



BEAR BRANCH PHASE 1 STREAM RESTORATION

December 15, 2020

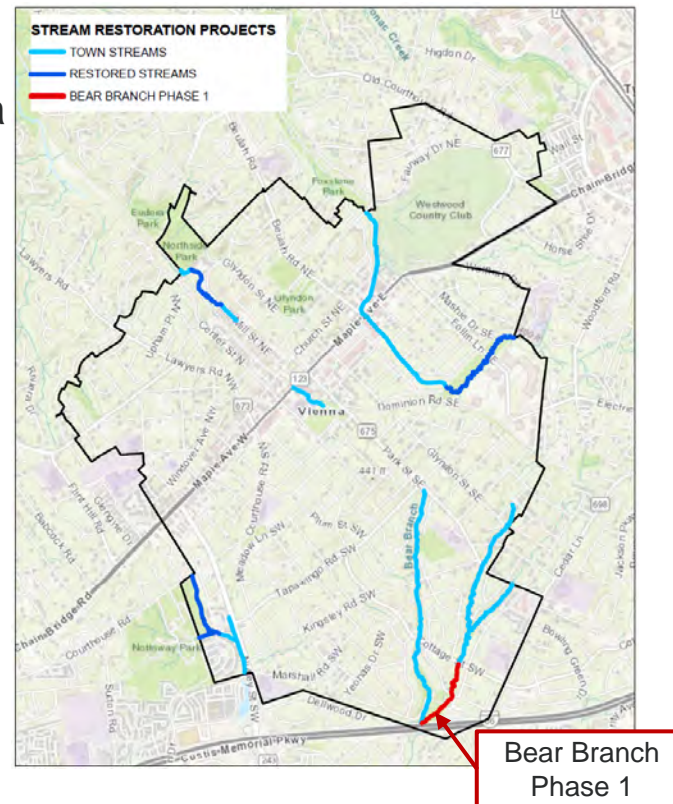
Tonight's Agenda



- ❑ Background, Location & Timeline
- ❑ Project Team Introductions
- ❑ The Urban Watershed Problem
- ❑ Why Stream Restorations?
- ❑ Design Overview
- ❑ Restoration Examples Around Town
- ❑ Next Steps and Q&A Session
- ❑ One-on-One Discussion, Individual Questions

Project Background

- ❑ History:
5th Stream Restoration in Vienna
- ❑ Purpose:
Restore natural stream and stabilize steep, eroded stream banks using natural channel design techniques.
- ❑ Funding:
 - 50% Virginia Department of Environmental Quality Grant
 - 50% Fairfax County Stormwater Fees



Project Location & Timeline

- ❑ Location:
Cottage St SW to I-66
(1,900 linear feet)

- ❑ Estimated Timeline:
 - July 2020 – Council Approved Engineering Design Contract
 - **December 2020 - Concept Design Meeting**
 - March 2021 – Detailed Design Meeting
 - Spring 2021 – Public Bid for Construction Contract
 - Summer 2021 – Begin Construction (12 months)



Project Team

❑ Town of Vienna

- Michael Gallagher, P.E., Director of Public Works
- Christine Horner, P.E., Water Quality Engineer

