

HAMLIN STREET STORMWATER RETROFIT PROJECT

PUBLIC STAKEHOLDER SEMI-FINAL DESIGN PUBLIC MEETING

September 20, 2021

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Department of Energy & Environment

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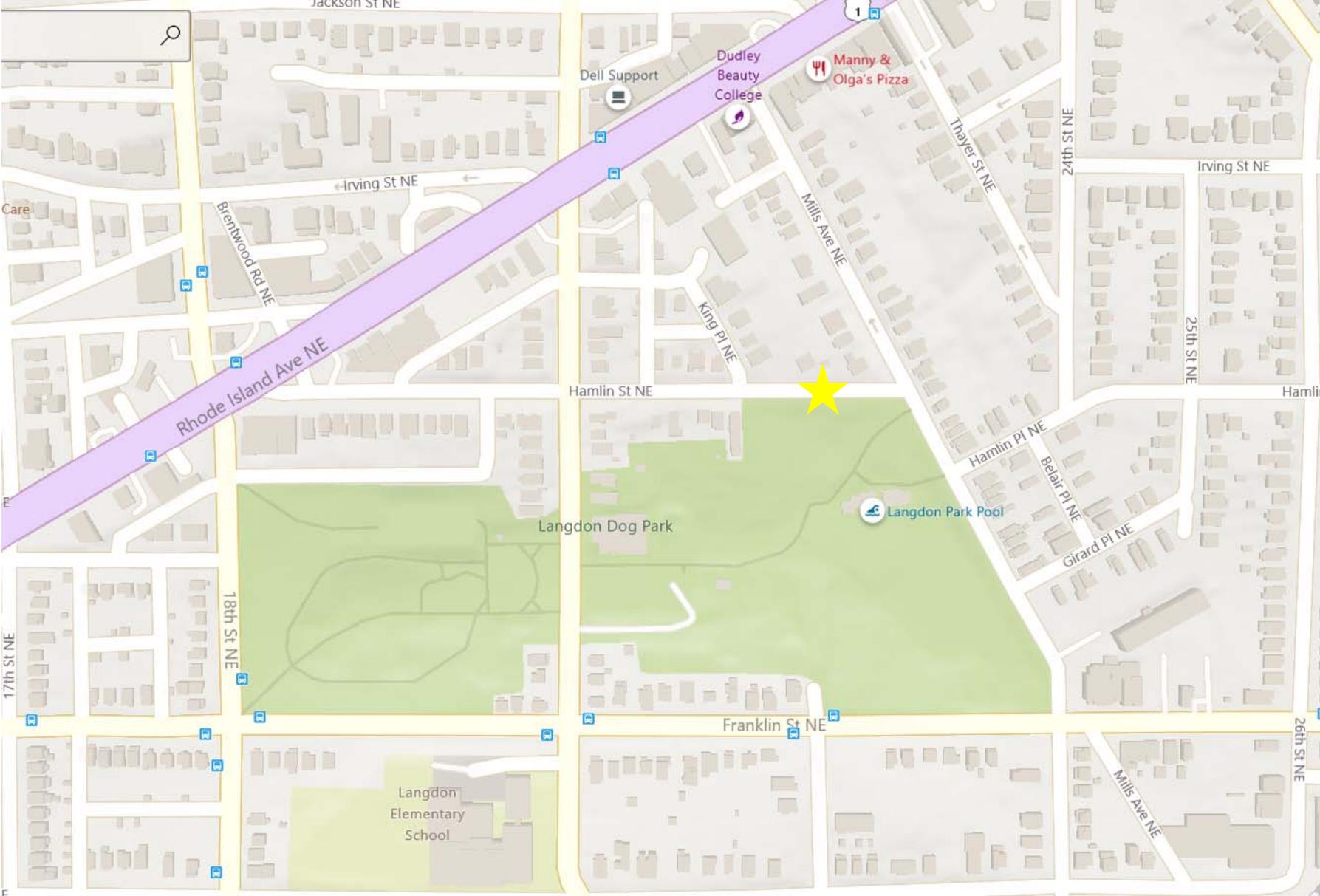


GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

AGENDA

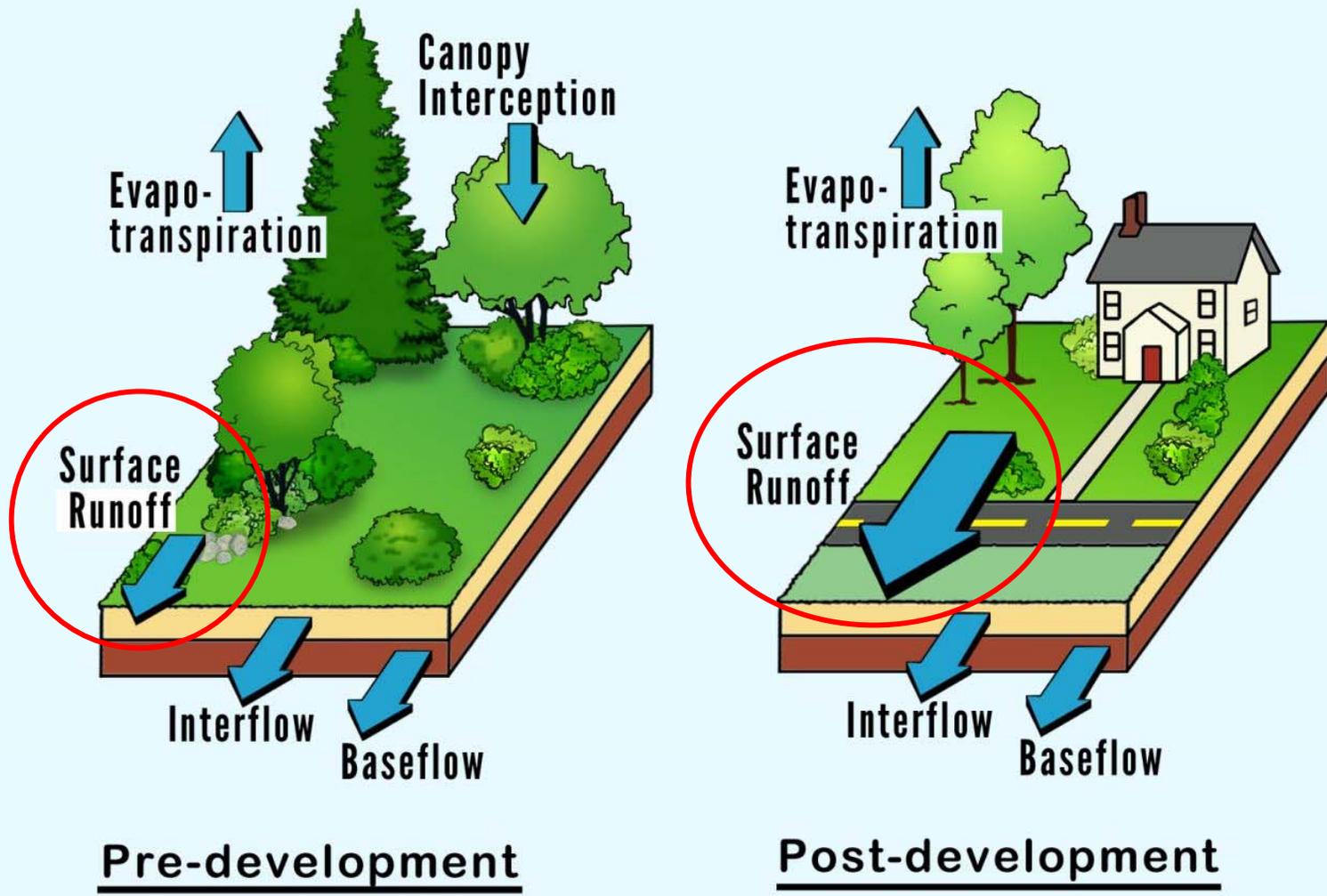
- Project Area & Background
- Existing Conditions
- Project Objectives
- Restoration Approaches
- Semi-Final Design
- Timeline
- FAQs
- Q&A

PROJECT LOCATION



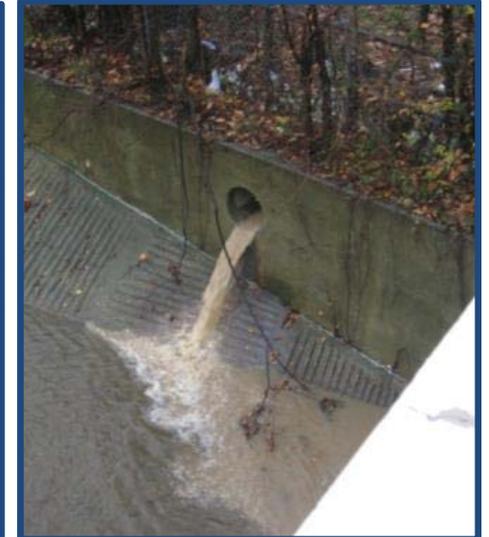
BACKGROUND

Figure 1.1 Water Balance at a Developed and Underdeveloped Site
(Source: Schueler, 1987)

