



Committee: T&E
Committee Review: Completed
Staff: Keith Levchenko, Senior Legislative Analyst
Purpose: preliminary decisions – straw vote expected
Keywords: #StormwaterManagementCIP, DEP, NPDES-MS4 Permit

AGENDA ITEM #9
April 21, 2020
Worksession

SUBJECT

FY21-26 Capital Improvements Program – Conservation of Natural Resources: Stormwater Management

EXPECTED ATTENDEES

Adam Ortiz, Director, Department of Environmental Protection (DEP)
Patty Bubar, Deputy Director, DEP
Frank Dawson, Chief, Watershed Restoration, DEP
Rich Harris, Office of Management and Budget

FISCAL SUMMARY

FY21-26 versus Amended FY19-24 Expenditures (in 000's)

| | Six-Year Total | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|----------------------------|----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| FY19-24 Amended | 104,990 | 27,430 | 23,240 | 14,810 | 14,870 | 14,000 | 10,640 | | |
| FY21-26 CE Rec | 112,230 | | | 21,120 | 26,530 | 16,870 | 15,590 | 16,130 | 15,990 |
| change from amended (\$,%) | 7,240 6.9% | | | 6,310 | 11,660 | 2,870 | 4,950 | | |
| Committee Rec | 112,230 | | | 21,120 | 26,530 | 16,870 | 15,590 | 16,130 | 15,990 |
| change from amended (\$,%) | 7,240 6.9% | | | 6,310 | 11,660 | 2,870 | 4,950 | | |
| change from CE Rec (\$,%) | - 0.0% | | | - | - | - | - | - | - |

- Six-year program is up by \$7.2 million (6.9 percent)
- Large increase recommended in the SM Facility Major Structural Repair project to begin to address a backlog of projects (see Page 14)
- Multiple projects recommended to be consolidated into the Stormwater Retrofit: Countywide project; including the Design/Build/Maintain (Turn-Key Restoration) project (see Pages 13-14)
- Low-interest long-term financing from the Maryland Water Quality Revolving Loan Fund continues to be the largest funding source. Water Quality Protection Charge current revenue as well as State and Federal aid, and stormwater management waiver fees make up the rest of the funding sources (See Page 10). **No General Obligation Bonds or General Fund Current Revenue are assumed for the Stormwater Management CIP.**

OTHER ISSUES

- Most recent NPDES-MS4 permit expired in 2015. Permit conditions remain in place pending a new permit.
- The County will align its stormwater management CIP program's priorities based on 2019 accounting guidance provided by MDE and future MDE action on the County's next NPDES-MS4 permit. New draft permit (tentative determination) expected Summer 2020.

- Pending the new permit, DEP reopened three suspended projects and is evaluating several others to potentially move forward (see ©39).

COMMITTEE RECOMMENDATION

- Approve the Stormwater Management CIP as recommended by the County Executive.

This report contains:

- | | |
|---|-----------------------|
| • T&E Committee March 2, 2020 Council Staff Report (SWM excerpt) | Pages 1-2,9-15, ©9-17 |
| • MS4 Program Capital Improvements Project Slides – March 2, 2020 | Slide Numbers 1-25 |

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Excerpt
SWM CIP

T&E COMMITTEE #3&4
March 2, 2020

Worksession

MEMORANDUM

February 26, 2020

TO: Transportation & Environment Committee

FROM: *KL* Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Worksession: FY21-26 Capital Improvements Program (CIP) Conservation of Natural Resources: Agenda Item #3: Storm Drains and Agenda Item #4: Stormwater Management**

NOTE: Both the Storm Drains CIP and the Stormwater Management CIP are funded via the Water Quality Protection Fund. Therefore, any potential expenditure changes in these programs do not affect the County's affordability calculations with regard to G.O. bonds or general current revenue. Instead, these projects, either through current revenue or debt repayment impact the Water Quality Protection Charge and the charge per "equivalent residential unit" to be assessed for FY21.

- **Storm Drains**
Highlights:
 - All projects recommended to continue at the same annual funding levels as approved.
 - No new "stand alone" projects.
 - Backlogs being experienced in several projects
 - **Council Staff recommends increasing levels of effort in some projects.**
- **Stormwater Management: Approve as Recommended by the County Executive**
 - Six-year program is up by \$7.2 million (6.9 percent)
 - Increase recommended in the SM Facility Major Structural Repair project
 - Multiple projects recommended to be consolidated into the Stormwater Retrofit: Countywide project.
 - Still waiting on State action on the County's NPDES-MS4 permit.
 - **Council Staff supports approval of the County Executive's recommendations**

NOTE: Council Staff has asked DEP and DOT to provide summary presentations of their programs, including some specific "before and after" examples of recently completed work funded out of these various CIP projects.

The following officials and staff will be attending this meeting:

Storm Drains CIP

- Dan Sheridan, Design Section Chief, Division of Transportation Engineering, Department of Transportation
- Mary Beck, OMB CIP Manager
- Veronica Jaua, OMB Fiscal and Policy Analyst

Stormwater Management CIP

- Patty Bubar, Deputy Director, Department of Environmental Protection (DEP)
- Frank Dawson, Chief, Watershed Restoration Division, DEP
- Jim Stiles, Chief, Design and Construction Section, DEP

Attachments

- County Executive's Recommended FY2126 CIP (Storm Drains) (©1-8)
- County Executive's Recommended FY21-26 CIP (Stormwater Management) (©9-17)
- Storm Drain-related Public Hearing Testimony (©18-23)
- Infrastructure Task Force Report (February 2020) Excerpt (©24)
- February 21, 2020 Memorandum from Councilmember Andrew Friedson to T&E Committee Members (©25-26)

AGENDA ITEM #3: FY21-26 STORM DRAINS CIP

Summary

The Department of Transportation (DOT) Division of Transportation Engineering manages the County storm drains program. Properly functioning storm drains remove excess water from the roads, ensuring safer road conditions while also protecting roads from water damage. Properly functioning storm drains also protect adjacent properties from water runoff damage. Work is identified through requests for assistance that come from property owners as well as from government agencies. DOT works in partnership with the state and other municipalities when state roads and/or municipal properties are involved.

DOT staff will provide a brief presentation of the storm drains program.

An excerpt from the Executive's Recommended FY21-26 CIP for storm drains is attached on ©19-27. The Executive is recommending \$16.8 million for FY19-26 (the same amount as the Approved FY19-24 CIP) for four Storm Drain projects. No new projects are recommended. The following table shows the recommendation by fiscal year compared to the latest Approved FY19-24 CIP.

Council Staff recommends that the funding come from the Water Quality Protection Fund (long-term financing if available or Water Quality Protection Charge Current Revenue). The Committee can revisit the level of increase for this effort when it takes up the DEP Operating Budget (and the Water Quality Protection Fund) later this spring.

AGENDA ITEM #4: FY21-26 STORMWATER MANAGEMENT CIP

Summary

Stormwater management is a shared responsibility among several County departments and agencies. DEP plans and implements the stormwater management CIP program. The Department of Permitting Services reviews, approves, inspects, and enforces requirements for construction of privately-owned stormwater management facilities. DEP works with the County's Department of Transportation (DOT) to address storm drain outfall repair issues, as well as with the Washington Suburban Sanitary Commission (WSSC) when WSSC infrastructure work is needed. DEP also inspects and provides structural maintenance for most Montgomery County Public Schools (MCPS) and the Montgomery County facilities on Maryland-National Capital Park and Planning Commission (M-NCPPC) land.

An excerpt from the Executive's Recommended FY21-26 CIP is attached on ©1-9. Overall, there are nine ongoing projects and one new project. As shown in the following chart, the Executive is recommending an increase of \$7.2 million (6.9%) in the six-year program (from \$105 million to \$112.2 million). This follows major changes in the program two years ago which included a substantial reduction in six-year spending.²

Table #1
Stormwater Management CIP (in \$000s)

| | Six-Year | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|--------------------------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| FY19-24 Latest Approved | 104,990 | 27,430 | 23,240 | 14,810 | 14,870 | 14,000 | 10,640 | | |
| FY21-26 CE Recommended | 112,230 | | | 21,120 | 26,530 | 16,870 | 15,590 | 16,130 | 15,990 |
| change from Approved | 7,240 | | | 6,310 | 11,660 | 2,870 | 4,950 | | |
| percent change from Approved | 6.9% | | | 42.6% | 78.4% | 20.5% | 46.5% | | |

For the FY19-24 CIP two years ago, DEP was assuming to complete the acreage requirement for retrofit work associated with the 2010-2015 permit by 2020 (it in fact did so by December 2018) and begin work to meet the expected requirements of the next permit. (see discussion later in this memorandum). In addition, a new Design/Build/Maintain contract approach was recommended by the Executive (and later approved by the Council with some additional requirements) to replace the current design-bid-build process for the bulk of the retrofit work to be done in the six-year period.

² The FY17-22 Amended CIP for this program was \$345.5 million. This prior high level of spending was reflective of the County's efforts to implement its work associated with the County's 2010 to 2015 National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit and the later Consent Decree with the Maryland Department of the Environment to complete the permits impervious acreage retrofit requirements after the conclusion of the permit period.

The issuance of a draft next permit has been continually delayed. The current expectation is that a draft permit may be issued by September. The FY19-24 Approved CIP and now the FY21-26 Recommended CIP assume this next permit will include a requirement for another 10 percent of acreage to be addressed. However, changes in this program may be needed once the permit conditions are more firm.

While overall spending is only marginally changing, there are some significant changes in various project costs (both up and down) as reflected in the chart below. Most notably, the separate Design/Build/Maintain project approved with much controversy two years ago is recommended to continue (with some scope changes) but be consolidated along with the SM Retrofit – Government Facilities, SM Retrofit Roads, SM Retrofit Schools, Watershed Restoration – Interagency, and the Misc Stream Valley Improvements projects in the SM Retrofit- Countywide project.

Table 2:
Stormwater Management Projects: Six-Year Spending Changes (in \$000s)

| Project | Six-Year Costs | | Change from App. | |
|--|----------------|----------------|------------------|-------------|
| | Approved | 1/15/20 | \$\$ | % |
| Facility Planning: SM | 4,580 | 5,510 | 930 | 20.3% |
| Misc Stream Valley Improvements | 16,770 | 5,110 | (11,660) | -69.5% |
| SM Facility Major Structural Repair | 11,720 | 21,960 | 10,240 | 87.4% |
| SM Design/Build/Maintain Contract | 46,300 | - | (46,300) | n/a |
| SM Retrofit - Roads | 50 | - | (50) | -100.0% |
| SM Retrofit - Schools | 1,000 | - | (1,000) | -100.0% |
| SM Retrofit - Countywide | 19,040 | 74,750 | 55,710 | 292.6% |
| Wheaton Regional Dam Flooding Mitigation | 5,530 | 4,900 | (630) | -11.4% |
| Total Expenditure Changes | 104,990 | 112,230 | 7,240 | 6.9% |
| Change from Approved | \$ | 7,240 | | |
| | % | 6.9% | | |

The sources of funds for the Approved FY19-24 CIP and the FY21-26 Recommended CIP are shown in the following chart.

