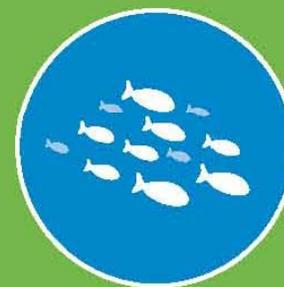




District of Columbia Water and Sewer Authority  
George S. Hawkins, General Manager

# Green Infrastructure Challenge



## INFORMATIONAL MEETING

**Carlton Ray**

*Director, DC Clean Rivers Project*

May 10, 2013

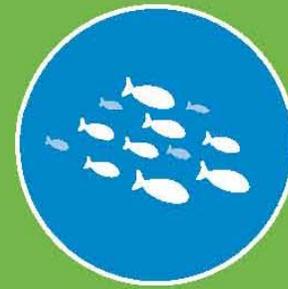


**DCWATER.COM**

# Summary of Today's Presentation

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- DC Water Background
- DC Clean Rivers (DCCR) Overview
- Green Infrastructure Program Overview
- Green Infrastructure Challenge
  - Goals
  - Categories
  - Requirements
  - Review Process
  - Timeline
- Green Infrastructure Challenge Website and Submittal Overview
- Questions and Networking



# DC WATER BACKGROUND

Carlton Ray

# Who We Are

## The District of Columbia Water and Sewer Authority (DC Water)

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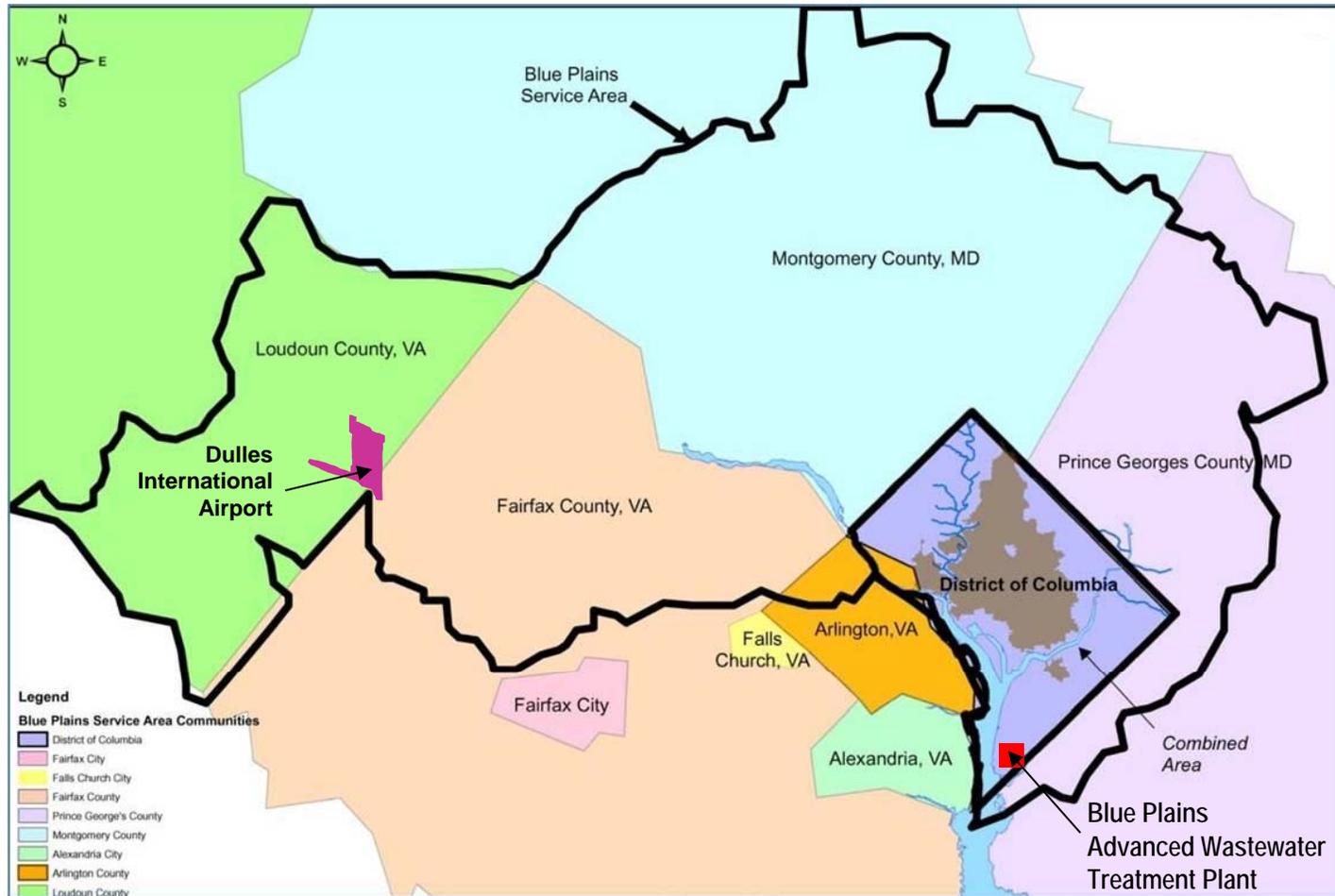
- **Provides**
  - Drinking water distribution for DC
  - Required wastewater collection and treatment
  - Stormwater collection and conveyance
- **Treats wastewater for a population of 2.1 million**
  - District of Columbia
  - Montgomery & Prince George's Counties, MD
  - Fairfax & Loudoun Counties, VA
- **Operates the world's largest Advanced Wastewater Treatment Plant**
  - Average daily capacity, 370 mgd
  - Peak daily capacity, 1 billion+ gallons
- **Serves a regional area of approximately 725 Sq Mi**