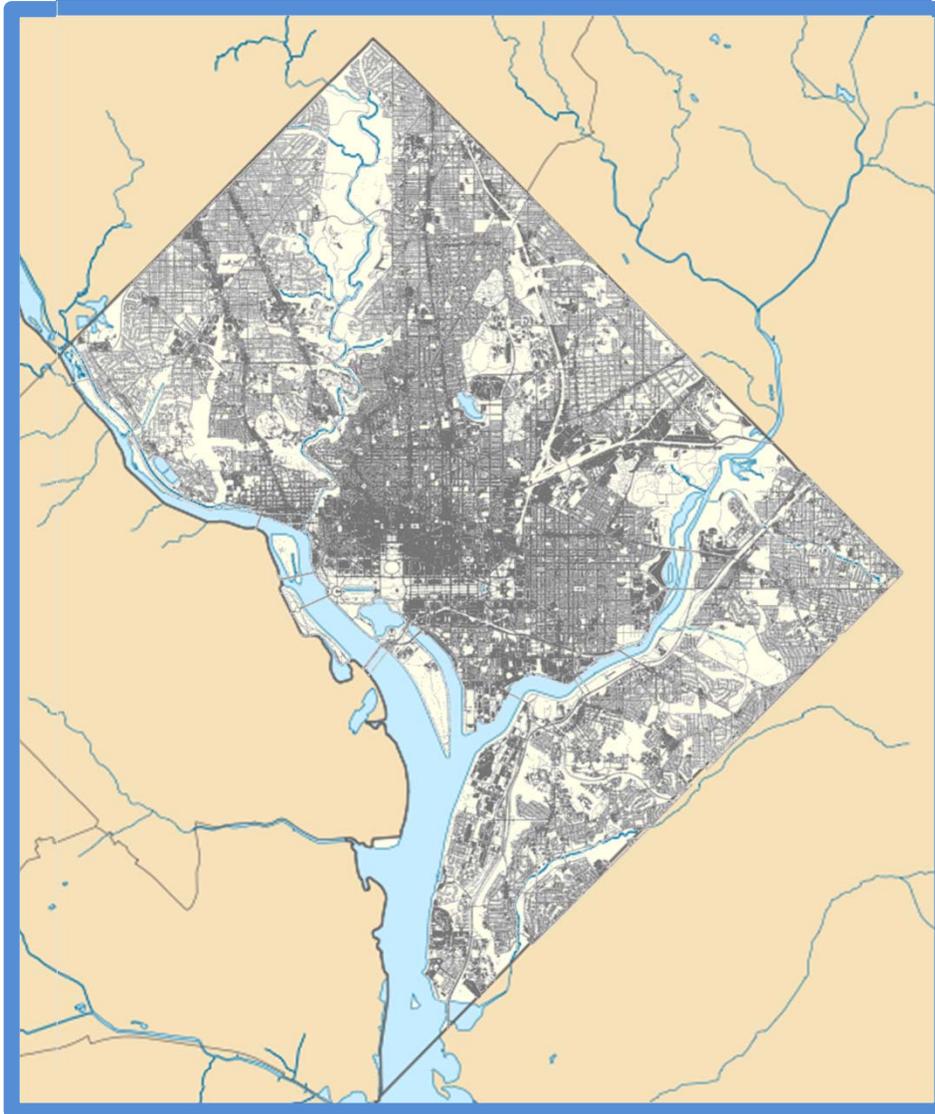


Surface runoff is minimal in an undeveloped site, but dominates the water balance at a highly impervious site.

