T&E COMMITTEE #5
May 6, 2022

Worksession

M E M O R A N D U M

May 3, 2022

TO: Transportation & Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: Amendment to the FY21-26 Capital Improvements Program and Supplemental Appropriation to the FY22 Capital Budget, Montgomery County Government, Department of Environmental Protection - $1,300,000 for Flood Control Study (No. 802202) (Source of Funds: Current Revenue General)

PURPOSE: To review and make recommendations to the Full Council regarding this new Flood Control Study project

Participants Include:

- Adriana Hochberg, Acting Director, Department of Environmental Protection (DEP)
- Patty Bubar, Deputy Director, DEP
- Stan Edwards, Chief, Energy, Climate and Compliance Division, DEP
- Frank Dawson, Chief, Watershed Restoration Division, DEP
- Anthony Skinner, Chief, Business Operations, DEP
- Rich Harris, Fiscal and Policy Analyst, Office of Management and Budget

Attachments to this Memorandum:

- March 15, 2022 Transmittal from the County Executive (©1-5)
- Racial Equity Impact Assessment (REIA) for Supplemental Appropriation 22-72 Flood Control Study (©6-8)

On March 15, 2022, the County Executive transmitted this amendment/supplemental appropriation which would provide $1.3 million (funded with Current Revenue General) for a new flood control study project. A public hearing was held on May 19.

Discussion

Increased flooding frequency and severity is a growing concern in the County. The County's Climate Action Plan identified extreme precipitation as one of four major climate hazards (along with extreme temperature, drought, and high winds) facing Montgomery County going forward. The Plan includes as one of its highest priority adaptation actions the repair and enhancement of stormwater

management conveyance systems (culverts and outfalls) to address flooding from more frequent and more intense rainfall expected in the future.

Office of Legislative Oversight (OLO) Report 2021-5 "Measuring Climate Resilience – A Review of Select Critical Infrastructure Sectors in Montgomery County" identified six climate risks to County infrastructure and assets including: floods, droughts, high winds, winter storms, hurricanes/tropical storms, and earthquakes. The report found that flooding represents the most serious risk.

The OLO report also notes that the County's current response to flooding is reactive and siloed between departments and agencies and that the County is "barely meeting investment needs" to face current conditions much less address increased severity and frequency of high precipitation events.

As discussed during the Council's review of the FY23-28 Storm drains Capital Improvements Program, the County's current funding levels are not sufficient to maintain the County's current storm drain inventory.[1] As a result the T&E Committee (and later the Full Council) earlier this spring expressed support for the County Executive's recommended 66 percent increase in six-year funding for the Storm drains CIP (funded with Water Quality Protection Bonds).

Flooding Study

A key recommendation of the OLO report is that the County *"Conduct facility and asset risk assessments to identify assets, evaluate climate risk, and close knowledge and data gaps. As a result, the County can develop a resilience strategy and implement projects."*

The recommended flooding study is consistent with that recommendation in that it will provide for the development of a comprehensive flood management strategy and watershed by watershed plans to build resiliency and improve public safety. DEP staff have noted that this flood study project is the first piece needed in identifying the highest priority adaptation/resiliency work the County will need to pursue.

While DEP is noted on the Project Description Form (PDF) as the administering agency, the study will involve multiple departments and agencies (addressing the siloing problem noted in the OLO report) as noted in the Coordination section of the PDF. Departments include: Department of Permitting Services, Office of Emergency Management and Homeland Security, Department of Transportation, Montgomery County Fire and Rescue Service, Maryland-National Capital Park and Planning Commission, Maryland Department of the Environment, and the United States Army Corps of Engineers. *NOTE: Council Staff suggests that WSSCWater be included in this coordination section as well, since their water and sewer infrastructure is often in close proximity to County storm drain and stormwater management infrastructure.*

DEP Staff provided the following additional information regarding this project:

- *Phase 1: Strategic Planning – This is foundational work to prepare the County to conduct detailed technical studies to identify the causes of, and potential solutions to, flooding in*

[1] The Eighth Report of the Infrastructure Maintenance Task Force (February 2020) includes information on storm drains and the results of the survey work up to that point and identifies a backlog of $47.3 million and an "Acceptable Annual Replacement Cost" of $4.04 million. The current level of effort of $1.7 million in the Storm Drain Culvert Replacement program is only about 42 percent of that level. The FY23-28 Recommended CIP (as preliminarily supported by the Council would include an additional $3.3 million in FY23 to pursue urgent work. The Council has also initially supported directing an additional $3.1 million in Federal ARPA dollars towards storm drain work.

the County. Phase 1 includes gathering data on historic flooding in the County, including input from affected communities; providing recommendations for regulatory, policy, and organizational changes necessary for the County to comprehensively plan for, respond to, and recover from flooding events; and identifying the process for undertaking detailed hydrologic and hydraulic modeling, vulnerability assessments, and developing adaptation/mitigation design plans, including identifying needed data and an approach to prioritizing the order in which such studies should be done.

