^{-2}**	**1.92×10^{-1}**	**Target**

1 Only covers half of FY 2014 (January to June).
2 lbs. = pounds
3 The County will discuss TMDLs that appear to be met through BMP reductions with MDE. TMDL compliance is expected to be confirmed through monitoring.

County progress towards the Bay TMDL

Table E-26 through Table E-36 below show the progress of the County's restoration efforts toward the Chesapeake Bay TMDL (Phase II watershed implementation plan, 2025 target year) for each of the Chesapeake Bay allocation watersheds in the County. Target loads were recently recalculated as part of an ongoing County effort and should be considered draft until reviewed by MDE.

The load reported in the Chesapeake Bay progress tables represent edge-of-tide loads, which are the nutrient and sediment loads that are delivered to the Bay. In most cases for Prince George's County watersheds, the edge-of-tide loads are less than the watershed loads reporting for local TMDLs, which are based on edge-of-stream loads. For some watersheds and analytes, the edge-of-tide and edge-of-stream loads are the same. One example of this is Mattawoman Creek watershed for phosphorus and sediment, but not nitrogen.

For the Chesapeake Bay TMDL, MDE did not set local target reductions for TSS. The Maryland Phase II Chesapeake Bay Watershed Implementation Plan states that "In meeting its nutrient targets, the State will also achieve its sediment goals. Because phosphorus attaches to sediment, practices that reduce phosphorus tend to drive sediment reductions as well." Therefore, in the following tables, the target reduction and percent reduction are listed as "N/A."

Table E-26. Anacostia Tidal Fresh DC – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	12,942.46	2,150.89	N/A
BMP Reduction – Up to 2013[2]	478.80	189.57	420,620
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.02	0.00	6
BMP Reduction – FY 2015	4.04	0.50	1,033
BMP Reduction – FY 2016	3.69	0.49	938
BMP Reduction – FY 2017	238.00	50.77	97,165
BMP Reduction – FY 2018	290.16	65.81	137,758
BMP Reduction – FY 2019	20.57	2.38	5,004

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
BMP Reduction – FY 2020	492.99	198.23	109,833
BMP Reduction – FY 2021	15.49	1.79	3,926
Total BMP Reduction	1,064.97	319.97	355,665
Percent Reduction of Target	**8%**	**15%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-27. Anacostia Tidal Fresh MD – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	21,804.77	7,379.66	N/A
BMP Reduction – Up to 2013[2]	1,170.68	534.65	1,616,599
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.66	0.23	392
BMP Reduction – FY 2015	83.00	92.43	281,343
BMP Reduction – FY 2016	86.14	16.94	39,134
BMP Reduction – FY 2017	2,635.41	482.23	737,149
BMP Reduction – FY 2018	2,112.07	527.73	1,500,612
BMP Reduction – FY 2019	142.01	29.16	74,044
BMP Reduction – FY 2020	615.14	157.63	326,174
BMP Reduction – FY 2021	2,739.33	882.94	1,625,362
Total BMP Reduction	8,413.76	2,189.29	4,584,210
Percent Reduction of Target	**39%**	**30%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
[4] lbs. = pounds

Table E-28. Mattawoman Creek Watershed – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	1,351.20	717.74	N/A
BMP Reduction – Up to 2013[2]	0	0	0
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	0
BMP Reduction – FY 2015	0.76	0.18	273
BMP Reduction – FY 2016	0	0	0

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
BMP Reduction – FY 2017	16.10	13.06	6,383
BMP Reduction – FY 2018	375.71	114.26	313,463
BMP Reduction – FY 2019	0	0	0
BMP Reduction – FY 2020	81.24	23.61	64,904
BMP Reduction – FY 2021	295.24	335.00	1,221,760
Total BMP Reduction	769.05	486.11	1,606,783
Percent Reduction of Target	**57%**	**68%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-29. Patuxent River Lower Mesohaline – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	857.18	261.52	N/A
BMP Reduction – Up to 2013[2]	0	0	0
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	0
BMP Reduction – FY 2015	0	0	0
BMP Reduction – FY 2016	0	0	0
BMP Reduction – FY 2017	0.11	0.08	38
BMP Reduction – FY 2018	3.16	0.65	1,271
BMP Reduction – FY 2019	0	0	0
BMP Reduction – FY 2020	0	0	0
BMP Reduction – FY 2021	0	0	0
Total BMP Reduction	3.27	0.73	1,309
Percent Reduction of Target	**<1%**	**<1%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-30. Patuxent River Middle Oligohaline – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	3,288.69	754.31	N/A
BMP Reduction – Up to 2013[2]	0	0	0

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	0
BMP Reduction – FY 2015	0.07	0.01	15
BMP Reduction – FY 2016	0	0	0
BMP Reduction – FY 2017	139.29	34.67	12,259
BMP Reduction – FY 2018	5.56	0.85	1,079
BMP Reduction – FY 2019	0	0	0
BMP Reduction – FY 2020	0	0	0
BMP Reduction – FY 2021	985.09	773.84	1,540,468
Total BMP Reduction	1,130.01	809.37	1,553,820
Percent Reduction of Target	34%	Target Met	N/A

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-31. Patuxent River Upper Tidal Fresh – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	14,163.42	4,799.05	N/A
BMP Reduction – Up to 2013[2]	239.60	206.11	278,110
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.30	0.09	71
BMP Reduction – FY 2015	6.85	6.55	8,954
BMP Reduction – FY 2016	1.35	0.31	197
BMP Reduction – FY 2017	113.22	52.55	11,960
BMP Reduction – FY 2018	1,478.96	600.37	341,443
BMP Reduction – FY 2019	1.99	0.89	396
BMP Reduction – FY 2020	2,894.53	761.18	571,115
BMP Reduction – FY 2021	717.33	444.53	467,516
Total BMP Reduction	5,214.53	1,866.45	1,401,651
Percent Reduction of Target	37%	39%	N/A

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-32. Piscataway Creek Watershed – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	18,786.71	28,457.40	N/A
BMP Reduction – Up to 2013[2]	326.40	378.80	645,356
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.05	0.05	26
BMP Reduction – FY 2015	11.80	12.07	42,870
BMP Reduction – FY 2016	12.46	12.55	7,115
BMP Reduction – FY 2017	187.13	185.13	108,320
BMP Reduction – FY 2018	1,059.42	1,434.20	786,766
BMP Reduction – FY 2019	121.86	108.19	60,279
BMP Reduction – FY 2020	9.82	9.27	4,837
BMP Reduction – FY 2021	4,243.15	826.59	1,975,946
Total BMP Reduction	5,645.68	2,588.05	2,986,158
Percent Reduction of Target	30%	9%	N/A

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-33. Potomac Lower Mesohaline – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	320.26	137.37	N/A
BMP Reduction – Up to 2013[2]	0	0	0
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	0
BMP Reduction – FY 2015	0	0	0
BMP Reduction – FY 2016	0	0	0
BMP Reduction – FY 2017	0	0	0
BMP Reduction – FY 2018	0	0	0
BMP Reduction – FY 2019	0	0	0
BMP Reduction – FY 2020	0	0	0
BMP Reduction – FY 2021	0	0	0
Total BMP Reduction	0	0	0
Percent Reduction of Target	**0%**	**0%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-34. Potomac Upper Tidal Fresh DC – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	7,275.61	12,660.75	N/A
BMP Reduction – Up to 2013[2]	11.75	11.61	21,385
4th Generation Permit			
BMP Reduction – FY 2014[3]	0	0	0
BMP Reduction – FY 2015	0.12	0.16	35
BMP Reduction – FY 2016	0.17	0.08	60
BMP Reduction – FY 2017	29.23	31.01	7,002
BMP Reduction – FY 2018	0	0	0
BMP Reduction – FY 2019	33.64	34.53	53,790
BMP Reduction – FY 2020	21.75	27.70	5,594
BMP Reduction – FY 2021	0.85	0.53	220
Total BMP Reduction	85.76	94.02	66,701
Percent Reduction of Target	**1%**	**<1%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Table E-35. Potomac Upper Tidal Fresh MD – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	19,720.16	4,377.24	N/A
BMP Reduction – Up to 2013[2]	143.48	39.89	110,223
4th Generation Permit			
BMP Reduction – FY 2014[3]	9.44	1.40	3,158
BMP Reduction – FY 2015	20.55	15.26	50,960
BMP Reduction – FY 2016	96.70	43.80	124,723
BMP Reduction – FY 2017	80.12	31.06	29,056
BMP Reduction – FY 2018	912.90	238.45	544,248
BMP Reduction – FY 2019	83.20	16.79	48,704
BMP Reduction – FY 2020	457.24	93.91	222,294
BMP Reduction – FY 2021	206.50	48.66	107,803
Total BMP Reduction	1,866.65	489.32	1,130,947
Percent Reduction of Target	**9%**	**11%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)

