STAKEHOLDER ADVISORY MEETING

Regional Blue-Green Infrastructure Community Engagement and Planning (RBGI CEPP)

ICF, Straughan Environmental, CHPlanning

RBGI CEPP Stakeholder Advisory Committee Meeting
June 11, 2025

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Purpose of Today's Meeting

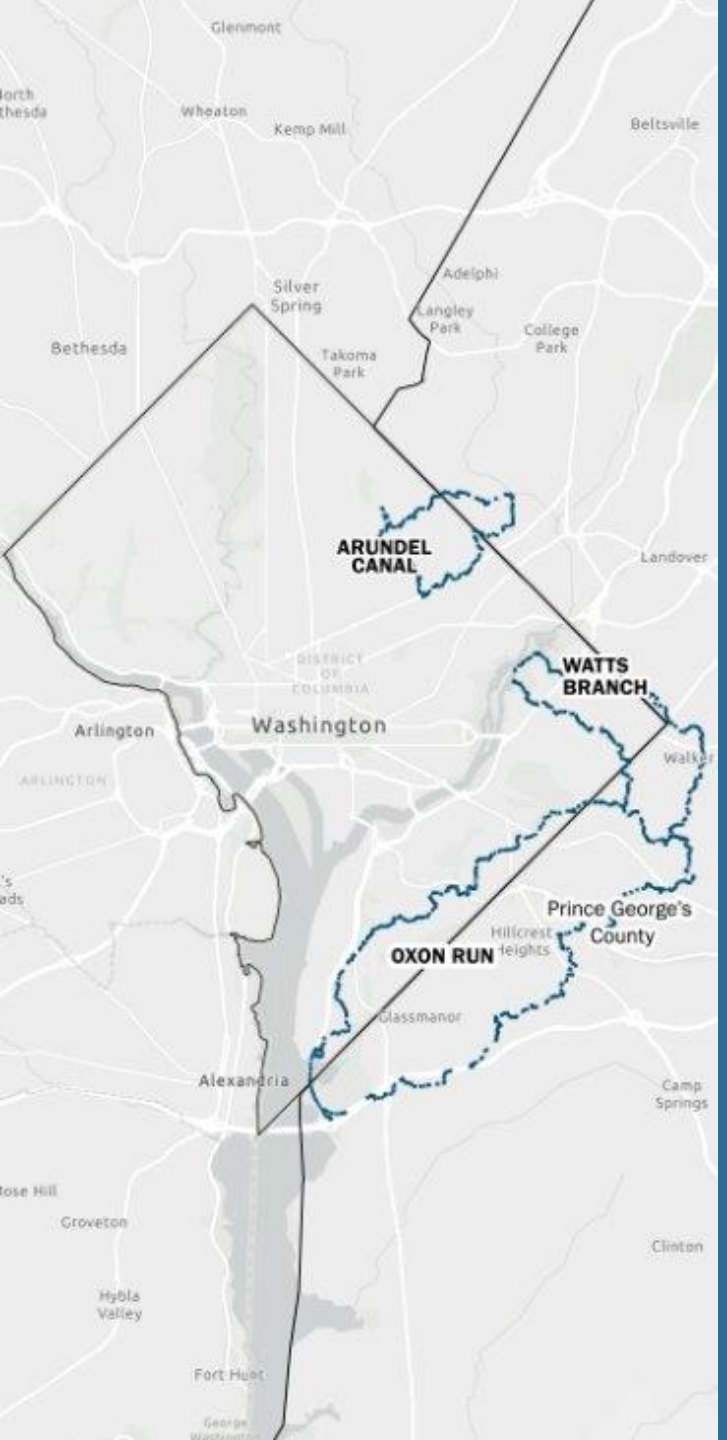
- **Share Project Outputs**
  - Provide updates on activities since the last SAG meeting
  - Review the project outputs and findings
  - Discuss the implications of these outputs for flood resilience and community benefits
- **Discuss the Future of This Work**
  - Discuss how to sustain and build on the progress made
  - Discuss innovations and lessons learned that can applied in other communities

Agenda

- Project Updates
- Community Engagement Process and Lessons Learned
  - Q&A Engagement
- BGI Opportunity Analysis
- BGI Prioritization Framework
- BGI Focus Areas: Concept Design Plans
  - Q&A BGI Resources
- Next Steps

Kickoff & Introductions

- MWCOG
- Project Team
- Stakeholders

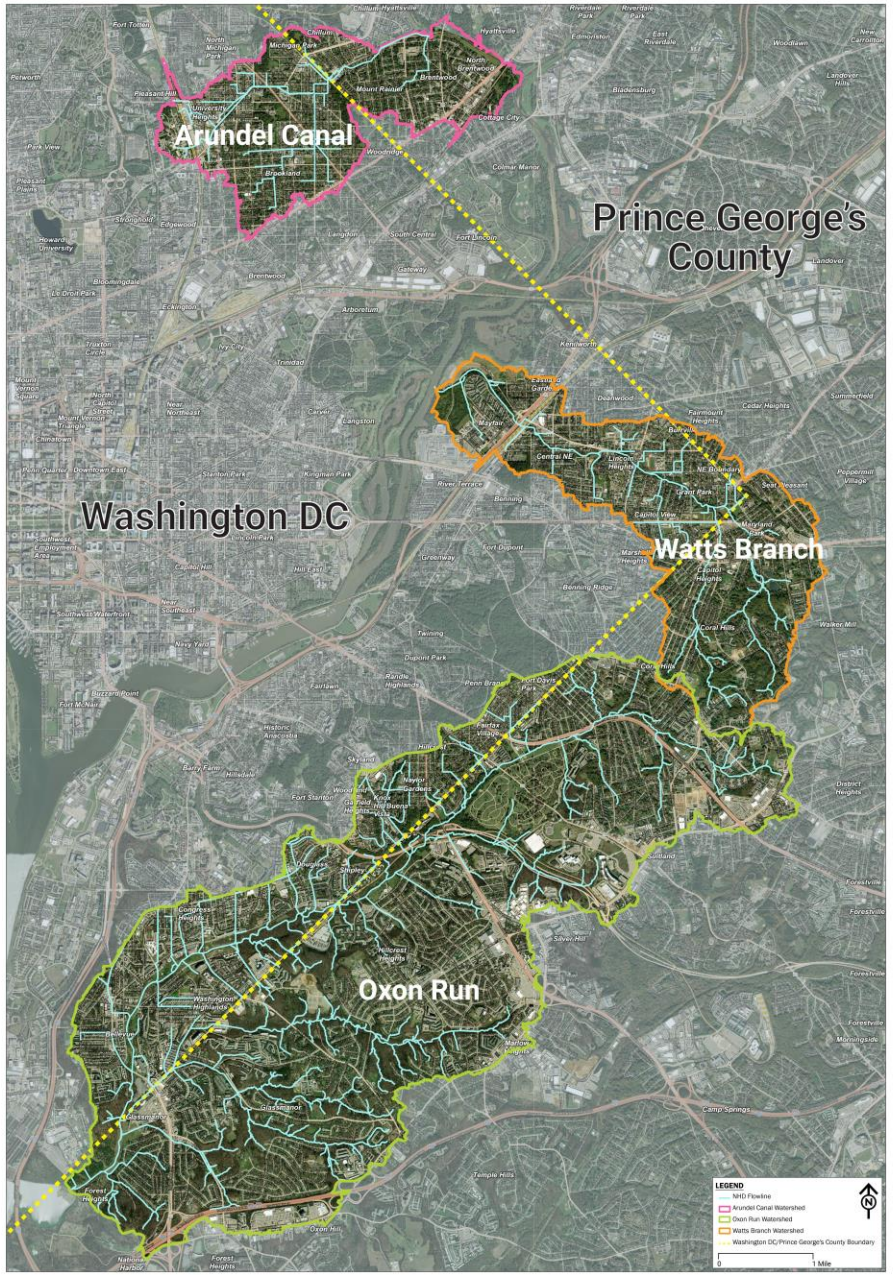


PROJECT UPDATES

Project Overview

The **Regional Blue-Green Infrastructure (BGI) Community Engagement and Planning Project** is a collaborative planning effort to increase resilience in three areas, or **subwatersheds**, spanning the District of Columbia and Prince George's County to flooding.

These subwatersheds are **Arundel Canal**, **Watts Branch**, and **Oxon Run.**



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Project Updates and Highlights

- Series 2 In-Person Watershed- Based Workshops in March
- Series 3 Virtual Watershed-Based Workshop in April
- Mount Rainier Nature Center Community Day in April
- Seat Pleasant Day in May
- Regional Open House in May
- Deliverables:
    - Opportunity Analysis
    - Prioritization Framework
    - Concept Design Plans
    - Draft Final Report

Final Report Outline

- Executive Summary
- Flooding in the Region
- Meaningful Watershed-Based Engagement
- Prioritization within Watersheds
- Demonstration Concepts and Recommendations
- BGI Funding
- Conclusion
- Appendices

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Final Report Outline: Appendices

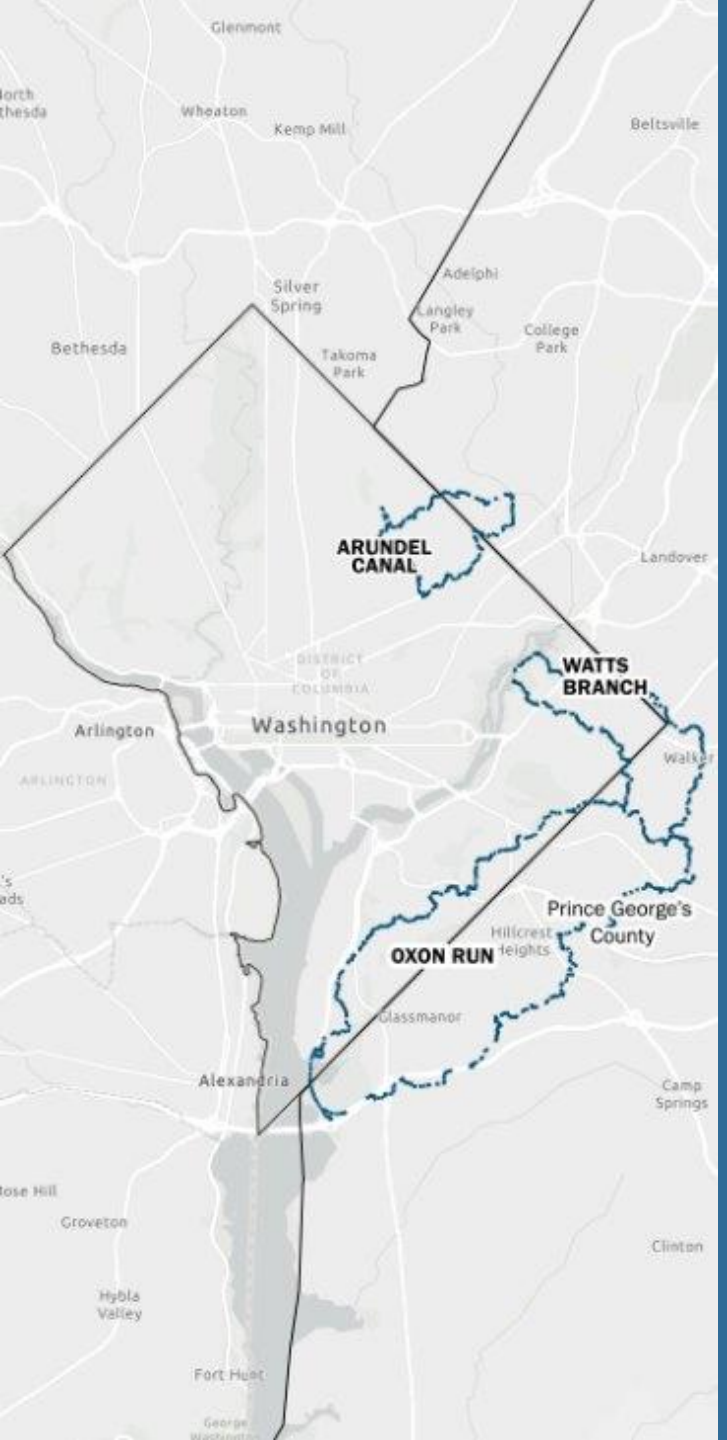
Appendices:

- Existing and On-Going Projects
- BGI Typical Details, Images, and Sections
- BGI Opportunities Mapping
- Prioritization Framework
- Concept Plans
- Watts Branch Case Study
- Outreach Toolbox

+ Working stakeholder list

+ GIS files

as separate deliverables to COG



COMMUNITY ENGAGEMENT PROCESS AND LESSONS LEARNED

Lessons Learned from Project Engagement

Adaptability

Acknowledge and learn from existing engagement, community fatigue.
→ Maintain transparency, follow through on feedback, and show outcomes.

