Conservation of Natural Resources

Storm Drains

Facility Planning: Storm Drains
(P508180)

Category	Conservation of Natural Resources	Date Last Modified	03/25/20
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design and Supervision	8,097	5,788	389	1,920	320	320	320	320	320	320	-
Land	142	142	-	-	-	-	-	-	-	-	-
Construction	40	40	-	-	-	-	-	-	-	-	-
Other	5	5	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	8,284	5,975	389	1,920	320	320	320	320	320	320	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Current Revenue: General	4,103	4,103	-	-	-	-	-	-	-	-	-
Current Revenue: Water Quality Protection	4,080	1,771	389	1,920	320	320	320	320	320	320	-
G.O. Bonds	101	101	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	8,284	5,975	389	1,920	320	320	320	320	320	320	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 21 Request	320	Year First Appropriation	FY81
Appropriation FY 22 Request	320	Last FY's Cost Estimate	7,524
Cumulative Appropriation	6,364		
Expenditure / Encumbrances	6,035		
Unencumbered Balance	329		

PROJECT DESCRIPTION

This project provides for the investigation and analysis of various storm drainage assistance requests initiated by private citizens and public agencies. These requests are related to the design, construction, and operation of public drainage facilities where flooding and erosion occur. This project includes expenditures for the preliminary and final design and land acquisition for storm drain projects prior to inclusion in the Storm Drain General project, or as a stand-alone project in the Capital Improvements Program (CIP). Prior to its inclusion in the CIP, the Department of Transportation (DOT) will conduct a feasibility study to determine the general and specific features required for the project. Candidate projects currently are evaluated from the Drainage Assistance Request list. As part of the facility planning process, DOT considers citizen and public agency requests and undertakes a comprehensive analysis of storm drainage issues and problems being experienced in the County. This analysis is used to select areas where a comprehensive long-term

plan for the remediation of a problem may be required. No construction activities are performed in this project. When a design is 35 percent complete, an evaluation is performed to determine if right-of-way is needed. Based on the need for right-of-way, the project may proceed to final design and the preparation of right-of-way plats under this project. The cost of right-of-way acquisition will be charged to the Advanced Land Acquisition Revolving Fund (ALARF). When designs are complete, projects with a construction cost under $500,000 will be constructed in the Storm Drain General project. Projects with a construction cost over $500,000 will be constructed in stand-alone projects.

CAPACITY

Projects will be designed to accommodate the ten year storm frequency interval.

COST CHANGE

Increase due to the addition of FY25 & FY26 to this on-going level of effort project. Increase of $30,000 annually to expedite the readiness of projects into construction.

PROJECT JUSTIFICATION

Evaluation, justification, and cost-benefit analysis are completed by DOT as necessary. In the case of participation projects, drainage studies and preliminary plans will be prepared by the requestor's engineer and reviewed by DOT. Traffic signals, streetlights, crosswalks, bus stops, ADA ramps, bikeways and other pertinent issues are being considered in the design of the project to ensure pedestrian safety.

OTHER

Before being added as a sub-project, concept studies are evaluated based on the following factors: public safety; damage to private property; frequency of event; damage to public right-of-way; environmental factors such as erosion, general public benefit, availability of right-of-way; and 5:1 cost benefit damage prevented ratio. In the case of public safety or severe damage to private property, the 5:1 cost benefit damage prevented ratio can be waived. Drainage assistance requests are evaluated on a continuing basis in response to public requests. DOT maintains a database of complaints. Recent construction projects completed include: Crown Street, Grafton Street, Lanier Drive, Ogden Court, Ashburton Lane, Mintwood Street, Woodland Drive, Stable Lane and Charred Oak Drive. Candidate Projects for FY21 and FY22: Tranford Road, Windmill Lane, and Conway Drive.

DISCLOSURES

A pedestrian impact analysis has been completed for this project. Expenditures will continue indefinitely.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park and Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services, Utility Companies, and Sidewalk Program - Minor Projects (CIP No. 506747).

Outfall Repairs
(P509948)

Category	Conservation of Natural Resources	Date Last Modified	12/31/19
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design and Supervision	4,374	2,763	489	1,122	187	187	187	187	187	187	-
Land	12	12	-	-	-	-	-	-	-	-	-
Construction	6,440	4,515	275	1,650	275	275	275	275	275	275	-
Other	3	3	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	10,829	7,293	764	2,772	462	462	462	462	462	462	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Current Revenue: Water Quality Protection	1,823	667	364	792	132	132	132	132	132	132	-
G.O. Bonds	5,357	5,357	-	-	-	-	-	-	-	-	-
Long-Term Financing	2,540	160	400	1,980	330	330	330	330	330	330	-
Water Quality Protection Bonds	1,109	1,109	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	10,829	7,293	764	2,772	462	462	462	462	462	462	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 21 Request	924	Year First Appropriation	FY99
Appropriation FY 22 Request	-	Last FY's Cost Estimate	9,905
Cumulative Appropriation	8,057		
Expenditure / Encumbrances	7,583		
Unencumbered Balance	474		

PROJECT DESCRIPTION

This project provides for the repair of existing storm drain outfalls into stream valleys. Design of corrective measures is included when in-kind replacement of original outfall structures is not feasible. Candidate outfall repairs are selected from citizen and public agency requests. The Department of Environmental Protection's (DEP) Miscellaneous Stream Valley Improvements project generates and assists in rating the outfalls, which are identified as that project expands into additional watersheds.