4 lbs. = pounds

Table E-36. Western Branch Watershed – Chesapeake Bay TMDL Progress

Pollutant	Total Nitrogen (lbs./year) [4]	Total Phosphorus (lbs./year) [4]	Total Suspended Solids (lbs./year) [4]
Target Load Reduction[1]	20,506.06	15,529.87	N/A
BMP Reduction – Up to 2013[2]	442.86	342.89	339,597
4th Generation Permit			
BMP Reduction – FY 2014[3]	0.41	0.21	136
BMP Reduction – FY 2015	39.90	63.11	128,850
BMP Reduction – FY 2016	2.54	1.26	1,041
BMP Reduction – FY 2017	386.74	292.41	205,901
BMP Reduction – FY 2018	1,290.80	919.93	756,107
BMP Reduction – FY 2019	90.07	63.17	50,096
BMP Reduction – FY 2020	1,110.15	789.23	646,708
BMP Reduction – FY 2021	139.45	100.39	82,986
Total BMP Reduction	3,060.06	2,229.71	1,871,824
Percent Reduction of Target	**15%**	**14%**	**N/A**

1 TMDL-required load reduction for MS4 areas
2 Reductions achieved for the baseline year through 2013 (permit term started in January 2014)
3 Only covers half of FY 2014 (January to June)
4 lbs. = pounds

Permit Condition Part IV. E. 4:
c. Itemized costs for completed projects, programs, and initiatives to meet established pollutant reduction benchmarks and deadlines;

A summary of the completed projects, programs, and initiatives to meet the established pollutant reduction goals is provided in Table E-37. Also, completed restoration activities in the County are itemized on the DVD accompanying this report in the MDE geodatabase format under the feature classes RestBMP, AltBMP Line, AltBMP Point, AltBMP Polygon, and Impervious Surface Associated Table. In the current MS4 permit period (January 2014 (FY2014) through FY 2021), the County has restored more than 4,177 acres under the NPDES MS4 permit. This restoration progress was accomplished through more than 800 projects costing more than $262 million.

Table E-37. Summary of Completed Projects through FY 2021.

Watershed Code	Watershed Name	Number of Projects	Impervious Acres Restored[1]	Implementation Cost ($)
Restoration BMPs through CIP and CWP Projects, and Redevelopment (see Geodatabase Record: RestBMP)				
02131101	Patuxent River lower	3	0.88	$755,227
02131102	Patuxent River middle	5	1.45	$767,796

Watershed Code	Watershed Name	Number of Projects	Impervious Acres Restored[1]	Implementation Cost ($)
02131103	Western Branch	60	639.77	$53,417,860
02131104	Patuxent River upper	24	204.33	$14,564,551
02140111	Mattawoman Creek	3	39.47	$1,954,489
02140201	Potomac River U tidal	35	89.68	$10,975,886
02140203	Piscataway Creek	26	128.53	$12,589,250
02140204	Oxon Creek	11	6.15	$3,751,975
02140205	Anacostia River	249	833.68	$70,328,351
		416	**1,943.94**	**$169,105,385**
Septic System Upgrade or Removal (see Geodatabase Record: AltBMPPoint)[3]				
02131101	Patuxent River lower	5	1.30	$70,000
02131102	Patuxent River middle	18	4.68	$252,000
02131103	Western Branch	53	17.29	$364,000
02131104	Patuxent River upper	24	7.67	$182,000
02131107	Rocky Gorge Dam	1	0.39	$0
02140111	Mattawoman Creek	4	1.43	$14,000
02140201	Potomac River U tidal	26	9.88	$28,000
02140203	Piscataway Creek	34	11.96	$140,000
02140204	Oxon Creek	8	3.12	$0
02140205	Anacostia River	59	23.01	$0
		232	**80.73**	**$1,050,000**
Tree Planting (see Geodatabase Record: AltBMPPoly)				
02131101	Patuxent River lower	2	8.68	$393,577
02131102	Patuxent River middle	2	5.16	$305,334
02131103	Western Branch	9	44.27	$6,655,083
02131104	Patuxent River upper	6	7.79	$1,261,842
02131107	Rocky Gorge Dam	1	0.08	$13,626
02140102	Potomac River M tidal	1	0.00	$649
02140111	Mattawoman Creek	1	4.03	$653,412
02140201	Potomac River U tidal	5	13.31	$2,086,770
02140203	Piscataway Creek	3	23.14	$3,770,066
02140204	Oxon Creek	5	2.76	$450,704
02140205	Anacostia River	60	19.95	$3,315,221
		95	**129.17**	**$18,906,284**
Inlet Cleaning and Street Sweeping (see Geodatabase Record: AltBMPPoly)[4]				
02131102	Patuxent River middle	7	0.25	$0
02131103	Western Branch	9	61.33	$0
02131104	Patuxent River upper	7	10.82	$0
02131107	Rocky Gorge Dam	7	0.12	$0
02140201	Potomac River U tidal	9	36.87	$0

Watershed Code	Watershed Name	Number of Projects	Impervious Acres Restored[1]	Implementation Cost ($)
02140203	Piscataway Creek	8	17.75	$0
02140204	Oxon Creek	8	18.29	$0
02140205	Anacostia River	9	70.40	$0
		64	**215.83**	**$0**
Stream Restoration[2] and Outfall Stabilization Projects (see Geodatabase Record: AltBMPLine)				
02131101	Patuxent River lower	2	347.23	$15,364,108
02131103	Western Branch	5	155.92	$8,259,007
02131104	Patuxent River upper	3	332.02	$12,264,217
02140111	Mattawoman Creek	1	98.53	$4,318,041
02140201	Potomac River U tidal	5	88.74	$3,147,954
02140203	Piscataway Creek	2	274.66	$9,028,753
02140204	Oxon Creek	2	21.23	$1,117,313
02140205	Anacostia River	11	489.06	$20,183,826
		31	**1,807.39**	**$73,683,219**
Grand Total		**838**	**4,177.07**	**$262,744,889**

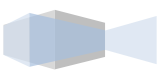
1 Impervious acre's restoration through all programs (inlet cleaning, tree planting, septic, micro scale, and structural BMP).
2 Stream Restoration Projects include WSSC consent decree for sewer line repair in the stream valley. Stream Restoration cost estimates are not provided for WSSC projects.
3 Zero cost indicates no cost to the County; however, IA credits are claimed.
4 County does not have itemized costs associated with this category as these are operational programs.

Permit Condition Part IV. E. 4:
d. Cost estimates for completing all projects, programs, and alternatives necessary for meeting applicable stormwater WLAs; and

A summary of the implementation cost for completing all projects in County's inventory under planning, design, or under construction is provided in Table E-38. Please note that as of this report, the County is deficient by 2,053 acres to meet its 6,105 acres of restoration goal. The County's inventory represents future projects deemed viable to meet its restoration goal. Additional projects in the inventory are included with the consideration that several of these projects may be dropped in the future because of the limitations related to permitting, right of way, or utility conflicts. In addition, impervious acres credits of these projects may vary as they move from planning stage to completion. Total projected implementation cost to complete these projects are over $188 million. The County's current planned project list includes CIP, CWP, and redevelopment projects.