PROBLEM OF STORMWATER POLLUTION



DISTRICT OF COLUMBIA LAND USE



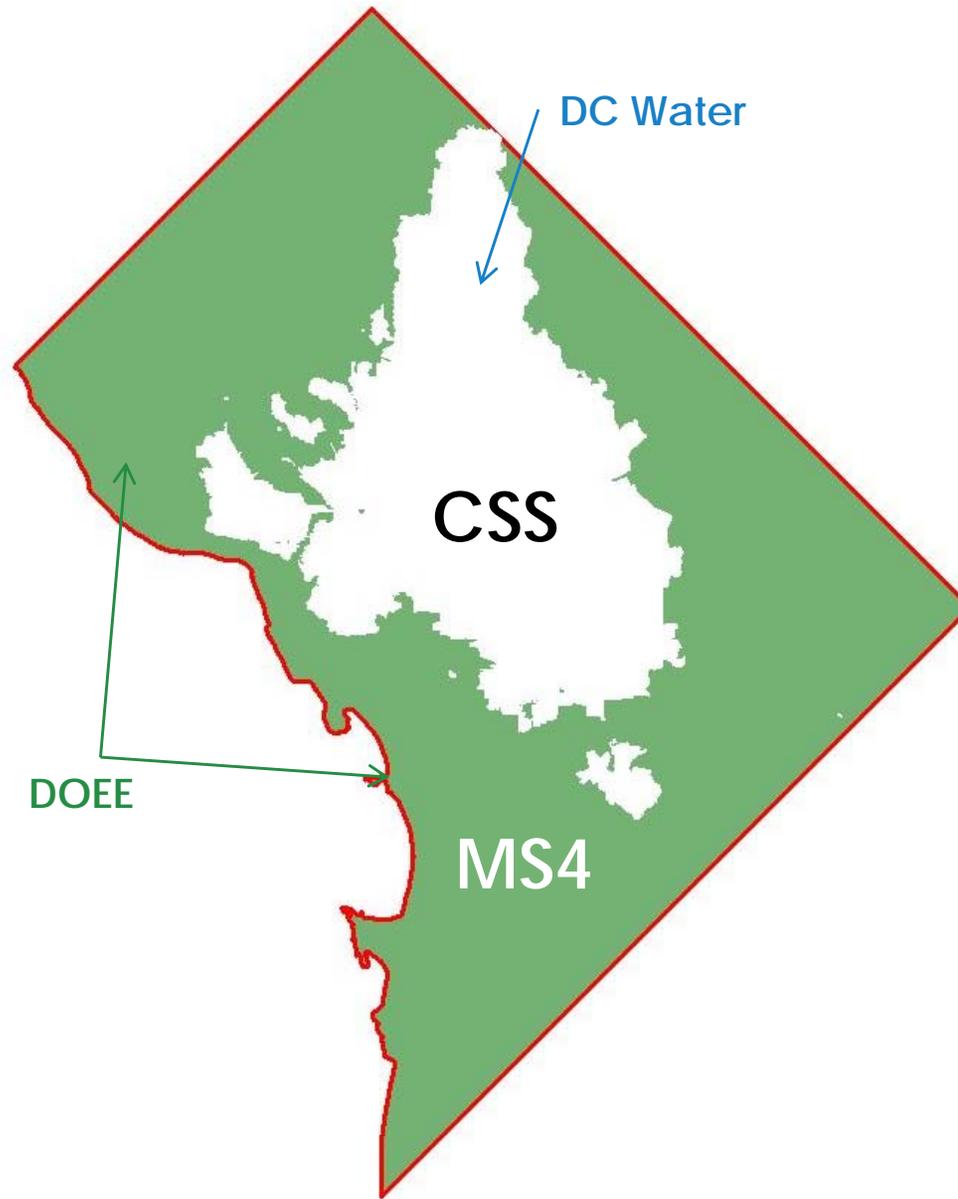
Total Area
68.3 mi²

Land Area
61.3 mi²

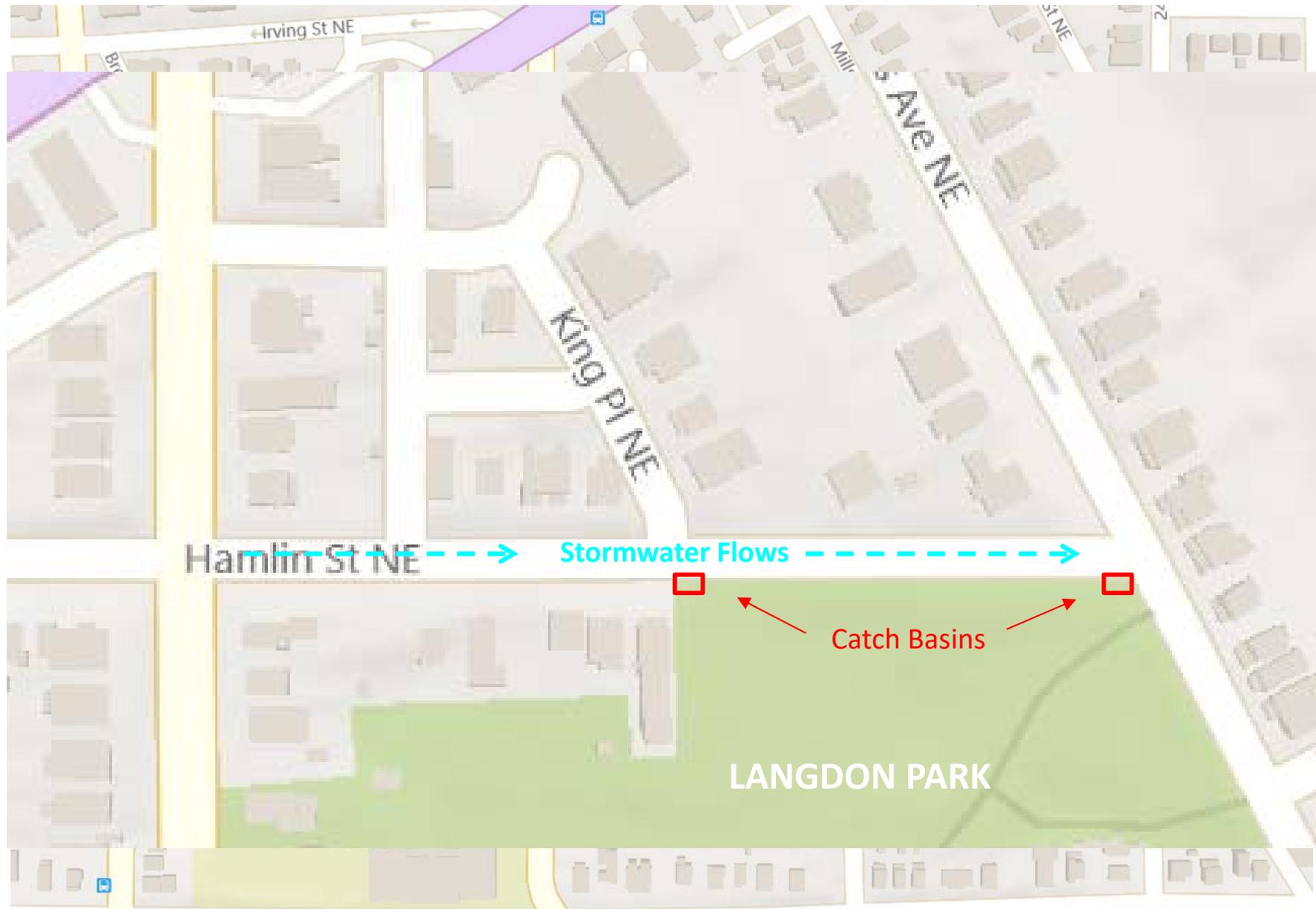
Impervious Area
26.6 mi²
*Approx 43%
of Land Area*

A single 1.2 inch storm falling on this area produces about 525 million gallons of stormwater runoff.

