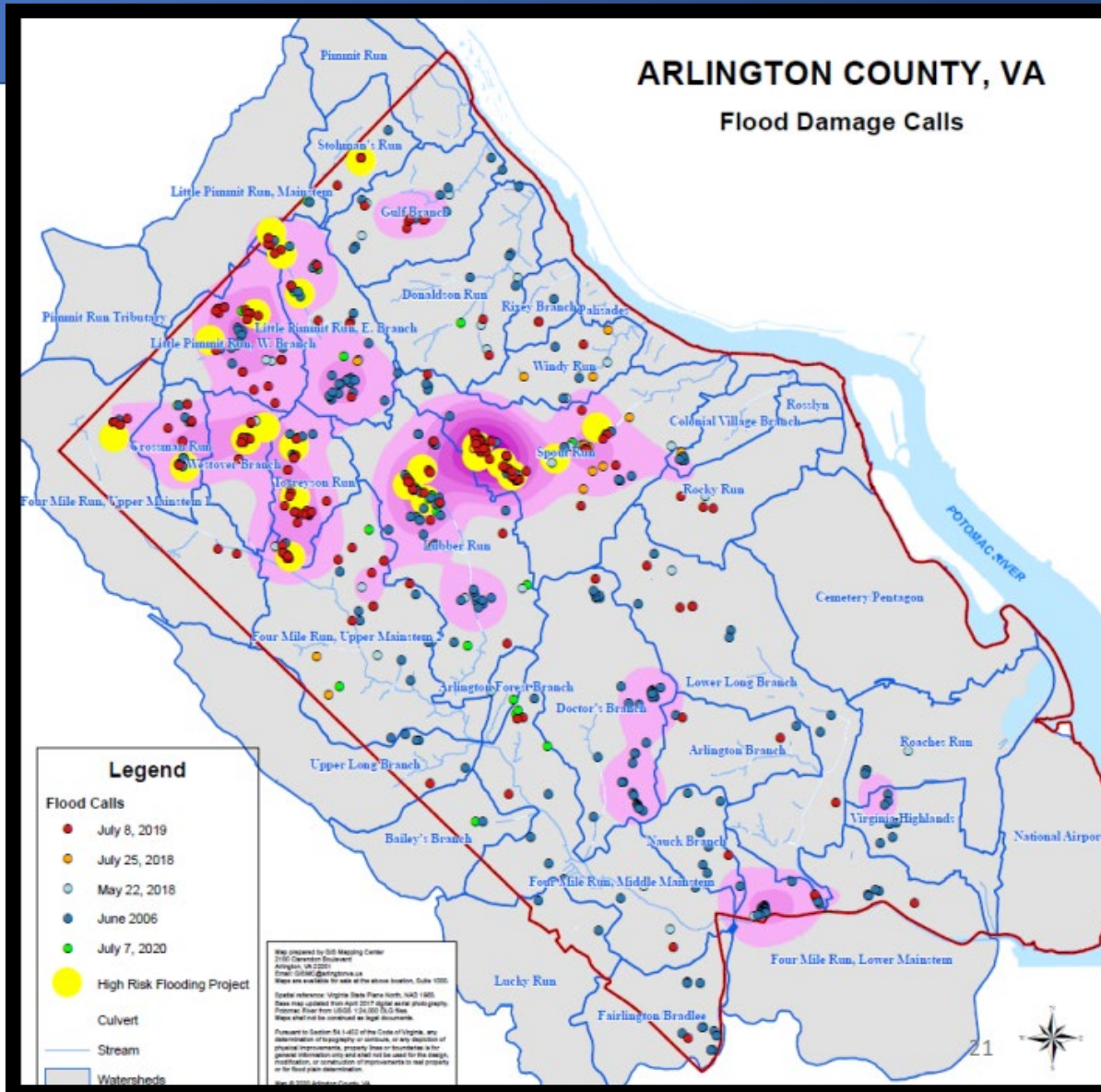


- Stormwater is a problem in Arlington and appears to be getting worse due to climate change and densification.
- CivFed has adopted several resolutions to improve Arlington's ability to handle stormwater, the county has responded:
 - RAMP
 - Flood Resilient Arlington
 - LDA 2.0
 - Increases in CIP Funding / Stormwater Utility
 - Detention Vault
 - Land Acquisition
- Cost of Inaction