Table E-38. Summary of Projects under Planning, Design, or Construction in FY 2021

Watershed Code	Watershed Name	Number of Projects	Impervious Acres Under Restoration[1]	Implementation Cost
Restoration BMPs through CIP and CWP Projects, and Redevelopment (see Geodatabase Table: RestBMP)[2]				
02131103	Western Branch	12	370.36	$26,285,688



Watershed Code	Watershed Name	Number of Projects	Impervious Acres Under Restoration[1]	Implementation Cost
02131104	Patuxent River upper	7	28.83	$1,876,000
02140201	Potomac River U tidal	5	17.91	$804,000
02140203	Piscataway Creek	1	0.60	$0
02140204	Oxon Creek	3	34.69	$2,937,435
02140205	Anacostia River	22	241.61	$12,514,380
		50	**694**	**$44,417,503**
Tree Planting[3] and Impervious Surface Removal (see Geodatabase Record: AltBMPPoly)				
02131101	Patuxent River lower	1	0.12	$20,115
02131102	Patuxent River middle	1	1.44	$234,242
02131103	Western Branch	1	44.86	$7,277,077
02131104	Patuxent River upper	1	13.20	$2,140,622
02131107	Rocky Gorge Dam	1	0.26	$42,177
02140102	Potomac River M tidal	1	0.01	$1,298
02140111	Mattawoman Creek	1	3.04	$492,492
02140201	Potomac River U tidal	1	15.57	$2,525,402
02140203	Piscataway Creek	1	21.54	$3,494,165
02140204	Oxon Creek	1	2.96	$480,813
02140205	Anacostia River	3	36.96	$6,400,205
		13	**139.96**	**$23,108,608**
Stream Restoration[4] or Outfall Stabilization Projects (see Geodatabase Record: AltBMPLine)				
02131101	Patuxent River lower	1	54.00	$1,941,970
02131102	Patuxent River middle	1	86.00	$3,269,997
02131103	Western Branch	14	919.08	$41,212,940
02131104	Patuxent River upper	2	400.81	$9,561,164
02131107	Rocky Gorge Dam	1	26.00	$1,560,675
02140201	Potomac River U tidal	5	159.89	$7,723,970
02140203	Piscataway Creek	7	778.12	$28,804,490
02140204	Oxon Creek	1	32.04	$2,785,304
02140205	Anacostia River	13	984.12	$24,395,330
		45	**3440.06**	**$121,255,840**
	Grand Total	**108**	**4,274.01**	**$188,781,952**

1 Impervious acre's restoration through all programs (inlet cleaning, tree planting, septic, micro scale, and structural BMP).
2 County does not track all costs associated with this category. Zero cost indicates no cost to the County; however, IA credits are claimed.
3 Tree planting inventory include planted trees labeled as under construction in the geodatabase. It is County's intention to claim credits in FY2022 or subsequent years.
4 Stream Restoration Projects include WSSC consent decree for sewer line repair in the stream valley. Stream Restoration cost estimates are not provided for WSSC projects.

To date since permit inception, 4,177 acres of impervious area credits have been achieved and another 4,274 acres are in active planning, design, or construction in FY 2021. In addition to the projects listed above, around 11 acres of impervious area restoration is expected through Prince George's County Stormwater Stewardship Grant Program. Details of this program are provided in the next section on page 139.

Permit Condition Part IV. E. 4:

e. A description of a plan for implementing additional watershed restoration actions that can be enforced when benchmarks, deadlines, and applicable stormwater WLAs are not being met or when projected funding is inadequate.

Additional Restoration Activities

A variety of restoration activities are being implemented, which includes both, on-the-ground BMP, and programmatic initiatives. On-the-ground BMP practices include ESD (environmental site design) practices such as permeable pavements, disconnection of rooftop runoff, and micro-bioretention, and structural BMPs, such as infiltration practices and wet ponds. On-the-ground BMP projects consist of retrofits of older stormwater management facilities for better removal of pollutants or/and installation of new facilities. Various programs in the County are utilized to install structural BMPs on public and private lands. Some of these programs are:

- Clean Water Partnership Program,
- Rain Check Rebate Program,
- Countywide Green/Complete Streets Program,
- Countywide Channel Programs,
- Countywide Strom Drain Inventory Programs,
- Outfall Program,
- Alternative Compliance Program, and
- Prince George's County Stormwater Stewardship Grant Program

Programmatic initiatives consist of enhancing programs to promote tree planting, domestic and urban animal control, pet waste pickup, and residential/commercial lawn care education amongst other programs. These initiatives involve an expanded public outreach campaign to inform the public of ways they can contribute to the restoration of the local watersheds. The County will initiate and strengthen various County programs to support these initiatives.

The current revenue sources that will provide funding for the restoration programs are from the stormwater ad valorem tax and the Clean Water Act fee. In addition to these, grants from Federal, State, and other sources will be pursued and are expected to be an essential contribution for funding of restoration activities.

Clean Water Partnership Program

The Clean Water Partnership (CWP) completed 19 stormwater retrofit projects in Fiscal Year 2021 that treat a total of 1,336 impervious acres throughout the County ensuring delivery of projects and connected community impact reaching stakeholders, residents, local businesses and youth in Prince George's County. The Clean Water Partnership regularly conducts outreach events and activities to

educate community members about stormwater management and involve stakeholders in the process. During FY 2021, outreach staff participated in 72 outreach events involving approximately 610 participants and distributed 3,251 outreach materials such as flyers, brochures and door knockers. Current Clean Water Partnership social-economic development programs inclusive of public outreach and community involvement are described in more detail below.

Mentor-Protégé Program

In FY 2021, the Clean Water Partnership's Mentor-Protégé Program (MPP) continued working with the participants of the 4th cohort while facing the challenges presented by the pandemic. Since its inception, this Program has been working to engage and grow the capacity of small, local and minority companies so they participate in the program and perform quality work in expanding, preserving and maintaining the County's green infrastructure. In FY2021 the CWP Contractor Development & Mentor Protégé team shifted its approach to provide more coaching and consulting support to the Proteges as they were impacted by labor shortages, staffing irregularities, cash flow, and a less than stable flow of contract opportunities.

As the majority of the firms in the Program were impacted in some way by the pandemic, the CWP focused the monthly training sessions on the primary areas that adversely impact small and minority construction companies. The Program started with Bonding in July, two Estimating sessions in August and September, and two Leadership and Relationship Management sessions in October and November. The Program hosted graduation in December for cohort 4 inclusive of the Emerging Landscaper Protégés. The MPP graduates were C&M Construction, Cleckley Development, CWI Solutions, Insight Engineering, Millenium Concepts, Minority Environmental Solutions & Services, and Sterling Enterprises.

The Emerging Landscapers Program (ELP), added in January 2020 to build capacity for CWP maintenance contractors, ran concurrently with the MPP. The graduates now have distinct green infrastructure maintenance competencies to pursue similar projects not only in Prince George's County but in the District of Columbia, Maryland, Virginia, and across the country. Each firm now has certifications to include the Maryland Department of Transportation's Erosion and Sediment Control, the Chesapeake Bay Landscape Professional and CWP Landscape Maintenance. The ELP MPP graduates were 1st Choice Facilities Maintenance, AC Reliable, Cavalla Construction, C&M Construction Services, Daylilly Landscaping, Faulkner Lawn Care, Maroon Gardens, Millenium Concepts, Minority Environmental Solutions & Services, Sterling Enterprises, T&G Services, TCG Property Care and the Georgetown Landscaping Company.

With an ever-expanding portfolio of well over 400 BMPs to maintain for the next 30 years, ELP graduates will be uniquely qualified to bid on CWP and other stormwater maintenance contracts for years to come. Contract awardees from this year's MPP/ELP include the team of 1st Choice Facilities Maintenance and Cavalla Construction (Anacostia Watershed Society's Outdoor Classroom - Walden Woods Elementary School), Millennium Concepts (Maintenance Contract), and TCG Property Care (Dora Kennedy French Immersion School, Hillmeade Stream Restoration, Crain Highway Stream Restoration).

Due to the pandemic, the CWP extended the Program an extra three months to focus on developmental and capacity support. In that time frame firms successfully completed their second field training and their individual business plans. In February the CWP Contractor Development & Mentor Protégé team hosted an all-cohorts meeting inviting all 39 participant firms to discuss their pandemic

experiences and support needs for the calendar year. There was also a healthy conversation about the establishment of an alumni program for the MPP/ELP. The majority of the attendees expressed interest and committed to attending quarterly meetings if an alumni group was established.

Transitioning into the next fiscal year, the MPP/ELP will run in alignment with Prince George's County's fiscal year. The expectation is the selection of between 4 to 8 firms for the 5th cohort commencing with the start of Phase Three. Currently, cohort 5 applicant firms are going through the application review process to be accepted into the program. The new cohort ran through June 30, 2021 with an expected program start date of August 19, 2021.