DC'S RESTORATION APPROACHES



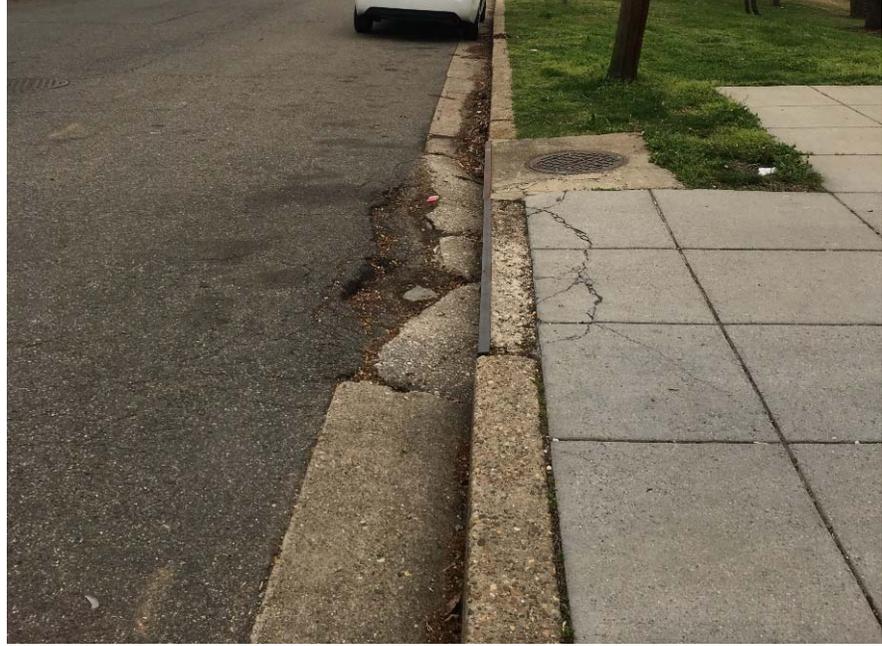
EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS - UPPER



PROJECT OBJECTIVES

- Treat maximum amount of stormwater from the site in the most cost effective way
- Create and enhance habitat within Langdon Park
- Minimal impacts to the community
- Development of a community amenity
- Educational opportunities



RESTORATION APPROACHES

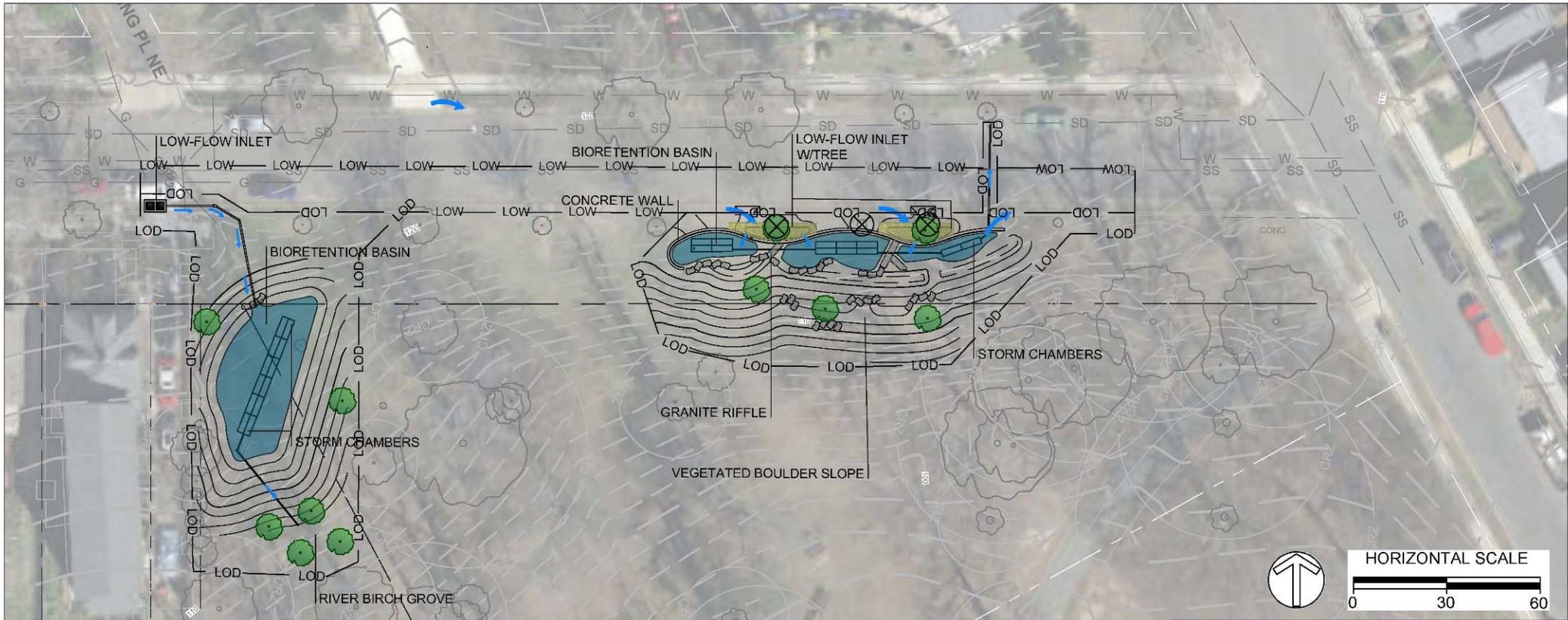
Most stormwater practices all work the same way: “they collect stormwater runoff and use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater in order to protect water quality and associated aquatic habitat” (EPA).

