



County of Fairfax, Virginia

MEMORANDUM

DATE: January 19, 2021

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive 

SUBJECT: The Use of Stormwater Funds for Stormwater System Improvements Within Existing VDOT Right-of-Way

Introduction:

As a result of a 2006 Fairfax County Board of Supervisors (Board) policy, Fairfax County (County) has not utilized funds from the Stormwater Service District Tax (Stormwater Tax) to improve existing stormwater management infrastructure within the Virginia Department of Transportation (VDOT) right-of-way (ROW) or as a part of VDOT capital improvement or maintenance projects. In an October 8, 2019, presentation to the Board Environmental Committee on the county's flood response strategy, the Department of Public Works and Environmental Services (DPWES) recommended revising the Board policy to allow stormwater funds to be used for stormwater system improvements within the VDOT ROW. A revised policy would support better collaboration between the County and VDOT to address public safety and community flooding, improve water quality, and protect the County's water resources.

Background:

In 1997, the Board adopted a revised policy regarding criteria and procedures for the establishment of stormwater control project priorities for funding consideration. The policy identified seven project categories listed in order of priority (see Attachment A). The lowest category is projects that alleviate road flooding. The 1997 Board policy continues to be used as the principal guide to establish stormwater project priorities. While still a priority, projects that alleviate road flooding rank lower than other stormwater management projects, including projects that mitigate structural flooding, stream bank and channel erosion, and even yard flooding. The policy also contains a provision that allows flexibility to select projects for funding on a case-by-case basis when there is an opportunity for the County to save substantial funds, such as cost sharing with VDOT on the joint implementation of stormwater management projects.

In the January 23, 2006, Board Summary for the Adoption of the Popes Head Creek Watershed Management Plan, the Board approved a motion, "that road projects not related to the protection of stream beds or banks or water quality will not be funded out of the stormwater

and watershed budget” (see Attachment B). This statement was also included when the Board adopted subsequent watershed management plans. As a result of this policy, the County has not used funds from the Stormwater Tax to improve stormwater facilities within existing VDOT ROW.

The Northern Virginia Hazard Mitigation Plan that was adopted by the Board in 2017 includes a county-specific high priority flood mitigation action to coordinate and support VDOT in the identification and resolution of road flooding and drainage issues related to VDOT roadways (see Attachment C).

Inadequate stormwater infrastructure, including undersized culverts, can back up water and cause localized flooding. The collected water may overflow across the street producing road flooding that creates safety hazards for motorists and downstream erosion. Flooding at undersized culverts can erode streambanks, degrade water quality, and damage public and private property and infrastructure.

While drainage issues within the ROW is a countywide concern, there is no single comprehensive data source of undersized culverts or drainage facilities within the ROW. The 2011 list of frequently flooded roads (see Attachment D) contains a list of 60 sites compiled from the Fairfax County Office of Emergency Management and Department of Public Safety Communications and VDOT. The list generally includes locations where a road runs parallel to or crosses a stream. Additionally, VDOT and DPWES Stormwater maintain a separate list of ROW drainage complaints to assess for potential projects under the County Safety and Operation Improvement Fund (CSOI) described in more detail below.

There is a lack of transportation funding available for drainage improvements within existing VDOT ROW, such as culvert replacements, that are not directly related to or part of a larger transportation capacity or congestion mitigation improvement projects. Many state and federal transportation funds have use limitations. Most of the transportation funding comes from the County’s Commercial and Industrial (C&I) Tax, Northern Virginia Transportation Authority funds, and state and federal funds, all of which can only be used to increase capacity or mitigate congestion.

Projects submitted by the County to VDOT for state and/or federal funding go through a statewide and district level prioritization rating system and only the highest scoring projects receive funding. VDOT has two sources of funding for bridge and culvert repair and replacement. The State of Good Repair Fund is used for the rehabilitation or replacement of bridges, but terms for the use of these funds is very prescriptive and replacement is generally in kind. The Bridge Maintenance Fund is used for routine maintenance and repair. While this fund has more flexibility, there is only about \$9 million available annually to maintain VDOT’s 2,200 bridges and culverts. Other types of state and federal transportation funding programs are tied to specific types of projects, such as the Transportation Alternatives Program or Safe Routes to School funds. For example, VDOT recently completed an emergency project

to replace a bridge along Swinks Mill Road that was damaged during a storm (See Figures 1 and 2). The project location is listed on the 2011 list of frequently flooded roads, but due to the requirements of the emergency funding reimbursement, the bridge was replaced in kind and did not mitigate the existing flooding concern.