Clean Water Partnership Schools Program

The Clean Water Partnership Schools Program began in FY 2016 and continued through FY 2021. The program is designed to assist Prince George's County Public Schools (PGCPS) treat stormwater runoff by constructing BMPs on school property. The Clean Water Partnership Schools Program incorporates a community-based approach to engage school facilities staff, educators, students and community members in every element of the BMP process. Educators and students gain experience and confidence while using the BMP projects to inform classroom learning. Students and volunteers participate in mulching and planting native plants to complete a BMP installation. Interpretive signage provides BMP information, BMP benefits, visuals and illustrations which describe the most common pollutants affecting stormwater runoff in the area.

Two Clean Water Partnership Projects at Prince George's County schools were completed during FY 2021, increasing the total number of CWP PGCPS projects to 55. New schools identified by PGCPS are evaluated for opportunities to incorporate green stormwater retrofits to manage untreated runoff from impervious areas and reduce the impact of sediments and pollution that flows into our natural waterways. Program activities include student-volunteer tree planting sessions, educational signage, development of a hands-on learning component to the program that can support existing Science, Technology, Engineering and Mathematics (STEM) activities at the schools.

Student Enrichment

The Clean Water Partnership continued its support of End Time Harvest Ministries (ETHM) in FY 2021. ETHM is a Prince George's County-based non-profit that was established to empower youth through providing opportunities to build educational, social and economic life skills. Through its six-week Summer Youth Employment Program (SYEP), ETHM Wellness Ambassador students learned about the importance of workforce development, a cornerstone of the CWP program. Due to the pandemic, the program transitioned to a virtual learning construct where thirty-six students participated in this six-week program June – July 2021 partnered with Joe's Movement Emporium supporting student's engagement within their communities.

Stream Restoration Program

As development continues and heavy rains become more frequent, our streams, especially in urban settings are inundated with erosive flows. Restoring and stabilizing streams to make them more resilient has become an important strategy for managing sediment loads. In FY21 the Clean Water Partnership completed eight stream restoration projects. Two of the streams are in urban settings, five

are immediately adjacent to residential areas, and one restored a rapidly degrading stream draining a large industrial area.

Municipal Engagement

Numerous Clean Water Partnership restoration projects were conducted within municipal boundaries during FY 2021. Various school, stream, pond, and other restoration projects that were in the planning, design, construction, or completion phase in FY 2021 were located within the county's 26 municipalities that are covered by this permit. In March 2021 the Clean Water Partnership completed the installation of a retention pond at Glenn Dale Splash Park. This pond and surrounding area will be maintained by both municipal and CWP maintenance crews. It also provides interpretive signage and public trails

Maintenance and Litter Reduction

Two very important and measurable aspects of maintenance are trash and sediment collection. In addition to structural and landscape maintenance, Clean Water Partnership crews regularly remove trash and sediment from project sites to support BMP performance and appearance. During routine maintenance work conducted during FY21, crews visited 151 sites, picked up 1,571 bags of litter weighing roughly 30,340 pounds, and removed approximately 112,220 pounds of sediment from the County's BMPs.

Rain Check Rebate Program

Since Prince George's County initiated the Rain Check Rebate Program back in 2013, the program has become a great incentive for County property owners interested in installing approved stormwater management practices on their properties. Many of the property owners in the County are interested in helping to minimize stormwater runoff and prevent stormwater pollution in the County waterways but lacked the funding to install BMPs on their property to help with stormwater runoff and pollution. The program provides eligible applicants the opportunity to receive rebates for installing approved stormwater BMPs. Homeowners, businesses, homeowner associations, condominium associations, civic associations, multi-family dwellings, and nonprofit entities can recoup some of the costs of installing practices covered by the program. To ensure the continued success of this program, public outreach events are conducted to promote the adoption of endorsed stormwater management practices and gain maximum participation by the property owners in the County. Another incentive for property owners to participate in the Rain Check Rebate Program is that they are eligible for a fee reduction credit on the Clean Water Act fee included in their tax bill, for installing stormwater management practices on their property. Table E-39 identifies the overall performance of the Rain Check Rebate Program in FY 2021.

Since July 2014, DoE continues to partner with the Chesapeake Bay Trust (CBT) on the administrative and operational functions of the Rain Check Rebate Program. CBT staff handle inquiries from community members about the Program; review and process applications; examine property owner's paperwork for completeness; aid those who need help completing their applications; and perform pre- and post inspection site visits. CBT staff regularly communicate and reports to the County staff on outreach efforts and request feedback from County staff on all institutional and construction requests that require pre-approval. DoE oversees total program management, processes final payments, and

guides CBT efforts to increase program participation through continued emphasis on residential & commercial property owners, homeowner & civic associations, and nonprofit organizations.

DoE also partnered with the Low Impact Development Center (LID Center) to implement a Contractors Certification Program. Working with the LID Center, a two-day certification course for professional landscapers and other green businesses has been developed. The contractor's training course teaches landscape professionals and other green businesses how to plan, design, construct and maintain Rain Check Rebate practices. The course exercises provide guidance on practice selection, site assessment and site selection. Participants who successfully complete the certification course will be added to the County's public list of landscape professionals who have completed the Rain Check Rebate Contractor Training. The goal of this program is to provide a list of "qualified contractors" to property owners looking for services under the Rain Check Rebate Program, at the same time supporting the County's Jobs and Opportunity Act of 2016 by promoting local business development and job growth.

During FY 2021, a total of 325 BMPs were installed using this program treating 1.81 impervious acres. A report detailing Rain Check Rebate Program performance in FY 2021 is provided in the DVD, under Restoration Plans and TMDL/Rain Check Rebate.

Table E-39. Rain Check Rebate Program Performance in FY 2021

Projects	Total Applications		Applications Processed in FY 2021		Applications In Process	Actual Number of BMPs Installed	Impervious Area Treated (square feet)	Total Amount of Rebate Approved
	Received in FY 2021	Pending from FY 2020	Denied	Approved				
Cisterns	13	4	1	4	12	4	2,957	$3,717
Pavement Removal	48	54	29	28	45	30	7,649	$30,536
Permeable Pavement	50	53	29	23	51	26	6,619	$52,624
Rain Barrels	116	74	27	71	93	118	32,892	$11,915
Rain Gardens	50	60	37	21	52	24	8,277	$34,136
Urban Tree Canopy	47	26	18	20	35	123	20,357	$17,856
Green Roof	0	1	1	0	0	0	0	$0
TOTAL	**324**	**272**	**142**	**167**	**288**	**325**	**78,751**	**$150,784**

Countywide Green/Complete Streets Program

DPW&T initiated a countywide Green/Complete Streets Program during the 2011 reporting year as a strategy for addressing mounting MS4 and TMDL treatment requirements. The program seeks out opportunities to incorporate stormwater control measures, environmental enhancements, and community amenities within the DPW&T Capital Improvements Program. The types of enhancements that are being evaluated include low impact design, impervious removal, tree shading, environmental site design in the right-of-way, energy-efficient lighting, and the utilization of recycled materials.

To identify where existing roadway standards could be modified, an evaluation of the County's standard roadway cross sections and details was completed in 2016. Through this evaluation, DPW&T created and approved the County's first urban street standards which reduce standard pavement widths, encourage bicycle and pedestrian use, and increase the opportunity for water quality BMPs to be incorporated within the right-of-way. DPW&T is also currently revising its standards and specifications to incorporate green infrastructure standards for environmental site design and other sustainable stormwater practices within the right-of-way.

The Green/Complete Street Program projects are also implemented as retrofits to existing roadways and present a multitude of challenges. Typically, retrofitting existing roadways requires utility and infrastructure relocation, citizen involvement, and regulatory compliance. Due to the complexity of a typical Green/Complete Street Program project, the projected timeframe for completion from inception to construction may take five (5) years. Wherever feasible, projects will incorporate new stormwater management BMPs to provide treatment for legacy roadways when roadway maintenance includes major reconstruction.