CBOs as Practitioners

Center CBOs in implementation—not just outreach.

Education and Engagement

Use tailored outreach and **plain-language education** to demystify BGI.
→ Use storytelling, visuals, and site-based tools to deepen connection.

Tools that Fuel Engagement

The most effective formats were those that made engagement both tangible and reflective.
→ Design engagement settings **holistically**—consider timing, needs of children and seniors, food, and accessible venues to ensure inclusive participation.

Project Engagement Timeline

Phase 1 (October-November 2024

- Prince George's County 10th Annual Green Summit (October 21st)
- 1 Virtual Workshop (November 14th)

Participants: 88

Phase 2 (March 2025)

- Workshop 1: Arundel Canal – Sis's Tavern (March 3rd)
- Workshop 2: Watts Branch – Oakcrest Community Center (March 4th)
- Workshop 3: Oxon Run – Hillcrest Heights Community Center (March 10th)

Participants: 15

Phase 3 (April – May 2025)

- 1 Virtual Workshop (April 10th)
- Tabling Event 2: Mount Rainier Nature Center Community Day (April 27th)
- Tabling Event 3: Seat Pleasant Day (May 3rd)

Participants: 132

Regional Open House

Marvin Gaye Recreation Center (May 22nd)

Participants: 25 + 9 Panel Speakers

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From Residents to CBOs and Practitioners

Early Phases (Fall–Winter 2024)	**Later Phases** (Spring 2025)
Target: Residents (esp. flood-impacted)	**Target:** CBOs, municipal staff, implementation partners/ practitioners
Methods: Pop-ups, watershed workshops, mapping	**Methods:** Concept review, panels, resource alignment
Focus: Surface lived experience, identify hotspots	**Focus:** Validate priorities, build cross-sector momentum
Language: Storytelling, visuals, family-friendly tools	**Language:** Strategy framing, funding, long-term ownership

The shift reflected a natural progression—from surfacing need to preparing for implementation. CBOs and practitioners emerged as key drivers for implementation, stewardship, and messaging.

Regional Open House

The Open House shifted from informing to convening—bringing together CBOs, practitioners, and agency partners around implementation.

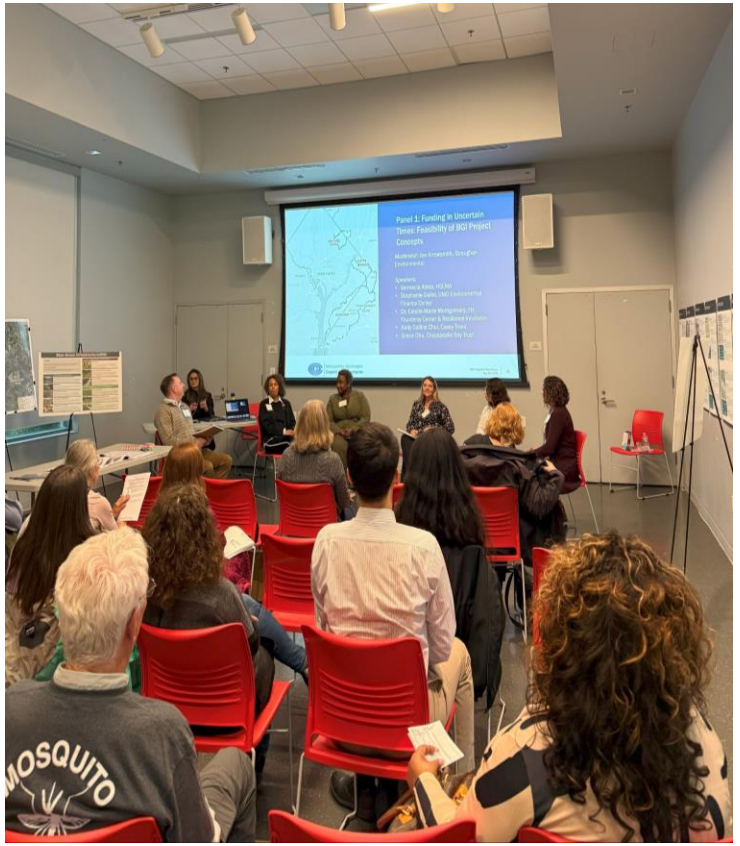
Key Takeaways from the Panels:

Panel 1: Funding in Uncertain Times

→ Align with disaster mitigation frameworks to unlock funding
→ Fund community capacity—not just projects
→ Emphasize measurable outcomes tied to lived experience

Panel 2: Implementation Partnerships

→ Meet people where they are—geographically, emotionally, and culturally
→ Center CBOs as long-term collaborators, not one-time messengers
→ Design against displacement: BGI must reflect community identity



BGI Project Types
BGI Project Types
MOSQUITO
CONTROL

BGI Project Types
Blue-Green Infrastructure(BGI)

What and Where
MOSQUITO

Engagement Tools that Resonated

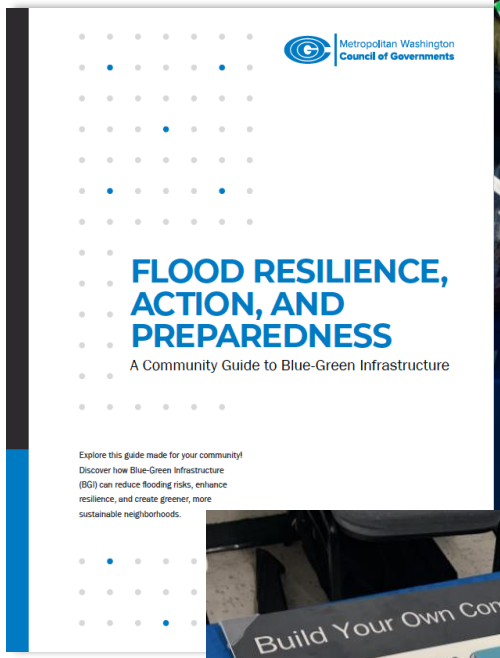
What Worked to Engage, Educate, and Build Trust

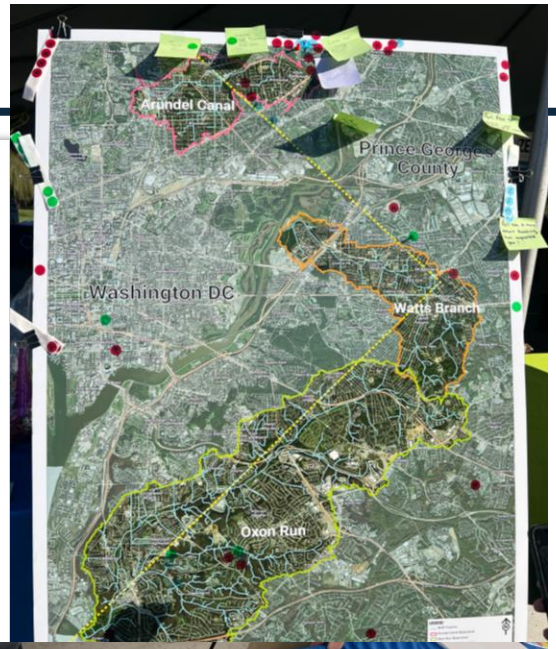
Tools

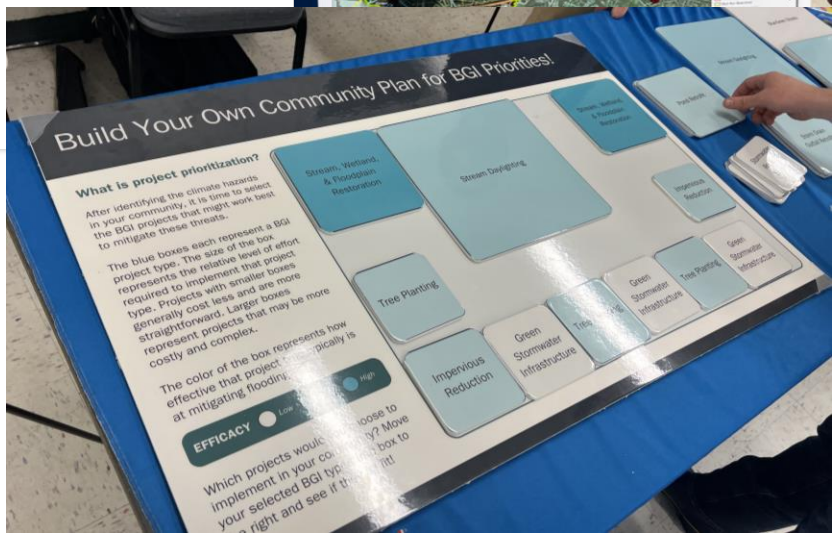
- Mural Boards
- Subwatershed mapping boards
- BGI prioritization game
- Digital BGI Booklet (visual, plain language)
- Flood-related coloring books (multigenerational entry point)

Tactics

- Local community spaces
- Hands-on learning at community events
- Incentives that honored time (gift cards, raffles)
- Plain-language framing: less jargon, more relevance







Recommendations Moving Forward

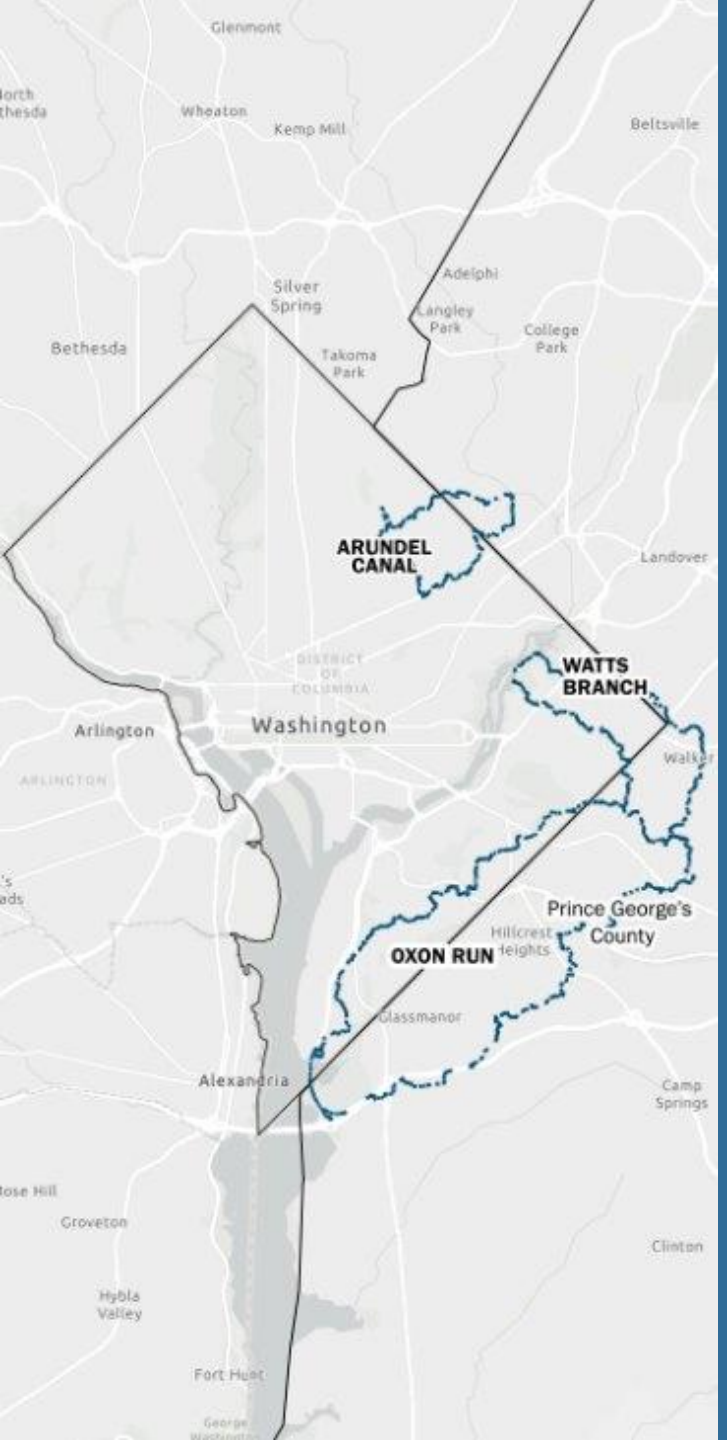
Fund CBOs for More Than Outreach
Explore small contracts or microgrants for education, design input, and stewardship.
Partner early with CBOs to co-develop proposals, not just promote them.