- *Phase 2: Watershed/Drainage Area-Specific Studies – This phase includes technical hydrologic and hydraulic studies on a watershed/drainage area specific basis in order to identify the causes and potential solutions to flooding.*[2]
- *Phase 3: Implementation of Flooding Mitigation Measures – This phase will involve implementation of capital projects identified in Phase 2 intended to reduce or eliminate flood risks.*

Phase 1 will identify important foundational elements related to the County's approach to flooding, but initial Phase 2 studies can occur while Phase 1 is being completed. In a particular watershed/drainage area, Phase 3 will occur after Phase 2 is complete.

The $1.3 million CIP supplemental request will fund the completion of the Phase 1 Strategic Planning effort begun in FY22 ($300K) and initial Phase 2 watershed/drainage area studies ($1M). The Phase 2 studies will be selected in certain parts of the county based on the information and analysis from Phase I.

Racial Equity Impact Assessment

The Office of Racial Equity and Social Justice transmitted an assessment of the Flood Study request (see ©6-8) which found that the study is

> "likely to advance racial equity and social justice in the County, as it funds a study that is likely to give the County tangible information for planning and responding to flood-related challenges in a way that reduces inequities in process and disparities in outcomes that disproportionately burden communities of color and low-income communities with climate risk."

As noted earlier, the County's current reactive process for dealing with flooding issues means the County is responding to residents who are likely to be more familiar with County Government. The assessment notes that, "As a result, residents and communities that do not typically interact with the County government may not receive the same consideration as those that do."

The Flood Study will provide a more comprehensive picture of flooding issues facing various communities in the County and will allow the County to better target and prioritize its responses to these issues.

[2] Councilmembers may recall that in June 2021, the Council approved a supplemental appropriation and amendment to the Facility Planning Storm Drains project for an $82,000 Federal Grant (via the Maryland Department of Natural Resources) in for DOT to do a study of the River Falls neighborhood storm drain system. The study, which is equivalent to the Phase 2 studies envisioned as part of the overall Flood Study project, is intended to identify potential solutions to address current flood hazards as well as future hazards exacerbated by the impacts of climate change.

Council Staff Recommendation

Given the findings and recommendations of both the Climate Action Plan and OLO Report 2021-5, Council Staff recommends approval of the CIP Amendment and supplemental appropriation as transmitted by the County Executive. This action will allocate $1.3 million in Current Revenue General which will need to be incorporated into the Council's spending assumptions for the reconciliation of the FY23-28 CIP and FY23 Operating Budget.

NOTE: While the Phase 1 portion of work discussed above is one-time. Going forward, the County will need to prioritize and fund additional Phase 2 studies and the Phase 3 implementation work. The fiscal impacts of that later work will be better known through the Phase 1 and initial Phase 2 work which will help ensure the later work is appropriately scoped and prioritized.

NOTE #2: For the FY23 budget, the County Executive is recommending two new positions in the DEP General Fund budget including a Flood Program Manager and a Flood GIS Specialist position.

OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
County Executive

M E M O R A N D U M

March 15, 2022

TO: Gabe Albornoz, President
Montgomery County Council

FROM: Marc Elrich, County Executive

SUBJECT: Amendment to the FY22-26 Capital Improvements Program and Supplemental Appropriation #22-72 to the FY22 Capital Budget
Montgomery County Government
Department of Environmental Protection
Flood Control Study (No. 802202), $1,300,000

I am recommending an amendment to the FY22 Capital Budget and the FY22-26 Capital Improvements Program (CIP) to create a new Flood Control Study project. The new project will be funded with $1,300,000 in Current Revenue: General.

This amendment is needed because the damage created by flooding is a current problem that will grow as the effects of climate change progress. This project will develop a comprehensive flood management strategy and watershed-by-watershed management plans to build resiliency and improve public safety. The recommended amendment is consistent with the criteria for amending the CIP because flooding represents an urgent safety concern.