Table #3
Stormwater Management CIP Funding (in \$000s)

| | FY19-24 | FY21-26 | % of Total | Change from FY19-24 | |
|---|----------------|----------------|------------|---------------------|-------------|
| | Total | Total | | \$\$ | % |
| Six-Year Total | 104,990 | 112,230 | | 7,240 | 6.9% |
| Contributions | 60 | - | | (60) | -100.0% |
| Long-Term Financing | 55,758 | 71,320 | 63.5% | 15,562 | 27.9% |
| State Aid | 14,368 | 14,250 | 12.7% | (118) | -0.8% |
| Federal Aid | 3,000 | 3,000 | 2.7% | - | n/a |
| SWM Waiver Fees | 1,235 | 1,100 | 1.0% | (135) | n/a |
| Water Quality Protection Charge - Bonds | 3,582 | - | 0.0% | (3,582) | -100.0% |
| Water Quality Protection Charge | 26,987 | 22,560 | 20.1% | (4,427) | -16.4% |

Almost a decade ago, the Council approved the Executive's recommendation to use bonds paid for with Water Quality Protection Charge (WQPC) revenue to cover the majority of spending in this program (an estimated 85 percent in the FY17-22 CIP). These bonds are separate from the County's General Obligation Bond Spending Affordability limits. For FY19-24, the Executive

recommended and the Council approved transitioning most of these WQPC bonds to long-term financing. State aid assumptions are discussed later.

**National Pollution Discharge Elimination System
Municipal Separate Storm Sewer System Discharge
(NPDES-MS4) Permit**

MS4 Permit Status

The County's most recent National Pollution Discharge Elimination System Municipal Separate Storm Sewer System (NPDES-MS4) Permit³ expired in February 2015 (although the requirements remain in effect pending the issuance of a new permit).

The County's Coordinated Implementation Strategy (CCIS)⁴ (dated January 2012) provided the planning basis for the County to meet the following goals in the County's (now expired) NPDES-MS4 Permit:

1. Meet Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) approved by EPA.
2. Provide additional stormwater runoff management on impervious acres equal to 20 percent of the impervious area for which runoff is not currently managed, to the maximum extent practicable (MEP). *(This requirement continues to be the primary driver of DEP's CIP expenditures)*
3. Meet commitments in the Trash Free Potomac Watershed Initiative 2006 Action Agreement, which include support for regional strategies and collaborations aimed at reducing trash, increasing recycling, and increasing education and awareness of trash issues throughout the Potomac Watershed.
4. Educate and involve residents, businesses, and stakeholder groups in achieving measurable water quality improvements.
5. Establish a reporting framework that will be used for annual reporting, as required in the County's NPDES-MS4 Permit.
6. Identify necessary organizational infrastructure changes needed to implement the Strategy.

The requirement most affecting the County's Stormwater Management CIP was the restoration/retrofit requirement of 20 percent of the County's impervious surface not currently treated

³ The County's 2010-2015 MS4 permit is available on the DEP website at:
https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/water-reports/npdes/MOCO_MS4_Permit.pdf.

⁴ The County's Coordinated Implementation Strategy (January 2012) is available on the DEP website at:
<https://www.montgomerycountymd.gov/DEP/Resources/Files/ReportsandPublications/Water/Countywide%20Implementation%20Strategy/Countywide-coordinated-implemented-strategy-12.pdf>.

to the maximum extent practicable (3,778 acres). The County was not able to fully meet this requirement by the end of the permit period (February 2015) and negotiated a time extension through a Consent Decree with the Maryland Department of the Environment (MDE). Ultimately this requirement was met by December 2018.⁵

What will be interesting to see in the coming years is whether (and by how much) water quality improvements occur in the project areas (and whether the associated TMDLs are met). These results, in turn, can inform future permit priorities to ensure the County's large investment in funding is allocated where it can have the biggest impact on water quality.

Cost Implications

As previously discussed by the Committee, the cost implications for implementation of the MS4 permit are substantial. Several years ago, DEP estimated the permit costs to be about \$305 million through 2015 and nearly \$1.9 billion through 2030.

Over the past decade, the DEP budget (not counting the Division of Solid Waste Services) has become dominated by water quality-related efforts. In FY20, the Water Quality Protection Fund budget is \$28.8 million compared to \$3.1 million in the General Fund, or about 90 percent of the total.

Project Review

Wheaton Regional Dam Flooding Mitigation (PDF on ©17)

| | Total Cost | Six-Year | Thru FY19 | FY20 | FY21 | FY22 | FY23 | FY24 |
|--------------------------------|--------------|--------------|------------|------------|------------|--------------|--------------|----------|
| FY19-24 Latest Approved | 5,530 | 5,530 | 70 | 80 | 330 | 3,130 | 1,920 | |
| FY21-26 CE Recommended | 5,530 | 4,900 | 187 | 443 | 170 | 3,760 | 970 | - |
| change from approved | | (630) | | | (160) | 630 | (950) | - |
| percent change from approved | | -11.4% | | | -48.5% | 20.1% | -49.5% | |

This project was first approved as part of the FY17-22 CIP to provide for the acquisition of properties located in Wheaton along Glenhaven Drive and Dennis Avenue, an area prone to severe flooding during a 100-year storm event because of the Wheaton Regional Dam downstream, the Dennis Avenue Culvert, and an undersized stream channel along Glenhaven Drive. The properties to be acquired were to be turned into non-structural recreational open space for the community. DEP began the process with the Federal Emergency Management Agency (FEMA) to update the boundaries of the 100-year floodplain in this area and the County planned to seek hazard mitigation assistance grants for property acquisition. However, DEP was unsuccessful in getting any property owners to agree to sell their properties.

The Executive later transmitted a CIP amendment (ultimately approved by the Council) to this project with a new scope to upgrade the dam, the culvert, and/or the stream channel (as well as replacing the Dennis Avenue Bridge as a separate DOT project) to avoid future potential flooding.

⁵ For more information, please see DEP's FY19 NPDES-MS4 Annual Report submitted to MDE on February 15, 2020; available for download at: <https://www.montgomerycountymd.gov/DEP/Resources/Files/downloads/water-reports/npdes/AnnualReport-FY18-2-22-19-Final.pdf>.

The total project cost has remained unchanged from the FY19-24 approved project (\$5.53 million) as has the Federal aid assumption (\$3.0 million). Completion is scheduled for FY23, although some delays in the Dennis Avenue Bridge project have pushed the start of construction in this project out of FY21.

DEP is seeking funding through the FEMA Pre-Disaster Mitigation Grant program for the channel modifications and is also seeking potential State aid to bolster the County's chances of getting the \$3.0 million in outside funding assumed in this project.

Facility Planning: SM (PDF on ©11)

| | Six-Year | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|--------------------------------|--------------|------------|------------|------------|------------|------------|------------|------------|--------------|
| FY19-24 Latest Approved | 4,580 | 750 | 730 | 750 | 790 | 780 | 780 | | |
| FY21-26 CE Recommended | 5,510 | | | 710 | 920 | 940 | 960 | 980 | 1,000 |
| change from approved | 930 | | | (40) | 130 | 160 | 180 | | |
| percent change from approved | 20.3% | | | -5.3% | 16.5% | 20.5% | 23.1% | | |

This project funds evaluations of watershed needs and identifies alternatives to address these needs, including possible CIP projects. It provides approximately 30 percent design completion to projects generated from this program. The project is funded with Water Quality Protection Fund current revenue dollars.

The project is recommended to increase by approximately 20% over the six-year period per DEP's information below about the updating of watershed assessments.

"Beginning in FY22, DEP will begin updating watershed assessments. The following watershed assessments will be updated: Anacostia, Potomac Direct, Seneca Creek, Patuxent, Lower Monocacy. Many of these watershed assessments will be over 10 years old and required review and update to ensure they reflect current water quality conditions. These assessments will become critical information for developing new TMDL Implementation Plans, that will be required under the new MS4 permit."

SM Retrofit: Countywide (PDF on ©15-16)

| | Six-Year | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|--------------------------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| FY19-24 Latest Approved | 19,040 | 17,090 | 1,950 | | | | | | |
| FY21-26 CE Recommended | 74,750 | | | 11,400 | 16,030 | 11,810 | 11,480 | 12,090 | 11,940 |
| change from approved | 55,710 | | | 11,400 | 16,030 | 11,810 | 11,480 | | |
| percent change from approved | 292.6% | | | n/a | n/a | n/a | n/a | n/a | n/a |

This project provides for the design and construction of stormwater management retrofit projects Countywide.

For the FY21-26 CIP, the Executive recommends moving project costs from the Design/Build/Maintain, SM Retrofit – Government Facilities, SM Retrofit Roads, SM Retrofit Schools, Watershed Restoration – Interagency, and the Misc Stream Valley Improvements projects to this project.

The Executive is recommending a total of \$74.8 million over the six-year period (a substantial increase because of the other projects moving into this project. The approved project had spending ending after FY20. Because of continued delays in the issuance of a draft MS4 permit by MDE, the

DBM contracting mechanism has remained on hold. Instead, DEP has moved forward with several previously suspended projects under its prior design/bid/build construction process. These include Grosvenor Stream, Glenmont Forest, and Old Farm Creek. DEP has also noted that,

"In addition, due to the delay by MDE in issuing the next Montgomery County MS4 permit and the 2019 Accounting Guidance, DEP has been evaluating potentially designing and building 4-6 additional CIP projects in advance of the finalization of the next MS4 permit restoration requirements. These potential projects are currently being evaluated based on our new project targeting models and maps. MDE has assured us that any work completed between MS4 permits will count towards the new MS4 permit restoration goals."

Misc. Stream Valley Improvements (PDF on ©12-13)

| | Six-Year | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|--------------------------------|---------------|--------------|--------------|--------------|--------------|------------|------------|------|------|
| FY19-24 Latest Approved | 16,770 | 5,160 | 9,440 | 1,630 | 180 | 180 | 180 | | |
| FY21-26 CE Recommended | 5,110 | | | 3,980 | 1,130 | | | | |
| change from approved | (11,660) | | | 2,350 | 950 | (180) | (180) | | |
| percent change from approved | -69.5% | | | 144.2% | 527.8% | -100.0% | -100.0% | | |

This project funds the design and construction of restoration and corrective measures to stream reaches having severe channel erosion, sedimentation, habitat degradation, and flooding problems. Priorities are based on watershed studies done out of the Facility Planning: SM project.

As noted on the PDF, this project will be closed out after the completion of the Glenstone and Booze Creek Repair projects. Future stream restoration work done by DEP will be part of the Stormwater Management Retrofit: Countywide project.

As part of the approval of the DBM project two years ago, the Council also approved moving \$2.0 million in funding for four stream restoration projects (Grosvenor, Stoney Brook, Glenallan, and Clearspring Manor) from the Stormwater Management CIP to the Montgomery Parks CIP (the Stream Protection SVP) to be designed and constructed by Parks. The projects are assumed to be funded with long-term financing from Maryland Water Quality Revolving Loan Funds (loan payments covered by Water Quality Protection Charge current revenue). The resulting impervious area restoration credits are to be recognized under DEP's new MS4 permit.