Figure 1. *Bridge Damage at Swinks Mill Road from the July 8, 2019, storm (VDOT)*



Note. Reprinted from VDOT News Release. <https://www.virginiadot.org/newsroom/northern-virginia/2019/update-road-repairs-in-mclean-continue-following-floods7-25-2019.asp>.

Figure 2. *Swinks Mill Road bridge repair (VDOT)*



Note. Reprinted from VDOT News Release. <https://www.virginiadot.org/newsroom/northern-virginia/2019/swinks-mill-road-reopens-in-mclean10-18-2019.asp>.

Under the CSOI, VDOT partners with DPWES Stormwater to address maintenance-level stormwater drainage projects. Since its initiation in 2015, the CSOI program completed 70 projects totaling \$4.5 million in state funds.

The most flexible type of funding comes from County bond referendums. Voters must approve general obligation bonds. Bond funds can only be used for the purpose(s) stated in the ballot question, and the Board endorses specific projects funded by the bond. Several projects under FCDOT's Transportation Priorities Plan and funded through bond referendum address frequently flooded roadways.

Project Selection Criteria and Process

Stormwater Tax funded transportation related stormwater improvements may be a potential opportunity to increase safety and protect private and public infrastructure when pursued as a FCDOT or DPWES and VDOT partnership opportunity. A revision of the Board policy will improve County and VDOT collaboration on stormwater system improvements and flood mitigation in the county. Projects to improve stormwater management within the ROW would be prioritized annually with other county flood mitigation projects based on factors such as frequency and extent of flooding, available funding, or other criteria established by the Board. Funds would only be used on improvements in the ROW to alleviate structural flooding unless directed by the Board.

If the use of the stormwater funds for stormwater system improvements in the ROW is approved by the Board of Supervisors, it is recommended that the proposed projects be presented to the Board as an information item as part of the annual stormwater capital improvement program process. This topic will be presented at an upcoming Environmental Committee.

Attachments: A) Board of Supervisors Policy for Establishing Stormwater Control
B) Adoption of The Popes Head Creek Watershed
C) Northern Virginia Hazard Mitigation Plan Update
D) 2011 Frequently Flooded Road Sites

cc: Rachel Flynn, Deputy County Executive
Tom Biesiadny, Director, Department of Transportation
Randolph W. Bartlett, Director, Department of Public Works and Environmental Services (DPWES)
Craig Carinci, Director, DPWES, Stormwater Planning Division (SWPD)
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Jessica Tadlock, Financial Specialist IV, DPWES, MSMD
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Claudia Llana, Assistant Director, Transportation and Land Use, VDOT NOVA District
Steven Welch, Assistant Director, Transportation and Land Use, VDOT NOVA District

FAIRFAX COUNTY, VIRGINIA

**Board of Supervisors Policy for Establishing Stormwater Control
Project Priorities for Funding Considerations**

Adopted by the Board of Supervisors on April 28, 1997

The intent of this policy is to establish a system to define and prioritize stormwater control projects by separating them into specific categories based on their objective. This prioritization will be used in the selection of projects that are recommended to the Board of Supervisors for funding consideration. In order for a project to be considered as a fundable project, it must be included in at least one of the categories listed in priority order as follows:

- Category 1 — Projects that are mandated by state or federal regulations for immediate implementation and projects that address critical/emergency dam safety issues.
- Category 2 — Projects that alleviate structures from damage by flood water or by being undermined by severe stream erosion.
- Category 3 — Projects that achieve stormwater quality improvement in specific conformance with the County's obligations under Chesapeake Bay initiatives and/or the County's requirements under the Virginia Pollutant Discharge Elimination System Permit for storm sewer system discharges.
- Category 4 — Projects that alleviate severe streambank and channel erosion.
- Category 5 — Projects that alleviate moderate and minor streambank and channel erosion.
- Category 6 — Projects that alleviate yard flooding
- Category 7 — Projects that alleviate road flooding

Category 1 projects primarily include remedial repairs to County-owned dams to ensure the stability and integrity of the County dams in conformance with the Virginia Dam Safety regulations. Category 2 projects are intended to protect structures from damage by both flood waters and undermining of foundations by severe streambank erosion.

Wet basement conditions caused by groundwater are not included in this policy. Groundwater projects are addressed in the County Policy on Groundwater adopted by the Board of Supervisors on December 15, 1986 (copy attached for information).