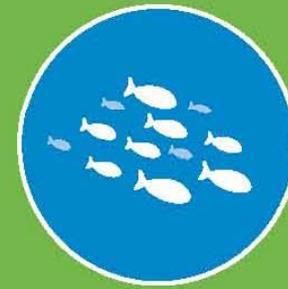


Blue Plains Advanced Wastewater Treatment Plant

# Who We Serve

## Blue Plains Service Area





# OVERVIEW

## DC CLEAN RIVERS PROJECT

Carlton Ray



# DC Clean Rivers Project Overview

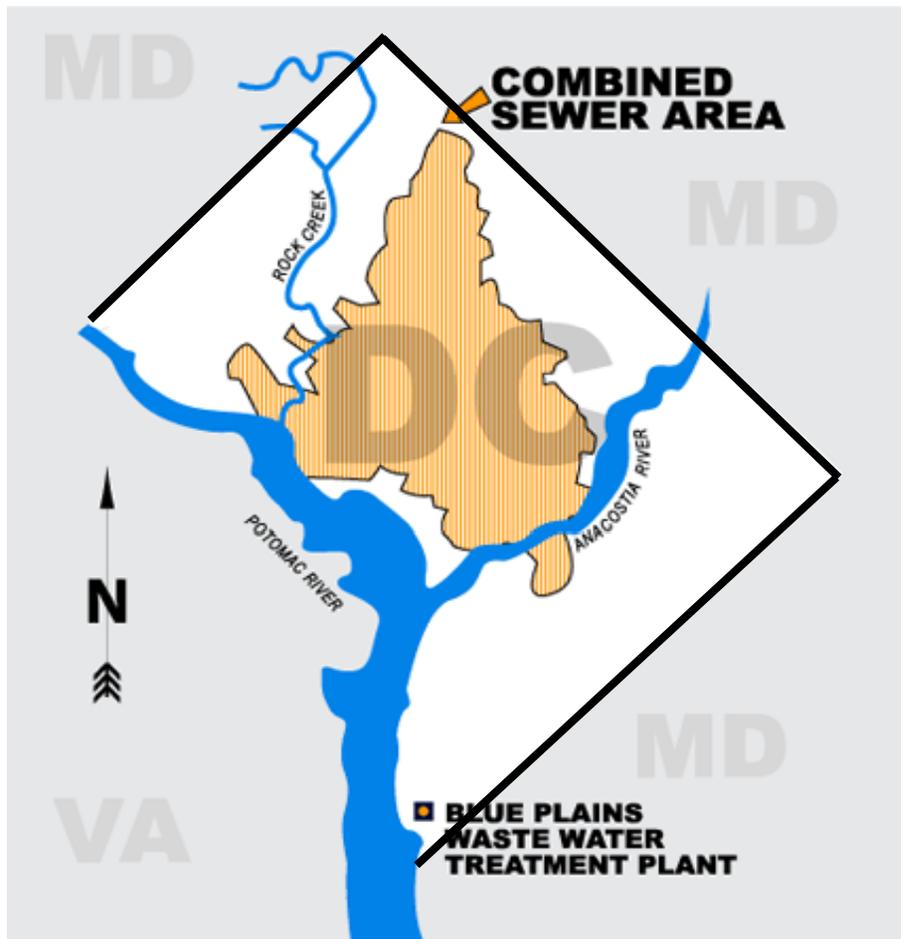
## What is our Purpose?

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- **Control Combined Sewer overflows to the**
  - Potomac River
  - Anacostia River
  - Rock Creek
- **Relieve flooding in the Northeast Boundary Area**
- **Implemented under a Federal Consent Decree among**
  - US Environmental Protection Agency (US EPA)/  
US Department of Justice (US DOJ)
  - District of Columbia and
  - DC Water



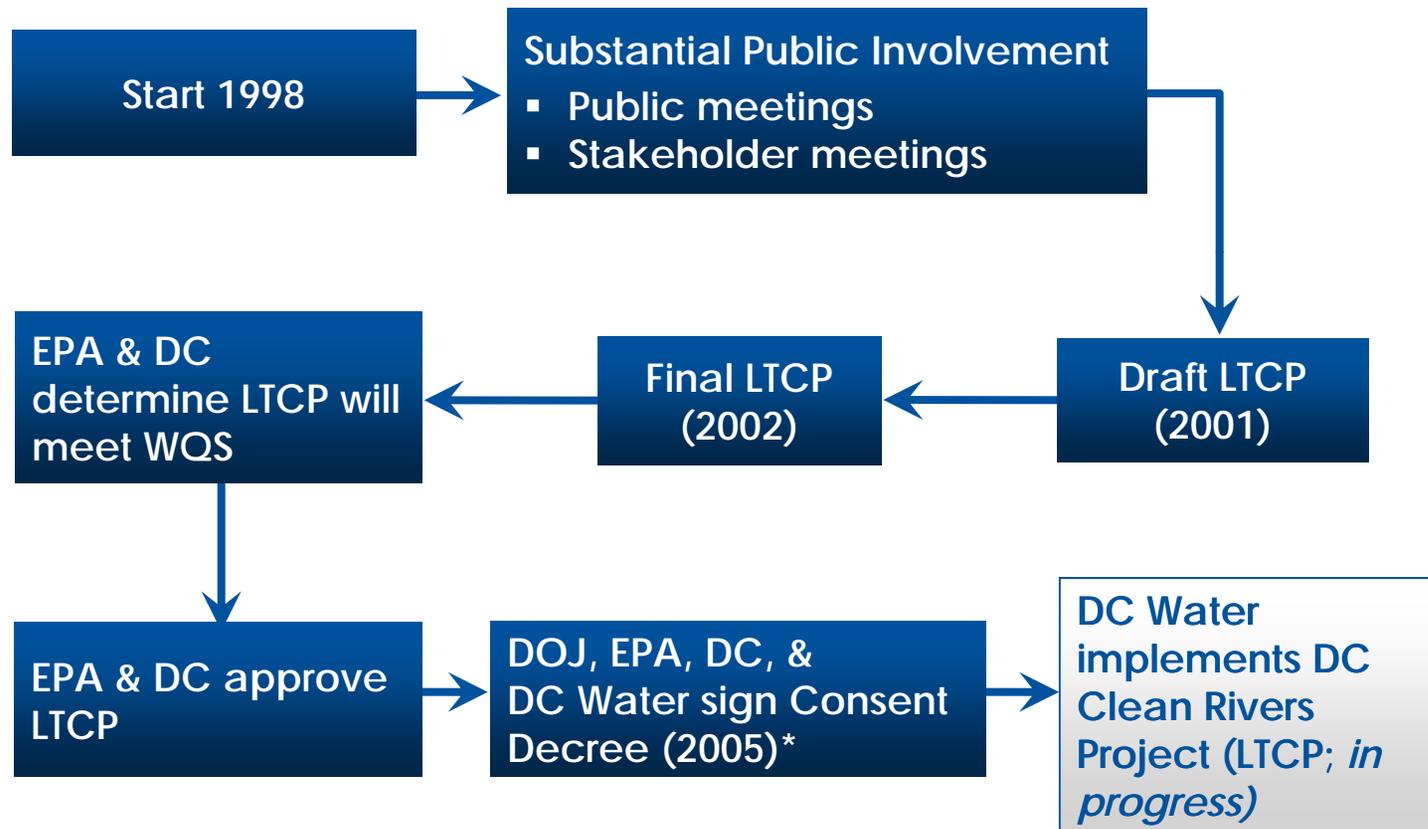
# DC Combined Sewer System



- 1/3 of DC area is served by combined sewers (12,478 acres)
- 53 CSO outfalls
  - 15 to Anacostia
  - 10 to Potomac
  - 28 to Rock Creek
- Three receiving waters
  - Anacostia River
  - Potomac River
  - Rock Creek