Stormwater In Arlington



**Source: Arlington Flood Resilient
Arlington: Adapting for Climate
Change – 11/2023**

Flood Calls (legend in diagram)

- June 2006
- May 22, 2018
- July 25, 2018
- July 8, 2019
- July 7, 2020

Stormwater In Arlington (Four Mile Run)

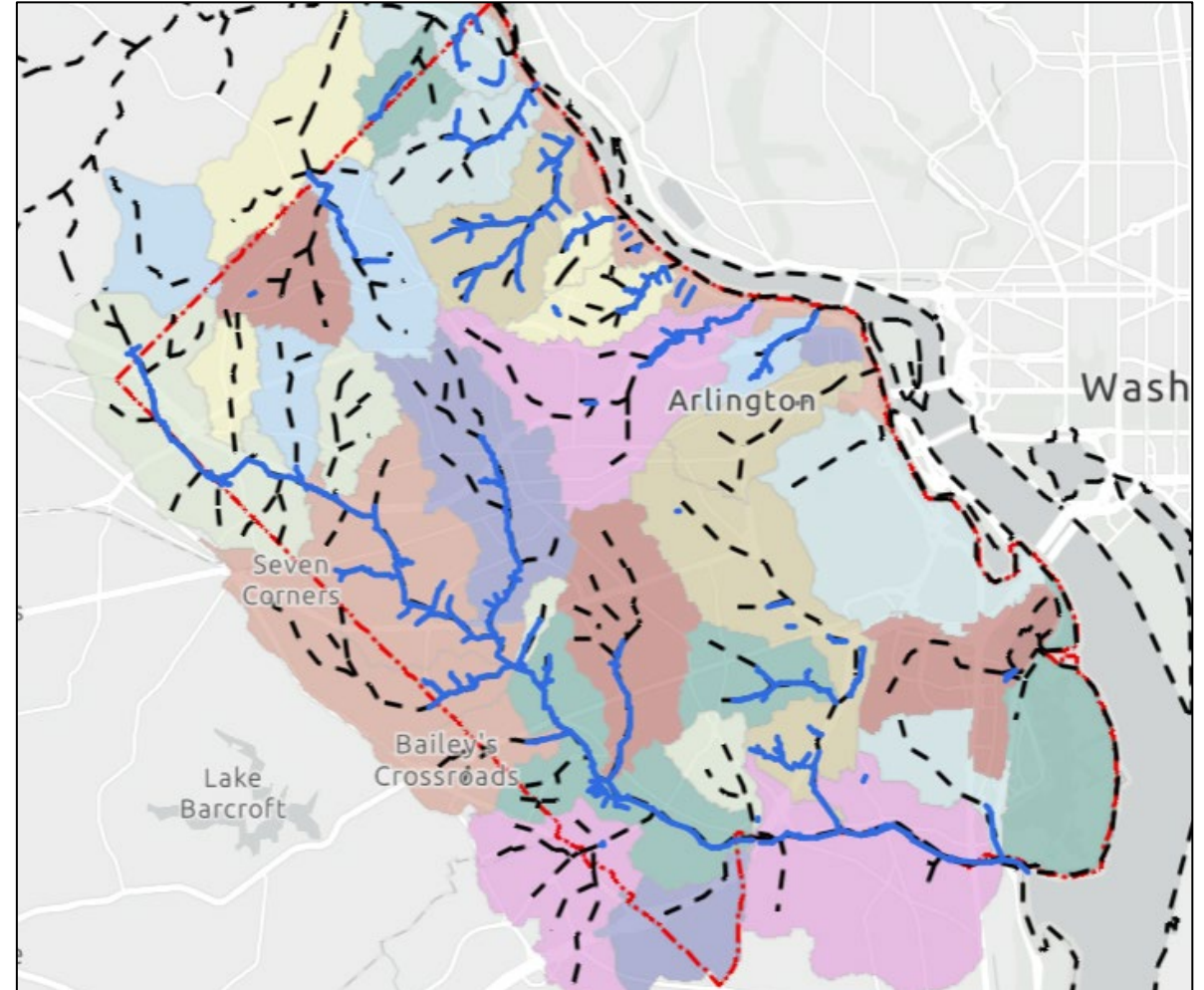


July 2019: Over 4 inches of rain fall in an hour, equivalent to more than a 200-year flood event

Arlington Historical Stream Network

- from "A Flood Resilient Arlington" Story map

- During Arlington's early development, more than 2/3 of Arlington's 92 miles of streams were buried in storm pipes to allow development above and surrounding much of the system.
- The resulting housing and commercial density complicates, and often prevents, access to the system for improvements and upgrades.
- Today more than 55% of Arlington's stormwater infrastructure is 80 years or older.



Dotted lines represent undergrounded streams

- **2017:** Reinvigorated a focus on Stormwater with a joint discussion with DES
- **2019:** CivFed established a ‘Stormwater’ subcommittee within the CivFed Public Services Committee
- **2021:** Approved a Stormwater Management resolution
- **2022:** Approved a Stormwater/Flood Mitigation resolution
- **2021:** Helped to establish stormwater focus groups for critical watersheds