Slow it down, Spread it Out, Soak it In !

BIORETENTION



PROJECT DESIGN



SUMMARY TABLE

BMP	Bioretention Version	SWR _v		Areas			Depths				Storm Chamber Storage CF	S _v CF	Retention Volume Provided %	Retention Volume Provided CF
		(P = 1.2")	(P = 1.7")	SA _{top}	S _{abottom}	SA _{average}	d _{ponding}	d _{media}	Gravel Underdrain					
		CF	CF	SF	SF	SF	IN	IN	IN					
1	Standard	5,042	7,142	1,504	1,067	1,286	12	24	12	281	2,527	60%	1,516	
2	Standard	2,190	3,102	860	635	748	12	24	12	281	1,600	60%	960	
Total											4,127		2,476	



DOEE
Washington, D.C.

HAMLIN STREET NE LID RETROFIT
65% DESIGN
September 2021

- Existing Drainage Area
- Existing Storm Drain
- Existing Sanitary Sewer

Legend

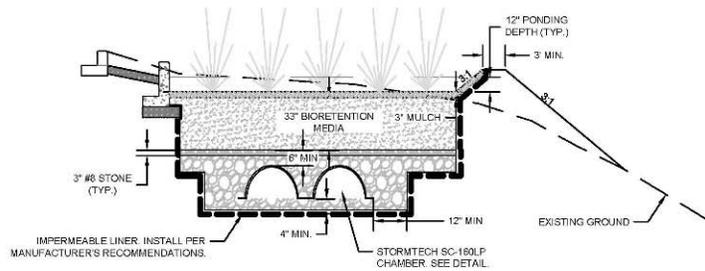
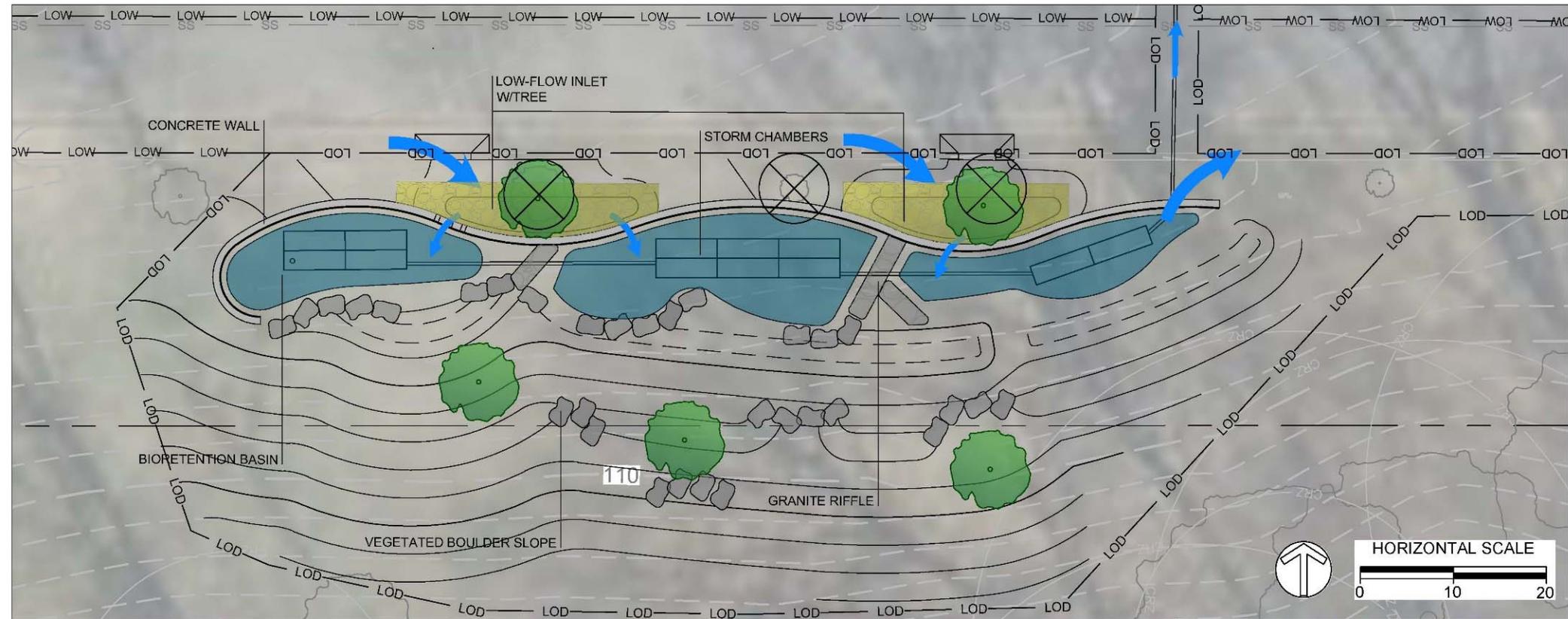
- Proposed Bioretention
- Proposed Granite Boulders
- Proposed Tree Planting
- Proposed Cobble Forebay
- Proposed Limit of Disturbance
- Proposed Limit of Work