Build from What We Heard
Use the BGI Prioritization Framework to identify 1–2 pilot sites per watershed.
Focus on projects that are community-supported, offering multiple cobenfits and grant-ready.

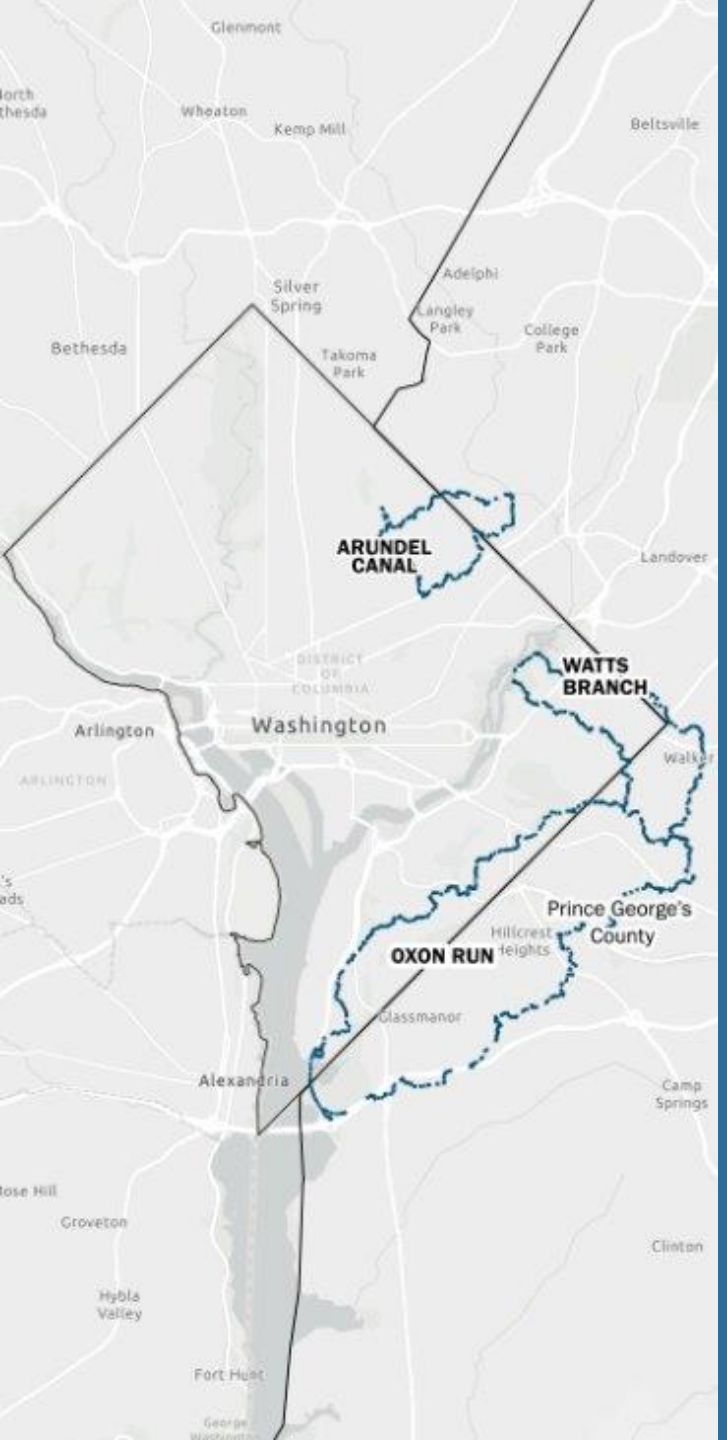
Align Across Jurisdictions
Coordinate language, messaging, and funding priorities between D.C. and Prince George's County.

Center Equity in Every Stage
Use plain language and culturally relevant design to reduce barriers.
Avoid green gentrification by engaging residents in every design decision.

Remember: You're the coalition that will carry this work forward with the assistance of the local government partners!



Q&A Community Engagement



BGI ANALYSIS OUTPUTS: Opportunities, Prioritization, Concepts, and Preliminary Results

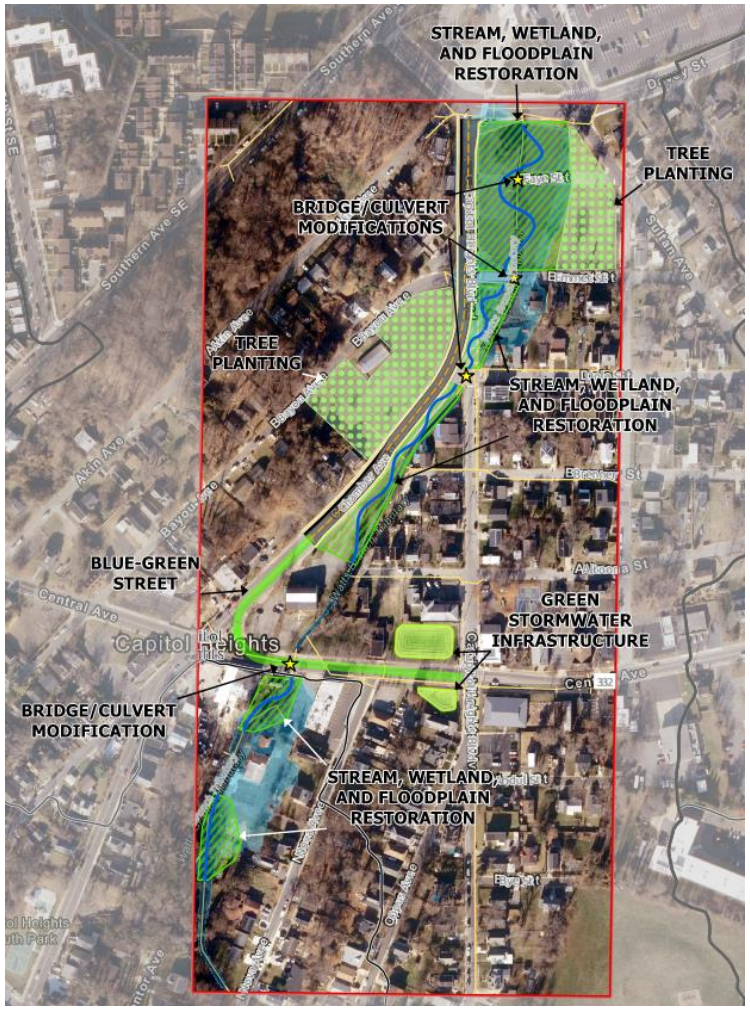
(And their future implications!)

Note

- The graphics and information that follow remain draft and are subject to final review prior to publication.

Deliverables at a Glance – What do we get?

- Mapped BGI Opportunities in 16 Focus Areas
- A customizable Prioritization Framework
- Three Fundable Concept Plans (one per watershed)
- A detailed modeling case study demonstrating flood reductions.
- Step-by-step guidance on how to replicate concept development in other areas.



Everything we built is intended to be used by you and your partners!

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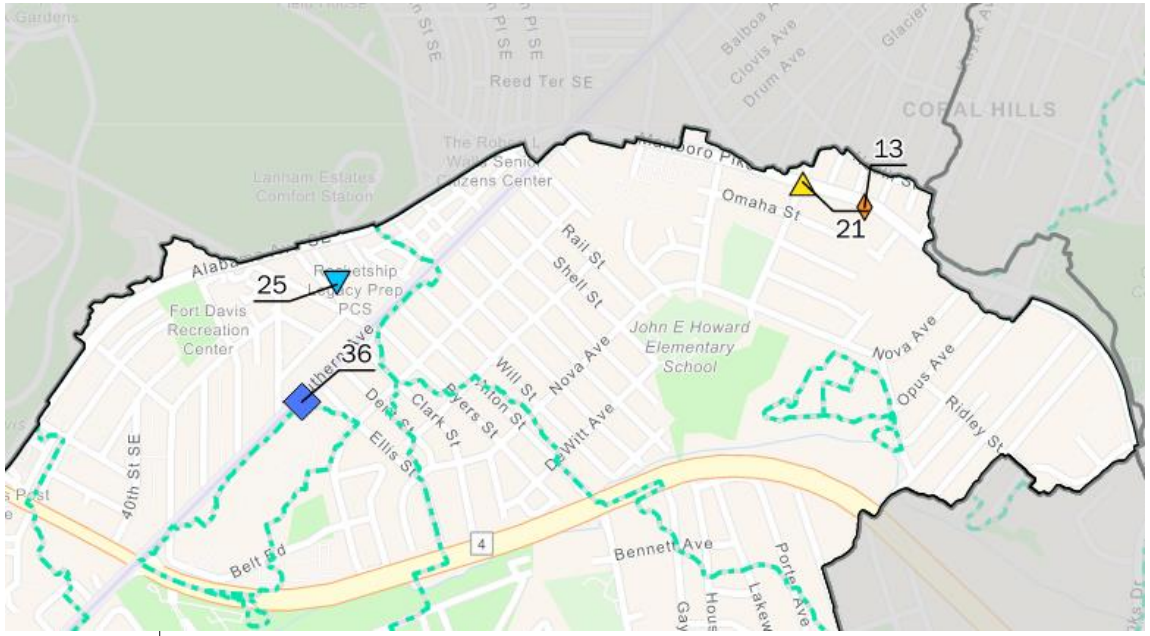
Summary of Outputs – Ongoing Projects Mapping

We developed mapping of planned and ongoing known projects in each sub watershed.



PLANNED AND ONGOING PROJECTS - DETAILS

ID	Project Name	Organization	Project Category	Source Link
13	Marlboro Pk. Pedestrian Safety Improvements, Ph. 2	Prince George's DPW&T	Pedestrian Centric	https://www.princegeorgescountymd.gov/departments-offices/public-works-transportation/projects/capital-roadway-and-bridge-projects
21	Marlboro Pk., Glacier Ave. Intersection Traffic Signal Project	Prince George's DPW&T	Transportation	https://princegeorges.maps.arcgis.com/apps/webappviewer/index.html?id=c13928ea8a2946acba51feb034088ce3
25	Rehabilitation of Elevated Water Storage Tanks	DC Water	Water Supply	https://www.dcwater.com/resources/open-data-portal/capital-improvement-dashboard
27	Towne Square at Suitland Federal Center	Prince George's RDA	Development	https://www.princegeorgescountymd.gov/departments-offices/redevelopment-authority/current-development-projects
36	The Ascent	Montage Development Group	Development	https://www.montagedevgroup.com/

Summary of Outputs – Replicable Tools and Process

All of our deliverables are presented in a manner that supports replication:

- How to work with regional partners
- How to identify BGI opportunities
- How to measure their effectiveness
- How to develop fundable concepts
- How to develop detailed analyses

This is a guide, a case study, and a demonstration.