# DC Clean Rivers Project (LTCP)

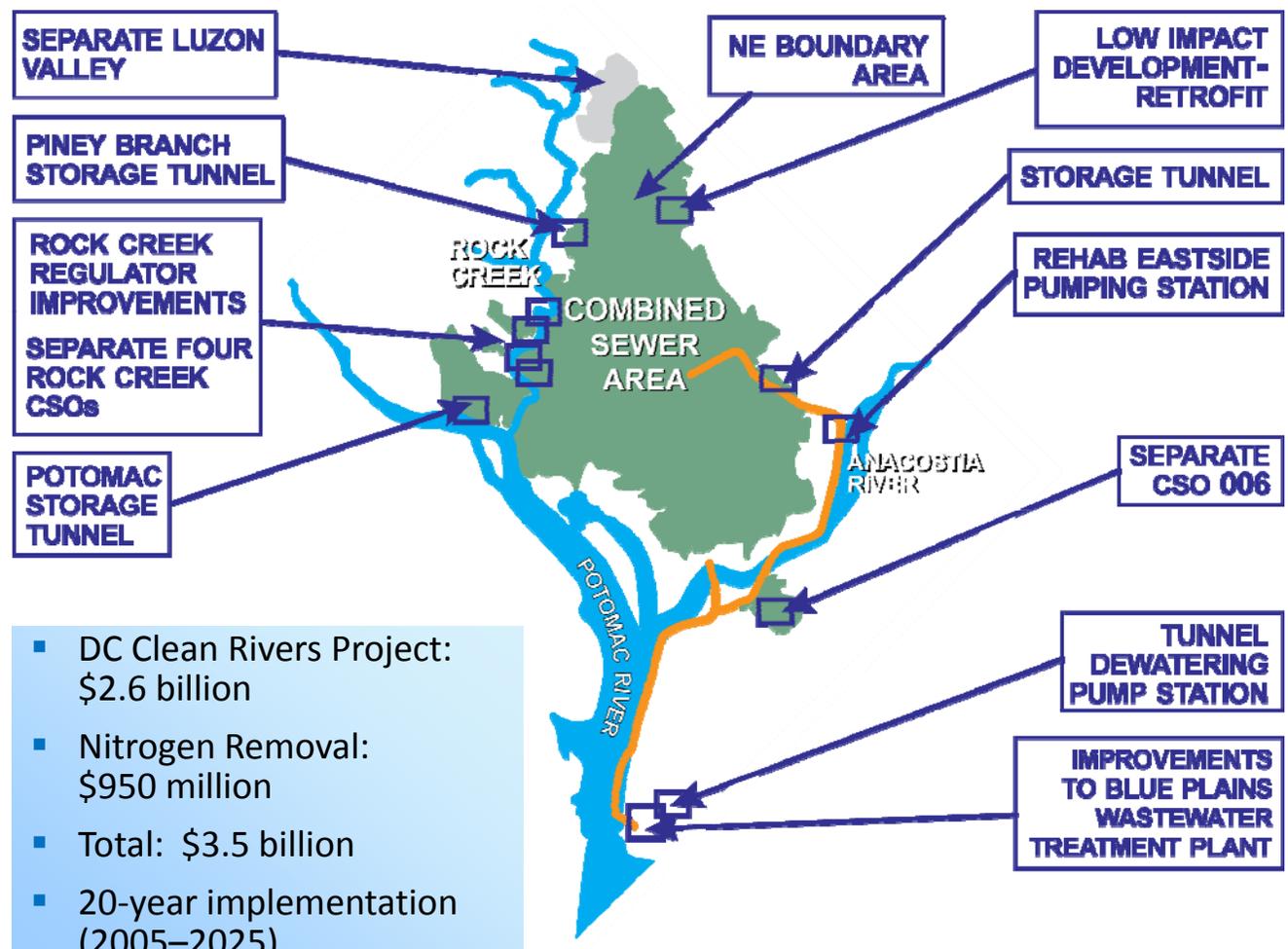
## Progress to Date



\* Completion March 2025



# DC Clean Rivers Project Overview

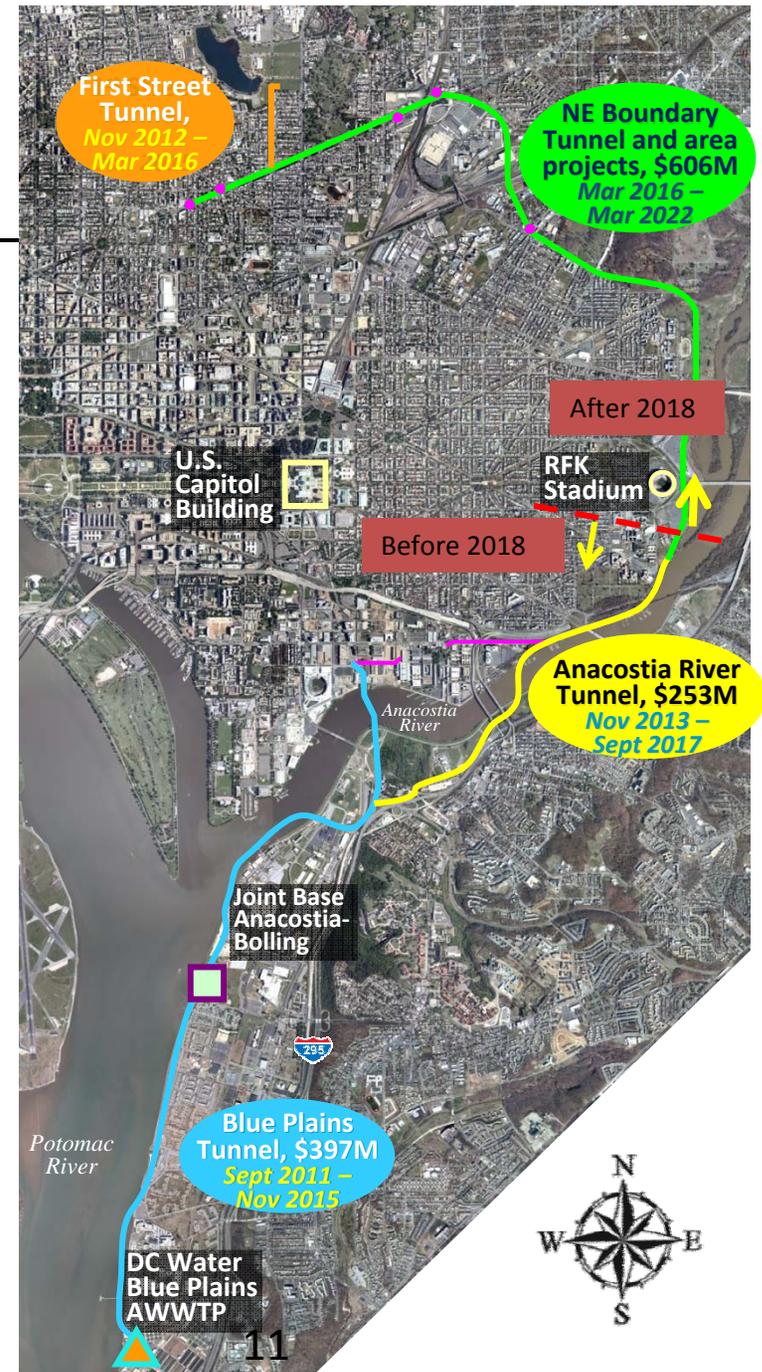


- DC Clean Rivers Project: \$2.6 billion
- Nitrogen Removal: \$950 million
- Total: \$3.5 billion
- 20-year implementation (2005–2025)
- 96% reduction in CSOs