- **2024:** Climate Adaptation resolution (out to General Membership for review)

County Initiatives (we believe were heavily influenced by CivFed effort)

- 10-fold increase in stormwater funding in the last 10-year CIP (\$334M)
- Added DES staff to support site plan reviews
- RAMP developed
- Stormwater utility implemented
- Updates to LDA 2.0
- Improved online information
- Watershed focused meeting
- Investment in detention and conveyance projects

RAMP – Adaptation and Resilience

Arlington County Risk Assessment Management Plan



3 volumes include:

- Updated Climate Projections
- Inundation Maps
- Vulnerability Assessments
- Risk Assessments
- Capital Projects, Programs and Policies to Mitigate and Manage Flooding
- Market Impacts and Analysis



June 2024: The RAMP expands upon past and present data, with climate projections and modeling for 2040, 2070, and 2100

Resiliency Planning in Progress

Urban Metabolism and Heat Management



- Natural Resources & Forestry Plan
- RAMP / Stormwater Standards
- Re/Development, e.g., Plan Langston Boulevard
- Green Building Incentive Program
- Transportation / Green Streets
- Urban Metabolism/Urban Mechanics Guidelines
- Construction Recommendations re Materials
- Green Building Incentive Program
- Site Plan Review
- Enhanced green infrastructure options/uses