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STEP 1: ASSESS WATERSHED INFLUENCE

A critical early task in concept planning is to understand how the selected project area functions within the broader watershed. Not all Focus Areas contribute equally to downstream flooding. A site's hydrologic position—whether in the headwaters, midstream, or downstream—strongly influences the scale and type of benefit that BGI can provide.

Before selecting and designing specific practices, it is important to assess the potential influence of the Focus Area on watershed-scale runoff and flood behavior. This step helps to set expectations, establish meaningful objectives, and right-size the resulting concept plan.

Why this step matters:
Runoff and flooding are shaped by a variety of factors, including land cover, soil characteristics, impervious surface area, topography, and the timing of stormwater flows. These variables interact in complex ways, meaning that Focus Area size alone does not determine influence. Some small but strategically located areas may exert a larger effect on downstream conditions than larger areas with less hydrologic connectivity.

Estimating how much runoff originates in the Focus Area, and how that runoff contributes to downstream flood peaks, provides valuable context. This understanding helps define whether the concept plan should prioritize localized benefits, contribute to broader watershed goals, or support both.

How to conduct this analysis:
Available hydrologic models—such as HEC-HMS or TR-55—can be used to test the theoretical influence of the Focus Area. One recommended method is to simulate design storm events with and without the Focus Area included in the model. By "removing" the area from the simulation, the analysis can estimate the upper bound of peak flow and runoff volume reduction that could result from full-scale intervention.

While this approach does not reflect an realistic design outcome, it offers a useful planning baseline. It clarifies the proportion of total watershed runoff contributed by the Focus Area and helps to define the maximum mitigation potential.

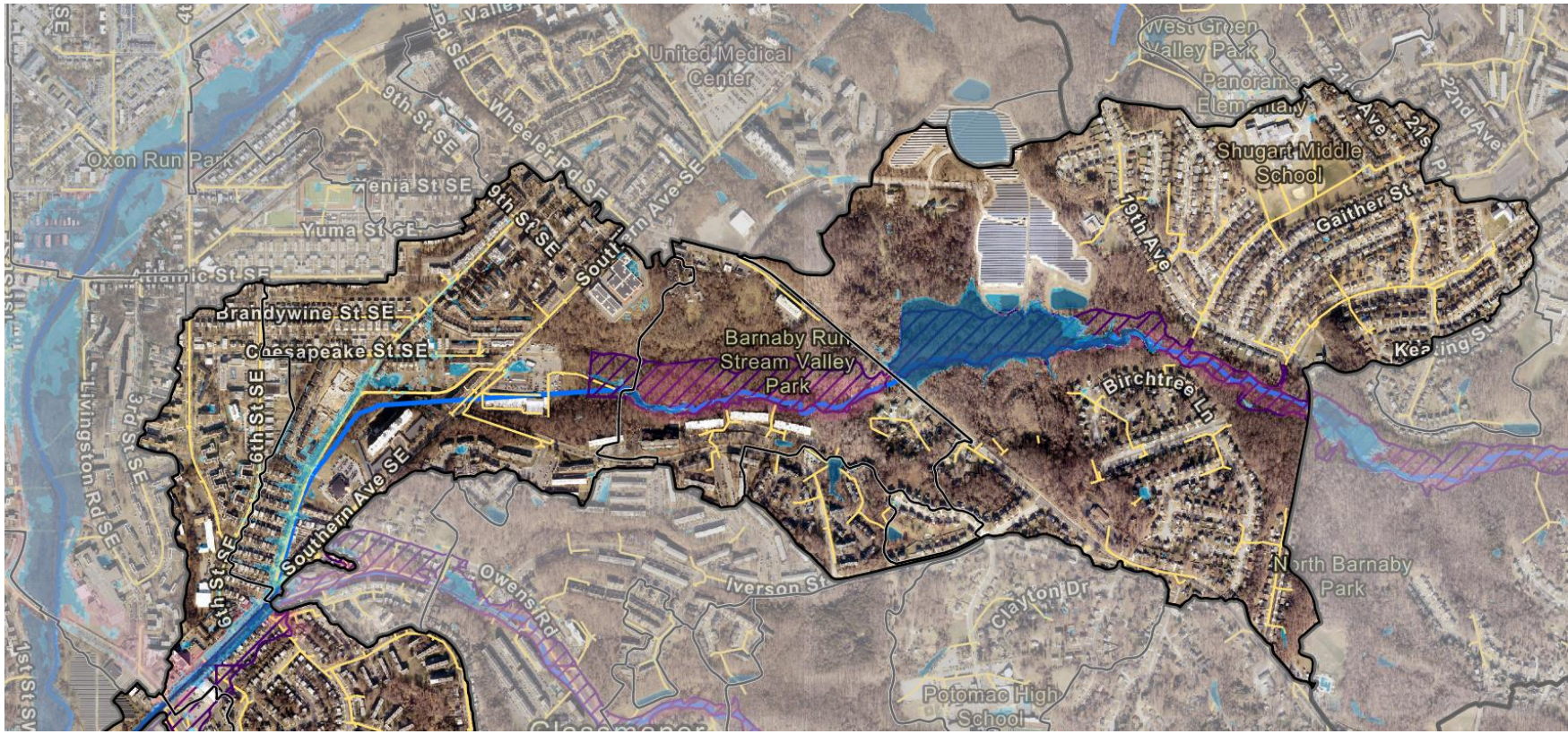
Recommended output:
To support planning and communication, consider preparing a short technical summary that includes:

- The modeled storm events (e.g., 2-, 10-, and 100-year)
- Peak flow and total runoff volume with and without the Focus Area
- Key observations on timing, contribution to downstream peaks, or storage significance

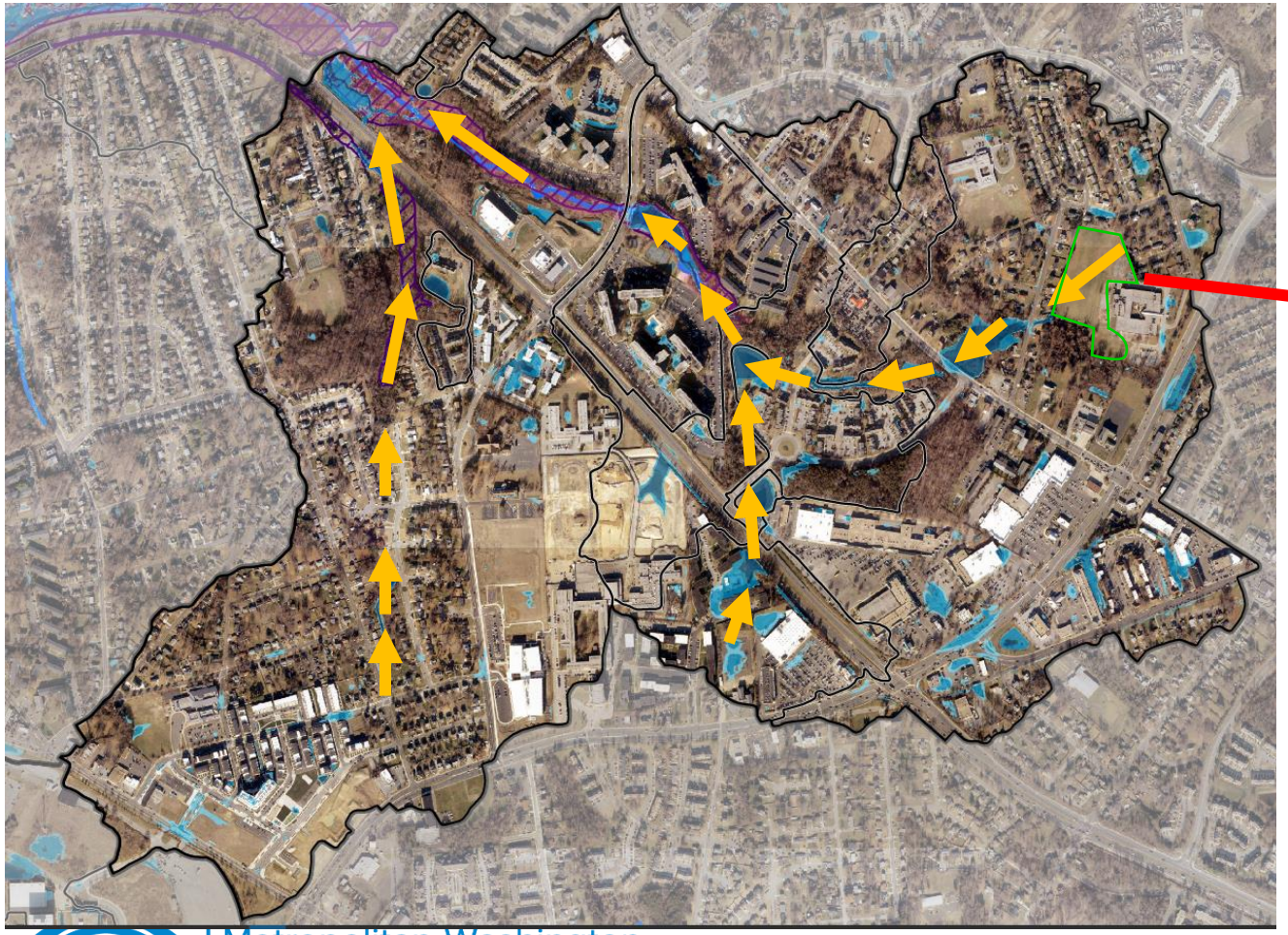
This step provides important insight to inform concept goals, outreach narratives, and funding proposals with a clear, data-supported rationale.

Summary of Outputs – Flood Risk Identification Mapping

- Consolidate federal and county flood mapping
- Incorporate latest DOEE modeling (District)
- Incorporate “Blue-Spot” analysis (Prince Georges)

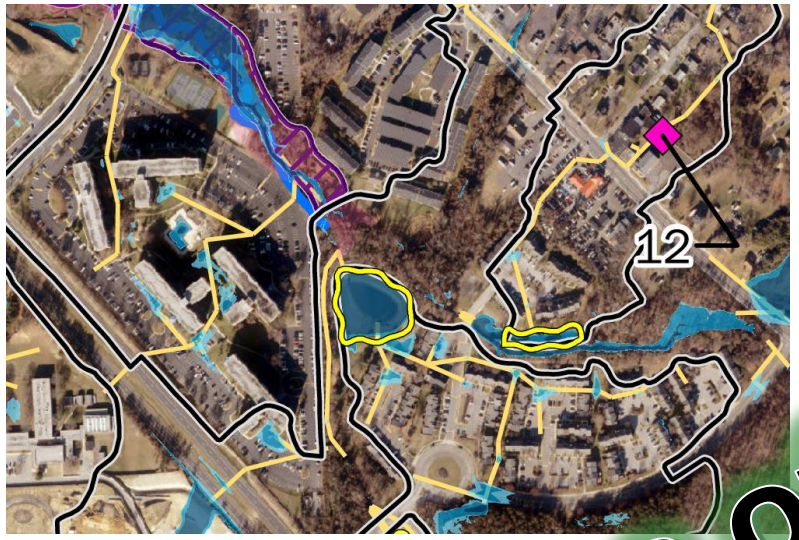


Summary of Outputs – Repeatable Process to Identify BGI Opportunities



Summary of Outputs – Comprehensive BGI Opportunities Mapping

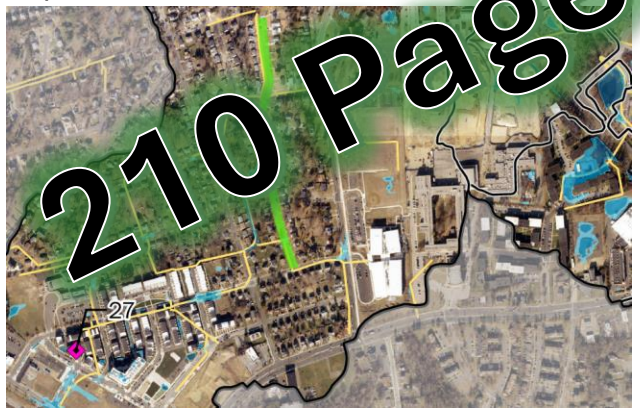
1) Bridge and Culvert Modifications
2) Floodable Public Spaces
3) Green Stormwater Infrastructure
4) Blue-Green Streets
5) Impervious Reduction
6) Pond Retrofits
7) Storm Drain Outfall Retrofits
8) Stream Daylighting
9) Stream, Wetland, and Floodplain Restoration
10) Tree Planting



Example: Large Pond behind Oakcrest Towe Apartments

Example: Tree planting in open space near Dupont Heights Park

210 Pages of Mapping!



Example: Fort Drive between Towne Park Road and Crosier Street

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Summary of Outputs – Comprehensive BGI Opportunities Mapping

- Local Governments: use our mapping to target retrofit projects.
- Stewardship Groups: Find opportunities, in your community, aligned with your cause.
- Community Members: Advocate for solutions that beautify your shared spaces.
- All: join with funders, select projects and follow our process to develop fundable concepts.