Stormwater Management Facility Major Structural Repair (PDF on ©14)

| | Six-Year | FY19 | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | FY26 |
|--------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| FY19-24 Latest Approved | 11,720 | 1,480 | 2,320 | 3,330 | 1,630 | 1,480 | 1,480 | | |
| FY21-26 CE Recommended | 21,960 | | | 4,860 | 4,690 | 3,150 | 3,150 | 3,060 | 3,050 |
| change from approved | 10,240 | | | 1,530 | 3,060 | 1,670 | 1,670 | | |
| percent change from approved | 87.4% | | | 45.9% | 187.7% | 112.8% | 112.8% | | |

This project provides for the design and construction of major structural repairs to County maintained stormwater management facilities. Smaller, less complex projects are funded out of the Operating Budget.

The Executive is recommending a six-year total of about \$21.97 million (an increase of \$10.2 million). The recommended increase is intended to begin to address a backlog of 65 projects. Each project is expected to cost approximately \$700,000 to \$1.0 million.

The project is funded mostly with long-term financing with some WQPF current revenue used as well.

Council Staff Recommendation

The Stormwater Management CIP remains in a bit of a holding pattern; waiting for MDE to finalize the requirements to be assumed in the next MS4 permit. However, Council Staff is supportive of DEP's approach of restarting some suspended projects and increasing funding in the structural repair project to begin to address that project's backlog. Council Staff recommends approval of the Stormwater Management CIP as recommended by the County Executive.

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Stormwater Management

PROGRAM DESCRIPTION AND OBJECTIVES

Uncontrolled stormwater runoff from developed areas leads to erosion of stream banks, siltation and widening of stream channels, and localized flooding. Urbanization often impacts stream habitats, leading to declines in the diversity of fish and other aquatic species. Urban runoff also adds to downstream pollution in the Anacostia, Patuxent, and Potomac rivers and the Chesapeake Bay. Multi-state agreements as well as State legislation and programs emphasize the importance of watershed-based programs to protect aquatic habitats and reduce pollution in the Bay and its tributaries.

The objectives of the Stormwater Management program are: protecting natural waterway environments; addressing the impacts of stormwater runoff by enhancing existing best management practices such as ponds, restoring streams previously damaged by excessive erosion and sedimentation, and installing other best management practices to capture runoff and allow for treatment to prevent impaired water quality. The County's Stormwater Management program is watershed-based and focuses on mitigating problems caused by development that was constructed prior to implementation of current stormwater management controls and on proactive planning in the developing portions of the County.

Residential and Commercial property owners pay a Water Quality Protection Charge (WQPC) to fund the Stormwater Management program. The WQPC funds are used to install new treatment facilities and retrofit existing facilities, maintain treatment facilities, monitor the effects of the treatment, ensure an active public education and engagement program, and ensure compliance with the multiple requirements of the permit issued to the County under the Clean Water Act, National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit. The WQPC, financing secured by the WQPC, as well as a State-facilitated long-term loan, are the main funding mechanisms for treatment facility projects.

The County's stormwater control requirements are established in the MS4 Permit, issued by the Maryland Department of the Environment (MDE). The third generation permit, issued in 2010, required watershed restoration of 20% of the County's impervious area not already controlled to the Maximum Extent Practicable, and the County has achieved that goal. A fourth generation permit is in development and its issuance is expected at the beginning of FY21.

The Stormwater Management capital program includes facility planning studies and the development of Watershed Restoration Action Plans, design and construction of stormwater retrofit projects (including low-impact development and green infrastructure), and stream restoration projects. These projects reduce pollution in streams and manage peak runoff flows to improve stream channel habitat and reduce sedimentation impacts from watershed development and urbanized areas.

Since FY04, the County has performed structural maintenance for qualified private stormwater management facilities such as ponds, sand filters, and underground facilities located on homeowner and condominium association and commercial properties. The WQPC funds the maintenance of these privately-owned structures as well as County-owned facilities. This program improves the long-term operational effectiveness of these facilities and increases their pollution removal efficiency. Inspection and routine maintenance of these facilities are funded in the operating budget, while major structural repairs that require extensive engineering design and permitting are funded in the CIP.

The Stormwater Management program, which was developed by the Department of Environmental Protection (DEP) to comply with the NPDES MS4 permit, continues to act as a model for jurisdictions throughout Maryland who are required to develop and implement a Stormwater Management program.

The CIP budget represents the resources necessary to complete the requirements anticipated in the next permit and maintain improvements already completed. Additionally, DEP continues to identify program efficiencies to allow for better informed decision making and restoration outcomes at reduced costs. These include the pursuit of lower-cost funding through the Maryland Water Quality Revolving Loan Fund and the increased utilization of Public Private Contracts and Partnerships.

The FY21-26 CIP program for Stormwater Management continues the County's commitment to treat impervious surfaces within the County to the maximum extent practicable. Total six-year program expenditures are \$112.2 million, a \$7.2 million increase compared to the previously approved budget of \$105.0 million.

The Department of Transportation (DOT) and the Maryland-National Park and Planning Commission also assist in achieving the County's stormwater management goals, and hold regular meetings with DEP staff looking for additional areas of cooperation.

HIGHLIGHTS

- Several individual stormwater management projects are consolidated into a single Countywide stormwater management program to streamline project administration.
- Use of Maryland Water Quality Revolving Loan funds will bring down program costs through lower interest financing.
- Continue to construct new stormwater management facilities and retrofit old stormwater controls to prevent property damage, improve water quality, and protect habitat.
- Continue to perform major structural repairs on public and private stormwater facilities accepted into the County's maintenance program.

PROGRAM CONTACTS

Contact Jim Stiles of the Department of Environmental Protection at 240.777.7789 or Richard H. Harris of the Office of Management and Budget at 240.777.2795 for more information regarding this department's capital budget.

CAPITAL PROGRAM REVIEW

A total of five projects are recommended for FY21-26 and are described in detail in the Project Description Forms. The Recommended FY21-26 Stormwater Management capital program totals \$112.2 million, an increase of \$7.2 million or 6.9 percent from the amended approved FY19-24 program of \$105.0 million.

The stormwater management capital program will be funded primarily by long-term debt financing through the Maryland Water Quality Revolving Loan Fund and Current Revenue: WQPC. Previously issued WQPC-backed Bonds are also used, though no additional bonds will be issued. The stormwater management program assumes multiple awards of Maryland Water Quality Revolving Loan Funds over the six-year period, which replace WQPC Bonds as the primary source of funding for the program. Maryland Water Quality Revolving Loan Funds are a low-interest form of borrowing that brings down the overall cost of the program. The loans and bonds will cover expenditures incurred for the design and construction of additional stormwater facilities needed to comply with the requirements of the County's MS4 permit. Cost containment efforts have been aggressively pursued to avoid large increases in the WQPC.

Also included in the funding of the stormwater management projects is an assumption of \$14.3 million in State Aid based on the State's interest in supporting stormwater management efforts throughout the state. Federal Aid will cover \$3.0 million of the costs to mitigate Wheaton Regional Dam Flooding Mitigation.



Facility Planning: Stormwater Management (P809319)

Category
SubCategory
Planning Area

Conservation of Natural Resources
Stormwater Management
Countywide

Date Last Modified
Administering Agency
Status

01/08/20
Environmental Protection
Ongoing

| Total | Thru FY19 | Est FY20 | Total 6 Years | FY 21 | FY 22 | FY 23 | FY 24 | FY 25 | FY 26 | Beyond 6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

EXPENDITURE SCHEDULE (\$000s)

| | | | | | | | | | | |
|----------------------------------|---------------|---------------|------------|--------------|------------|------------|------------|------------|------------|--------------|
| Planning, Design and Supervision | 19,729 | 13,259 | 960 | 5,510 | 710 | 920 | 940 | 960 | 980 | 1,000 |
| Other | 295 | 295 | - | - | - | - | - | - | - | - |
| TOTAL EXPENDITURES | 20,024 | 13,554 | 960 | 5,510 | 710 | 920 | 940 | 960 | 980 | 1,000 |

FUNDING SCHEDULE (\$000s)

| | | | | | | | | | | |
|---|---------------|---------------|------------|--------------|------------|------------|------------|------------|------------|--------------|
| Current Revenue: General | 5,000 | 5,000 | - | - | - | - | - | - | - | - |
| Current Revenue: Water Quality Protection | 14,087 | 7,617 | 960 | 5,510 | 710 | 920 | 940 | 960 | 980 | 1,000 |
| State Aid | 140 | 140 | - | - | - | - | - | - | - | - |
| Stormwater Management Waiver Fees | 797 | 797 | - | - | - | - | - | - | - | - |
| TOTAL FUNDING SOURCES | 20,024 | 13,554 | 960 | 5,510 | 710 | 920 | 940 | 960 | 980 | 1,000 |

APPROPRIATION AND EXPENDITURE DATA (\$000s)

| | | | |
|-----------------------------|--------|--------------------------|--------|
| Appropriation FY 21 Request | 560 | Year First Appropriation | FY93 |
| Appropriation FY 22 Request | 940 | Last FY's Cost Estimate | 17,441 |
| Cumulative Appropriation | 14,687 | | |
| Expenditure / Encumbrances | 13,741 | | |
| Unencumbered Balance | 946 | | |

PROJECT DESCRIPTION

This project provides for facility planning and feasibility studies to evaluate watershed conservation needs and to identify remedial projects for stormwater management, stormwater retrofit, Environmental Site Design (ESD)/Low Impact Development (LID), and stream restoration projects. Projects in facility planning may include the preparation of watershed plans assessing stream restoration, stormwater management retrofit projects, and ESD/LID projects to help mitigate degraded stream conditions in rural and developed watersheds. Water quality monitoring and analysis is required to quantify impacts of watershed development and projects implemented in Stormwater Management Retrofit Countywide project (No. 808726). The projects generated in facility planning support the requirements in the County's Municipal Separate Storm Sewer System (MS4) Permit. Facility planning represents planning and preliminary design and develops a program of requirements in advance of full programming of a project. This project also provides for operation of automated fixed monitoring stations as required by the MS4 Permit.

COST CHANGE

Project increase due to addition of FY25 and FY26 to this on-going level of effort project, and estimated costs for watershed updates beginning in FY22.

PROJECT JUSTIFICATION

The facility planning products support the requirements outlined in the County's MS4 Permit. This project establishes the facilities planning data and alternatives analysis needed to identify and set priorities for individual capital projects. Facility planning costs for projects which are ultimately included in stand-alone Project Description Forms (PDFs) are reflected here and not in the resulting individual project. Future individual CIP projects which result from facility planning will reflect reduced planning and design costs.

FISCAL NOTE

Expenditures in the outyears include expected costs to meet the requirements of the County's next MS4 permit. The scope of the next MS4 permit is subject to negotiation with the Maryland Department of Environment.

DISCLOSURES

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

Maryland-National Capital Park and Planning Commission, U. S. Army Corps of Engineers, Washington Suburban Sanitary Commission, Department of Transportation, Montgomery County Public Schools, Stormwater Management Retrofit Government Facilities (No. 800900), Stormwater Management Retrofit Roads (No. 801300), Stormwater Management Retrofit Schools (No. 801301), Stormwater Management Retrofit Countywide (No. 808726), Misc. Stream Valley Improvements (No. 807359).