EASTERN



SEMI-FINAL DESIGN - EASTERN



- NOTES:
1. BIORETENTION IS AN OFF-LINE BIORETENTION. IN-FLOW WILL BE CONTROLLED BY ENGINEERED INLET TO ONLY CONVEY STORMS BELOW 1.2\"/>
 - 2. TOP OF CLEANOUT ELEVATIONS SHALL BE INSTALLED 6\"/>
 - 3. MULCH LAYERS MAY BE REPLACED BY BIORETENTION MEDIA IF DESIRED. IF OMITTING MULCH, FACILITY SHALL BE LINED WITH COIR FIBER MATTING.

BMP 2 - BIORETENTION
TYPICAL SECTION

NOT TO SCALE



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Washington, D.C.

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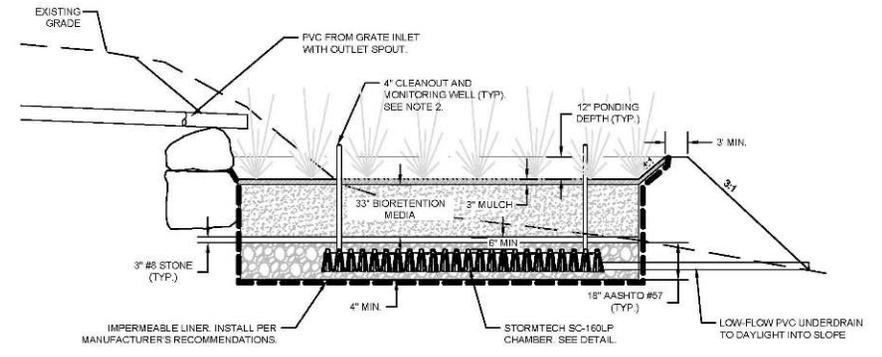
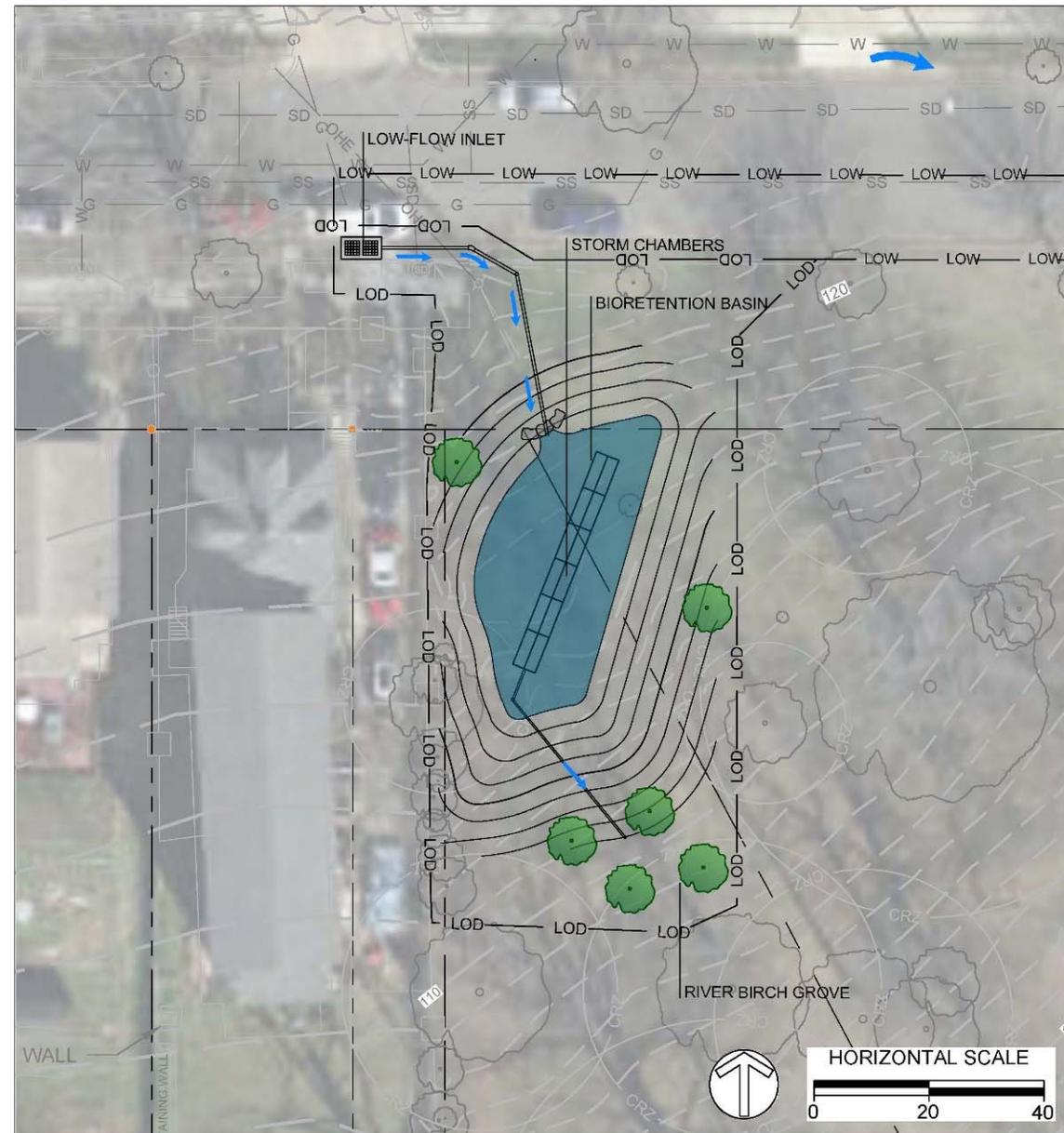
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WESTERN