In addition to the green components of the projects, the designs incorporate pedestrian safety and usability improvements such as linked sidewalk, paths and trails, bus shelters, LED lighting, landscaping, integrated epoxy painted bike lanes, and LED rapid-flashing warning systems located at mid-block pedestrian crossings without a traffic signal. To date the County has undertaken six Green/Complete Street projects, including:

- Ager Road – A total of 1.63 miles of Ager Road, Hamilton Street and Jamestown Road in Hyattsville is being reconstructed to improve pedestrian and cyclist safety, remove impervious area and install ESD facilities. The project created a complete multi-modal roadway corridor connecting two MDOT SHA roadways, the West Hyattsville Metro Station, M-NCPPC trail system and pedestrian generators such as parks, schools and apartment complexes. The combination of pavement removal, a bioswale, a micro-bioretention, and three submerged gravel wetland facilities provided an excess ESDv treatment of 21,660 cubic-feet. NTP was given in 11/2018 and completion is anticipated by spring 2021.
- Swann Road – 1.6 miles of Swann Road in Suitland was improved to address appearance, safety and functionality. These improvements included a new curb and gutter roadway section, tree planting, new and upgraded street lighting, a micro-bioretention facility and seven bioswales, bicycle lane installation, and sidewalk. Construction began in 4/2017 and was completed in 5/2019.
- Edmonston Road – 1.6 miles of roadway in Hyattsville was improved to address safety, functionality and aesthetics. These improvements included a road diet to reduce speeding, installation of curb and gutter and sidewalks. The project also improved/upgraded street lighting and installed micro-bioretention facilities between the curb and sidewalk. Construction began in 9/2016 and was completed in 9/2018.
- Montpelier Drive – 0.6 miles of roadway in South Laurel is being improved to address safety and accommodate all principal modes of transportation. Traffic calming elements include a road diet, raised medians, curb extensions, and pavement markings. The scope also includes repaving, sidewalk and driveway aprons, new high-visibility signage, and the installation of drainage inlets and underdrains, where

needed. Landscaping will replace high-risk, dead and diseased trees, such as Bradford Pear trees, with sturdier trees. The project results in the removal of 0.304 acres of impervious surface area. NTP was given in 7/2020 with anticipated completion in 7/2021.

- Harry S. Truman Drive – A proposed 2.4-mile project in Largo to improve safety, functionality and aesthetics. Project elements include enhancing pedestrian/ADA accessibility with sidewalk and shared-use path, ESD facilities and impervious reduction, and maintaining infrastructure in a state of good repair. Safety will be addressed by a road diet to reduce speeding, upgraded traffic signalization and roadway/pedestrian lighting. The use of permeable surfaces is being evaluated to reduce the impervious area impacts from the shared use path. The project has been temporarily suspended due to budget impacts from COVID 19 and to allow for ongoing coordination with Largo area developers, most notably the University of Maryland Capital Region Medical Center.
- Campus Drive – A proposed 1.0-mile project in College Park/Riverdale. The project will improve usability by constructing a multi-modal roadway with bike lanes and continuous sidewalk. Safety will be addressed through implementation of travel lane width reduction and lighting upgrades. Scope also includes tree planting and stormwater management. The project has been temporarily delayed but will resume design in late 2021.

Countywide Channel Programs

The Department of Public Works and Transportation (DPW&T) has completed a county-wide channel assessment program to identify and prioritize channels for replacement utilizing ecosystem restoration solutions when viable. At a preliminary level, the assessment identified the current conditions of the channels and ranked them accordingly, while seeking green infrastructure solutions, such as stream restoration and floodplain reconnections, rather than in-kind replacements for legacy stormwater conveyances, whenever possible. By embracing ecosystem friendly practices as a rule rather than exception, DPW&T aspires to fix a growing list of stormwater management hazards with the channel program. We intent to deliver substantive nonpoint pollution reductions to be applied towards the County's NPDES MS4 Permit.

The first project identified from this county-wide assessment effort, and currently under design is the Calverton Channel Rehabilitation project. Awarded a $1.9 million grant from the Maryland Department of Natural Resources, the project started construction in November 2020 and is anticipated to be completed in March 2022. The project will restore over 2,700 linear feet of stream and provide significant pollution load reductions for Little Paint Branch, a subwatershed of the Anacostia River. The project will demonstrate and pilot ecosystem restoration practices in-lieu of/or integrated with gray infrastructure repair or replacement within dedicated DPW&T easements. Positive outcomes and timely delivery will help support the agency's county-wide channel assessment.

Countywide Storm Drain Inventory Programs

DPW&T has completed the development of a geometric storm drain network schema and has populated that schema with the existing information. In January 2020, DPW&T has hired consultants to

field verify the inventory and record any missing data. The field verification effort started with 72,997 structures in the inventory. As of March 2021, there are 95,779 structures in the inventory. Since January 2020, the consultants have spent over 8,500 hours in the field and have inventoried 63,499 structures. New to the inventory may indicate existing infrastructure that was not mapped. DPWT is continuing this field verification effort through FY22.

Outfall Program

DPW&T's Outfall Reconstruction program continues to address outfall repairs as they are identified. DPW&T's goal is to ensure the outfalls are stable, and to utilize green practices such as step pools, regenerative stream conveyances, and natural vegetated banks, when possible. Construction at Suitland and Regency was completed in June 2019. Construction at Trafalgar Court was completed in November 2019. Construction at 6911 Groveton was started in October 2019 and completed January 2020. Construction at West Indian Head Highway was completed in April 2021. Construction at Clear Creek was completed in March 2021. East Indian Head Highway construction is anticipated to start in October 2021.

Alternative Compliance Program

Alternative Compliance is a unique partnership between Prince George's County and qualified tax-exempt religious organizations or other 501(c) nonprofit organizations to improve water quality in the County's waterways by reducing and treating stormwater runoff. Nonprofits who participate in Alternative Compliance are eligible to receive a reduction in their Clean Water Act Fee by choosing from one of the three options:

- Option 1 requires the property owner to provide an easement to their property for County employees to install BMPs and sign a maintenance agreement for the BMPs subject to tri-annual inspection. This option enables property owners to receive a 50% fee reduction.
- Option 2 requires the property owner to participate in outreach and education events and organize at least one event from a list of environmental management events. This option enables property owners to receive a 25% fee reduction.
- Option 3 requires the property owners to use certified lawn management companies by the County to properly use and apply fertilizers and agree to green care and good housekeeping. This option enables property owners to receive a 25% fee reduction.

As of June 30, 2021, DoE has received and processed 189 applications from qualified faith-based organizations. Option 1 so far has been very successful in building and maintaining these BMP facilities. DoE has also given grants to various reputable nonprofit organizations such as Interfaith Partnership and Peoples for Change Coalition to help ACP applicants to implement Option 2 and Option 3. Also, a public website is being developed to allow Option 2 and Option 3 participant to self-report the yearly activities. This website will help DoE monitor and assess the impact of these activities on the environment and keep engaging and educating the community about clean water issues.

Prince George's County Stormwater Stewardship Grant Program

During FY 2021, the Prince George's County Government and the Chesapeake Bay Trust participated in the eighth year of partnership to support projects throughout Prince George's County that aid

neighborhoods while treating and controlling stormwater. The goal of this program is to improve neighborhoods, improve water quality in the County's waterways, and engage County residents in stormwater issues.

The Prince George's County Stormwater Stewardship Grant Program funds on-the-ground restoration activities that improve neighborhoods, improve water quality, and engage Prince George's County residents in the restoration and protection of the local rivers and streams of Prince George's County.

Applicants included Non-profit organizations, municipalities, watershed organizations, education institutions, community associations, faith-based organizations, civic groups, and more. Table E-40 below lists the projects that were awarded in FY 2021.

Table E-40. Project Awarded in FY2021.

Award #	Organization	Total Award Amount
19,000	Town of Edmonston	$ 142,803.00
18,999	City of Mount Rainier	$ 142,441.00
18,996	City of Hyattsville	$ 36,702.00
18,995	Central Kenilworth Avenue Revitalization Community Development Corporation, Inc.	$ 133,736.00
18,994	Defensores de la Cuenca	$ 15,000.00
18,992	Neighborhood Design Center	$ 30,000.00
18,991	Centro de Apoyo Familiar	$ 15,000.00
18,989	EcoLatinos, Inc.	$ 29,748.00
18,986	Mount Rainier Elementary School PTO	$ 5,000.00
18,984	National Wildlife Federation	$ 29,999.00
18,983	Washington Area Bicyclist Association	$ 5,000.00
TOTAL		**$585,429.00**

F. ASSESSMENT OF CONTROLS

Permit Condition Part IV. F: Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. The County shall use chemical, biological, and physical monitoring to assess watershed restoration efforts, document BMP effectiveness, or calibrate water quality models for showing progress toward meeting any applicable WLAs developed under EPA approved TMDLs identified above. Additionally, the County shall continue physical stream monitoring in the Black Branch watershed to assess the implementation of the latest version of the 2000 Maryland Stormwater Design Manual.