Summary of Outputs – Prioritization Tool

We've developed a prioritization tool that balances:

- Social Equity
- Existing Flood Risk
- Actionability
- Watershed-wide Impact

This is a living tool that we can adapt as priorities change.

Criteria	Metric Notes	Category	Criteria Weight (max Score)*	Oxon Run 1	2	3	4	5	6	7	8	9	10	11
Social Vulnerability Index	Weighted average/FA Acre	Social Vulnerability and Equity	4.5	3.4	3.3	3.7	3.9	4.1	3.6	4.0	4.2	4.5	4.1	3.3
Equity Emphasis Area	Weighted average/FA		4.5	3.2	2.6	1.8	3.2	4.5	2.3	4.1	3.9	4.1	3.2	1.8
Assets for Socially Vulnerable Population	Count/FA Acre		9	4.9	3.5	1.0	5.9	9.0	3.3	6.7	2.0	2.4	2.9	1.4
Total Population	Weighted average/FA		9	6.0	6.3	8.6	6.4	6.6	7.9	6.9	6.4	8.0	8.9	6.2
Population Density	Acre		3	1.4	1.5	0.8	2.2	3.0	1.7	2.5	1.6	1.8	1.3	0.5
Building Footprints within FEMA Flood Hazard Area - 100-year and DPIE	Acres x Factor Total/FA Acres	Asset Vulnerability	6	0.1	0.8	0.0	0.1	6.0	0.0	1.9	1.7	0.0	0.0	2.1
Building Footprints within Bluespots/IFM	Acres x Factor Total/FA Acres		3	1.3	0.8	3.0	1.1	1.2	1.0	1.0	0.8	0.8	0.5	0.2
Impervious Road Surface Area within FEMA Flood Hazard Area - 100-year and	Acre/FA Acre		6	0.1	0.7	0.1	0.6	0.4	0.1	0.8	1.1	0.0	0.8	0.8
Impervious Road Surface Area within Bluespots/IFM	Acre/FA Acre		3	1.3	0.5	1.1	0.7	1.2	0.3	0.8	0.2	0.7	0.8	1.6
FEMA Flood Hazard Area - 100-year and	Acre/FA Acre		2	0.2	0.3	0.1	0.5	0.5	0.2	0.4	0.4	0.2	0.1	0.4
Bluespots/IFM	Acre/FA Acre		2	0.7	0.3	0.3	0.4	2.0	0.2	0.8	0.2	0.3	0.3	0.6
Critical & Community Assets	Count x Factor Total/FA Acres		8	3.3	1.4	1.0	1.0	8.0	1.5	1.5	1.7	0.7	1.3	0.0
Bridge and Culvert Modifications (BCM)	Count/FA Acre	Actionability	1.2	0.4	0.4	0.6	0.2	0.3	0.2	0.3	1.2	0.0	0.4	0.0
Green Stormwater Infrastructure (GSI) (Point Count)	Count/FA Acre		2.3	0.9	0.5	0.9	0.7	0.3	2.2	2.2	1.0	1.9	0.6	0.0
Green Stormwater Infrastructure (GSI) (Polygon Acre)	Acre/FA Acre		2.3	1.4	1.2	1.2	0.8	0.8	0.7	1.2	1.5	1.7	1.7	0.5
Storm Drain Outfall Retrofits (OUT)	Count/FA Acre		2.3	1.4	0.9	0.4	0.8	0.3	0.7	0.8	0.5	1.8	0.4	0.5
Blue Green Street (BGS)	Linear Feet/ FA Acre		2.3	0.1	0.8	0.0	0.5	1.4	0.4	0.8	0.0	0.0	0.5	0.0
Stream Daylighting (DAY)	Linear Feet/ FA Acre		1.2	0.0	0.4	0.0	0.7	0.4	0.5	0.3	0.2	0.8	0.3	1.2
Stream, Wetland, and Floodplain Restoration (STR)	Linear Feet/ FA Acre		3.5	1.4	0.8	1.8	1.2	1.2	1.1	1.0	2.0	1.6	1.2	0.8
Multi-Purpose Floodable Recreational Spaces (FRS)	Acre/FA Acre		3.5	1.2	0.4	2.3	1.4	3.5	1.1	0.0	1.0	1.3	2.5	1.1
Impervious Reduction (IMP)	Acre/FA Acre		4.6	4.4	0.9	4.6	1.7	2.0	4.0	0.5	0.0	0.9	2.4	0.0
Pond Retrofits (PND)	Acre/FA Acre		2.3	1.3	0.2	1.1	0.4	0.1	0.1	0.6	0.2	0.4	0.3	1.5
Tree Planting (TRP)	Acre/FA Acre		4.6	1.8	1.3	3.6	1.9	4.6	1.4	0.9	2.3	1.6	1.6	1.1
Watershed-wide Impact		Watershed-wide Impact	10	10.0	5.0	10.0	5.0	0.0	10.0	0.0	5.0	10.0	10.0	0.0
	SUBTOTAL	Social Vulnerability and Equity	30	13.0	17.8	15.9	21.5	27.1	18.8	##	18.0	##	##	13.2
	SUBTOTAL	Asset	30	6.9	4.7	6.2	4.4	13.4	3.4	7.2	6.0	2.7	3.9	5.7
	SUBTOTAL	Actionability	30	14.4	7.7	16.5	10.3	14.8	12.5	8.6	9.7	11.9	11.8	6.7
	SUBTOTAL	Watershed-wide Impact	10	10.0	5.0	10.0	5.0	0.0	10.0	0.0	5.0	10.0	10.0	0.0
		Total Score	100	50.3	35.2	##	41.3	61.3	44.7	##	##	45.5	46.1	25.6
	SUBTOTAL RANKING	Social Vulnerability and Equity		6	9	10	3	1	7	2	8	4	5	11
	SUBTOTAL RANKING	Asset		3	7	4	8	1	10	2	5	11	9	6
	SUBTOTAL RANKING	Actionability		3	10	1	7	2	4	9	8	5	6	11
	SUBTOTAL RANKING	Watershed-wide Impact		1	6	1	6	9	1	9	6	1	1	9
		RANKING		2	10	3	7	1	6	8	9	5	4	11
				x										

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Summary of Outputs – Repeatable Process to Develop Fundable Concepts

- ✓ Plan site visits
- ✓ Collect data
- ✓ Select the right opportunities for you
- ✓ Quantify flood storage potential
- ✓ Analyze effectiveness and quantify benefits
- ✓ Develop mapping

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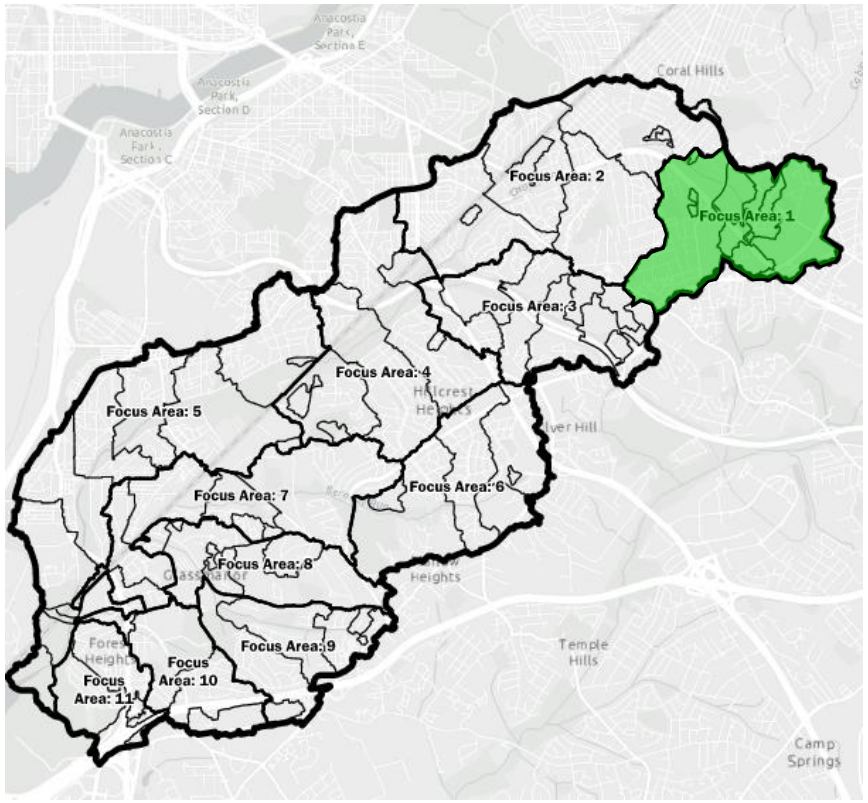
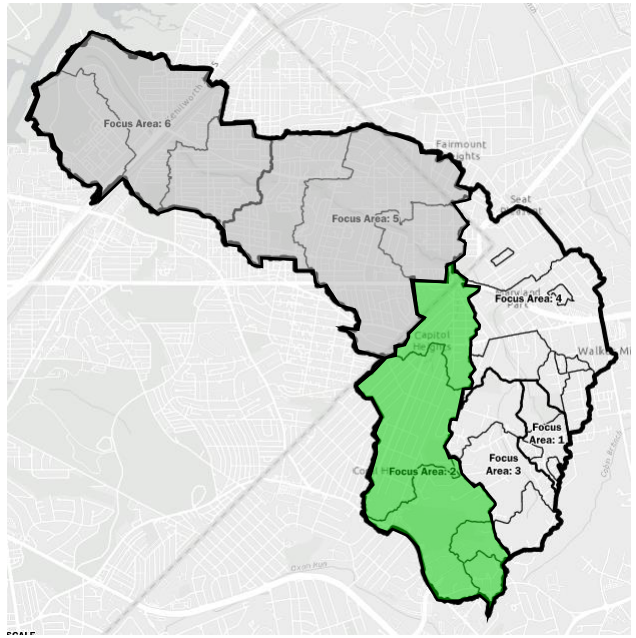
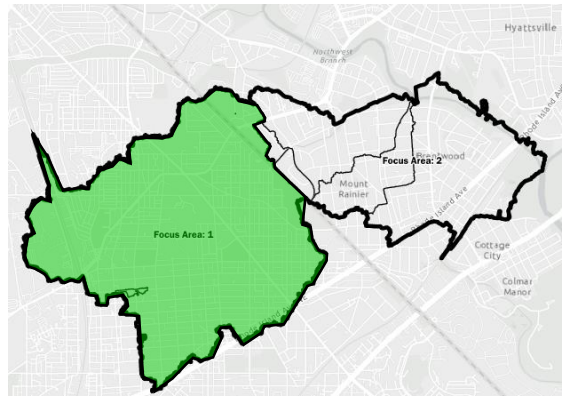
Demonstration Concept Plans