I recommend that the County Council approve this amendment to the FY22-26 Capital Improvements Program in the amount of $1,300,000 in Current Revenue: General for the new Flood Control Study project.

I appreciate your prompt consideration of this action.

Enclosure: Amendment to the FY22-26 Capital Improvements Program and Supplemental Appropriation #22-72

cc: Adriana Hochberg, Department of Environmental Protection
Mary Beck, Office of Management and Budget
Jennifer Bryant, Office of Management and Budget
Richard Harris, Office of Management and Budget

Resolution: _____
Introduced: _____
Adopted: _____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

By: Council President at the Request of the County Executive

SUBJECT: Amendment to the FY21-26 Capital Improvements Program and Supplemental Appropriation #22-72 to the FY22 Capital Budget
Montgomery County Government
Department of Environmental Protection
Flood Control Study (No. 802202), $1,300,000

Background

1. Section 307 of the Montgomery County Charter provides that any supplemental appropriation shall be recommended by the County Executive who shall specify the source of funds to finance it. The Council shall hold a public hearing on each proposed supplemental appropriation after at least one week's notice. A supplemental appropriation that would comply with, avail the County of, or put into effect a grant or a Federal, State or County law or regulation, or one that is approved after January 1 of any fiscal year, requires an affirmative vote of five Councilmembers. A supplemental appropriation for any other purpose that is approved before January 1 of any fiscal year requires an affirmative vote of six Councilmembers. The Council may, in a single action, approve more than one supplemental appropriation. The Executive may disapprove or reduce a supplemental appropriation, and the Council may reapprove the appropriation, as if it were an item in the annual budget.

2. Section 302 of the Montgomery County Charter provides that the Council may amend an approved capital improvements program at any time by an affirmative vote of no fewer than six members of the Council.

3. The County Executive recommends the following capital project appropriation increases:

Project Name	Project Number	Cost Element	Amount	Source of Funds
Flood Control Study	802202	P, D, & S	$1,300,000	Current Revenue: General
TOTAL:			$1,300,000	

4. This amendment is needed because the damage created by flooding is a current problem that will grow as the effects of climate change progress. This project will develop a comprehensive flood management strategy and watershed-by-watershed management plans to build resiliency and improve public safety. The recommended amendment is consistent with the criteria for amending the CIP because flooding represents an urgent safety concern.

5. The County Executive recommends an amendment to the FY21-26 Capital Improvements Program and a supplemental appropriation in the amount of $1,300,000 in Current Revenue: General for Flood Control Study (No. 802202).

6. Notice of public hearing was given and a public hearing was held.

Action

The County Council for Montgomery County, Maryland, approves the following action:

The FY21-26 Capital Improvements Program of the Montgomery County Government is amended as reflected on the attached project description form and a supplemental appropriation is approved as follows:

Project Name	Project Number	Cost Element	Amount	Source of Funds
Flood Control Study	802202	P, D, & S	$1,300,000	Current Revenue: General
TOTAL:			$1,300,000	

This is a correct copy of Council action.

_____
Selena Mendy Singleton, Esq.
Clerk of the Council

Flood Control Study
(P802202)

Category	Conservation of Natural Resources	Date Last Modified	03/08/22
SubCategory	Stormwater Management	Administering Agency	Environmental Protection
Planning Area	Countywide	Status	Planning Stage

	Total	Thru FY20	Rem 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	1,300	-	-	1,300	-	100	1,200	-	-	-	-
TOTAL EXPENDITURES	1,300	-	-	1,300	-	100	1,200	-	-	-	-
FUNDING SCHEDULE ($000s)											
Current Revenue: General	1,300	-	-	1,300	-	100	1,200	-	-	-	-
TOTAL FUNDING SOURCES	1,300	-	-	1,300	-	100	1,200	-	-	-	-

APPROPRIATION AND EXPENDITURE DATA ($000s)

Appropriation FY 22 Request	-	Year First Appropriation	-
Supplemental Appropriation Request	1,300	Last FY's Cost Estimate	-
Cumulative Appropriation	-		
Expenditure / Encumbrances	-		
Unencumbered Balance	-		

PROJECT DESCRIPTION

This project concerns the development of a Comprehensive Flood Management Strategy and watershed/sub-watershed specific Flood Management Plans.