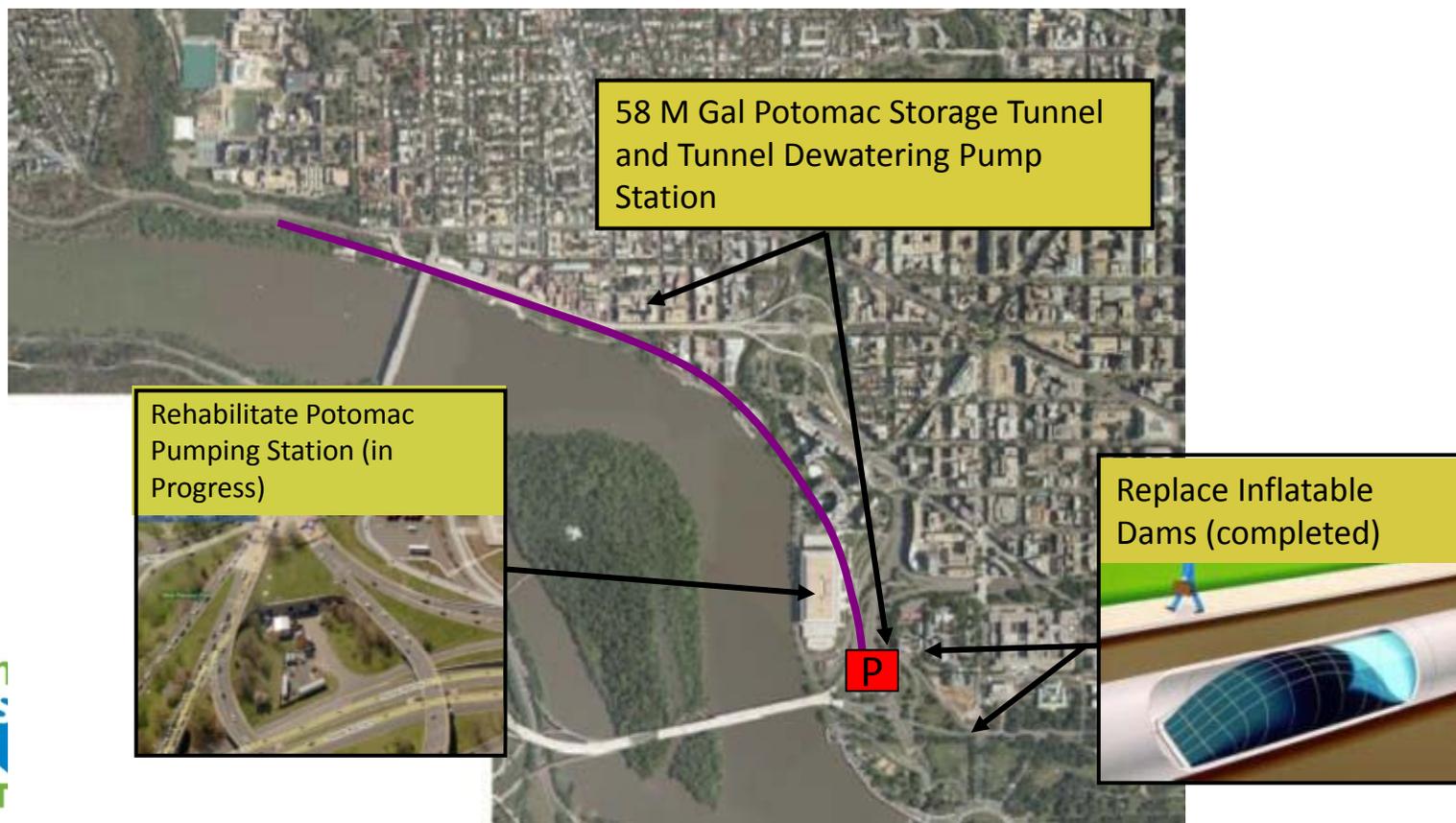
# Anacostia River Projects: Implementation on Schedule

- Four large storage/conveyance tunnels
- Dewatering pumping station at Blue Plains
- Pumping station replacement at Poplar Point
- Schedule
  - LTCP = 20 years (2005-2025)
  - Nitrogen = 2007-2015
- Cost
  - LTCP = \$2.6 billion
  - Nitrogen = \$950 M
  - Total > \$3.5 billion