Category 3 includes the implementation of regional stormwater management ponds needed to remove pollutants from stormwater and thereby meet the requirements of the County's Virginia Pollutant Discharge Elimination System Permit. Category 3 will also include nonpoint source water quality improvement projects that may be required as part of the County's obligation under the Chesapeake Bay initiatives. The remaining categories 4, 5, 6, and 7, are self explanatory.

Within each category, specific priority numbers will not be assigned to each individual project because the list of identified stormwater drainage improvements projects is very dynamic. New projects are added to the list as a result of drainage investigation performed on behalf of citizens and/or Board Members. Projects are removed from the list following corrective action(s) by various agencies including the County, Virginia Department of Transportation (VDOT), developers, homeowners associations, and private individuals. In addition, the severity of each stormwater deficiency is often altered over time due to changes in surrounding land use and stream dynamics.

The selection of projects for funding consideration within each category will be made based on the severity of the problem, number of structures affected, frequency of damage being incurred, and other factors that may be relevant at the time of the selection. In addition, the length of time since a project was first identified will be a consideration factor to differentiate between projects within a category where all other factors appear equal.

The selection of projects to be recommended to the Board of Supervisors for funding will also consider public/private cost sharing opportunities for the County to save substantial funds for implementation. These situations arise when developers proffer to contribute to the drainage program by providing funding, land rights, design, and/or construction for specific projects. Other opportunities arise for the County to save substantial funding by participating in cost sharing with VDOT, developers, and other agencies for the joint implementation of drainage projects. The ability to participate with the public/private sector at the appropriate opportunity will reduce overall project costs for the County. In limited situations, staff will select projects for County funding consideration based on opportunities to participate with others who volunteer to

contribute or participate in the implementation of a particular project. Any priority adjustments will be contingent upon the County saving a substantial amount of funds in achieving the implement of a project. Priority adjustments to be recommended to the Board for approval will be considered by staff on a case-by-case basis. Any potential legal liability issues relating to stormwater control projects or easements will be considered in prioritizing projects and will be brought to the attention of the Board. The nature and extent of such potential liability will be evaluated in the prioritization process.

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17. A-4 – ADOPTION OF THE POPES HEAD CREEK WATERSHED MANAGEMENT PLAN (BRADDOCK AND SPRINGFIELD DISTRICTS)
(12:21 p.m.)

Supervisor Gross moved adoption of the Popes Head Creek Watershed Management Plan. Supervisor Bulova seconded the motion.

Chairman Connolly noted that he, along with Supervisor McConnell met with staff to resolve questions regarding the cost structure of the management plan. As a follow up to the meeting, Chairman Connolly issued a written statement that includes the following:

- The Board's reaffirming of its long history of environmental vigilance, endorsed by its adoption of the Environmental Agenda, which calls for the need to complete the watershed management planning process. The information in these plans is vital to establishing a baseline inventory of potential project and policy needs Countywide.
- These plans represent a menu of options and concepts that require an additional level of fiscal scrutiny. This "cost-scrubbing" exercise for each potential project is essential.

Chairman Connolly relinquished the Chair to Vice-Chairman Bulova and asked to amend the motion to direct staff to recognize the following:

- Projects, programs, and policy items in this plan will first undergo appropriate review by County staff and the Board prior to implementation. Board adoption of the watershed plan will not set into motion automatic implementation of projects, programs, initiatives, or policy recommendations.
- The Watershed plan is a conceptual master-list of non-structural programs and structural capital projects. Each fiscal year, staff will prepare and submit to the Board a detailed spending plan to include a description of proposed projects and an explanation of their ranking, based on specific criteria, such as the cost-effectiveness as compared to alternative projects, a clear public benefit, a need to protect public or private lands from erosion or flooding, and a need to meet a specific watershed or water quality goal.
- Road projects not related to protection of streambeds or banks or water quality will not be funded out of the stormwater and watershed budget.