The Flood Management Strategy will improve the County's ability to address flooding based on scientific and engineering data and a comprehensive, coordinated approach to identify potentially affected residents and businesses, particularly underserved communities and businesses that are least prepared to respond to and recover from flooding events. To understand the resources required to develop comprehensive solutions, the Strategy will, among other things:

- gather data on historic flooding in the County, including input from affected communities;
- examine the potential impacts of climate change and other significant factors that can cause flooding in the County, including the effect of updated rainfall predictions
- provide recommendations for regulatory, policy, and organizational changes necessary for the County to comprehensively plan for, respond to, and recover from flooding events; and
- identify the process for undertaking detailed hydrologic and hydraulic modeling, vulnerability assessments, and developing adaptation/mitigation design plans, including identifying needed data and an approach to prioritizing the order in which such studies should be done.

Typical tasks in the development of Flood Management Plans for specific watersheds/sub-watersheds may include evaluations of current risk, future risk due to climate change, and assessment of risk due to aging assets. More specifically, the effort could include identifying areas at risk of flooding, quantifying that risk, developing mitigation alternatives, and conducting cost-benefit analyses, including evaluation of impacts to disadvantaged communities. Additional results may include development of prioritized CIP projects and implementation schedules. The level of detail and budget required to accomplish these tasks will vary by watershed, of which there are eight major watersheds and almost 150 smaller watersheds in the County.

This study will complement the state's efforts under Stormwater Management Law, Environment Article 4-201.1, which requires the Maryland Department of the Environment (MDE) to report on the most recent precipitation data available, investigate flooding events since 2000, and update Maryland's stormwater quantity management standards for flood control.

ESTIMATED SCHEDULE

Phase 1 will identify watersheds that need attention and develop an overall strategy and is expected to be complete by fall 2022. Development of subwatershed plans will begin when the subwatersheds are identified, expected in early 2023.

PROJECT JUSTIFICATION

Flooding incidents in Montgomery County have been increasing in frequency and severity for several years. The built environment also affects flooding. An April 2021 report from the Office of Legislative Oversight (OLO) identified an upward trend of urban flooding in the County, from two to four occurrences a year before 2010 to 11 to 39 occurrences per-year since 2010, and the severity has increased in terms of property damage and loss of life. According to the U.S. Environmental Protection Agency, precipitation in Maryland has increased by about 5 percent in the last century but precipitation from extremely heavy storms has increased in the eastern United States by more than 25 percent since 1958.

To determine the best way to address flooding problems, the County needs a systematic watershed and subwatershed-based analysis of flooding and the impact of

increased rainfall in the County dues to climate changes and other significant contributing factors.

FISCAL NOTE

In addition to County support, the Department of Environmental Protection will pursue outside funding to fund these efforts.
FY22 supplemental in Current Revenue: General for the amount of $1,300,000.

COORDINATION

Department of Permitting Services, Office of Emergency Management and Homeland Security, Department of Transportation, Montgomery County Fire and Rescue Service, Maryland-National Capital Park and Planning Commission, Maryland Department of the Environment; United States Army Corps of Engineers

OFFICE OF RACIAL EQUITY AND SOCIAL JUSTICE

Marc Elrich
County Executive

Tiffany Ward
Director

MEMORANDUM

April 8, 2022

To: Jennifer Bryant, Director
Office of Management and Budget

cc: Gabe Albornoz, President
County Council

From: Tiffany Ward, Director
Office of Racial Equity and Social Justice

Re: Racial Equity Impact Assessment (REIA) for Supplemental Appropriation 22-72 Flood Control Study

I. **FINDING:** The Office of Racial Equity and Social Justice (ORESJ) finds that Supplemental Appropriation #22-72 Flood Control Study is likely to advance racial equity and social justice in the County, as it funds a study that is likely to give the County tangible information for planning and responding to flood-related challenges in a way that reduces inequities in process and disparities in outcomes that disproportionately burden communities of color and low-income communities with climate risk. In its assessment, ORESJ also noted consistent overlap between the Department of Environmental Protection's (DEP) proposed approach and best practices for addressing the disproportionate burden of climate change on communities of color and other communities experiencing identity-based marginalization.

II. **BACKGROUND:** The purpose of Supplemental Appropriation #22-72 is to provide funding for the development of a Comprehensive Flood Management Strategy and watershed/sub-watershed specific Flood Management Plans for the County. The flood control study will include:[1]

[1] Flood Control Study (P802202). Project Description.