COST CHANGE

Increase due to the addition of FY25 & FY26 to this on-going level of effort project.

PROJECT JUSTIFICATION

Collapsed storm drain pipe sections, undermined endwalls, and eroded outfall channels create hazardous conditions throughout the County. The course of drainage could be altered endangering private property or public roads and speeding the erosion of stream channels. Erosion from damaged outfalls results in heavy sediment load being carried downstream that can severely impact aquatic ecosystems and exacerbate existing downstream channel erosion. As part of its watershed restoration inventories, DEP identifies storm drain outfalls that are in need of repair in County stream valleys and respective watersheds. As this program expands to include additional watersheds, each outfall is categorized and, where damaged, rated. A functional rating and evaluation process is used to prioritize each outfall.

OTHER

The number of outfall locations being repaired per year varies based on the severity of the erosion and damage, the complexity of the design, and the complexity of the needed restorative construction work. Completed outfalls in FY18-19: Elsmere Road, Brentford Drive, Hollyoak Drive, Charred Oak Drive, Woodbine Road, Kemp Mill Road and Lockridge Drive. Scheduled for repairs (FY20 - beyond): Daniel Road, Glen Road, Whisperwood Road, Margate Road, and Shiloh Church Road.

FISCAL NOTE

In FY19, Water Quality Protection Bonds were replaced with long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) to finance water quality improvement projects with low interest loans which are less costly than bond sales. Funding schedule reflects MDE's cost eligibility rules.

DISCLOSURES

A pedestrian impact analysis has been completed for this project. Expenditures will continue indefinitely.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park and Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services, Utility Companies, and Miscellaneous Stream Valley Improvements (CIP No. 807359).

Storm Drain Culvert Replacement
(P501470)

Category	Conservation of Natural Resources	Date Last Modified	05/17/20
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design and Supervision	3,000	1,200	345	1,455	180	255	255	255	255	255	-
Construction	16,998	7,822	931	8,245	1,020	1,445	1,445	1,445	1,445	1,445	-
Other	2	2	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	20,000	9,024	1,276	9,700	1,200	1,700	1,700	1,700	1,700	1,700	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Current Revenue: Water Quality Protection	4,000	4,000	-	-	-	-	-	-	-	-	-
G.O. Bonds	1,500	1,500	-	-	-	-	-	-	-	-	-
Long-Term Financing	12,100	1,124	1,276	9,700	1,200	1,700	1,700	1,700	1,700	1,700	-
Water Quality Protection Bonds	2,400	2,400	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	20,000	9,024	1,276	9,700	1,200	1,700	1,700	1,700	1,700	1,700	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 21 Request	1,200	Year First Appropriation	FY14
Appropriation FY 22 Request	1,700	Last FY's Cost Estimate	15,100
Cumulative Appropriation	10,300		
Expenditure / Encumbrances	9,038		
Unencumbered Balance	1,262		

PROJECT DESCRIPTION

This program will provide for the replacement of failed storm drain pipes and culverts. The County's storm drain infrastructure is aging and many of the metal pipe culverts installed from 1960 through the 1990's have reached the end of their service life. An asset inventory with condition assessments has been developed to better forecast future replacement needs. Going forward, funding will be programmed for both systematic and emergency replacement of these pipes and culverts. Program scope includes: storm water pipe and culvert replacement of both metal and concrete less than six (6) feet in roadway longitudinal length; headwalls, end sections, replacement, or extension of culverts to assure positive flow of stormwater and channeling of stormwater into existing ditch lines or structures. Repairs also include roadside pipe and culvert end treatment safety improvements to eliminate safety hazards. This project will not make major changes to the location or size of existing storm drainage facilities. Structures greater than six-feet-roadway-

longitudinal length are repaired under the Bridge Renovation Program, (CIP No. 509753).

COST CHANGE

Cost increase due to the addition of FY25-26 to this ongoing level of effort project. FY22-26 increase of $500,000 per year to increase the level of effort and to provide flexibility to deal with emergencies.

PROJECT JUSTIFICATION

This program will address emergency pipe replacements of aging metal and concrete pipes that have reached the end-of-their-service life. The result of these pipe failures has been deep depressions, sinkholes, sediment build-up, open pipe joints, and metal pipe inverts to an unacceptable levels. Existing storm drain conditions are extremely poor. Repairs are needed to improve safety and reduce the potential for hazards and associated public inconvenience. Failure of a storm drain pipe will precipitate emergency repairs at much higher prices. Furthermore, this program provided funding towards developing an asset inventory of the storm drain system including pipe and culvert conditions that helps forecast future funding requirements.

FISCAL NOTE

In FY19, Water Quality Protection Bonds were replaced with long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) to finance water quality improvement projects with low-interest loans which are less costly than bond sales.