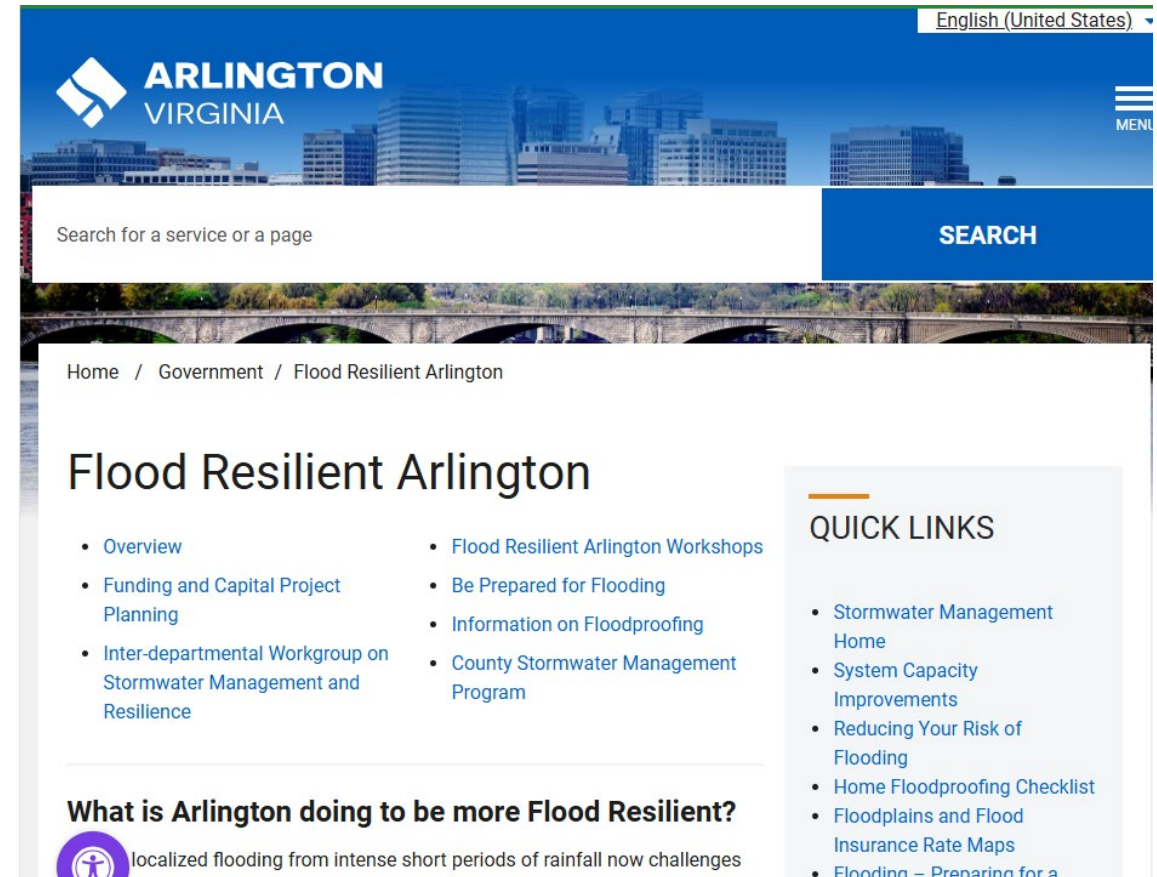
Flood Resilient Arlington



The County maintains a very informative and user-friendly website that organizes stormwater-related concerns within Arlington:

- Capital projects
- Workshops
- Flood Preparation / Resiliency

Check out the storymap!



<https://www.arlingtonva.us/Government/Programs/Flooding>

What is the Land Disturbance Activity/Stormwater Permit?

- The Land Disturbing Activity/Stormwater permit (LDA/SWM permit) is intended to reduce the pollution from sediment runoff and manage stormwater runoff from new development.
- An LDA/SWM permit is required for any activities that disturb equal to or greater than 2,500 square feet of land, as required by the [Erosion and Sediment Control Ordinance in Chapter 57 of the Arlington County Code](#), [Stormwater Management Ordinance, Chapter 60](#) and the [Virginia Erosion and Sediment Control Program](#).



Voluntary Land Acquisition Program to Improve Overland Relief

The county has purchased six properties to date:

- Spout Run (5 properties)
- Torreyson Run (1 property)
- Crossman Run (1 property)