As part of its stormwater management activities, the County has developed a long-term, multi-objective monitoring program that also satisfies monitoring requirements for the countywide NPDES MS4 permit. Since June 2007, the County has conducted chemical, physical, and biological monitoring in the Bear Branch watershed to assess watershed improvement as the result of several restoration retrofits and other environmental improvement efforts. The County also conducts physical monitoring in the Black Branch watershed to determine the effectiveness of its stormwater management practices for stream channel protection. Complete annual monitoring reports with supporting documents for Bear Branch and Black Branch are provided in their respective folders on the DVD under Assessment of Controls.

Permit Condition Part IV. F. 1: The County shall continue monitoring the Bear Branch watershed, or, select and submit for MDE's approval a new watershed restoration project for monitoring. Monitoring activities shall occur where the cumulative effects of watershed restoration activities can be assessed. One outfall and associated in-stream station, or other locations based on a study design approved by MDE, shall be monitored.

1. WATERSHED RESTORATION ASSESSMENT

Monitoring Locations

The County completed its fourteenth (14th) full year of chemical and physical monitoring and its fifteenth (15th) year of biological and physical surveys in the Bear Branch watershed. As shown in Figure F-1, the chemical monitoring was done at Stations 003 and 005, physical monitoring was done at cross sections XS1 through XS5, and biological and physical survey were done at stations 06-006C and 06-008B.

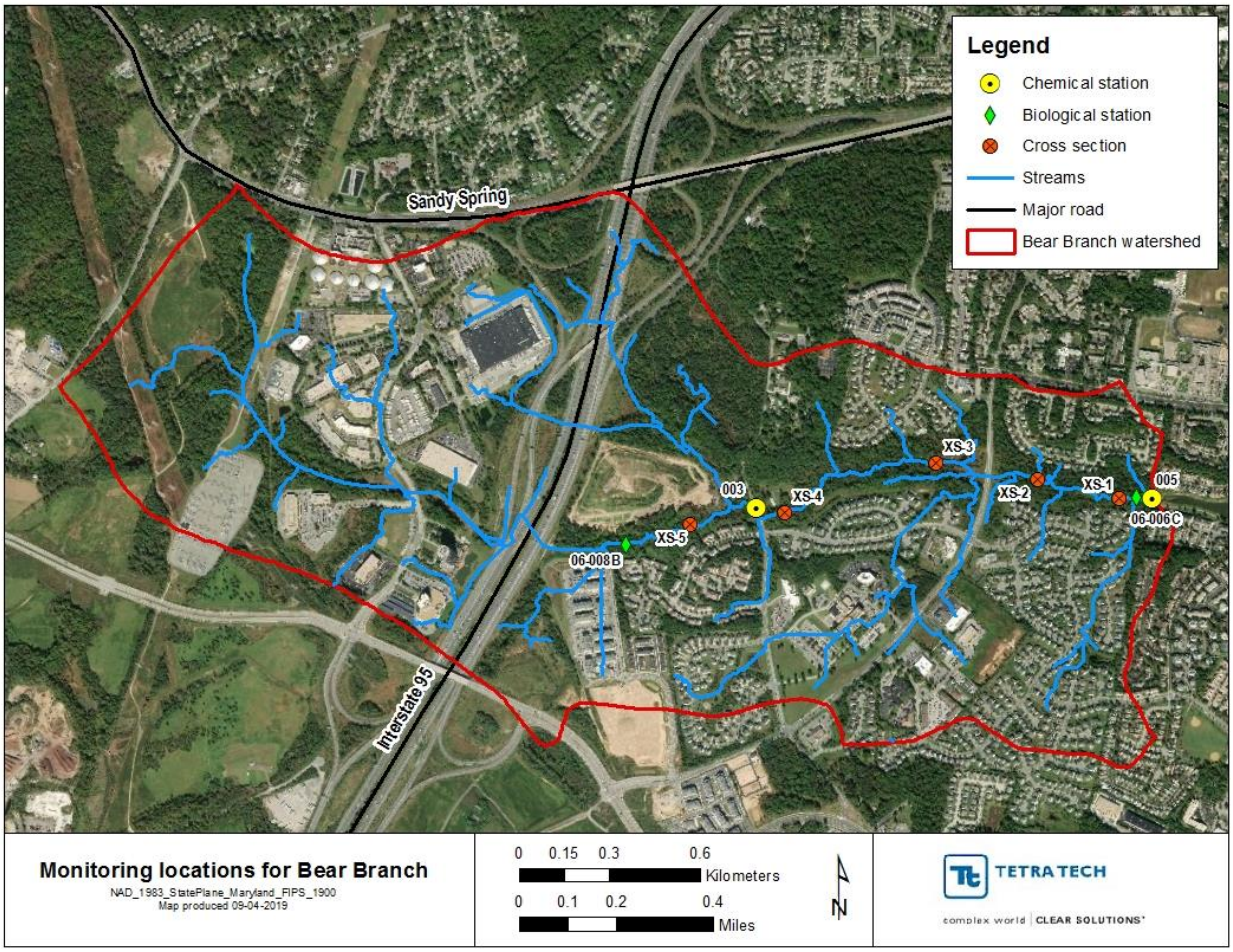


Figure F-1. Bear Branch Monitoring Locations

Chemical Monitoring

Permit Condition Part IV. F. 1. a. (i): Twelve (12) storm events shall be monitored per year at each monitoring location with at least two occurring per quarter. Quarters shall be based on the calendar year. If extended dry weather periods occur, baseflow samples shall be taken at least once per month at the monitoring stations if flow is observed.

Chemical Monitoring Locations and Sampling

Chemical monitoring was performed in Bear Branch watershed at the monitoring stations listed in Table F-1 below:

Table F-1. Chemical Monitoring Locations in Bear Branch Watershed

Station	Station Type	Location	Drainage Area (acres)	Latitude	Longitude
003	In-stream	East of Contee Road	659	39.09023	-76.88478
005	In-stream	200 feet behind the end of Chapel Cove Drive	1,089	39.09044	-76.86980

Sampling events at each monitoring stations are provided in Table F-2 below. During FY 2021, automatic storm samples were collected in eight (8) months. Weather constraints and malfunctioning of the autosampler prevented sample collection in August, December, January, and May. Compare to Station 003, Station 005 had one less storm sample in April due to the automatic sampler triggering prior to a storm event, potentially due to upstream stream restoration activities. Weather and timing constraints were also responsible for missing seven manual storm samples. Baseflows samples were collected on a quarterly basis at both stations.

Table F-2. Chemical Monitoring Sampling Events

Sample Month	Station 003 (Instream)			Station 005 (Instream)		
	Wet Weather		Dry Weather	Wet Weather		Dry Weather
	Parameter Set 1	Parameter Set 2	Baseflow Sample	Parameter Set 1	Parameter Set 2	Baseflow Sample
July	X		Q	X		Q
August						
September	X			X		
October	X	X		X	X	
November	X	X	Q	X		Q
December		X		X	X	
January						
February	X	X	Q	X		Q
March	X	X		X		
April	X				X	
May			Q		X	Q
June	X			X		

Notes: X = sample collected; Param. set 1 = parameters typically collected through automatic sampling: TKN, NO3/NO2, TSS, Cu, Zn, Pb, TP, BOD5, hardness, total phenols; Param. set 2 = parameters typically collected through manual sampling: E. coli, TPH; Q = quarterly baseflow sample collected.

Permit Condition Part IV. F. 1. a. (ii): Discrete samples of stormwater flow shall be collected at the monitoring stations using automated or manual sampling methods. Measurements of pH and water temperature shall be taken

Chemical Monitoring Methods

Storm samples were collected manually and with automated sampling equipment. Baseflow samples were collected manually. Stream stage, pH, and temperature have been measured continuously at stations 003 and 005 since June 15, 2007, when the monitoring stations were relocated to the Bear Branch watershed.