- gathering data on historic flooding in the County, including input from affected communities;
- examining the potential impacts of climate change and other significant factors that can cause flooding in the County, including the effect of updated rainfall predictions;
- providing recommendations for regulatory, policy, and organizational changes necessary for the County to comprehensively plan for, respond to, and recover from flooding events;
- identifying the process for undertaking detailed hydrologic and hydraulic modeling, vulnerability assessments, and developing adaptation/mitigation design; and
- planning, including identifying needed data and an approach to prioritizing the order in which such studies should be done.

Available information also indicates that the study may include evaluating impacts to disadvantaged[2] communities.

The focus of this assessment is to determine the extent to which the flood control study addresses identified inequities in accessing government resources. It also looks at the extent to which the study will support the county in mitigating the disproportionate effects of climate change on communities of color and low-income residents.

The Department of Environmental Protection provided a robust racial equity and social justice analysis in the proposal of the supplemental appropriation for the Flood Control Study. There is specific evidence (in materials accompanying the request) that DEP applied a racial equity lens to its project justification. First, DEP discussed the County's response to flooding events. It recognized the numerous activities the County undertakes in response to flooding across the county and added: "the County's short-term response is often driven by interaction with residents that are familiar with the county government, and who have direct connections with elected officials or senior level staff. As a result, residents and communities that do not typically interact with the County government may not receive the same consideration as those that do."[3]

These inequities related to process typically entail barriers or inequitable access to government services. Often this is created by unexamined systems or practices that benefit those with existing power or access to decisionmakers. In the case of climate change, this means that those with more political access have more opportunities to influence which

[2] This is language from the project description. Because "Disadvantaged" implies a deficit-based frame and could include a number of different groups depending on the racial disparity or inequity being described, ORESJ prefers to use specific language about who is experiencing the impacts of racial and social inequities—for example, communities of color, people with disabilities, immigrant communities, low-income residents.

[3] ORESJ noted this practice in a previous REIA; it is clear that DEP has incorporated this concern into its planning for the study. For information about issues with this current practice, please see: https://www.montgomerycountymd.gov/ore/Resources/Files/CBG850.pdf

areas of a jurisdiction receive government attention to address things like water pollution, sediment and erosion, and flooding damage. This is inherently inequitable. The Georgetown Climate Center suggests that disparate outcomes during climate disaster recovery is related to lack of political clout and access to information and outreach regarding recovery programs, lack of financial resources[4]. In addition, a lack of transparency and long-term community engagement prevents the public from understanding the mechanisms they can use to report issues and monitor progress, which over time diminishes the public's trust in government.

Second, in this supplemental request DEP demonstrated understanding of the link between climate change risk, particularly flooding, and disproportionate impacts on communities of color and low-income people across the US: "There are numerous articles and studies that discuss how flooding affects social inequality, including those from the Center for Social Solutions at the University of Michigan[5], the Public Policy Institute of California[6], and Scientific American[7]. These sources highlight how disadvantaged populations suffer disproportionate effects of flooding due to historical inequities that have affected home ownership and the ability to accumulate wealth, access to government services, and lack of influence over government response to flooding."

The ORESJ tends to be more specific in its analyses about the role of structural racism in producing the policies and practices that create and contribute to climate risk, but DEP's explanation of social inequalities, using the above-mentioned cited sources demonstrates DEP's understanding of the complex relationship between race, income, housing, and climate change risks in society. Together, DEP's analysis of the County's flood response and application of a racial equity lens to this proposed flood control study, highlight DEP's understanding of inequities in process and disparities in outcomes that disproportionately burden communities of color and low-income communities with climate risk.

cc: Ken Hartman, Director, Office of Strategic Partnerships, Office of the County Executive

[4] Georgetown Climate Center: A Leading Resource for State and Federal Policy. Equitable Adaptation Legal & Policy Toolkit. "Equitable Disaster Preparedness, Response & Recovery". Available at: https://www.georgetownclimate.org/adaptation/toolkits/equitable-adaptation-toolkit/equitable-disaster-preparedness-response-recovery.html

[5] University of Michigan. Center for Social Solutions. "Case Study: Floods and Socioeconomic Inequality". October 30, 2020. Available at: https://lsa.umich.edu/social-solutions/news-events/news/insights-and-solutions/case-studies/case-study--floods-and-socioeconomic-inequality.html

[6] Lori Pottinger. Public Policy Institute of California. "Addressing Inequity in Flood Risks". November 13, 2019. Available at: https://www.ppic.org/blog/addressing-inequality-in-flood-risk/

[7] John Fialka. E&E News. Scientific American. April 1, 2019. Available at: https://www.scientificamerican.com/article/when-storms-hit-cities-poor-areas-suffer-most/