Property Acquisition Program update

Demo Completed



Demo Fall/Winter 2024

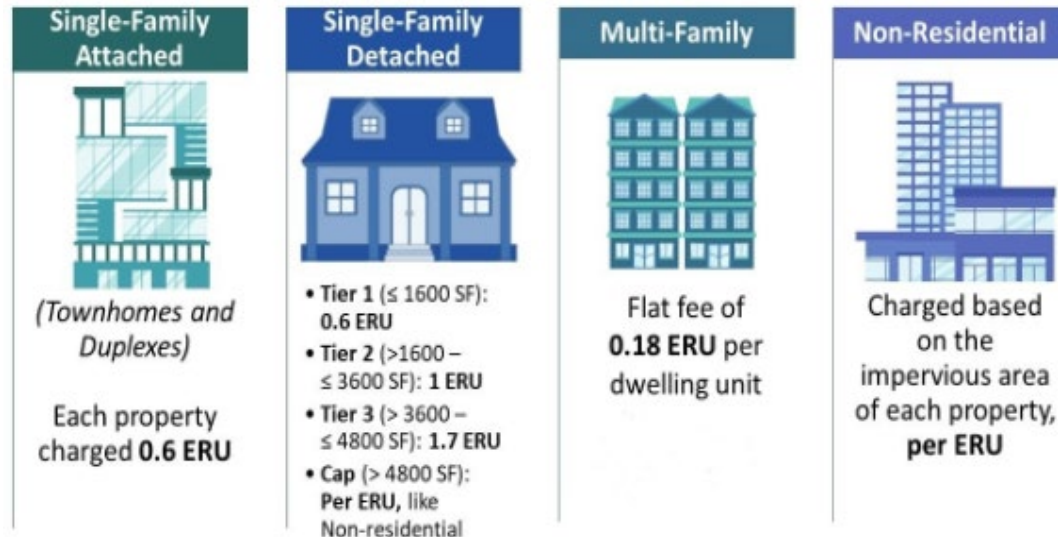


Demo Spring 2025



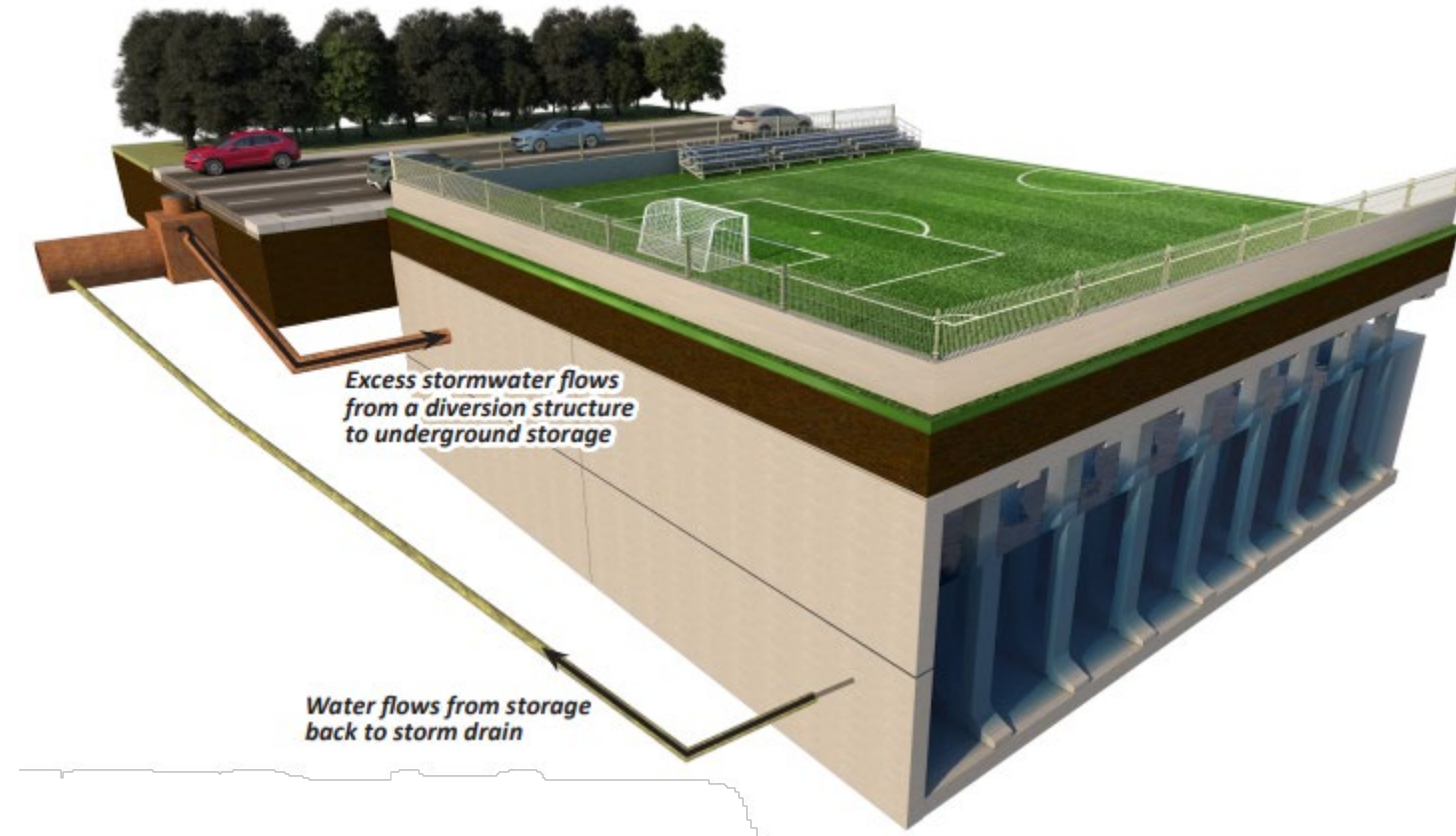
Increase in CIP / Stormwater Utility

- Driven by several significant stormwater events (example July 2019) the County has dramatically ramped up its effort to reduce the impact of stormwater on county residents and assets.
- The recent 10-year CIP increased stormwater capital projects by 10x to \$334M.
- In 2024 the County moved to funding stormwater management through a Stormwater Utility which charges residents based upon the amount of impervious area their property creates.



Stormwater Detention Vaults

- **COMPLETE!** Detention vault at the Cardinal Elementary School (Torreyson Run)- holds 4 million gallons of stormwater.
 - Construction began January 2022 and reached substantial completion by June 2023
- **UNDER CONSIDERATION** - Vault at Woodlawn Park to mitigate localized and downstream flooding (Lubber Run)



Stormwater

- 9th Road North Storm Sewer Project
- Ballston Pond Restoration
- Cardinal Elementary School Stormwater Vault
- Four Mile Run Stream Repair