Email: Christine.Horner@viennava.gov

Phone: 703-319-8630



❑ Wood Environment & Infrastructure Solutions

- Design and Engineering Consultants

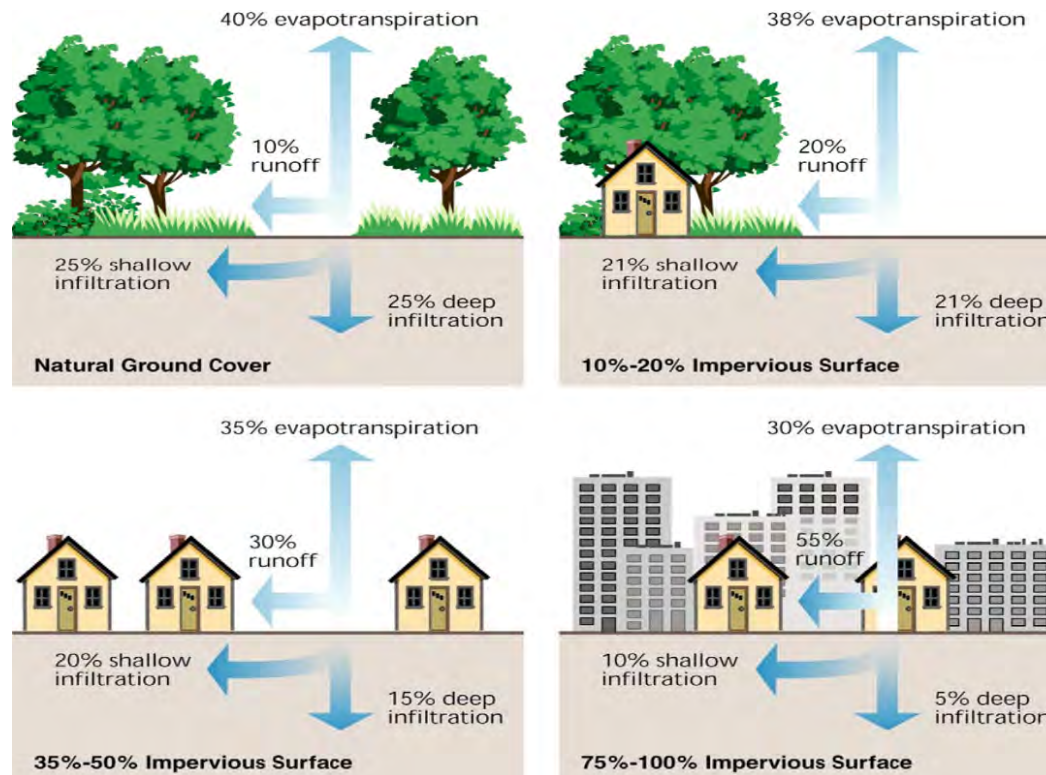


❑ Project Funding and Oversight Assistance:

- Fairfax County – Stormwater Planning Division
- Virginia Department of Environmental Quality – Clean Water Financing and Assistance Program