Permit Condition F1 a. (iii): At least three (3) samples determined to be representative of each storm event shall be submitted to a laboratory for analysis according to methods listed under 40 CFR Part 136 and event mean concentrations (EMC) shall be calculated for:

Biochemical Oxygen Demand (BOD5)
Total Kjeldahl Nitrogen (TKN)
Nitrate plus Nitrite
Total Suspended Solids
Total Petroleum Hydrocarbons (TPH)
E. coli or enterococcus
Total Lead
Total Copper
Total Zinc
Total Phosphorus
Hardness

Chemical Monitoring Parameters

Three one-liter bottles were collected manually from the automated samplers, placed on ice and held at 4 degrees Celsius (°C) until delivery to the laboratory. The Samples were delivered to a laboratory for analysis of metals (copper [Cu], lead [Pb], and zinc [Zn]), 5-day biological oxygen demand (BOD_5), nitrate plus nitrite (NO_3/NO_2), total Kjeldahl nitrogen (TKN), total phosphorus (TP), total phenols, total petroleum hydrocarbons (TPH), *Escherichia coli (E. coli)*, and hardness.

For *E. coli* and TPH, grab samples were collected because of the need for specialized containers and, in the case of E. coli, a short holding time. If possible, these grab samples are collected during the same storm event as samples collected by the automated samplers. Occasionally, it is not possible to collect grab samples at the same time as automated samples because of safety concerns associated with storm events that occur overnight or have hazardous conditions. If grab samples cannot be collected at the same time as automated samples, they were collected for another storm event that same month.

Table F-3 presents the required parameters analyzed and the analytical procedure. Microbac Laboratories, Inc., in Baltimore, Maryland, analyzed the samples. Hardness was added for the 2013–2014 monitoring year because it is expected to be a required monitoring parameter in the next MS4 permit for the County. The results of this analysis can be found on page 4-1 in "Prince George's County, Maryland—Long-Term Stormwater Monitoring Program—Bear Branch", which is saved on DVD, under Assessment of Controls\Bear Branch folder.

Table F-3. Monitoring Parameters

Parameter	EPA method	Holding time at 4 °C	Project reporting limit	Units
Copper (Cu)	EPA 200.8/6020	6 months	1	µg/L
Lead (Pb)	EPA 200.8/6020	6 months	1	µg/L
Zinc (Zn)	EPA 200.8/6020	6 months	5	µg/L
BOD_5	SM (20) 5210B	48 hours	2–5	mg/L
NO_3/NO_2	EPA 353.2	28 days	0.05–0.1	mg/L
TKN	SM (20) 4500N-org/NH3-G	28 days	0.1	mg/L
TP	EPA 365.1	28 days	0.01	mg/L
TSS	SM (20) 2540D	7 days	2	mg/L
E. coli	SM (20) 9221F	6-8 hours total	2	MPN/100 mL
TPH	EPA 1664A	28 days	5	mg/L

Parameter	EPA method	Holding time at 4 °C	Project reporting limit	Units
Hardness	SM (20) 2340 C	28 days	1.0	mg $CaCO_3$/L
pH	EPA 150.1	In-stream measurement	--	Standard units (SU)
Temperature	EPA 170.1	In-stream measurement	--	°C

Notes: µg/L = micrograms per liter; mg/L = milligrams per liter; MPN/100 mL = most probable number per 100 milliliters.

Permit Condition Part IV. F. 1. a. (iv): Continuous flow measurements shall be recorded at the in-stream monitoring station or other practical locations based on the approved study design. Data collected shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models. Pollutant load estimates shall be reported according to any EPA approved TMDLs with stormwater WLAs.

Flow Measurement and Event Mean Concentration Calculation

Both chemical monitoring stations (003 and 005) are equipped with an auto sampler (ISCO 4220), which uses a pressure transducer to continually measure depth of water (stream level) and initiate the collection of storm event samples. The auto sampler contains data loggers that store the water level, pH, and temperature data for the station. Data are downloaded at least monthly with a rapid transfer device for later processing and analysis in the office.

Each auto sampler is programmed with a unique stream stage point so that stream-level rise in response to a storm event will cause the flow meter to activate the sampler and begin sample collection. Stream stage activation levels are unique for each station and are periodically changed to ensure adequate storm sampling. Changes in the flow meter programming are made during extended dry periods and to account for seasonal fluctuations.

Stage data were analyzed to determine total baseflow and stormflow volumes during the monitoring period. Stage was recorded at 5-minute intervals. Stage-to-flow rate conversions were made using rating curves. The curves involve power functions, developed through regression analysis, that relate measured stage-to-flow relationships. To date, seventy-five (75) stage-to-flow measurements have been taken at station 003. Forty-two (42) measurements have been taken at station 005 prior to the ponding conditions during the Laurel Lake dredging project, six (6) measurements were taken after the ponding conditions created, and twenty-five (25) measurements have been taken since the ponding has receded. The data were plotted, and a relationship between stage and flow was determined. That relationship was then used to calculate the flow at the monitoring stations for subsequent use in determining event mean concentrations (EMCs).

For both chemical monitoring stations, individual EMCs by parameter and storm were computed by flow-weighting the concentration data obtained at discrete points using the following equation:

$$\frac{C_r Q_r + C_p Q_p + C_f Q_f}{Q_r + Q_p + Q_f}$$

Where,

C was the concentration of each sampled parameter;

Q was the instantaneous discharge at the time of the sample; and r, p, and f indicate the discrete sample—rising limb, peak, and falling limb, respectively.

EMCs are reported to MDE in a yearly database submission. The EMCs were used in calculating the loading rates. Total seasonal pollutant loads were estimated for stormflow and baseflow by applying the median storm EMCs to unmeasured flows. Those values were then divided by total drainage area and summed to determine total annual loads.

Biological Monitoring

Permit Condition Part IV. F. 1. b. (i): Benthic macroinvertebrate Samples shall be gathered each Spring between the outfall and in stream stations or other practical locations based on an approved study design;

Biological Monitoring Locations

Monitoring was performed in spring 2021 in the Bear Branch watershed. Two assessment locations were surveyed; these locations are described in Table F-4. One station is upstream of station 005 (station 06-006C) and about 90 feet upstream of the confluence of Bear Branch and Laurel Lake. The newer station (station 06-008B) is on the mainstem of Bear Branch northeast of the end of Bonnet Lane, upstream of Contee Road, and approximately 250 meters downstream of I–95.

Table F-4. Locations of Sampling Stations

Station	Location	Area (acres)	Latitude/longitude
06-006C	Corner of Chapel Cover Road and Dover Court, approximately 90 feet upstream of outfall on right bank upstream of Laurel Lake	989	39.09052 / –76.87026
06-008B	Bonnet Lane on northeastern end	394	39.089125 / –76.88988

Permit Condition Part IV. F. 1. b. (ii): The County shall use the EPA Rapid Bioassessment Protocols (RBP), Maryland Biological Stream Survey (MBSS), or other similar method approved by MDE.

Bioassessment Protocols

The method used was a modification of EPA's Rapid Bioassessment Protocols (RBP) III for use in the Coastal Plain physiographic region where the County is located. A 100-meter reach of channel was assessed using the 20-jab method. In this method, 20 one-meter sections of stream are sampled using a D-frame net with a mesh size of 600 micrometers. Sampling was distributed throughout the available physical habitat (e.g., undercut banks, riffles, snags) in rough proportion to its occurrence within the assessment reach. Organisms collected were preserved in 95 percent ethyl alcohol and returned to the laboratory for identification. Sample identification results were recorded as a list of taxa (a unit of biological classification) and numbers of individuals of each (counts).

Benthic macroinvertebrate samples collected in the spring were assessed using the Maryland Department of Natural Resource' Maryland Biological Stream Survey's (MBSS) benthic index of biotic integrity (B-IBI, Southerland et al. 2005). The MBSS Coastal Plain index consists of seven metrics scored 1, 3, or 5 and then averaged for a final score between 1 and 5. A higher score is closer to reference conditions, and a lower score is indicative of impairment. Table F-5 describes the MBSS B-IBI assessment values.

Table F-5. Narrative and Numeric Assessments Ratings for the MBSS Biological Indices B-IBI

Narrative Assessment	Index Score
Good	4.0–5.0
Fair	3.0–3.9
Poor	2.0–2.9
Very poor	1.0–1.9

Physical Monitoring

Permit Condition Part IV. F. 1. c. (i): A geomorphologic stream assessment shall be conducted between the outfall and in stream monitoring locations or in a reasonable area based on an approved study design. This assessment shall include an annual comparison of permanently monumented stream channel cross-sections and the stream profile.