Misc Stream Valley Improvements (P807359)

Category Conservation of Natural Resources
SubCategory Stormwater Management
Planning Area Countywide

Date Last Modified
Administering Agency
Status

01/08/20
Environmental Protection
Ongoing

| Total | Thru FY19 | Est FY20 | Total 6 Years | FY 21 | FY 22 | FY 23 | FY 24 | FY 25 | FY 26 | Beyond 6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

EXPENDITURE SCHEDULE (\$000s)

| | | | | | | | | | | |
|----------------------------------|---------------|---------------|--------------|--------------|--------------|--------------|---|---|---|---|
| Planning, Design and Supervision | 6,118 | 4,838 | 1,090 | 190 | 130 | 60 | - | - | - | - |
| Land | 2 | 2 | - | - | - | - | - | - | - | - |
| Site Improvements and Utilities | 1 | 1 | - | - | - | - | - | - | - | - |
| Construction | 17,055 | 5,885 | 6,250 | 4,920 | 3,850 | 1,070 | - | - | - | - |
| Other | 2,335 | 2,335 | - | - | - | - | - | - | - | - |
| TOTAL EXPENDITURES | 25,511 | 13,061 | 7,340 | 5,110 | 3,980 | 1,130 | - | - | - | - |

FUNDING SCHEDULE (\$000s)

| | | | | | | | | | | |
|---|---------------|---------------|--------------|--------------|--------------|--------------|---|---|---|---|
| Current Revenue: Water Quality Protection | 4,722 | 1,582 | 1,940 | 1,200 | 1,200 | - | - | - | - | - |
| Long-Term Financing | 9,175 | 65 | 5,200 | 3,910 | 2,780 | 1,130 | - | - | - | - |
| State Aid | 4,106 | 4,106 | - | - | - | - | - | - | - | - |
| Stormwater Management Waiver Fees | 1,490 | 1,290 | 200 | - | - | - | - | - | - | - |
| Water Quality Protection Bonds | 6,018 | 6,018 | - | - | - | - | - | - | - | - |
| TOTAL FUNDING SOURCES | 25,511 | 13,061 | 7,340 | 5,110 | 3,980 | 1,130 | - | - | - | - |

APPROPRIATION AND EXPENDITURE DATA (\$000s)

| | | | |
|-----------------------------|---------|--------------------------|--------|
| Appropriation FY 21 Request | - | Year First Appropriation | FY73 |
| Appropriation FY 22 Request | (2,582) | Last FY's Cost Estimate | 25,713 |
| Cumulative Appropriation | 28,093 | | |
| Expenditure / Encumbrances | 18,831 | | |
| Unencumbered Balance | 9,262 | | |

PROJECT DESCRIPTION

This project provides for design and construction of habitat restoration or stabilization measures for stream reaches having significant channel erosion, sedimentation, and habitat degradation. Developed areas constructed without current stormwater controls contribute uncontrolled runoff which results in eroded streambanks, excessive sediment, tree loss, and degraded habitat for fish and aquatic life. Stormdrain outfalls damaged from severe erosion are identified and, where possible, the outfalls are repaired - funded from the Outfall Repairs project (No. 509948).

COST CHANGE

Project decrease due to transfer of future stream restoration work to CIP Project #808726 - Stormwater Management Retrofit Countywide.

PROJECT JUSTIFICATION

The project supports the requirements of the County's MS4 permit and addresses the goals of the Chesapeake Bay Watershed Agreement, Anacostia Watershed Restoration Agreement, and the County's adopted water quality goals (Chapter 19, Article IV). The project will stabilize and improve local stream habitat conditions where streams have been damaged by inadequately controlled stormwater runoff.

OTHER

Projects planned for design and construction include Glenstone and Booze Creek Repairs. The CIP project includes funding for the stream restoration study of Anacostia Watershed by the Army Corps of Engineers.

The Montgomery Parks Department of the Maryland-National Capital Park and Planning Commission (M-NCPPC) and the Montgomery Department of Environmental Protection (DEP) have agreed that M-NCPPC will serve as the lead agency for implementing stream restoration projects including long-term monitoring and maintenance that are located wholly or mostly on parks property in support of the County's MS4 permit. Previously, DEP had begun design work on the following stream restoration projects which meet these criteria: Clearspring Manor, Glenallan, Stoneybrook (Beach Drive to Montrose Avenue), and Grosvenor (Beach Drive to Rockville Pike). DEP has provided all design work for these projects to M-NCPPC for design completion, permitting, and construction under M-NCPPC's Stream Protection: SVP (P818571) project. M-NCPPC has agreed that all MS4 credits generated from these projects will be credited towards the County's future MS4 permit with delivery of the restored impervious acres no later than Dec. 31, 2023. M-NCPPC will provide appropriate updates at key project milestones to ensure that MS4 credits are achieved in the timeframe required, in addition to providing the long-term monitoring and maintenance required for the County to maintain the impervious acreage credit. These projects are currently estimated to have a combined cost of \$2.4M and will provide approximately 44 acres of credit; funding was provided under M-NCPPC's Stream Protection: SVP (P818571) project. Parks will provide updated schedule and cost information on all projects for construction allocation funding beginning in FY 20, based on MDE's Water Quality Revolving Loan Fund cycle timeframes. M-NCPPC and DEP

developed a Memorandum of Understanding that details how projects completed by M-NCPPC, funded with WQPC dollars, with MS4 credits going to DEP, will be handled. M-NCPPC will document all MS4 credits created through these projects in accordance with MDE requirements to obtain State approval for the permit credits. M-NCPPC recognizes that stream restoration projects with relatively small segments located on Parks property may be selected by the County's DBM contractor. If selected by the County's contractor and approved by DEP with concurrence by M-NCPPC, the contractor will need to obtain a Park Permit and comply with all M-NCPPC requirements.

FISCAL NOTE

This project assumes the award of Maryland Water Quality Revolving Loan Funds (Long-Term Financing) over the six-year period, which would replace Water Quality Protection Bonds as the primary source of funding for the program.

This CIP Project will be closed after the completion of the Booze Creek Repair project, expected in FY22. Any future stream restoration work shall be performed under CIP Project # 808726 - Stormwater Management Retrofit: Countywide.

DISCLOSURES

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

Department of Transportation, Maryland-National Capital Park and Planning Commission, Washington Suburban Sanitary Commission, Department of Permitting Services, Maryland Department of the Environment, and Maryland Department of Natural Resources.



Stormwater Management Facility Major Structural Repair (P800700)

Category
SubCategory
Planning Area

Conservation of Natural Resources
Stormwater Management
Countywide

Date Last Modified
Administering Agency
Status

01/08/20
Environmental Protection
Ongoing

| Total | Thru FY19 | Est FY20 | Total 6 Years | FY 21 | FY 22 | FY 23 | FY 24 | FY 25 | FY 26 | Beyond 6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

EXPENDITURE SCHEDULE (\$000s)

| | | | | | | | | | | | |
|----------------------------------|---------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
| Planning, Design and Supervision | 13,125 | 5,205 | 1,430 | 6,490 | 1,290 | 990 | 1,050 | 1,050 | 1,060 | 1,050 | - |
| Construction | 30,273 | 12,063 | 2,740 | 15,470 | 3,570 | 3,700 | 2,100 | 2,100 | 2,000 | 2,000 | - |
| Other | 1 | 1 | - | - | - | - | - | - | - | - | - |
| TOTAL EXPENDITURES | 43,399 | 17,269 | 4,170 | 21,960 | 4,860 | 4,690 | 3,150 | 3,150 | 3,060 | 3,050 | - |

FUNDING SCHEDULE (\$000s)

| | | | | | | | | | | | |
|---|---------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
| Current Revenue: Water Quality Protection | 15,805 | 9,485 | 810 | 5,510 | 1,630 | 1,290 | 650 | 630 | 660 | 650 | - |
| Long-Term Financing | 20,122 | 312 | 3,360 | 16,450 | 3,230 | 3,400 | 2,500 | 2,520 | 2,400 | 2,400 | - |
| State Aid | 399 | 399 | - | - | - | - | - | - | - | - | - |
| Water Quality Protection Bonds | 7,073 | 7,073 | - | - | - | - | - | - | - | - | - |
| TOTAL FUNDING SOURCES | 43,399 | 17,269 | 4,170 | 21,960 | 4,860 | 4,690 | 3,150 | 3,150 | 3,060 | 3,050 | - |

APPROPRIATION AND EXPENDITURE DATA (\$000s)

| | | | |
|-----------------------------|--------|--------------------------|--------|
| Appropriation FY 21 Request | 6,530 | Year First Appropriation | FY07 |
| Appropriation FY 22 Request | 2,820 | Last FY's Cost Estimate | 27,994 |
| Cumulative Appropriation | 22,931 | | |
| Expenditure / Encumbrances | 18,820 | | |
| Unencumbered Balance | 4,111 | | |

PROJECT DESCRIPTION

This project provides for the design and construction of major structural repairs to County maintained stormwater management facilities. The County is responsible for structural maintenance of over 6,800 stormwater management facilities. Major structural repairs can include dredging and removing sediment, removal and replacement or relining of failing pipes and principal spillways, replacing failing riser structures, and repairing failing dam embankments. The repair work under this project is more significant than routine maintenance and requires engineering analysis and design and application for Federal, State, and/or local permitting.

COST CHANGE

The six-year cost increase is due to an increased number of major structural repair projects.

PROJECT JUSTIFICATION

This project provides for major structural repairs in order to comply with the County's municipal separate storm sewer system (MS4) permit. It is limited to funding repairs at facilities that require extensive engineering design and permitting that cannot be accomplished within a single fiscal year due to the time required to obtain State and Federal permits.

Current projects include: Wheaton Branch overtopping protection, Persimmon Tree Ponds, Peachwood Pond, Briars Acres Pond, Railroad Branch Dam, Lake Hallowell dredging project, and Lake Whetstone Toe Drain repair.

FISCAL NOTE

This project assumes the award of Maryland Water Quality Revolving Loan Funds (long-term financing) over the six-year period, which would replace Water Quality Protection Bonds as the primary source of funding for the program. No State Aid is assumed for this project in FY21-26.

DISCLOSURES

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

Department of Transportation, Maryland-National Capital Park and Planning Commission, Department of Permitting Services, Homeowners Associations, Montgomery County Public Schools, Department of General Services, Maryland State Highway Administration, Stormwater Management Retrofit: Countywide (No. 808726), and Maryland Department of Natural Resources.