The Urban Watershed Problem

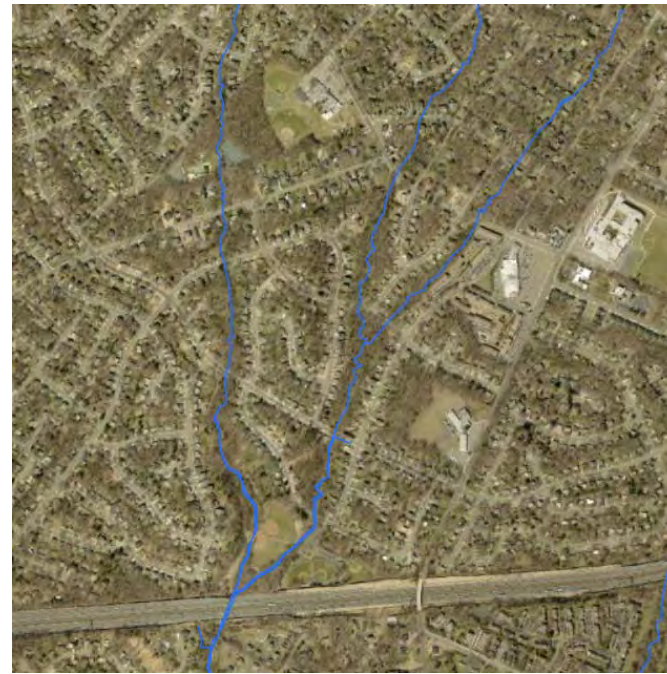


Source: The Federal Interagency Stream Restoration Working Group

The Urban Watershed Problem



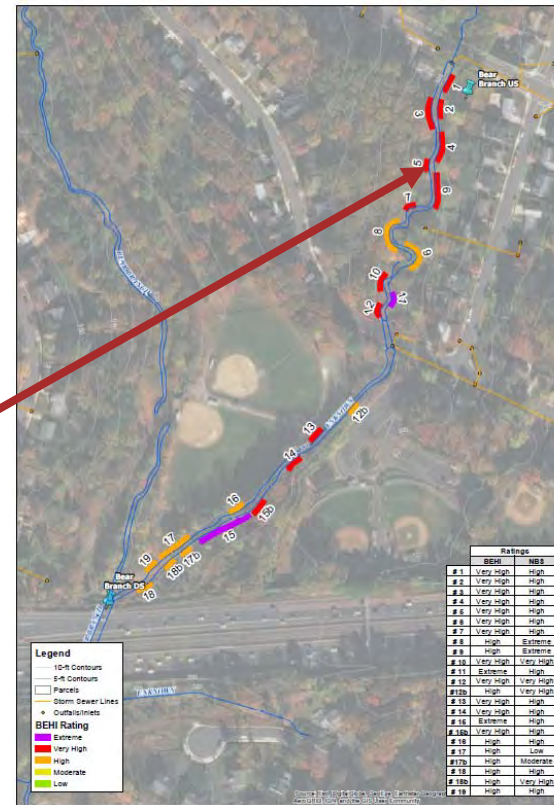
1953 – Bear Branch



2019 – Bear Branch

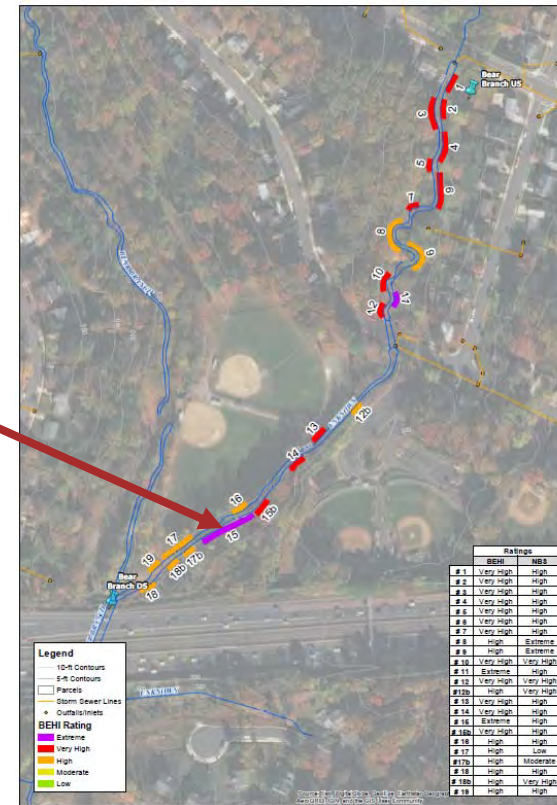
Why Stream Restorations?

□ Bank Erosion and Stability



Why Stream Restorations?

□ Bank Erosion and Stability



Why Stream Restorations?

- Water Quality and Ecosystem Impacts



Why Stream Restorations?

- Erosion Undermines Trees



Why Stream Restorations?

- Downstream Blockages



Why Stream Restorations?

- Prevent Private Property Loss



Why Stream Restorations?

- Safety and Protects Infrastructure



Design Overview



- ❑ 1,900 Linear Feet of Stream Restoration
- ❑ Re-Use of On-Site Materials
- ❑ Natural Channel Design:
 - Rock Toe, Log Vanes, Toe-Wood, Cross Vanes,
Constructed Riffles and Pools
- ❑ Re-Planting of Riparian Buffer, Trees and Shrubs

Natural Channel Design Techniques

□ Step-Pools / Plunge Pools



Piney Branch
(Mill St NE)



Wolftrap Creek
(Wildwood Park)

Natural Channel Design Techniques

□ Constructed Riffle



Piney Branch
(Mill St NE)



Wolftrap Creek
(Wildwood Park)

Natural Channel Design Techniques

□ Cross Vanes



Wolftrap Creek
(Wildwood Park)



Hunters Branch
(Vienna Dog Park – Moorefield Park)