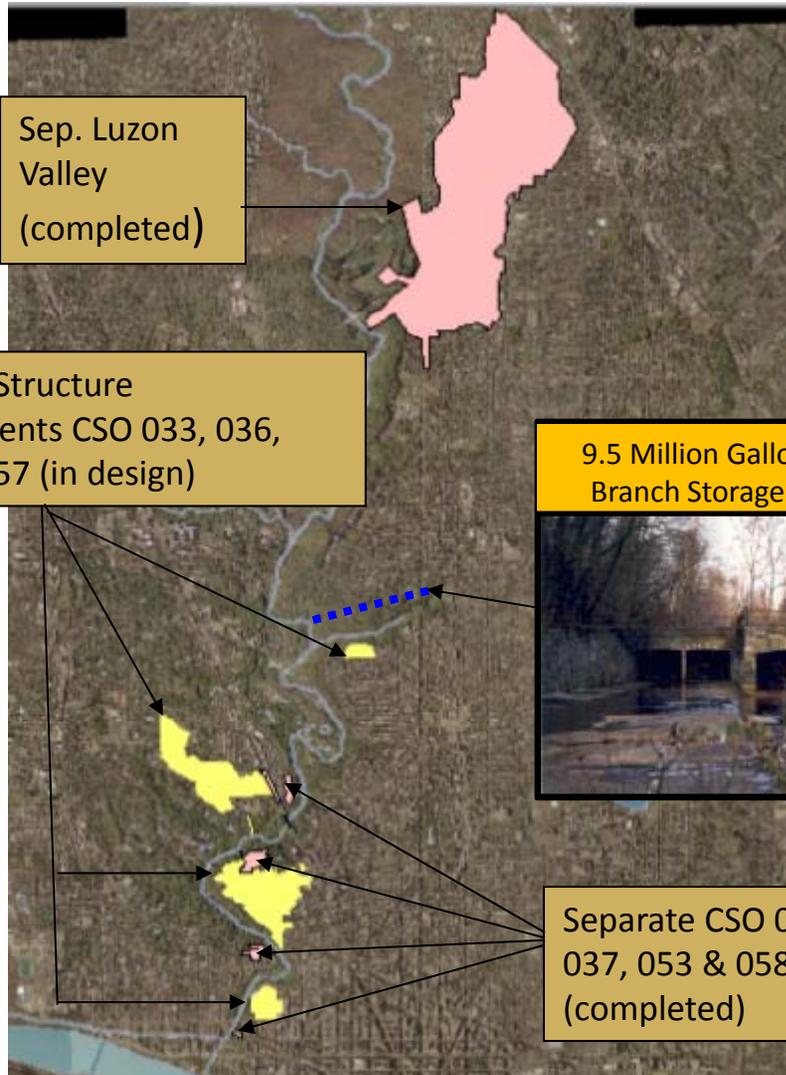


# LTCP Potomac River CSO Controls

- 38.5% CSO reduction achieved since 1996
- 58 million Gallon Storage Tunnel
- Approx. 9,100' long 33' diam.
- Tunnel Dewatering Pump Station
- Facility planning to start 3/23/15 per Decree



# LTCP Rock Creek CSO Controls

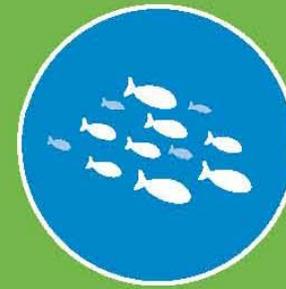


- 9.5 million gallon Storage Tunnel
- Approx. 2,900' long 23' diam.
- Gravity dewatering
- Facility Planning to start 3/23/2016

9.5 Million Gallon Piney Branch Storage Tunnel



Separate CSO 031, 037, 053 & 058 (completed)



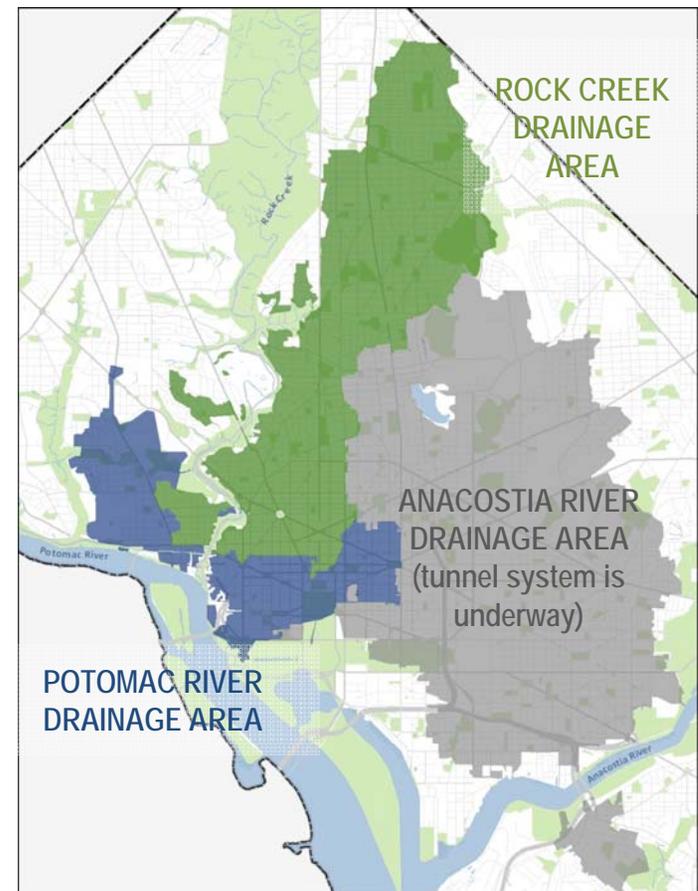
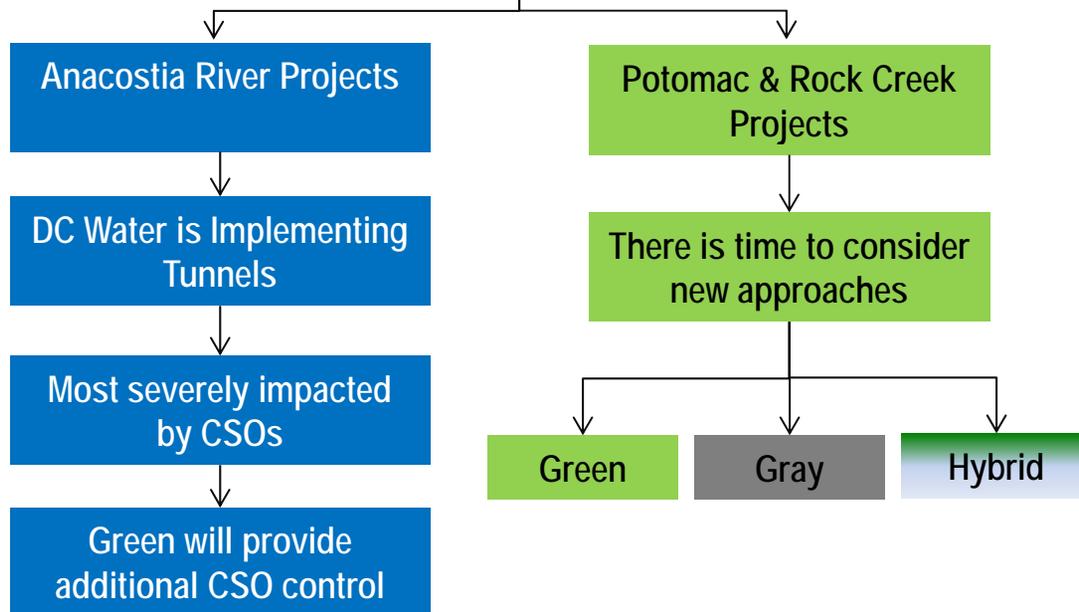
# OVERVIEW

## GREEN INFRASTRUCTURE PROGRAM

Carlton Ray



# What Are We Proposing?



# Shared Vision for the District

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## Supports Mayor Gray's Vision for a Sustainable DC

- Green Economy – more local jobs
- Water – stormwater capture
- Climate – heat island reduction
- Nature – increased tree canopy
- Energy – less reliance on pumps