Stormwater Management Retrofit: Countywide (P808726)

Category Conservation of Natural Resources
SubCategory Stormwater Management
Planning Area Countywide
Date Last Modified 01/08/20
Administering Agency Environmental Protection
Status Ongoing

| Total | Thru FY19 | Est FY20 | Total 6 Years | FY 21 | FY 22 | FY 23 | FY 24 | FY 25 | FY 26 | Beyond 6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

EXPENDITURE SCHEDULE (\$000s)

| | | | | | | | | | | |
|----------------------------------|----------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Planning, Design and Supervision | 52,232 | 20,672 | 3,520 | 28,040 | 5,070 | 5,040 | 4,680 | 3,420 | 5,900 | 3,930 |
| Land | 3 | 3 | - | - | - | - | - | - | - | - |
| Site Improvements and Utilities | 10 | 10 | - | - | - | - | - | - | - | - |
| Construction | 77,628 | 25,438 | 5,480 | 46,710 | 6,330 | 10,990 | 7,130 | 8,060 | 6,190 | 8,010 |
| Other | 3,889 | 3,889 | - | - | - | - | - | - | - | - |
| TOTAL EXPENDITURES | 133,762 | 50,012 | 9,000 | 74,750 | 11,400 | 16,030 | 11,810 | 11,480 | 12,090 | 11,940 |

FUNDING SCHEDULE (\$000s)

| | | | | | | | | | | |
|---|----------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Contributions | 60 | - | 60 | - | - | - | - | - | - | - |
| Current Revenue: Water Quality Protection | 22,540 | 11,549 | 2,551 | 8,440 | 2,440 | 1,000 | 1,000 | 1,000 | 2,000 | 1,000 |
| Intergovernmental | 1,000 | 1,000 | - | - | - | - | - | - | - | - |
| Long-Term Financing | 60,383 | 3,679 | 5,744 | 50,960 | 7,100 | 11,850 | 8,450 | 7,620 | 7,850 | 8,090 |
| State Aid | 18,594 | 3,699 | 645 | 14,250 | 1,660 | 3,000 | 2,180 | 2,680 | 2,060 | 2,670 |
| Stormwater Management Waiver Fees | 1,100 | - | - | 1,100 | 200 | 180 | 180 | 180 | 180 | 180 |
| Water Quality Protection Bonds | 30,085 | 30,085 | - | - | - | - | - | - | - | - |
| TOTAL FUNDING SOURCES | 133,762 | 50,012 | 9,000 | 74,750 | 11,400 | 16,030 | 11,810 | 11,480 | 12,090 | 11,940 |

OPERATING BUDGET IMPACT (\$000s)

| | | | | | | | |
|-------------------|------------|----------|----------|------------|------------|------------|------------|
| Maintenance | 600 | - | - | 150 | 150 | 150 | 150 |
| NET IMPACT | 600 | - | - | 150 | 150 | 150 | 150 |

APPROPRIATION AND EXPENDITURE DATA (\$000s)

| | | | |
|-----------------------------|--------|--------------------------|--------|
| Appropriation FY 21 Request | 27,640 | Year First Appropriation | FY87 |
| Appropriation FY 22 Request | 2,700 | Last FY's Cost Estimate | 59,805 |
| Cumulative Appropriation | 68,900 | | |
| Expenditure / Encumbrances | 60,170 | | |
| Unencumbered Balance | 8,730 | | |

PROJECT DESCRIPTION

This project provides for the design and construction of new and upgraded stormwater management facilities throughout the County under the County's Municipal Separate Storm Sewer System (MS4) Permit. Facilities include but are not limited to new or upgraded stormwater management ponds, Environmental Site Design (ESD) / Low-Impact Development (LID) facilities, and stream restorations.

COST CHANGE

The increase is due to the consolidation of the following Watershed Restoration CIP projects into this CIP project:

- Stormwater Management Design/Build/Maintain Contract (P801901),
- Stormwater Management Retrofit - Government Facilities (P800900),
- Stormwater Management Retrofit - Roads (P801300),
- Stormwater Management Retrofit - Schools (P801301),
- Watershed Restoration - Interagency (P809342), and
- Misc Stream Valley Improvements (P807359).

PROJECT JUSTIFICATION

This project is needed to comply with the County's MS4 permitting requirements and to implement the County's adopted water quality goals (COMCOR Chapter 19, Article IV) and protect habitat conditions in local streams. In addition, the project supports the goals of the Anacostia Watershed Restoration Agreement.

OTHER

This project assumes the award of Maryland Water Quality Revolving Loan Funds (long-term financing) over the six-year period, which would replace Water Quality Protection Bonds as the primary source of funding for the program. Expenditures in the out-years include expected costs to meet the requirements of the County's next MS4 permit. The scope of the next permit is subject to negotiation with the Maryland Department of Environment.

FISCAL NOTE

This project assumes the award of Maryland Water Quality Revolving Loan Funds (long-term financing) over the six-year period, which would replace Water Quality Protection Bonds as the primary source of funding for the program.

The Department of Environmental Protection will provide quarterly Program status updates to the Council. The work Program will be based on permits requirements, an assessment of priority needs and community input including feedback from stormwater partners.

DISCLOSURES

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

Department of Transportation, Maryland National Capital Park and Planning Commission, Department of Permitting Services, Maryland Department of the Environment, Natural Resources Conservation Service, U.S. Army Corps of Engineers, Facility Planning: Stormwater Management (No. 809319), and Maryland Department of Natural Resources.



Wheaton Regional Dam Flooding Mitigation (P801710)

| | | | |
|----------------------|-----------------------------------|-----------------------------|--------------------------|
| Category | Conservation of Natural Resources | Date Last Modified | 01/08/20 |
| SubCategory | Stormwater Management | Administering Agency | Environmental Protection |
| Planning Area | Kensington-Wheaton | Status | Planning Stage |

| Total | Thru FY19 | Est FY20 | Total 6 Years | FY 21 | FY 22 | FY 23 | FY 24 | FY 25 | FY 26 | Beyond 6 Years |
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|-------|-----------|----------|------------------|-------|-------|-------|-------|-------|-------|-------------------|

EXPENDITURE SCHEDULE (\$000s)

| | | | | | | | | | | |
|----------------------------------|--------------|------------|------------|--------------|------------|--------------|------------|---|---|---|
| Planning, Design and Supervision | 1,030 | 187 | 443 | 400 | 170 | 160 | 70 | - | - | - |
| Construction | 4,500 | - | - | 4,500 | - | 3,600 | 900 | - | - | - |
| TOTAL EXPENDITURES | 5,530 | 187 | 443 | 4,900 | 170 | 3,760 | 970 | - | - | - |

FUNDING SCHEDULE (\$000s)

| | | | | | | | | | | |
|---|--------------|------------|------------|--------------|------------|--------------|------------|---|---|---|
| Current Revenue: Water Quality Protection | 2,530 | 187 | 443 | 1,900 | 170 | 1,090 | 640 | - | - | - |
| Federal Aid | 3,000 | - | - | 3,000 | - | 2,670 | 330 | - | - | - |
| TOTAL FUNDING SOURCES | 5,530 | 187 | 443 | 4,900 | 170 | 3,760 | 970 | - | - | - |

APPROPRIATION AND EXPENDITURE DATA (\$000s)

| | | | |
|-----------------------------|-------|--------------------------|-------|
| Appropriation FY 21 Request | - | Year First Appropriation | FY16 |
| Appropriation FY 22 Request | 2,580 | Last FY's Cost Estimate | 5,530 |
| Cumulative Appropriation | 2,950 | | |
| Expenditure / Encumbrances | 622 | | |
| Unencumbered Balance | 2,328 | | |

PROJECT DESCRIPTION

This flood mitigation project, located along Glenhaven Drive and Dennis Avenue in Wheaton, will excavate and expand the stream channel upstream of the Wheaton Regional Pond and modify the pond's riser structure. This project will be constructed in parallel with the Department of Transportation's (DOT) Dennis Avenue bridge replacement. The two projects will modify the current 100-year floodplain boundary just upstream of the pond. The post-project 100-year floodplain will not include the residential properties located in the current 100-year floodplain.

ESTIMATED SCHEDULE

The riser modification and channel design began in FY18 with the riser repair construction expected to start in FY22. The excavation of the channel will occur in coordination with DOT's culvert replacement in FY23 and FY24.

COST CHANGE

Faster than expected design resulted in acceleration of the design phase, though redesign in the Dennis Avenue Bridge Replacement project (P501701) will delay construction to FY22.

PROJECT JUSTIFICATION

An engineering analysis by the Department of Environmental Protection indicates that the effect of the riser structure associated with the Wheaton Regional Pond, the Dennis Avenue Culvert, and an undersized stream channel along Glenhaven Drive, cumulatively, will cause flooding of roads and private property during a 100-year storm event. Flooding of adjacent roads and private property has already occurred in 2006 and 2010. The County is seeking a map revision to the Federal Emergency Management Agency (FEMA) panel for this area to have the 100-year floodplain updated to reflect existing conditions.

FISCAL NOTE

This project will be done in conjunction with the DOT Dennis Avenue bridge replacement project (P501701). The County will also partner with the Maryland Emergency Management Agency (MEMA) to seek FEMA Pre-Disaster Mitigation Grant Program funding for the channel modifications.

COORDINATION

Department of Transportation, Federal Emergency Management Agency, Maryland Emergency Management Agency, and Dennis Ave Bridge M-0194 Replacement (No. 501701).

Montgomery County Municipal Separate Storm Sewer (MS4) Program

Capital Improvement Projects

March 2, 2020



DEPARTMENT OF
**ENVIRONMENTAL
PROTECTION**

MONTGOMERY COUNTY • MARYLAND

Current MS4 Permit

Current Municipal Separate Storm Sewer (MS4) permit issued February 16, 2010 Requirements

- Acceptable stormwater management and erosion sediment control program
 - Stormwater management facility inspection and maintenance
 - Stormwater management plan review
- Illicit discharge and detection program
- Trash and litter program – Potomac Trash Treaty
- Outreach and education
- Watershed Assessments
- Watershed Restoration: restore 20% of County's untreated impervious surface and progress toward meeting total maximum daily load (TMDL) waste load allocations