Natural Channel Design Techniques

□ Toe Wood

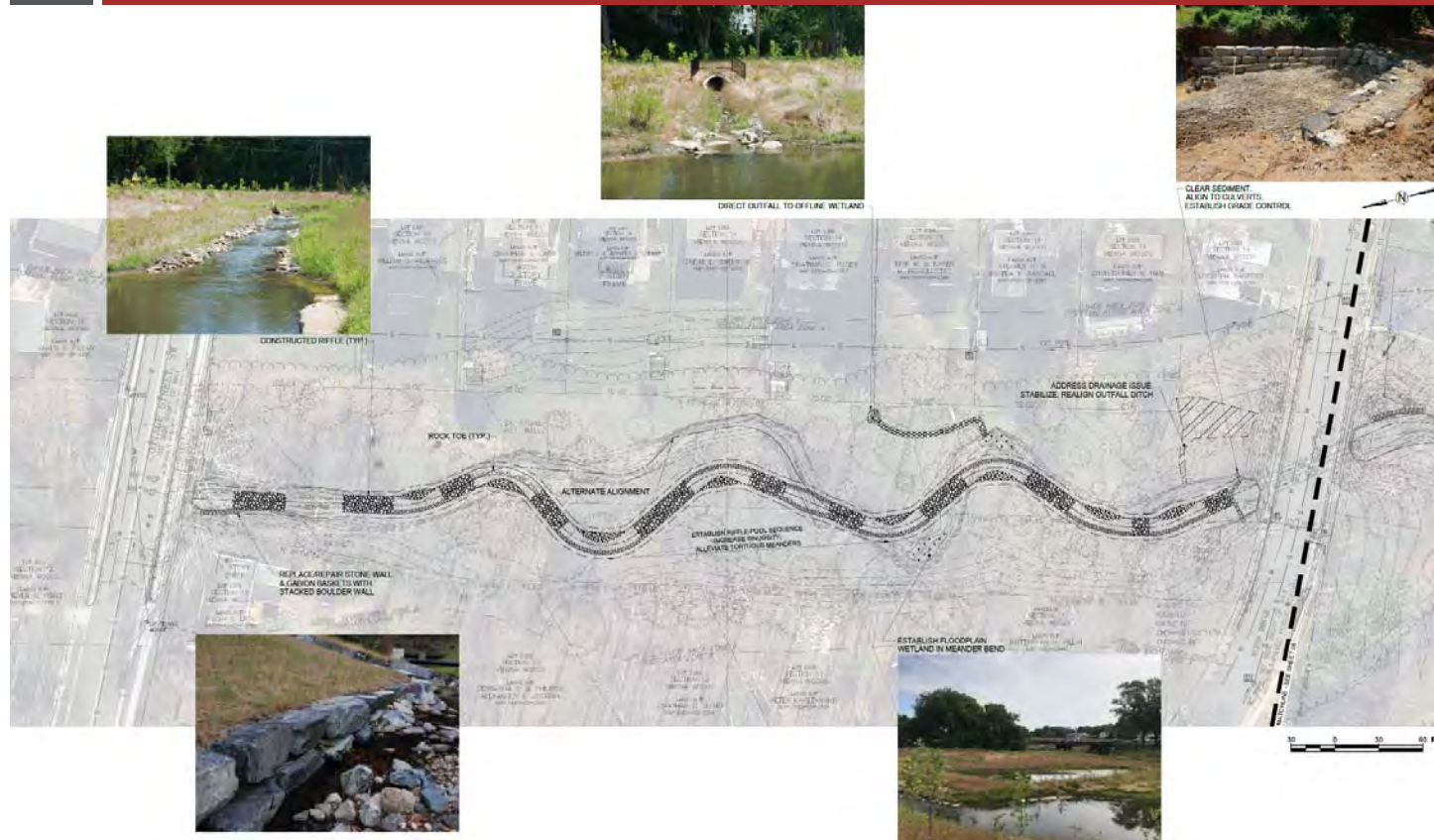


Wolftrap Creek
(Wildwood Park)



Wolftrap Creek
(Wildwood Park)

Proposed Design from Cottage St SW to Ross Dr SW



Proposed Design from Ross Dr SW to I-66



Before & After

- Wolftrap Creek (Wildwood Park)



BEFORE



AFTER

Before & After

- Wolftrap Creek (Wildwood Park)



BEFORE



AFTER

Before & After

- Piney Branch (Mill St NE)



BEFORE



AFTER

Before & After

- Piney Branch (Mill St NE)



BEFORE



AFTER

Next Steps



- ❑ Anticipated Timeline
 - **January 8, 2021 – Citizen Comment Period Closes**
 - March 2021 – Detailed Design Meeting
 - Spring 2021 – Public Bid for Construction Contract
 - Summer 2021 – Begin Construction for 12 Months

- ❑ Next Steps
 - Compile Citizen Comments via Email
Christine.Horner@viennava.gov
 - Create a Comment and Response Table
 - Incorporate Design Changes from Feedback
 - Proceed with Final Design for Next Public Meeting

Questions?



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703-319-8630

Thank you for your interest in Bear Branch Phase I Stream Restoration.