Oxon Run – 11 Focus Areas
Canal – 2 Focus Areas



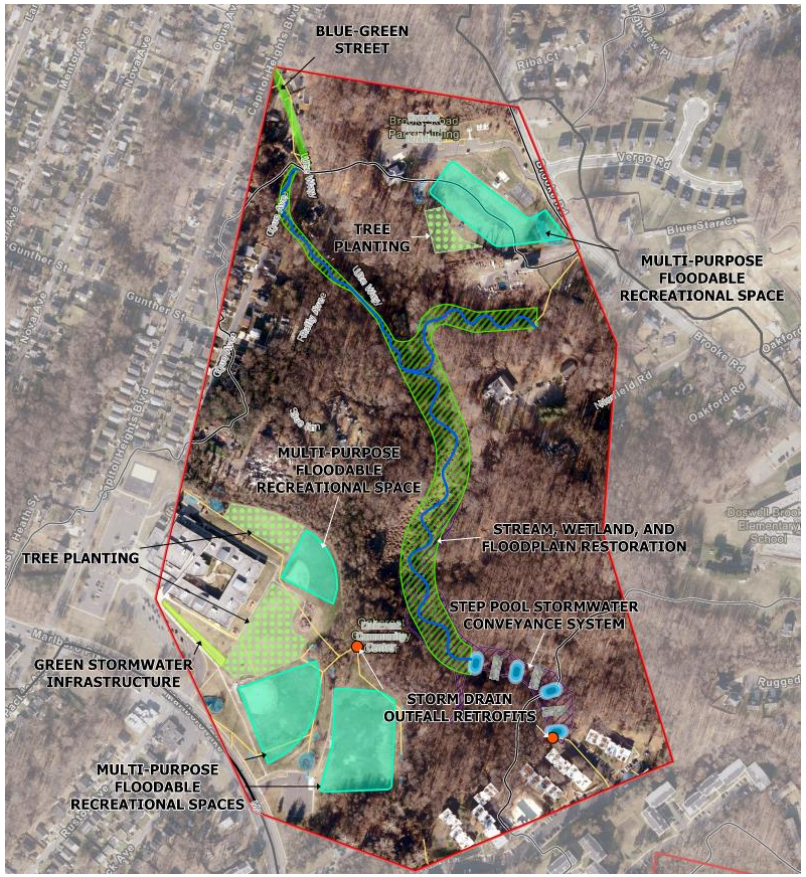
Watts Branch – 4 Focus Areas*



Arundel

*Note: We exempted neighborhoods in Watts Branch within the District as DOEE is currently executing a parallel study.

Demonstration Concept Plans (Draft/Examples)



Pictured: Excerpts from in-progress concepts (draft)

Demonstration Concept Plans

- ✓ Scaled color graphics
- ✓ Each contains multiple “clusters” of BGI, demonstrating a “network.”
- ✓ Quantifiable metrics on volume/performance
- ✓ Construction cost estimates

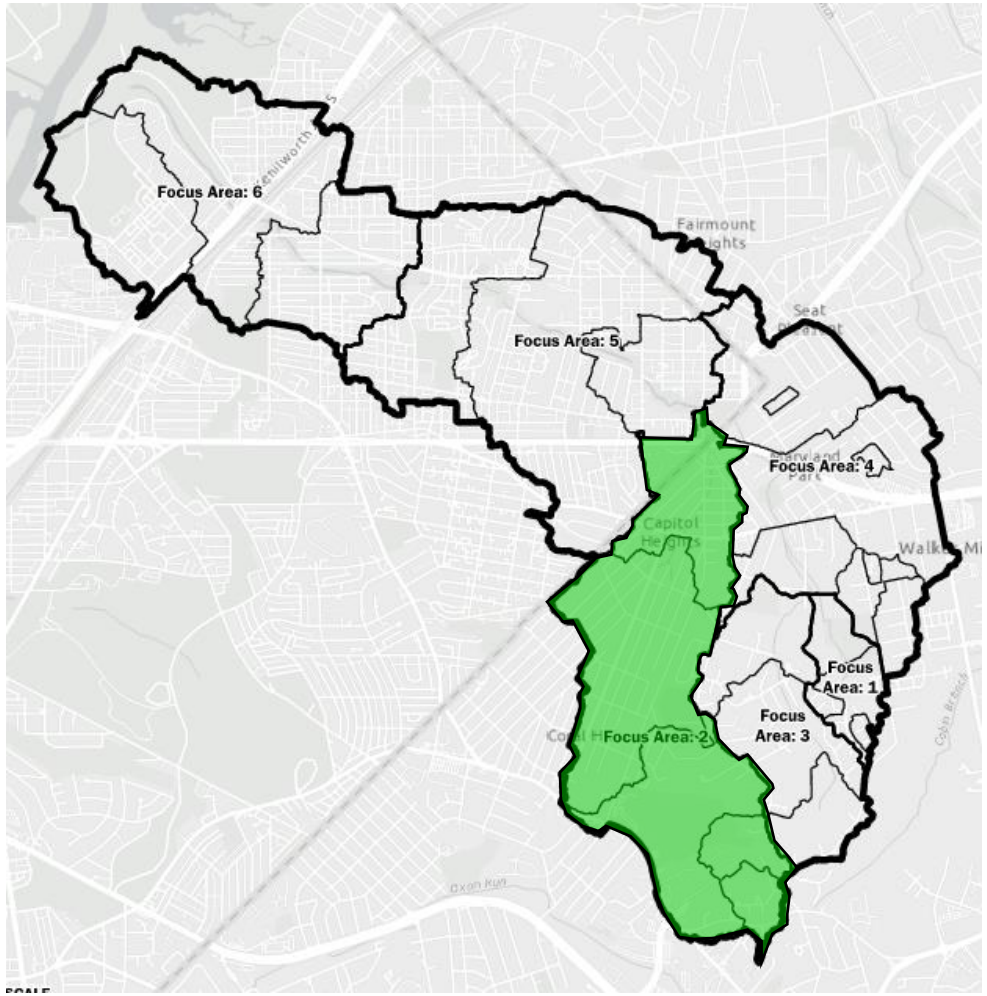
Watts Branch: Detailed Case Study

- We developed a replicable approach for a planning study to model BGI effectiveness, relying primarily on the USACE HEC-HMS model.
  - This a notable improvement over quantifying “volume” alone because it recognizes the position and timing of flows moving through the watershed.
  - The outputs have meaningful implications.

Watts Branch: Detailed Case Study

The Watts Branch concept demonstrates how targeted, upstream BGI can:

- ✓ Substantially reduce peak runoff volumes;
- ✓ Lower flood elevations and reduce structure inundation;
- ✓ Provide measurable benefit under future climate scenarios;
- ✓ Decrease flood event frequency for a given storm size.



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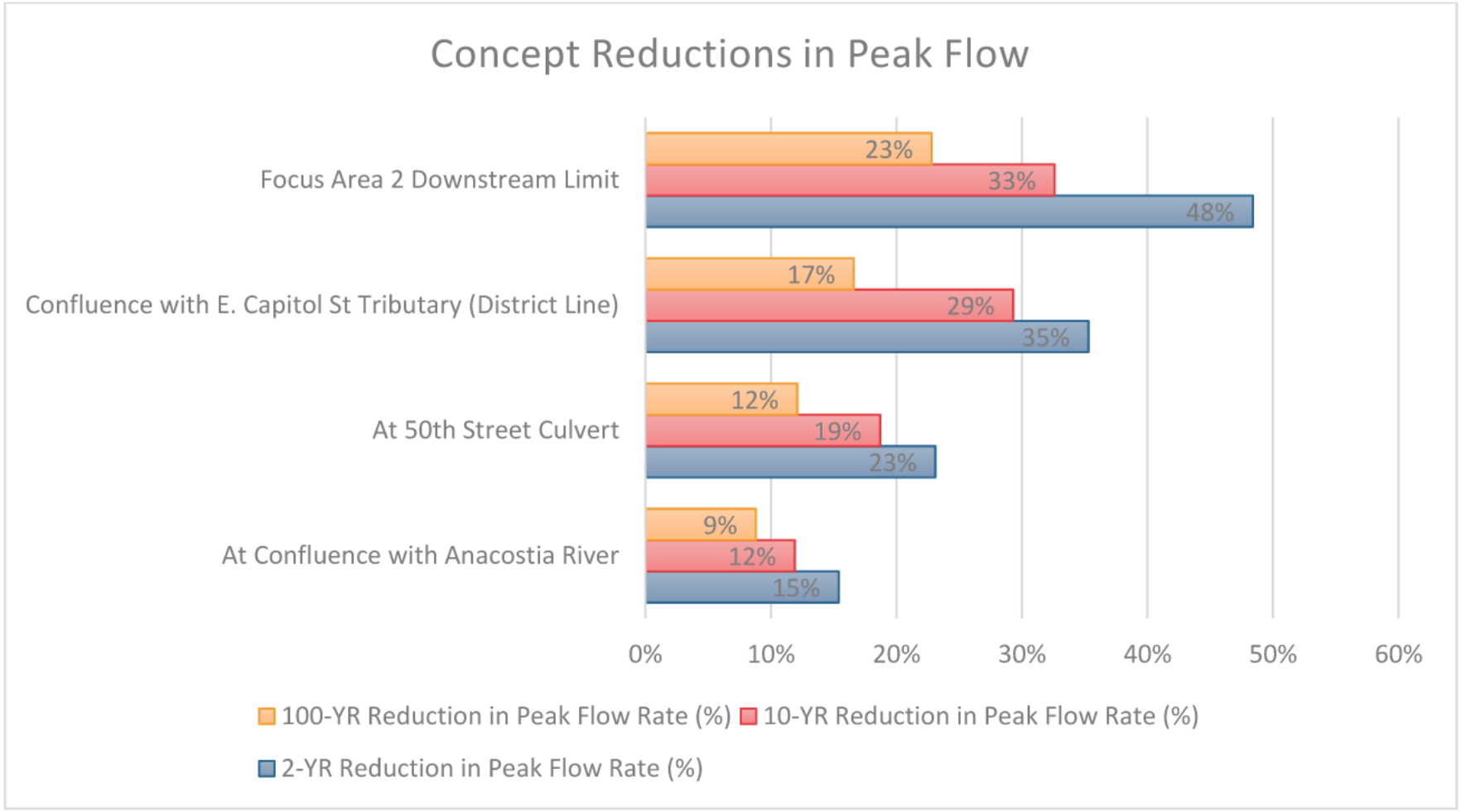
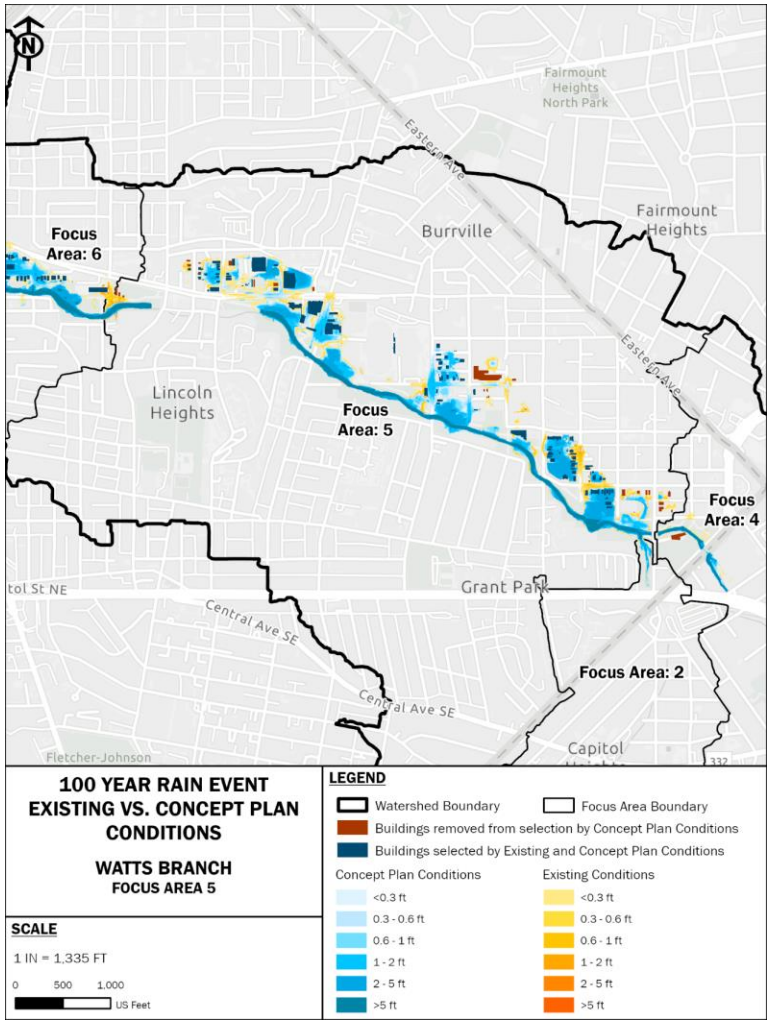
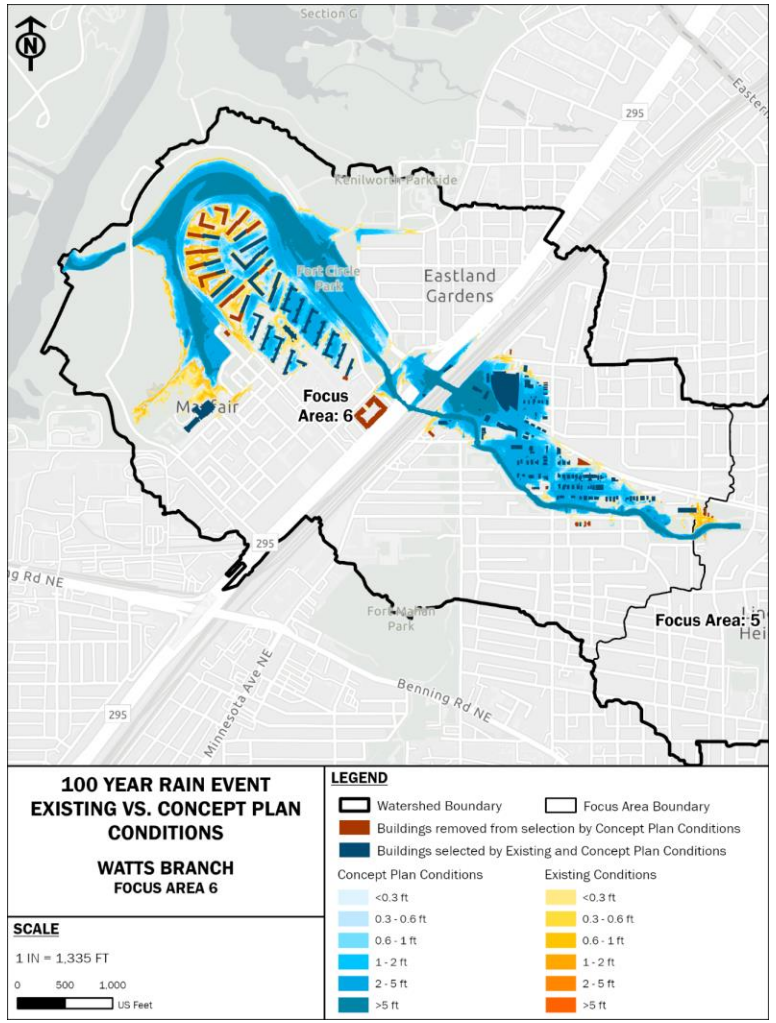
Watts Branch: Detailed Case Study