Pervious Pavement Cleaning

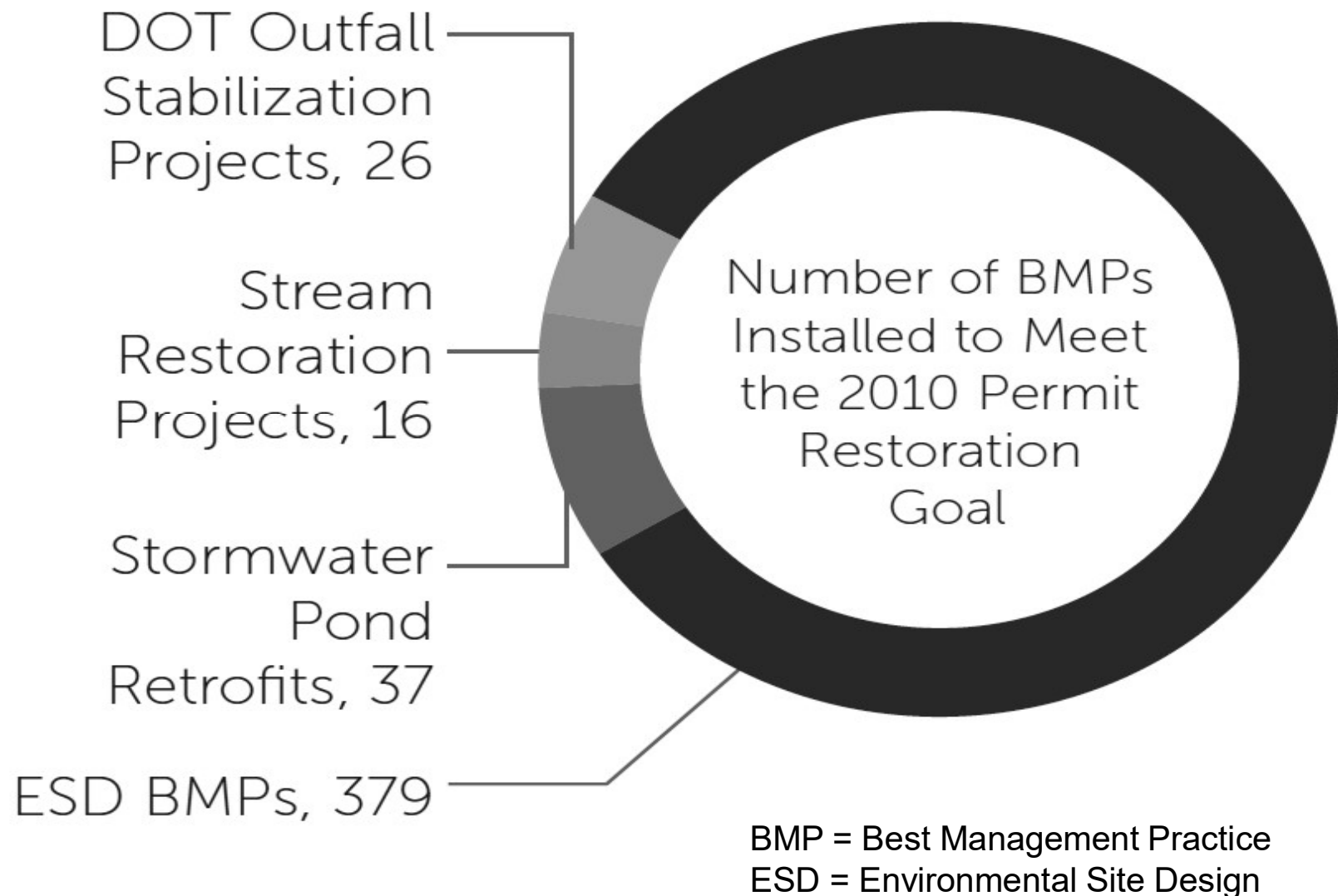
Status of the Current MS4 Permit

- Issued a Consent Decree in April 2018
- Completed restoration goal of 3,778 impervious acres in FY19 (December 30, 2018)
- Completed SEP
- All other provisions of the permit administratively extended until next permit issued
- Total CIP Expenditures (through FY19)= \$129 million
- The County is carrying forward to next permit 22 stormwater practices treating 275.91 impervious acres
- Continuing restoration implementation beyond permit goal