Fairfax County Watershed Planning Program Schedule, January 2006

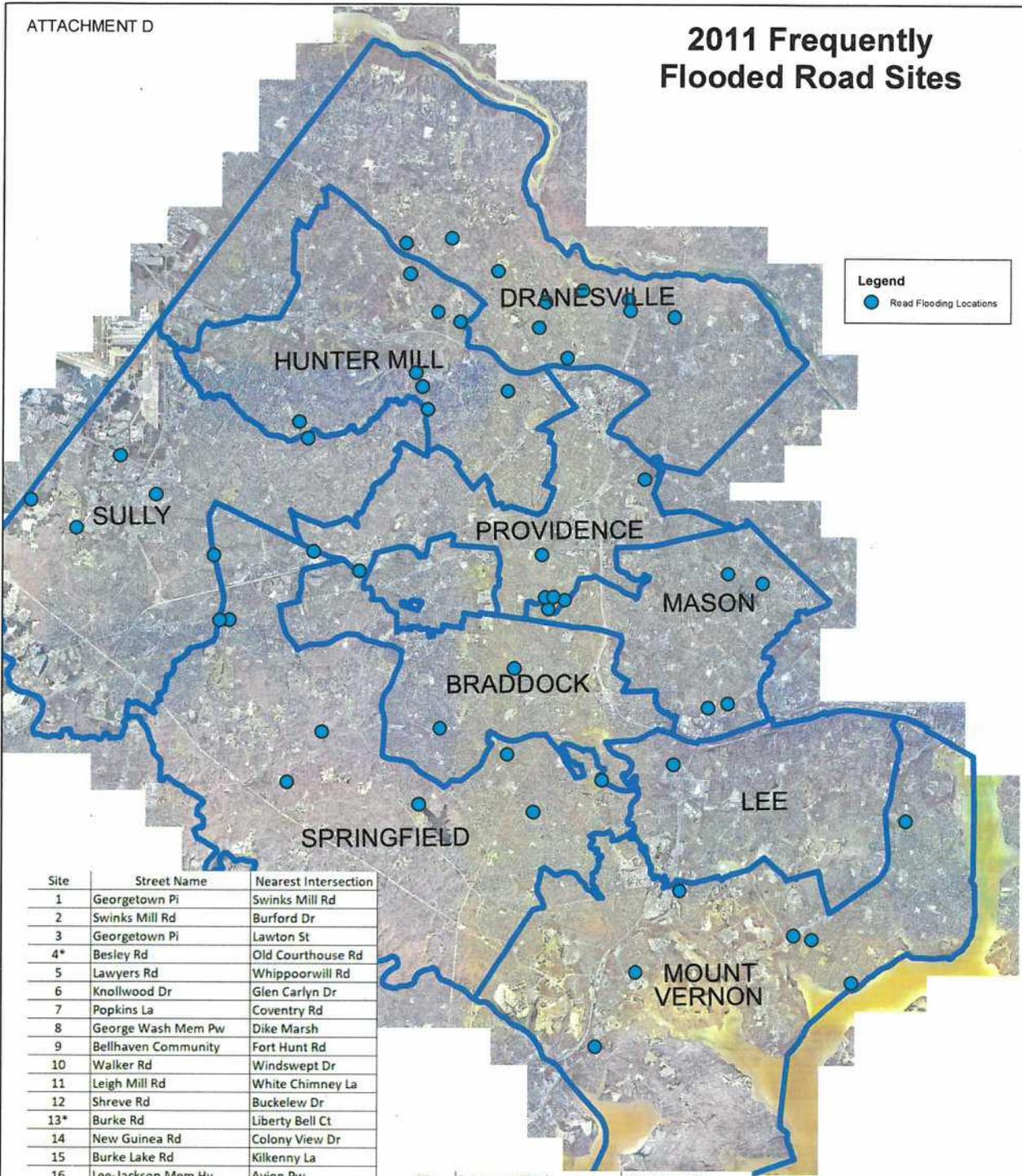
Project	Start	Completion	% Complete
Little Hunting Creek	Dec-02	Dec-04	100
Popes Head Creek	May-03	Oct-05	100
Cameron Run	Jun-03	Apr-06	70
Cub Run/Bull Run	Oct-03	May-06	65
Difficult Run	Jan-04	May-06	60
Pimmit/Bull Neck/Scotts/Dead/Turkey	Aug-04	Jun-06	50
Program Evaluation	Mar-05	July-05	100
Little Rocky Run/Johnny Moore Cr.	Apr-06	Nov-07	NA
Pohick Creek	May-06	May-08	NA
Accotink Creek	May-06	May-08	NA
Four-mile Run	Jul-06	Feb-08	NA
Sugarland Run/Horsepen Creek	Sep-07	Jul-09	NA
Pond Branch/Nichol Run	Sep-07	Jul-09	NA
Dogue Creek	May-08	Dec-09	NA
Belle Haven	May-08	Dec-09	NA
Kane Creek/High Point/ Old Mill/Wolf/Ryans/Sandy/Occoquan	May-08	Dec-09	NA

The County's 30 watersheds are grouped into 14-15 watershed planning projects.