# Goals of GI Demonstration Project

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- Large-scale demonstration project in Potomac and Rock Creek watersheds
- Evaluate the practicality and efficacy of GI for CSO control
- Comprehensive Approach:
  - Site Selection
  - Identification and Resolution of Institutional Issues
  - Public Outreach
  - Design and Construction
  - Monitoring and Evaluation
  - Series of Technical Memoranda

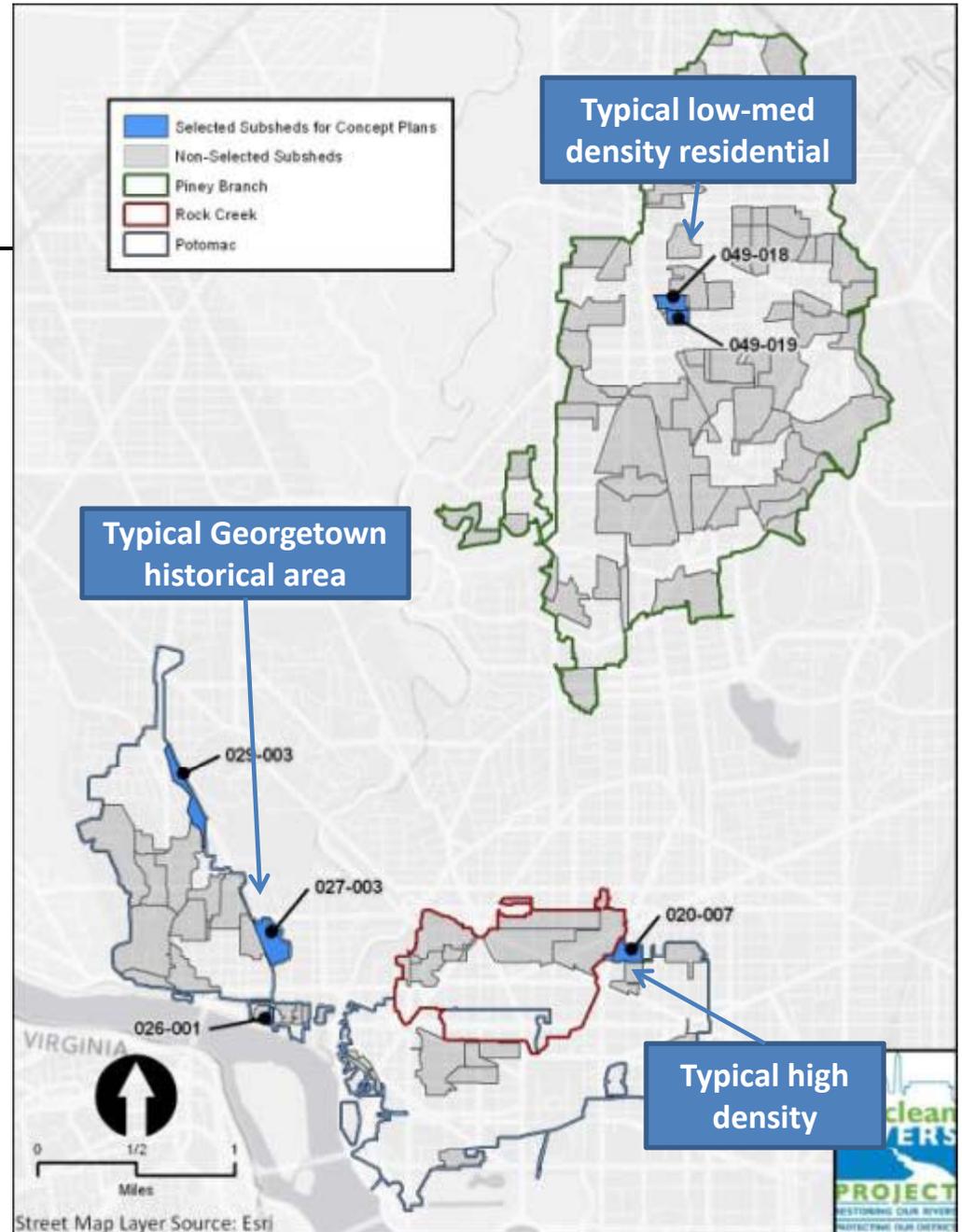


***The magnitude of investment by DC ratepayers to control Potomac and Rock Creek CSOs requires a sound technical and institutional basis for making decisions***

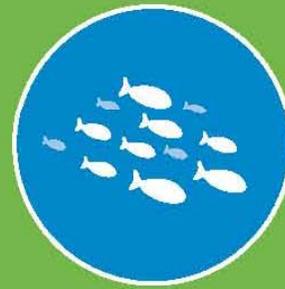
# Scope of Demonstration Project

## Proposed subsheds:

Rec. Water	Sub-shed	Total Acres	Imp. Acres	Description
Potomac River	020-007	10.0	8.1	High density "down town" land use
	026-001	1.8	1.6	High density Georgetown waterfront
	027-003	16.6	10.5	Georgetown historic area
	029-003	14.4	8.9	Medium density Georgetown commercial
Piney Branch (Rock Creek)	049-018	6.6	3.6	Low to medium density residential
	049-019	5.1	3.0	Low to medium density residential
		54.5	35.7	



- Includes GI in public and private space
- Up to a \$40M investment
- Current proposed schedule: Late 2014 advertisement of design-build construction (subject to negotiations and approval by EPA and DOJ)



# GREEN INFRASTRUCTURE CHALLENGE

Ray Hyland

# Goals

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Support development of Demonstration Project and serve as a model for future GI in the District

- Advancing innovative technologies
- Stormwater runoff volume capture
- Cost effective solutions
- Practical and implementable solutions (can be constructed)
- Retrofit in the urban environment