Olney Elementary School SEP

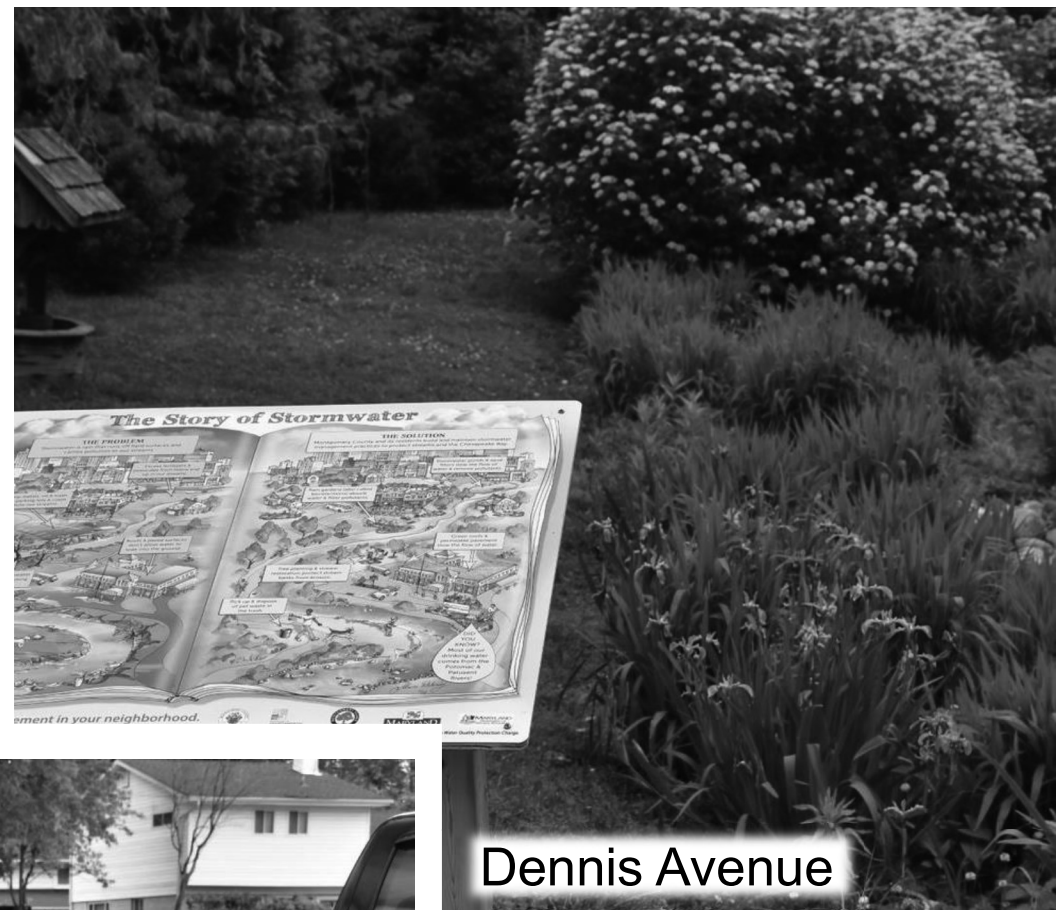
2010 MS4 Permit CIP Summary



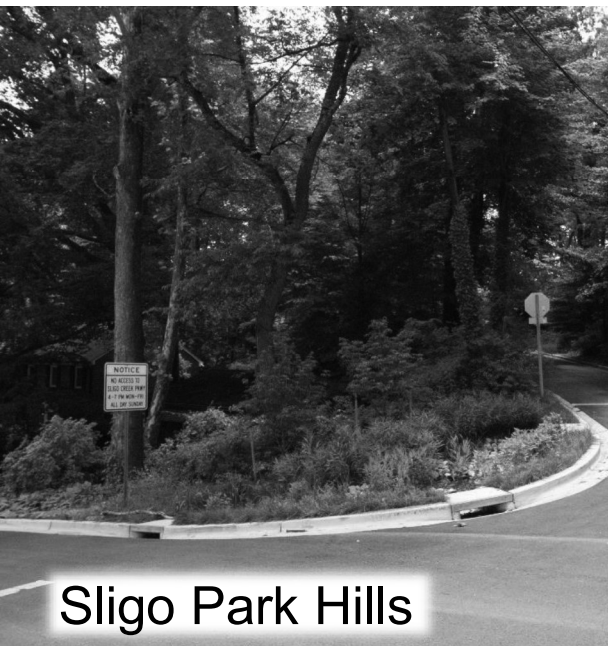
Green Streets



University Towers



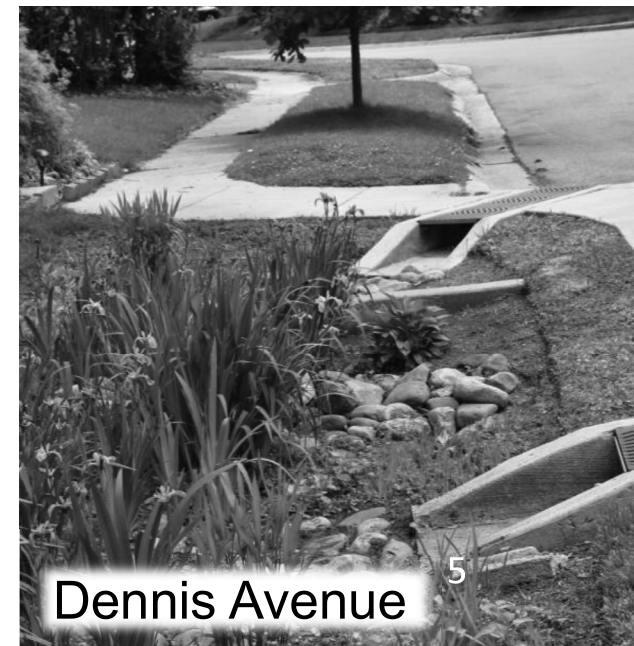
Dennis Avenue



Sligo Park Hills



Breewood

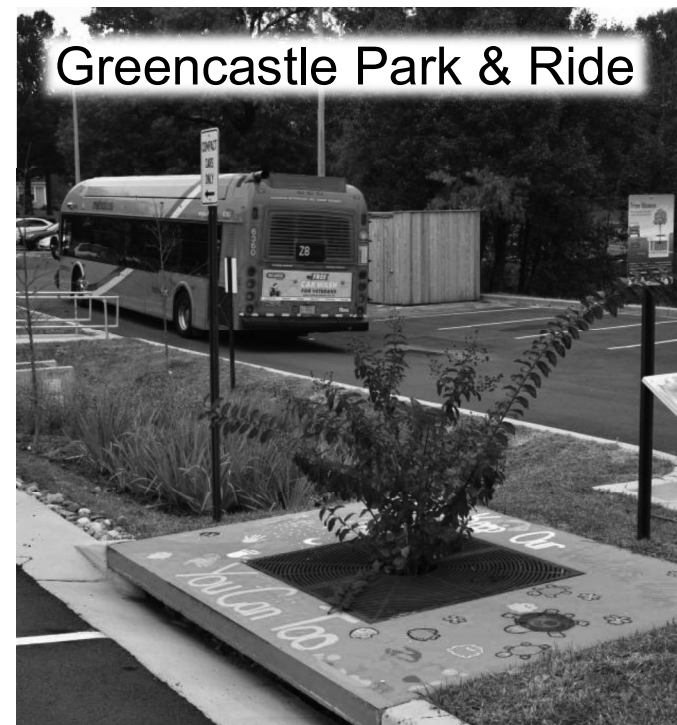


Dennis Avenue

Public Property LID Retrofits



White Oak MS



Greencastle Park & Ride



Kensington Library

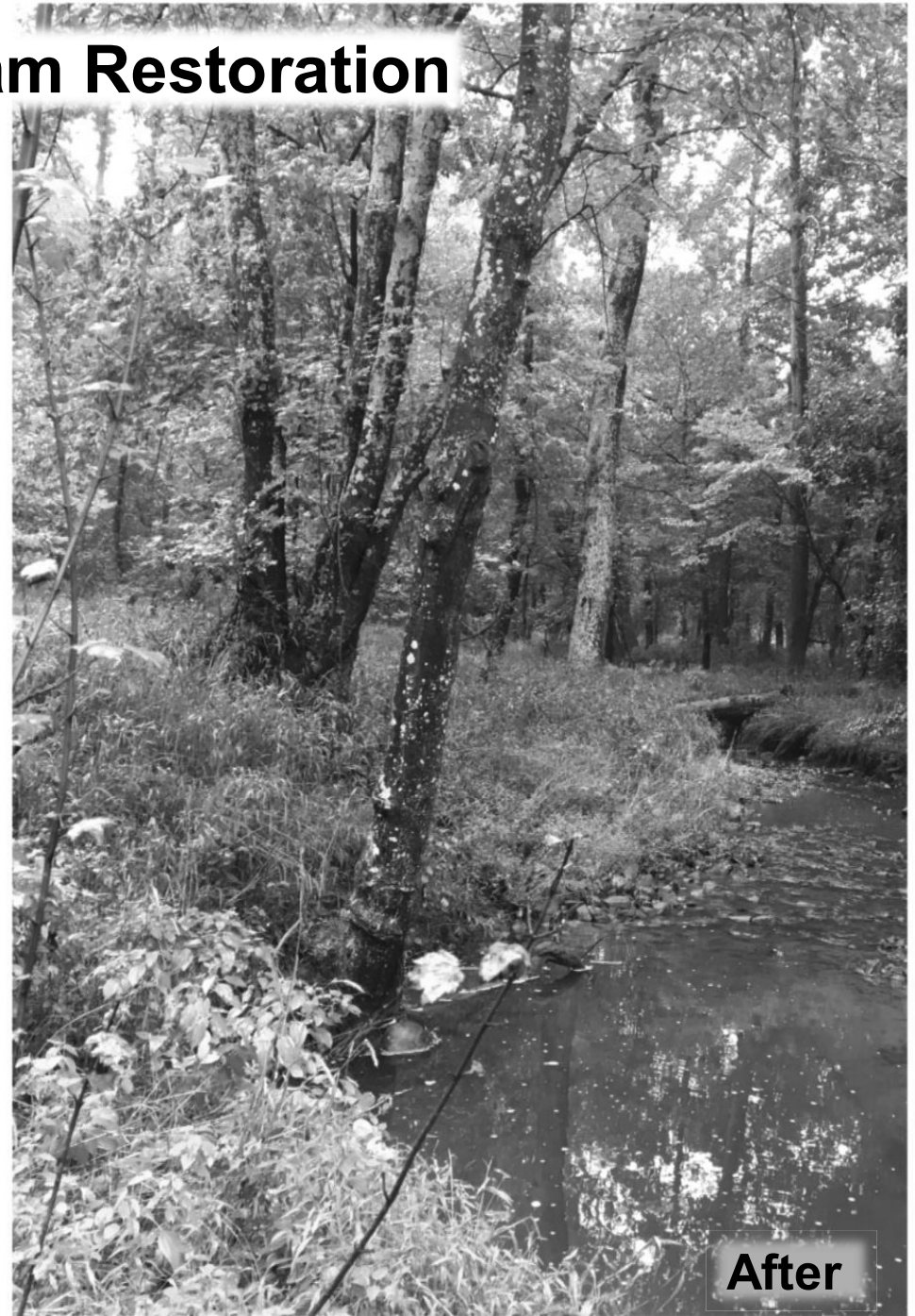


Aspen Hill Library

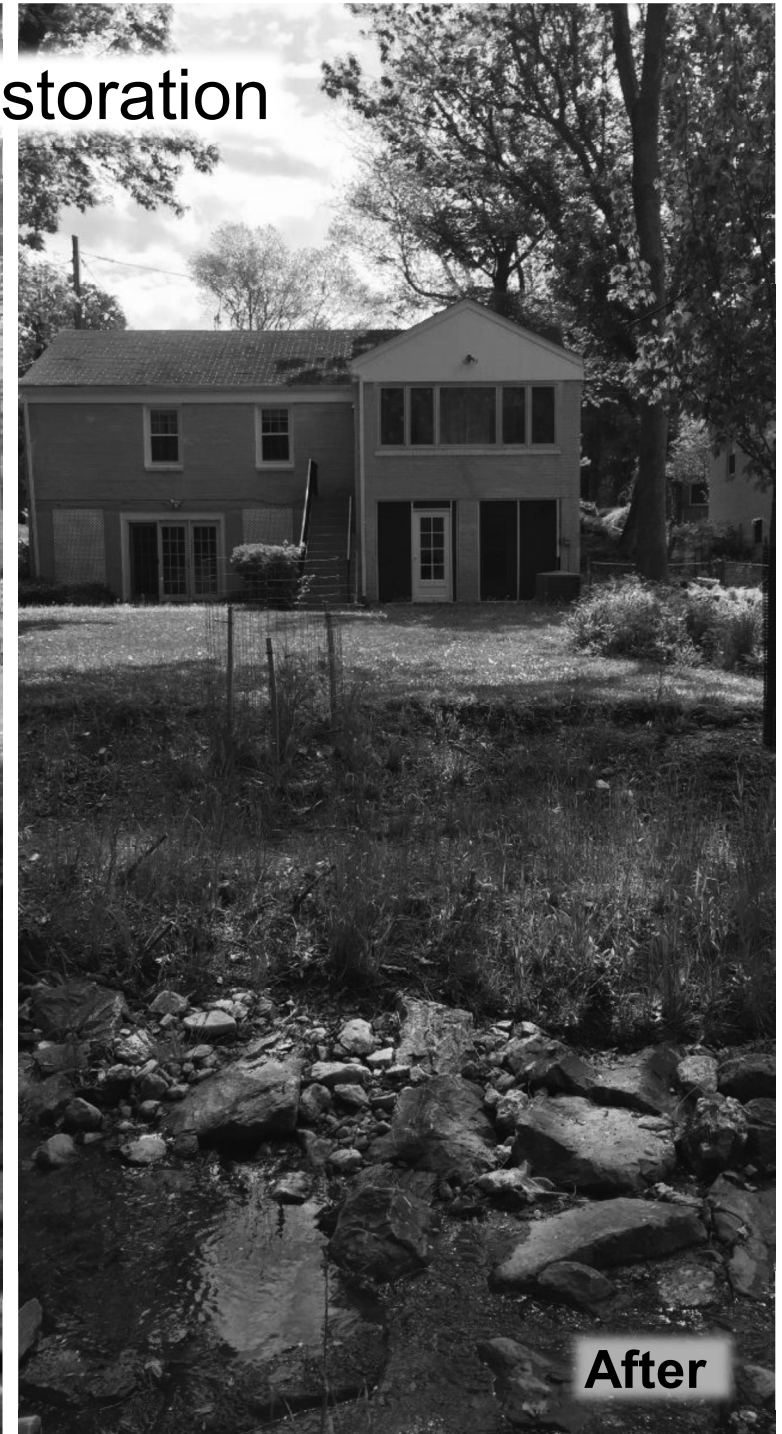
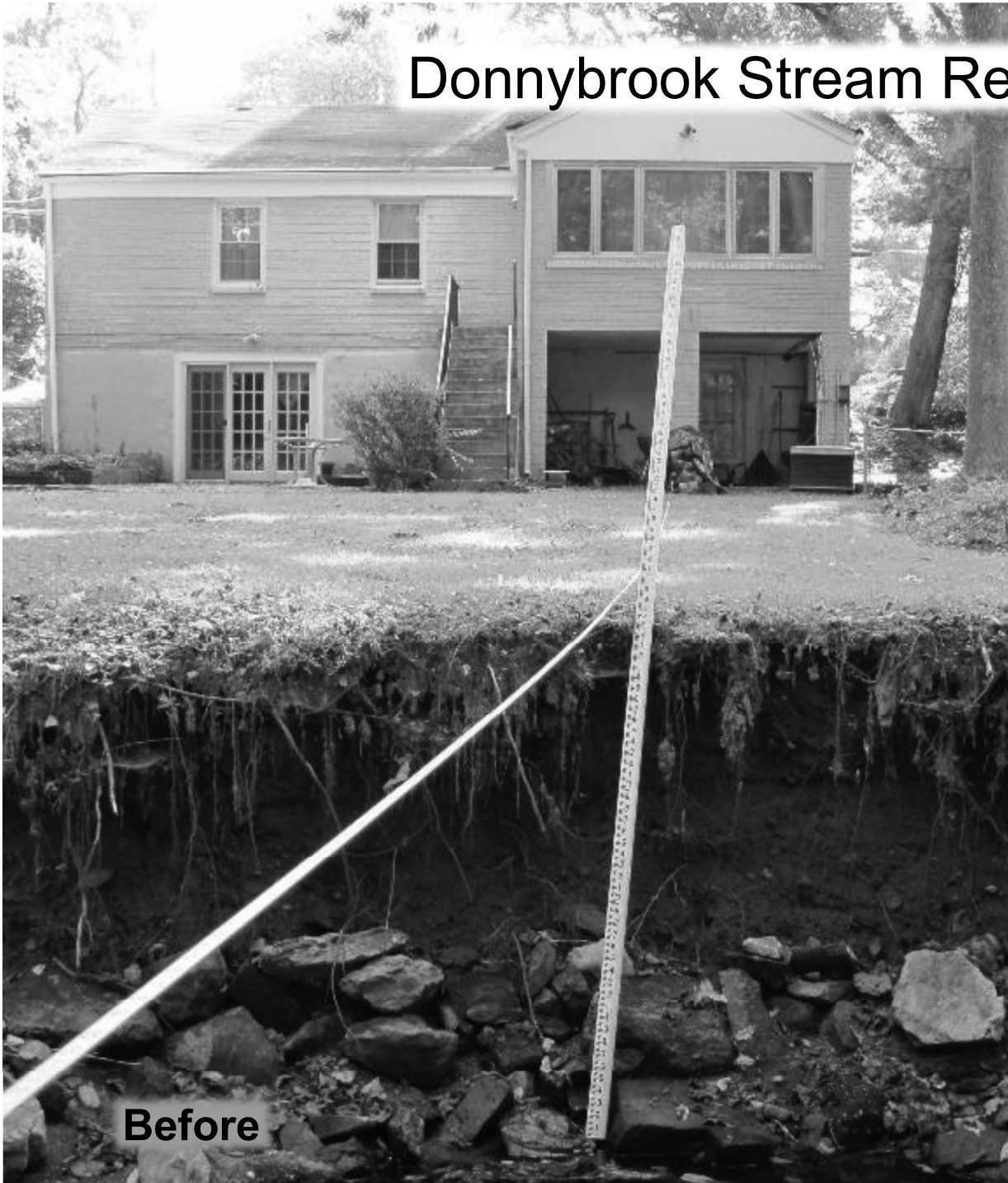
Hollywood Stream Restoration