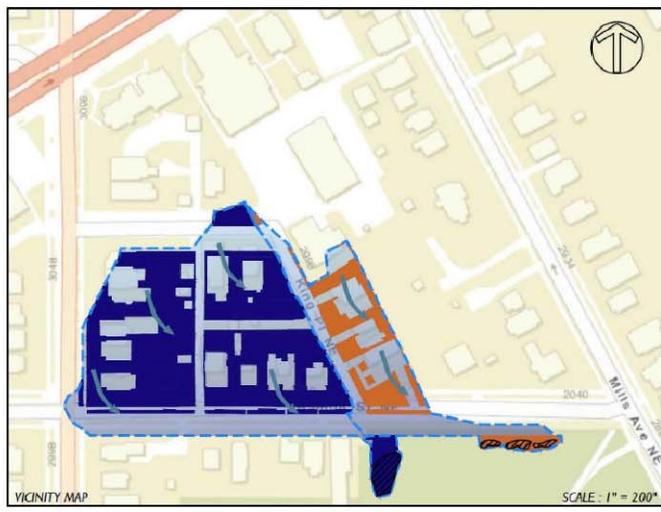
SEMI-FINAL DESIGNS - WESTERN



- NOTES:
1. BIORETENTION IS AN OFF-LINE BIORETENTION. IN-FLOW WILL BE CONTROLLED BY ENGINEERED INLET TO ONLY CONVEY STORMS BELOW 1.2".
 2. TOP OF CLEANOUT ELEVATIONS SHALL BE INSTALLED 6" ABOVE PONDING DEPTH.
 3. MULCH LAYERS MAY BE REPLACED BY BIORETENTION MEDIA IF DESIRED. IF OMITTING MULCH, FACILITY SHALL BE LINED WITH COIR FIBER MATTING.

BMP 1 - BIORETENTION
TYPICAL SECTION

NOT TO SCALE



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WESTERN

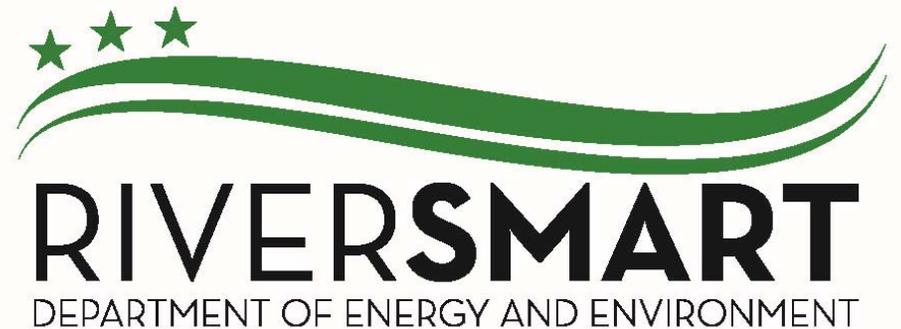


PROJECT TIMELINE

- March 2020: contract awarded
- April – December 2020: field assessment (topographic survey, geotechnical investigations etc.), interagency coordination
- January – Fall 2021: design development
- 3 public meetings:
 - Concept designs on 3/9/2021
 - Semi-final designs (~65%): 9/20/2021
 - Construction kickoff meeting (timeline): TBD

FAQs

- How do we find our project sites?
 - Enthusiastic landowners!
 - Funding sources
 - Large areas of untreated impervious cover
 - More impactful locations
- What can I do?
 - RiverSmart Homes
 - Rain Gardens
 - Permeable Pavers
 - Rain Barrels
 - Tree Planting
 - “BayScaping”



<https://www.riversmarthomes.org/>

QUESTIONS



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