- John Marshall Drive Green Street
- North Kensington Green Street
- North Larrimore Street
- Sparrow Pond Restoration
- West Little Pimmit Run Storm Sewer Upgrade

<https://www.arlingtonva.us/Government/Projects/Project-Types/Water-Utilities>

Economic Risk by Watershed - "Cost of Inaction"

Watershed	Annualized Risk of Losses (millions \$)	Potential Losses for 100-year Storm (millions \$)	
		100-year Storm in 2020: 8.5 Inches in 24 Hours	100-year Storm in 2070: 9.6 Inches in 24 Hours
Roaches Run	112.8	718.9	803.5
Spout Run	41.0	234.4	263.4
Lubber Run	32.4	297.1	344.2
Four Mile Run Lower Mainstem	14.7	109.2	136.8
Doctor's Branch	6.4	39.0	46.1
Torreyson Run	2.6	17.9	19.7
Bailey's Branch	1.0	7.5	n/a

"By failing to prepare, you're preparing to fail." — Benjamin Franklin.

SOURCES:

- <https://www.arlingtonva.us/Government/Programs/Office-of-Sustainability-and-Environment/Stormwater>
- <https://www.arlingtonva.us/files/sharedassets/public/v/1/environment/documents/critical-watersheds-ramp.pdf>
- <https://storymaps.arcgis.com/stories/df15830a4b1a4ff5bead0c39fb339404>
- Stormwater Utility Fee – Official Website of Arlington County Virginia Government (arlingtonva.us)