# Categories

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## Public Space

- ROW areas, including roadways, sidewalks, and alleys

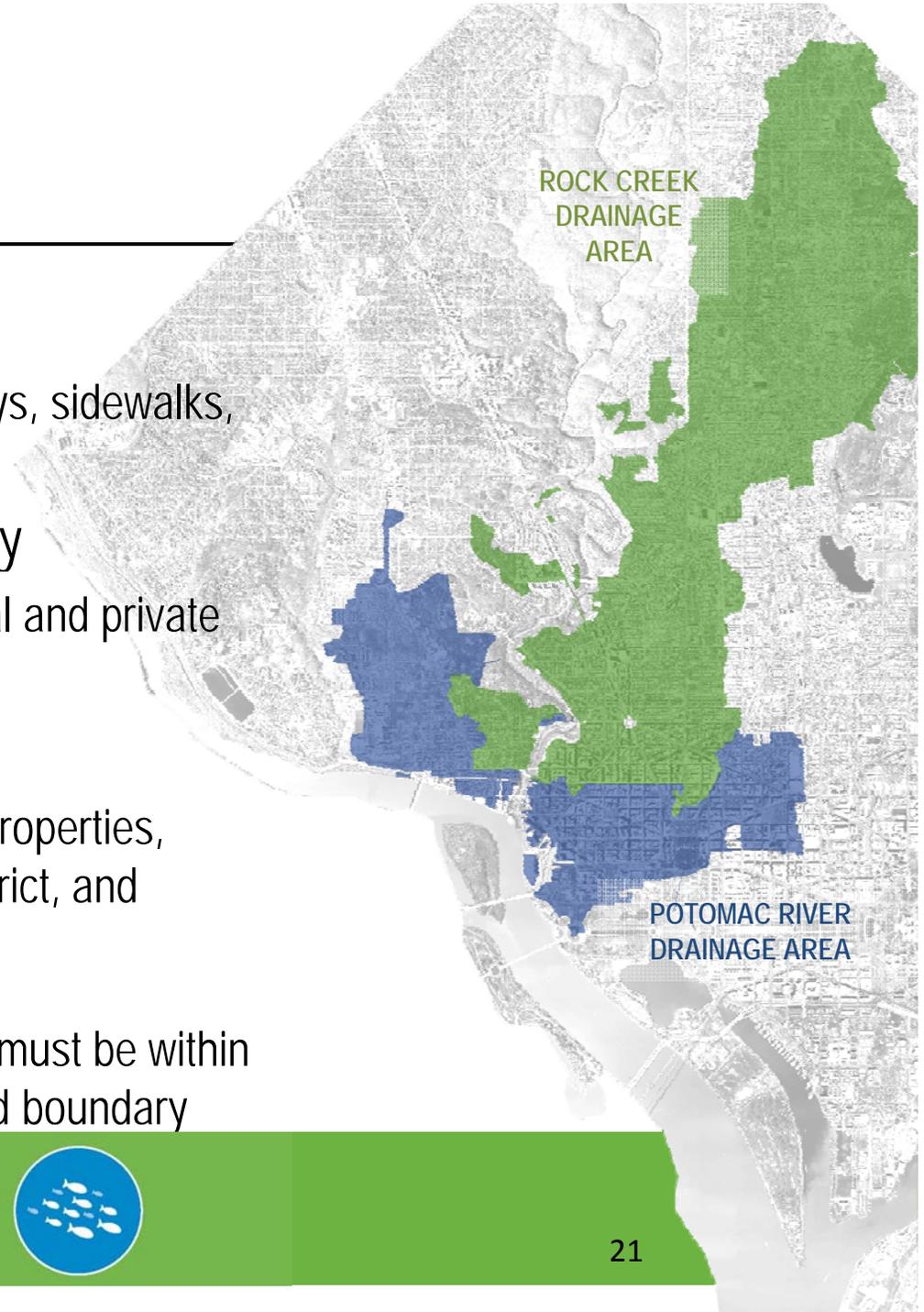
## Commercial and Private Property

- Retrofitting existing commercial and private properties

## Governmental and Institutional

- Government and institutional properties, including federal, schools, District, and nonprofit properties

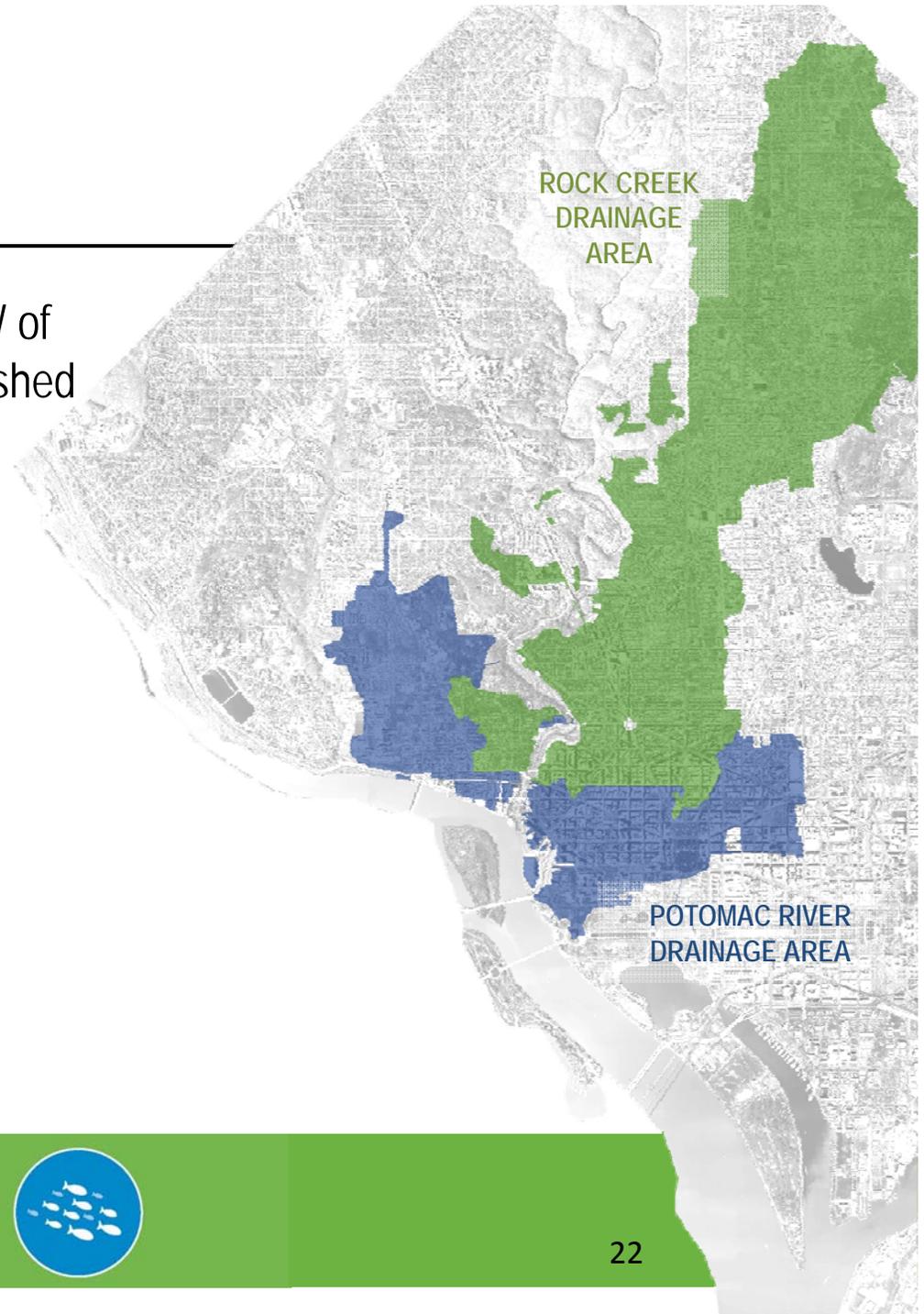
Note: Regardless of category, all sites must be within the Potomac or Rock Creek sewershed boundary