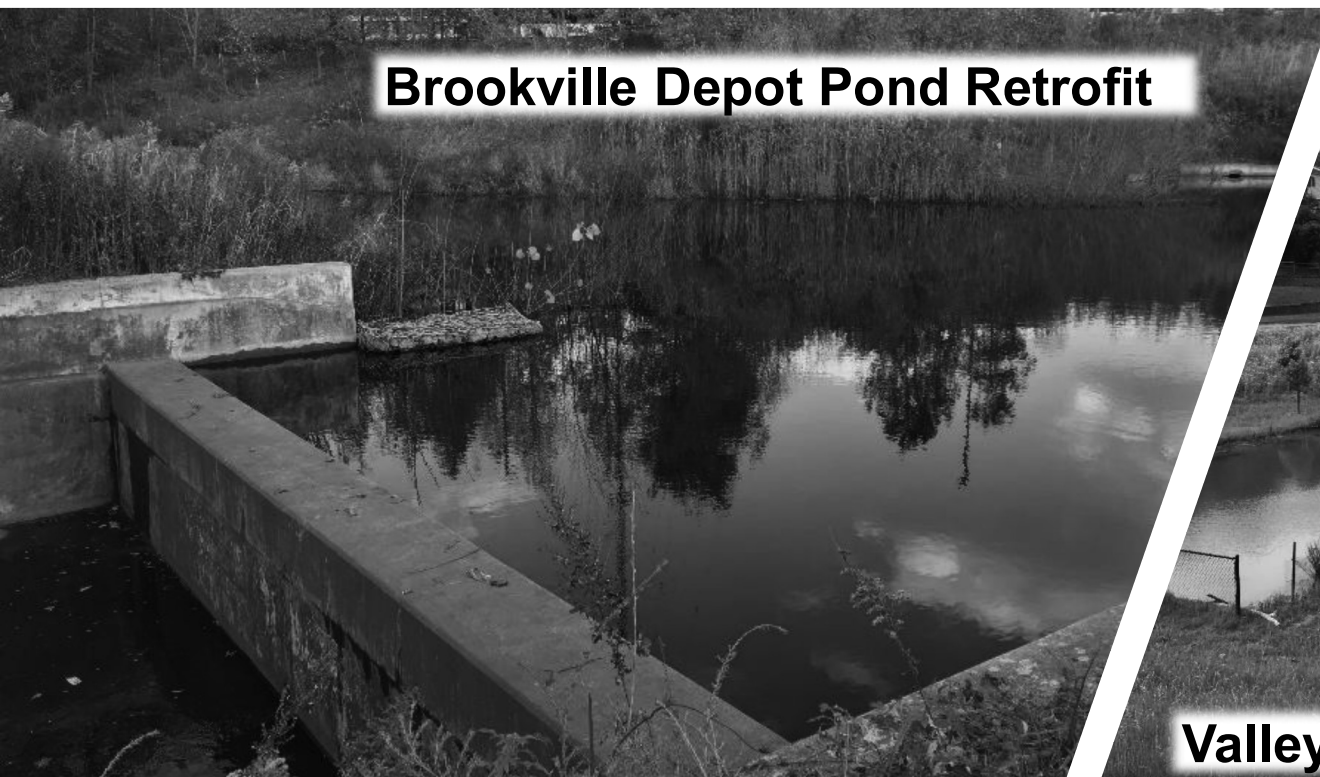


Woodlawn Stream Restoration



Donnybrook Stream Restoration





Continued Implementation – Beyond 2010 MS4 Permit Goal (FY19)

- Capital Improvement Project:
 - 11 Projects completed
 - 12 Project in design or construction (FY19)
- Voluntary BMPs implemented
 - 112 RainScapes
 - 4 Watershed Implementation Grants
- Over 2,400 Tree Montgomery and street trees planted
- Continued street sweeping



RainScapes Conservation Landscape
at Montgomery Blair High School



Tree
Montgomery



Little Falls Library LID
Ribbon Cutting Event

Kemp Mills Stormwater Pond Retrofit



Before



After

Fallsreach Pond Restoration



Fallsreach Stream Restoration



Watkins Meadow Pond Project – MDE Loan Funded



Next MS4 Permit Status

New Permit Tentative Determination (draft) to be issued Summer 2020 by MDE along with the 2019 Accounting Guidance – Final scheduled for the end of 2020

- Restoration requirement to be based on Maximum Extent Practicable (MEP) analysis.
 - Focused on the treatment of untreated impervious surface but may also have reduction requirements for nitrogen, phosphorus and total suspended sediments
 - Guidance allows for impervious acre credit for additional flood storage and for green infrastructure
 - MEP Analysis
 - Restoration Project Portfolio- Currently being revised based on new Accounting Guidance Document issued
 - Physical Capacity
 - Financial Capacity

Next MS4 Permit Status

Additional elements anticipated:

- More stream monitoring
- Road Salt Management Plan and tracking
- “Good housekeeping” on County and MCPS properties
- Stormwater facility inspection and maintenance
- Erosion and sediment control and stormwater plan review
- Illicit discharge detection and elimination
- Outreach and education
- Litter and pet waste reduction

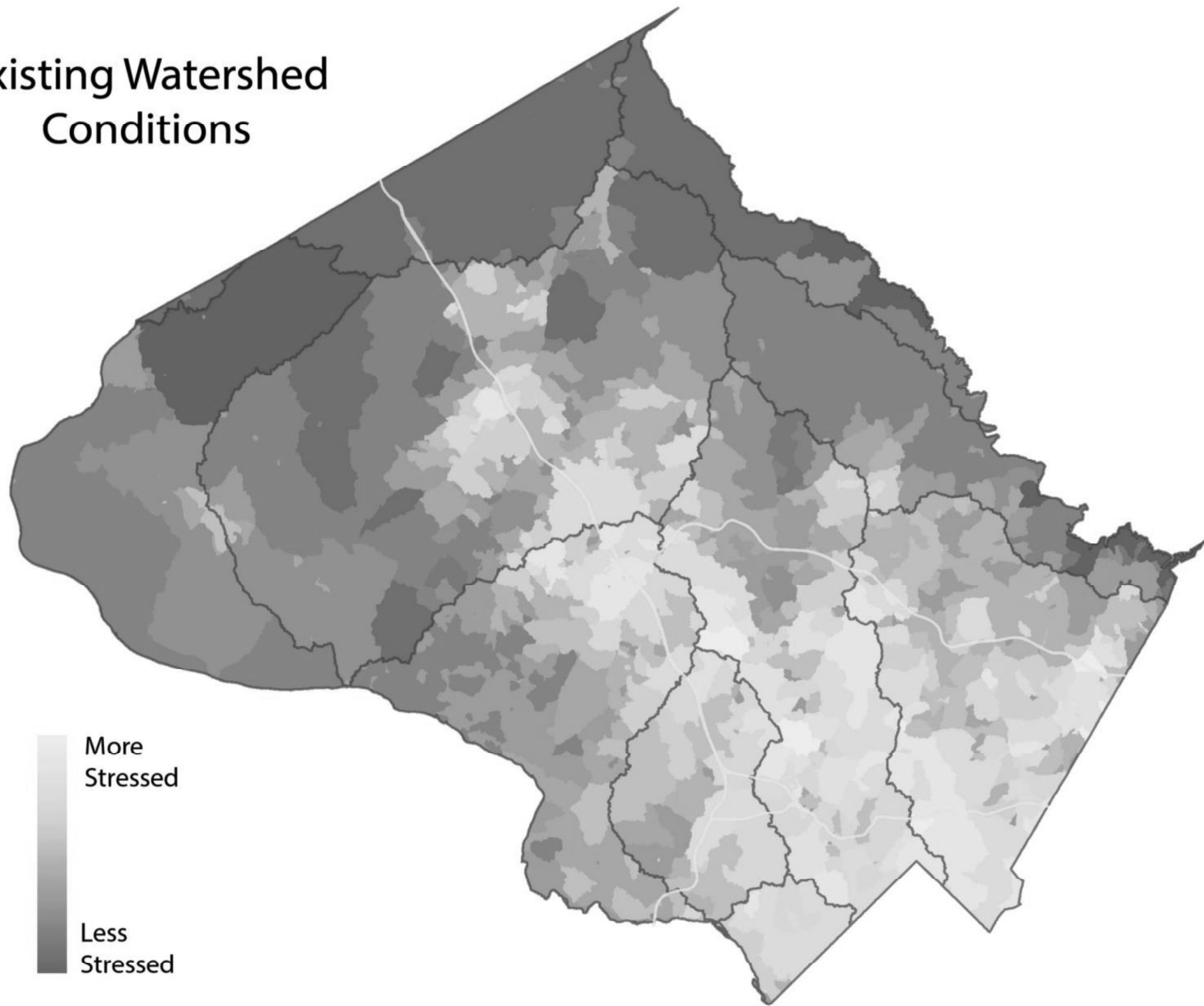
More coordination among County agencies

Geographic Targeting for Restoration

Suitability Maps:

- Strategic and precise, developed with program goals in mind
- Data driven: use science, best professional experience, and sound data
 - Biological uplift
 - Stability and project longevity
- A tool, foundation is science and will be combined with policy decisions
 - Funding
 - Regulatory requirements and jurisdiction
 - Environmental Justice

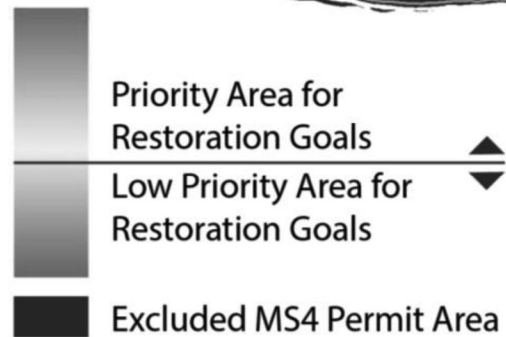
Existing Watershed Conditions



Stormwater Management Project Suitability



Stream Restoration Project Suitability



Watershed Restoration Program

Reopened three suspended projects

- Glenmont Forest Green Street - task order issued
- Grosvenor stream restoration - task order issued
- Old Farm Creek stream restoration - task order being processed

Evaluating restarting 3 to 4 other new restoration projects

- Using suspended project list and restoration suitability to select projects



Watershed Restoration Program

Turn-Key Restoration Contract

- Will deliver credits to meet the new MS4 permit restoration requirements – Impervious surface, nutrient and sediments based on the new 2019 Accounting Guidance
- Target areas of the County
 - Most suitable for restoration
 - Considers environmental justice
 - Priority areas identified by grant agencies
- Will include subcontracting provisions for local small businesses
- County will play significant role in outreach to communities and provide project and contract oversight
- County will continue to pursue state and federal grants to supplement funding
- County will continue to use State revolving loan funds
- Schedule is dictated based on MDE issuing final MS4 permit restoration requirements and a final Accounting Guidance document.

Watershed Restoration Program

FY 2021-2026 CIP Budget Summary

- **\$112 million dollars for the 6-year period**
 - \$70 million State revolving loan fund
 - \$14 million from State Aid (grants)
- New County MS4 permit will guide capital spending
- Reorganization of the Capital program consolidates multiple stormwater management improvement PDFs into single Countywide PDF (\$75M)
- Major increase in Major Structural Repair to address aging infrastructure and increased damage due to storm intensity (climate change) – 2 projects per year
- Operating budget will assume payment of debt service for M-NCPPC loans for Stream Valley Projects

Questions?

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DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MONTGOMERY COUNTY • MARYLAND