#	Agency/Department: Mitigation Action	Lead Agency Department Organization	Flood	Winter Storm	Wind \ Severe Storm	Tornado	Drought	Wildfire	Earthquake	Extreme Temps	Dam Failure	Landslides	Karst \ Sinkholes	Funding Source	Target Completion Date	Interim Measure of Success	Priority	Comments
	additional salt storage facilities to reduce the travel time and distance during snow/ice events.																	
2017-3	Secure funding to purchase additional equipment/trucks to enhance our current level of service to be able to dedicate one piece of equipment/truck to each police station within Fairfax County or identify other resources to accomplish this need.	DPWES – Stormwater		X										County Funding	June 2020	Secure funding to purchase at least 2 additional trucks/pieces of equipment each year for the next four years or establish a contract that would dedicate resources to each County police station by November 2017	High	
2017-4	Coordinate and support the Virginia Department of Transportation in the identification and resolution of road flooding and drainage issues related to VDOT roadways.	DPWES – Stormwater	X	X						X				VDOT Maintenance Funding	Ongoing	Prioritization and implementation of higher priorities.	High	
2017-5	Armor stream bank and construct a flood wall to prevent stream bank erosion and flooding at the Noman M. Cole, Jr. Pollution Control Plant	DPWES – Wastewater	X	X										County Funding	February 2018	Construction project management review and inspections	High	

2011 Frequently Flooded Road Sites



Site	Street Name	Nearest Intersection
1	Georgetown Pi	Swinks Mill Rd
2	Swinks Mill Rd	Burford Dr
3	Georgetown Pi	Lawton St
4*	Besley Rd	Old Courthouse Rd
5	Lawyers Rd	Whippoorwill Rd
6	Knollwood Dr	Glen Carlyn Dr
7	Popkins La	Coventry Rd
8	George Wash Mem Pw	Dike Marsh
9	Bellhaven Community	Fort Hunt Rd
10	Walker Rd	Windswept Dr
11	Leigh Mill Rd	White Chimney La
12	Shreve Rd	Buckelew Dr
13*	Burke Rd	Liberty Bell Ct
14	New Guinea Rd	Colony View Dr
15	Burke Lake Rd	Kilkenny La
16	Lee-Jackson Mem Hy	Avion Pw
17	Stringfellow Rd	Melville Rd
18	Old Lee Rd	Braddock Rd
19	Walney Rd	Willard Rd
20	Fairfax Station Rd	Innisvale Dr
21	Chapel Rd	Sangsters Ct
22	Lee Hy	Sandy Point La
23	Lee Hy	Clifton Rd
25	Richmond Hy	Lorton Rd
26	Old Colchester Rd	Pohick Creek
27	Old Colchester Rd	Hassett St
28	Fair Oaks Shopping Center	Holding Pond
29	Lee-Jackson Mem Hy	Waples Mill Rd
30	Backlick Rd	Cumberland Av
31	Guinea Rd	Bayard Pl
32	Woodburn Rd	Spicewood Dr
33	Prosperity Av	Morningside Dr
34	Prosperity Av	Eakin Park
35	Old Mill Rd	Golf Course
36	Richmond Hy	North of Rt 235
37	Ferry Landing Rd	Old Mt Vernon Rd
38	Browns Mill Rd	Pennycress La

39	Browns Mill Rd	Windstone Dr
40	Hunter Mill Rd	Chamberlain Dr
41	Hunter Station Rd	Hunter Mill Rd
42	Hunter Mill Rd	Cedar Pond Dr
43	Edsall Rd	Industrial Dr
44	Cherokee Av	Navaho Dr
45	Old Keene Mill Rd	Jansen Dr
46	Hunstan Blvd	Sydenstricker Rd
47	Potterton Dr	Beachway Dr
48	Bellview Rd	Old Dominion Dr
49	Brook Rd	Daleview Dr
50	Spring Hill Rd	Georgetown Pi
51	Lewinsville Rd	Holly Leaf Dr
52	Chichester La	Copeland Pond Ct
53	Fox Mill Rd	Folkstone Dr
54	Fox Mill Rd	Thoroughbred Rd
55*	Newington Rd	Cinder Bed Rd
56	Braddock Rd	Pleasant Valley Rd
57	Springvale Rd	Crippen Ct
60	Morningside Dr	Chandler St

*Active or Completed FCDOT Projects