DISCLOSURES

Expenditures will continue indefinitely.

COORDINATION

Washington Suburban Sanitary Commission, Washington Gas Company, Montgomery County Department of Permitting Services, Pepco, Cable TV, Verizon, Montgomery County Public Schools, Regional Service Centers, Community Association's, Commission on People With Disabilities, Maryland Department of Environment, Montgomery County Department of Environmental Protection, and United States Army Corps of Engineers.

Storm Drain General
(P500320)

Category	Conservation of Natural Resources	Date Last Modified	05/17/20
SubCategory	Storm Drains	Administering Agency	Transportation
Planning Area	Countywide	Status	Ongoing

EXPENDITURE SCHEDULE ($000s)

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design and Supervision	4,671	2,070	823	1,778	288	298	298	298	298	298	-
Land	103	103	-	-	-	-	-	-	-	-	-
Construction	15,740	10,965	613	4,162	652	702	702	702	702	702	-
Other	1	1	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	20,515	13,139	1,436	5,940	940	1,000	1,000	1,000	1,000	1,000	-

FUNDING SCHEDULE ($000s)

Funding Source	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Current Revenue: Water Quality Protection	2,996	1,600	448	948	158	158	158	158	158	158	-
G.O. Bonds	9,169	9,169	-	-	-	-	-	-	-	-	-
Intergovernmental	223	223	-	-	-	-	-	-	-	-	-
Long-Term Financing	6,291	311	988	4,992	782	842	842	842	842	842	-
State Aid	162	162	-	-	-	-	-	-	-	-	-
Water Quality Protection Bonds	1,674	1,674	-	-	-	-	-	-	-	-	-
TOTAL FUNDING SOURCES	20,515	13,139	1,436	5,940	940	1,000	1,000	1,000	1,000	1,000	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 21 Request	1,940	Year First Appropriation	FY03
Appropriation FY 22 Request	-	Last FY's Cost Estimate	17,991
Cumulative Appropriation	14,575		
Expenditure / Encumbrances	13,496		
Unencumbered Balance	1,079		

PROJECT DESCRIPTION

This project provides the flexibility to construct various sub-projects that might otherwise be delayed for lack of funds or difficulty in acquiring right-of-way. This project provides for right-of-way acquisition and construction for storm drain projects resulting from the Drainage Assistance Request Program. Individual projects range from retrofitting existing storm drainage systems to developing new drainage systems required to upgrade the existing systems in older subdivisions. Projects formerly handled through the Neighborhood Storm Drain Improvements Project are usually small, unanticipated projects initiated by requests from citizens whose homes and

properties are subject to severe flooding or erosion and where there is a demonstrated need for early relief. Potential new storm drain projects are studied under the Facility Planning: Storm Drain project. Concept studies are evaluated based on the following factors: public safety, damage to private property and frequency of event, damage to public right-of-way, environmental factors such as erosion, general public benefit, availability of right-of-way and 5:1 cost benefit damage prevented ratio. After the completion of facility planning, projects with construction estimated to cost less than $500,000 are included in this project. Prompt relief is frequently achieved by the use of Department of Transportation (DOT) personnel to construct and provide construction management. The project also facilitates financial participation with developers up to 50 percent share of construction cost for storm drainage projects where such construction would yield a public benefit to properties other than that of homeowner or developers. Right-of-way is acquired under the Advanced Land Acquisition Revolving Fund (ALARF).

CAPACITY

Projects will be designed to accommodate the ten-year storm frequency interval.

COST CHANGE

Increase due to the addition of FY25 & FY26 to this on-going level of effort project. Cost increase in FY21 for $86,000 and $146,000 in each year from FY22 through FY26 to address more projects.

OTHER

On Participation projects, cost sharing between the County and either homeowners or developers varies and is based upon a signed Letter of Understanding. Some funds from this project will go to support the Renew Montgomery program. Completed Projects in FY18 and FY19: Crown Street, Grafton Street, Lanier Drive, Ogden Court, Ashburton Lane, Mintwood Street, Woodland Drive, Charred Oak Drive, and Stable Lane. Potential Future projects: Tranford Road, Windmill Lane and Conway Road.

FISCAL NOTE

In FY19, Water Quality Protection Bonds were replaced with long-term financing based on the Maryland Water Quality Revolving Loan Fund (WQRLF) to finance water quality improvement projects with low-interest loans which are less costly than bond sales. Funding schedule reflects MDE's cost eligibility rules.
The FY21 appropriation has been programmed to cover both FY21 and FY22 project expenditures; consistent with past practice for this project.

DISCLOSURES

A pedestrian impact analysis will be performed during design or is in progress. Expenditures will continue indefinitely. The County Executive asserts that this project conforms to the requirement of relevant local plans, as required by the Maryland Economic Growth, Resource Protection and Planning Act.

COORDINATION

Montgomery County Department of Environmental Protection, Maryland-National Capital Park & Planning Commission, Maryland Department of the Environment, United States Army Corps of Engineers, Montgomery County Department of Permitting Services, Utility Companies, and Sidewalk Program - Minor Projects (CIP No. 506747).