Preliminary/Draft

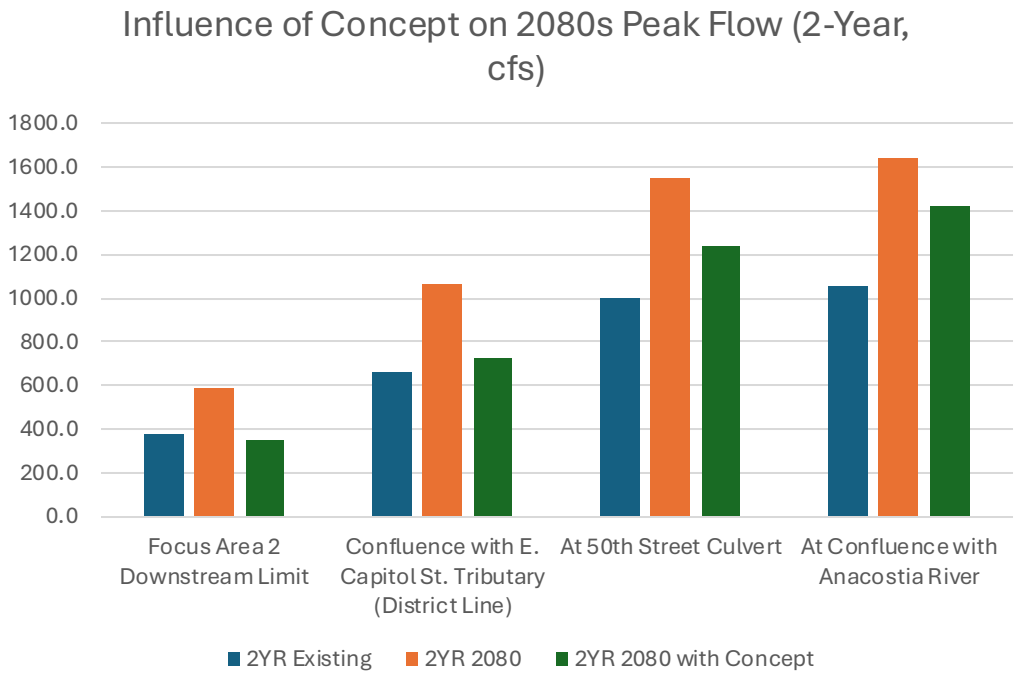
Watts Branch: Detailed Case Study

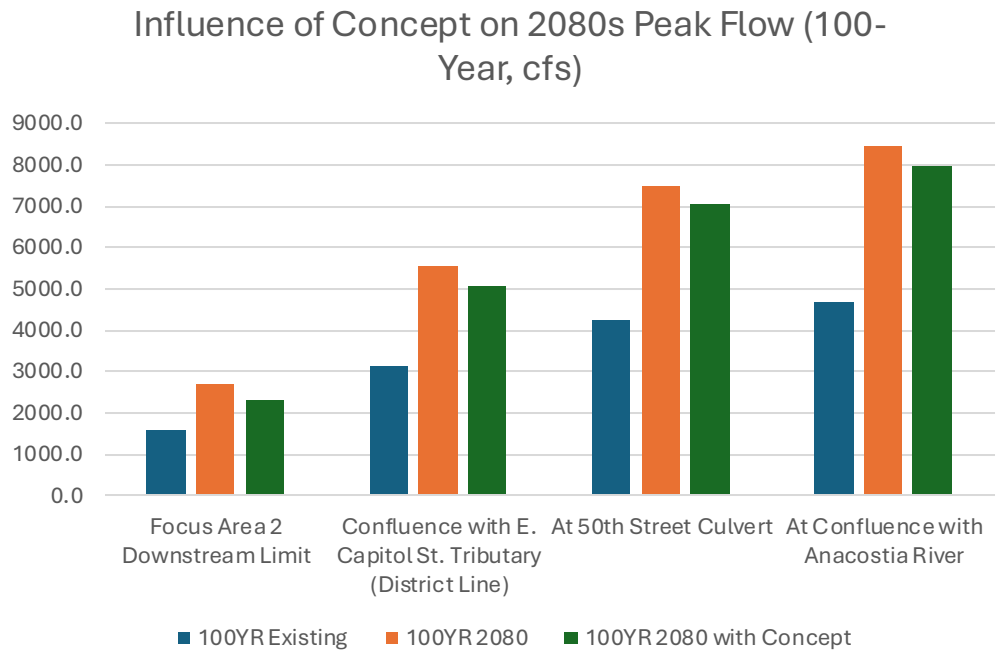




Preliminary/Draft

Watts Branch: Detailed Case Study





Preliminary/Draft

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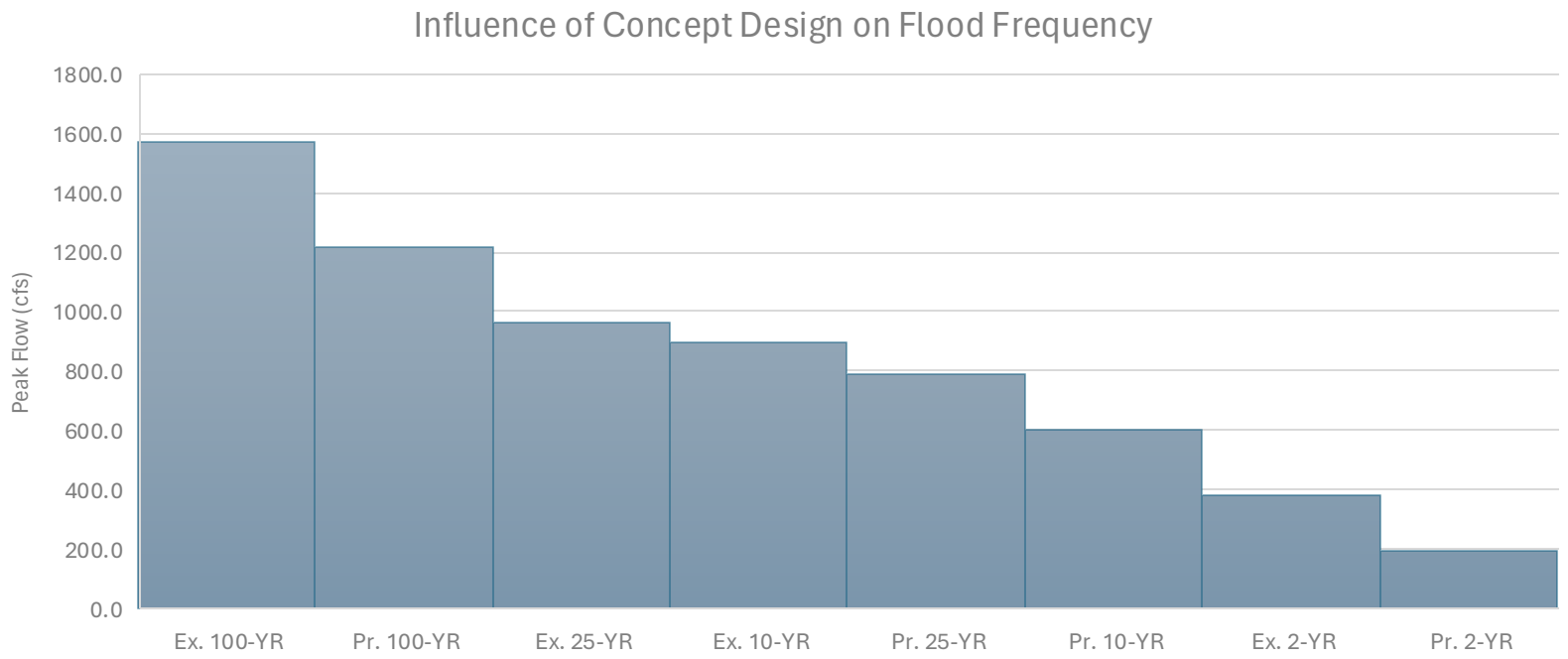
Watts Branch: Detailed Case Study