Monitoring Protocols (physical)

During this reporting period, the stream physical condition was assessed using longitudinal profile data, cross-sectional analysis, and geomorphic characterization. These assessments are completed each year in the fall. August 2020 was the fourteenth year that the County has performed a geomorphologic assessment in the Bear Branch watershed. The next assessment is planned for August 2021.

A longitudinal profile was measured from just downstream of station 005 to 6,918 feet upstream. A benchmark was established in 2007 and was used as a common reference datum to relate past work. However, the benchmark was not able to be found in 2017. Consequently, a new benchmark was established for reference between the 2017 data and future monitoring work. Throughout the profile, the elevations and locations of the thalweg were surveyed using a total station data collector.

Five monumented cross sections were installed in the assessment area in the Bear Branch watershed; the latitudinal and longitudinal coordinates of these cross sections are noted in Table F-6. Four cross sections (XS-1 through XS-4) are between station 003 and station 005, and one cross section (XS-5) is farther upstream. The cross sections were monumented with 0.5-inch rebar topped with orange survey caps. Engineering flagging also was hung near the ends of each cross section. All cross sections were tied into the longitudinal profile.

Particle size was estimated near each cross section, along an assessment reach length of approximately 20 to 24 bankfull channel widths. In addition, an attempt was made to identify a geomorphological feature that corresponds to a channel-forming (bankfull) discharge so that a Rosgen Level II classification could be made. Finally, an analysis of bank erosion potential was made using

methodologies described in Rosgen (1996). Vertical stability was tracked via the thalweg profile and by locating the presence of nickpoints as indicators of headcutting processes.

Table F-6. Location of Five Monumented Cross Sections

Cross Section	Longitude				Latitude			
	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	
XS-1	76	53	14.774	W	39	5	23.021	N
XS-2	76	53	1.609	W	39	5	24.333	N
XS-3a	76	52	40.440	W	39	5	29.820	N
XS-4	76	52	26.601	W	39	5	27.835	N
XS-5	76	52	15.293	W	39	5	25.806	N

[a] *Relocated for the 2009 survey. Rebar monuments were replaced in 2011 because of stream restoration construction.*

Permit Condition Part IV. F. 1. c. (ii): A stream habitat assessment shall be conducted using techniques defined by the EPA's "Rapid Bioassessment Protocol for use in Streams and Rivers," or other similar method;

Stream Habitat Assessment

Concurrent with the biological sample collection, a qualitative, visual-based assessment of habitat quality was performed in the assessment reach. Habitat scores were from the EPA rapid bioassessment protocols (RBP, Barbour et al. 1999) for low-gradient streams. The assessment consisted of ten physical habitat parameters visually assessed and assigned scores between 0 and 20. The resultant value (between 0 and 200) was then compared to the reference condition (168) and assigned a narrative description, using the descriptions in Table F-7.

Table F-7. Narrative and Numeric Assessments Ratings for the RBP Physical Habitat Quality

Narrative Assessment	Index Score
Comparable	≥ 151
Supporting	126–150
Partially Supporting	101–125
Non-Supporting	0–100

The ten physical habitat parameters evaluated include epifaunal substrate / available cover, pool substrate characterization, pool variability, sediment deposition, channel flow status, channel alteration, channel sinuosity, and three parameters that are evaluated on a 0 to 10 scale separately for each bank of the stream. The three parameters that look at each bank were bank stability, vegetative protection, and riparian vegetative zone width. Collectively, the combined scores for the metrics yield a total score for the reach that allows for comparison to optimal habitat conditions in the same physiographic region.

Permit Condition Part IV. F. 1. c. (iii): A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HSPF, SWMM, etc.) in the fourth year of the permit to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

Channel Geometry Analysis

As required by the permit, a hydrologic and/or hydraulic model was used in FY 2019 to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.

Permit Condition Part IV. F. 1. d: For the annual data submittal the County shall describe in detail its monitoring activities for the previous year and include the following:

I. EMCs submitted on MDE's long-term monitoring database as specified in PART IV. A.2.d. below;

II. Chemical, biological, and physical monitoring results and a combined analysis for the Beaverdam Creek or other approved monitoring locations; and

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

Monitoring Results

A full analysis of the monitoring results is provided in the Bear Branch monitoring report, *Prince George's County, Maryland—Long-Term Stormwater Monitoring Program —Bear Branch Annual Report 2021,* included on the DVD, under Assessment of Controls\Bear Branch. This report and the attached chemical long-term monitoring database meet the reporting requirements for the NPDES MS4 program. Specific report sections for each monitoring requirement are described below in Table F-8.

Table F-8. Index of Monitoring Report Activities (*Long-Term Stormwater Monitoring Program —Bear Branch Annual Report 2021)*

Monitoring Activity	Report Section	Page
1(a)(i) Storm Event Sampling Frequency	3.1.2	3-2
1(a)(ii) Storm Event Sampling Procedure	3.1.2	3-2
1(a)(iii) Parameters Requiring EMC Calculations	3.1.3	3-2
1(a)(iv) Continuous Flow Monitoring	3.1.4	3-4
1(b)(i) Biological Sampling Locations	3.2.1	3-8
1(b)(ii) Biological Sampling Method	3.2.1	3-8
1(c)(i) Geomorphological Stream Assessment Location and Methods	3.3.2	3-9
1(c)(ii) Stream Habitat Assessment	3.2.2	3-9
1(c)(iii) Hydrologic and Hydraulic Modeling	--	--
1(d)(i) Reporting EMCs on MDE's Database	--	--
1(d)(ii) Results and Analysis of Monitoring Data	4.0	4-1
1(d)(iii) Proposed Modifications to the Monitoring Program	--	--

2. STORMWATER MANAGEMENT ASSESSMENT

Permit Condition Part IV. F. 2. a: The County shall continue to monitor the Black Branch watershed or select and submit for MDE's approval a new watershed restoration project for determining the effectiveness of stormwater management practices for stream channel protection.

Physical Monitoring

The County began monitoring the Black Branch watershed and a small Black Branch tributary (Tributary 1) in 2001, using physical, hydrologic, and hydraulic methods. The County discontinued the chemical monitoring program along Tributary 1 in March 2008. Biological monitoring, just below the confluence of Tributary 1 and Black Branch, was discontinued after 2007. For this reporting year, the County could not do its physical monitoring of the Black Branch watershed and Tributary 1 due to COVID-19, which are conducted between August and October each year.

Permit Condition Part IV. F. 2. b: Physical stream monitoring protocols shall include an annual stream profile and survey of permanently monumented cross-sections in Black Branch to evaluate channel stability in conjunction with the residential development of Oak Creek Club;

Monitoring Locations

To monitor and compare changes in channel geometry, 14 permanently monumented cross sections (named MS1 through MS9 along the Black Branch and T1 through T5 along the Tributary 1) have been used in previous years; the locations of these cross sections are shown in Figure F-2. Unfortunately, for this reporting year, the County could not do its physical monitoring of the Black Branch watershed and Tributary 1 due to procurement backlog caused by COVID-19.

Permit Condition Part IV. F. 2. c: Physical stream monitoring protocols shall include a comparison of the annual stream profile and survey of the permanently monumented cross-sections with baseline conditions for assessing areas of aggradation and degradation.

Monitoring Results

Each year since 2001, the Black Branch watershed has been evaluated to determine whether there were any significant changes to the watershed's physical conditions since the baseline evaluation. Unfortunately, for this reporting year, the County could not do its physical monitoring of the Black Branch watershed and Tributary 1 due to procurement backlog caused by COVID-19.

Figure F-2. Locations of Cross Sections in Black Branch and Tributary 1 Watersheds

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G. PROGRAM FUNDING

Permit Conditions Part IV. G:

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

Fiscal Analysis

This information is provided in the MDE's MS4 geodatabase on DVD.

2. *Adequate program funding to comply with all conditions of this permit shall be maintained. Lack of funding DoEs not constitute a justification for noncompliance with the terms of this permit.*

A financial assurance plan showing the County meeting its 100-percent requirement of the projected expenses for 2021 and 2022 was submitted with last year's report.