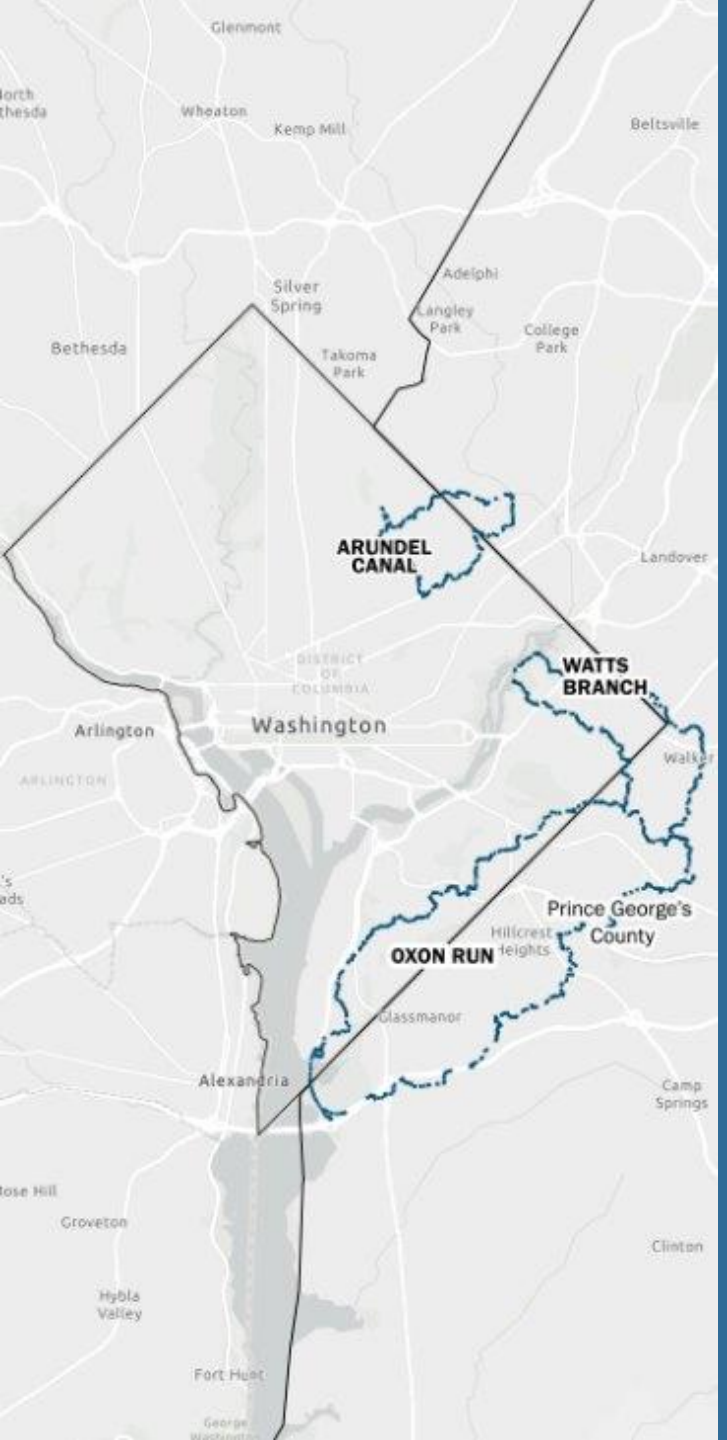


Preliminary/Draft

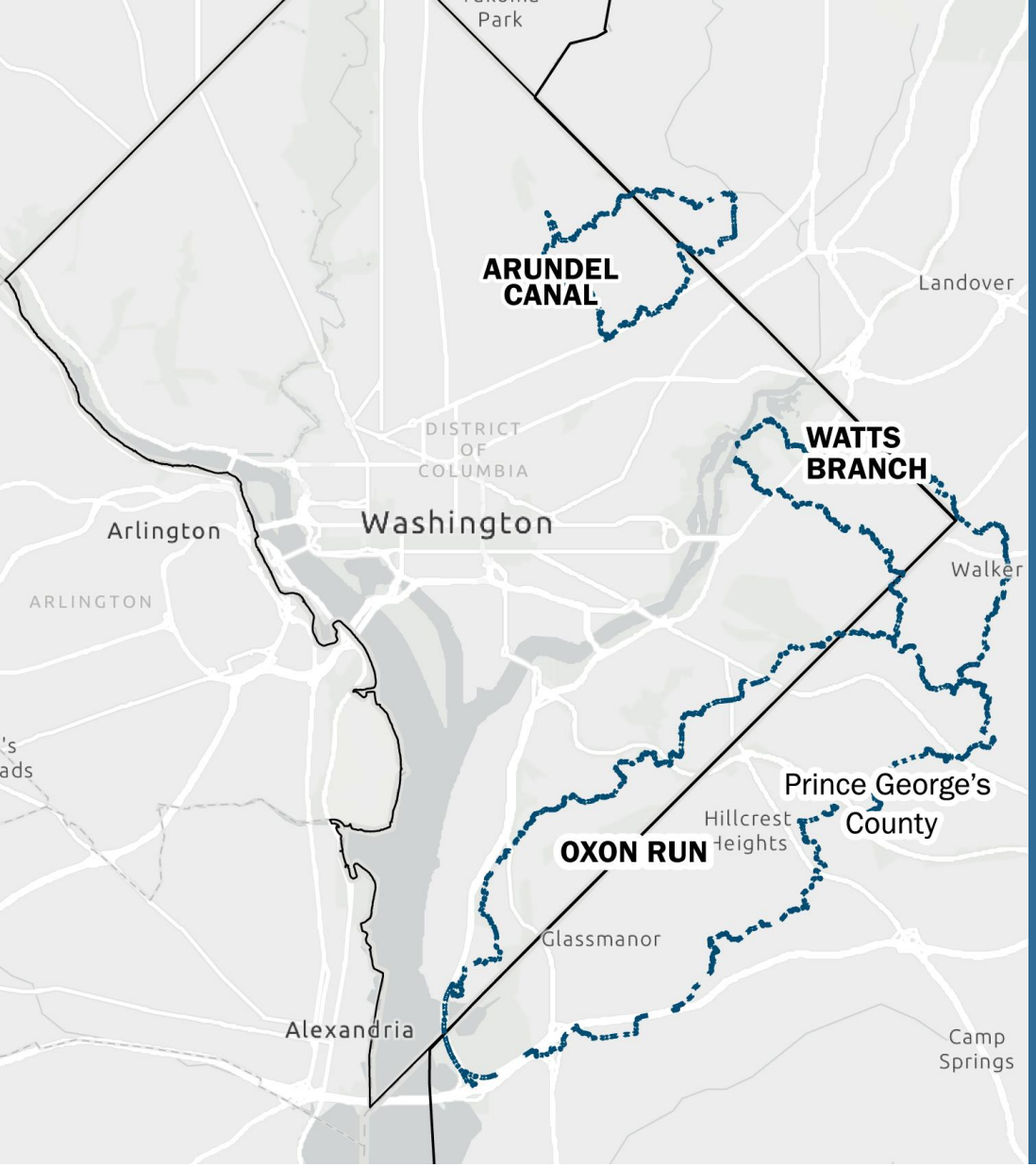
Big Picture Takeaways

Our study validates:

- Regional flood solutions require upstream planning. Success in these watersheds *requires* communication between the District and Prince George's County.
- A network of BGI solutions IS effective at creating measurable flood risk improvement.



Q&A BGI RESOURCES



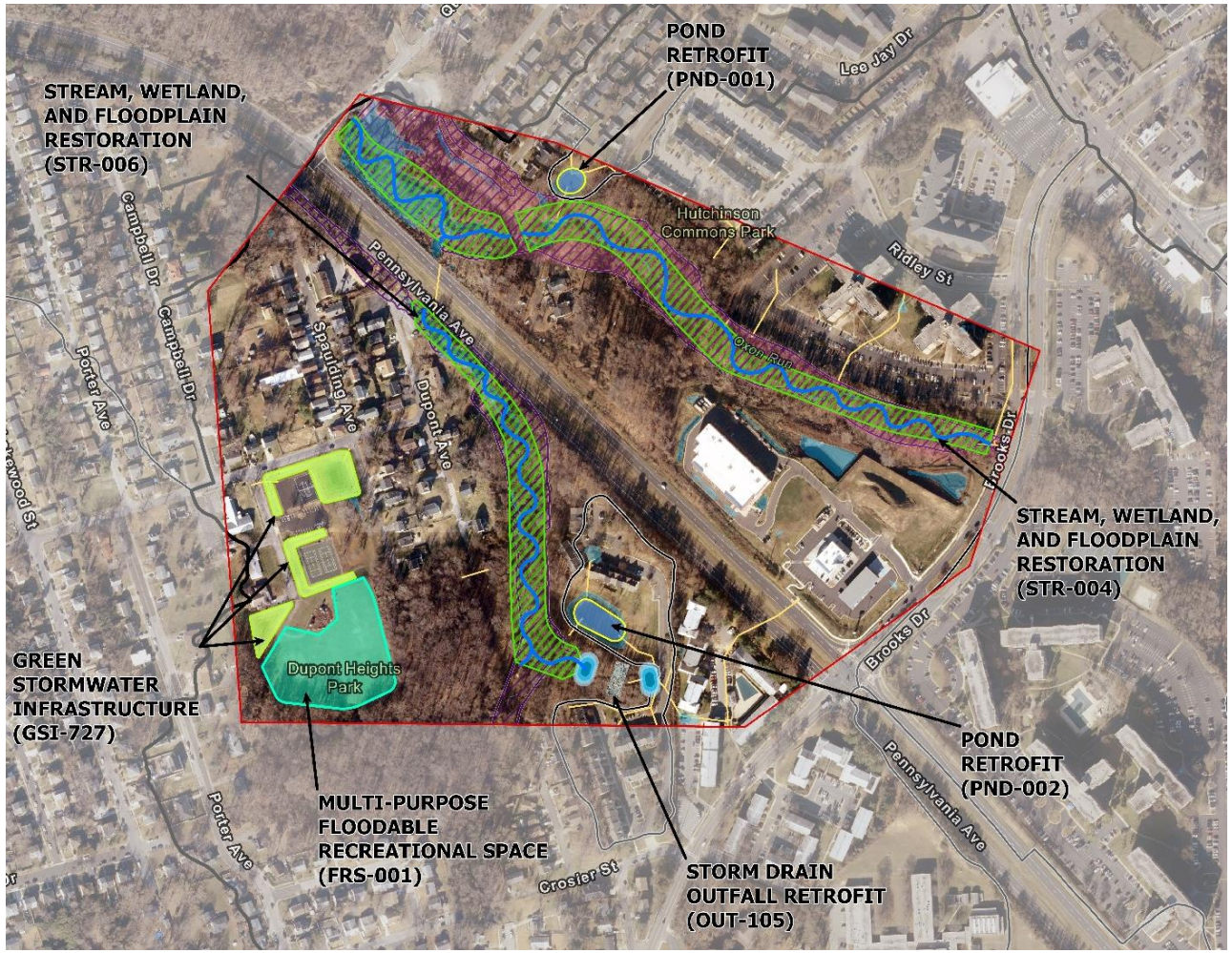
CLOSING REMARKS & NEXT STEPS

Big Picture Takeaways

- Regional flood solutions require upstream planning. Success in these watersheds *requires* communication between the District and Prince George's County.
- A network of BGI solutions IS effective at creating measurable flood risk improvement.

What's Next?

- These tools are designed to be used, shared, and adapted.
- Our work positions the Arundel Canal, Oxon Run, and Watts Branch communities to secure partnerships and funding for implementation.
- Our process can be used and repeated by our partners in neighboring areas.



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