# Categories – Public Space

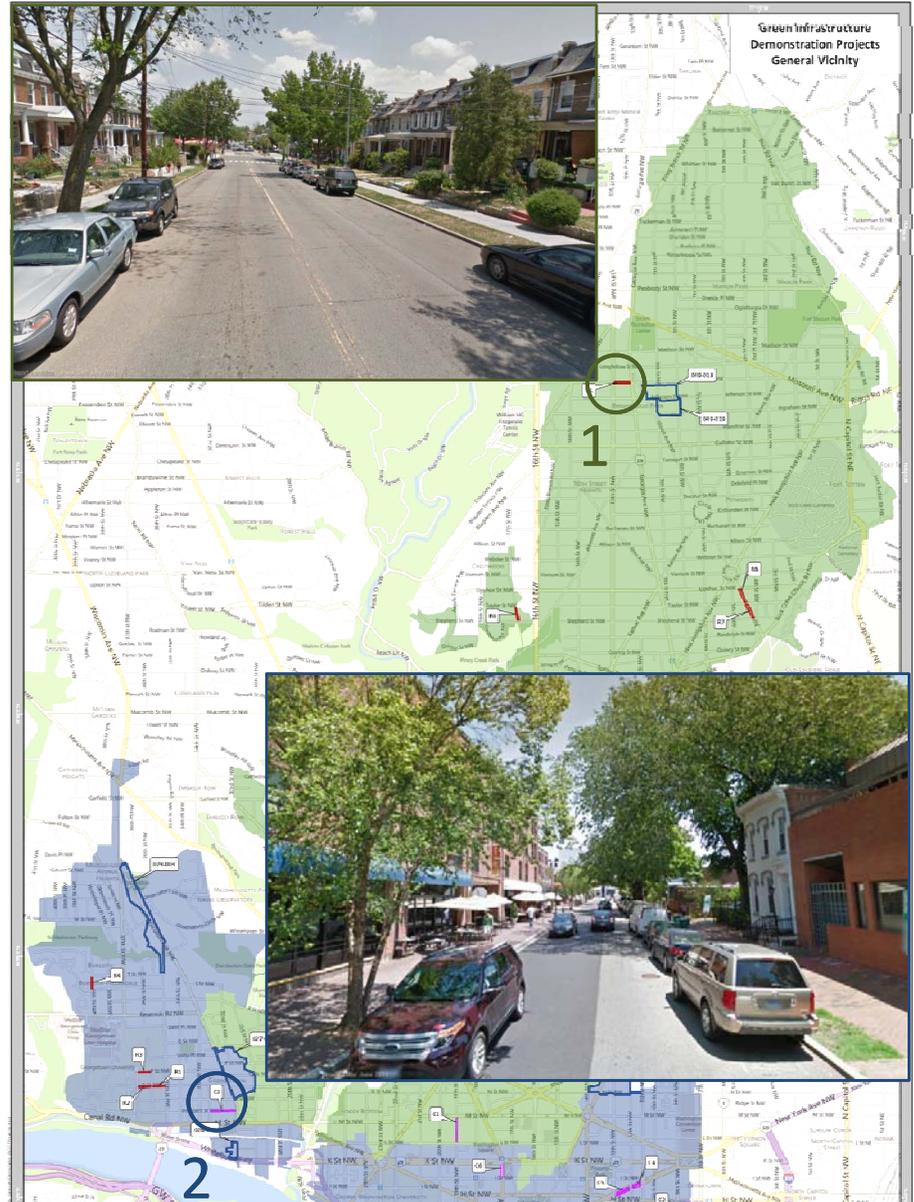
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- Any location within the Public ROW of the Potomac or Rock Creek sewershed boundary  
OR
- Two identified locations within the Public ROW (see next slide)



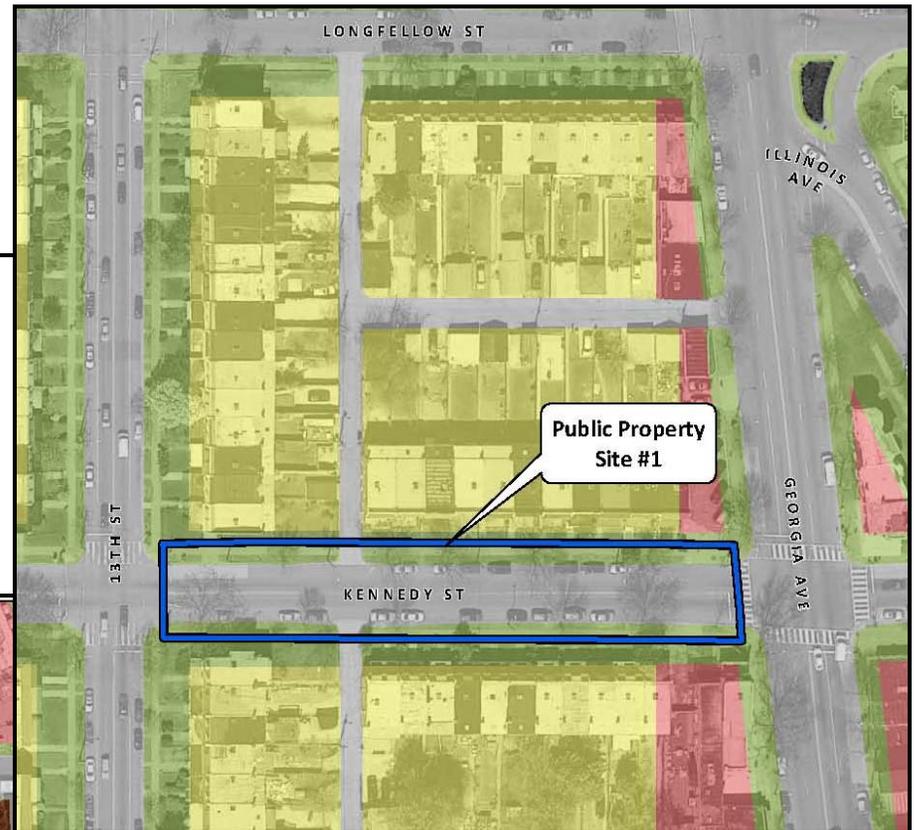
# Categories – Public Space

- Two identified locations within the Public ROW
  - Kennedy between Georgia Avenue NW and 13<sup>th</sup> Street NW**
    - Wide street
    - Steep slope
    - Residential
  - Prospect Street between Wisconsin Avenue NW and Potomac Street NW**
    - Commercial with some residential
    - Narrow street
    - Plaza-like sidewalk used for dining



# Public Space Identified Sites

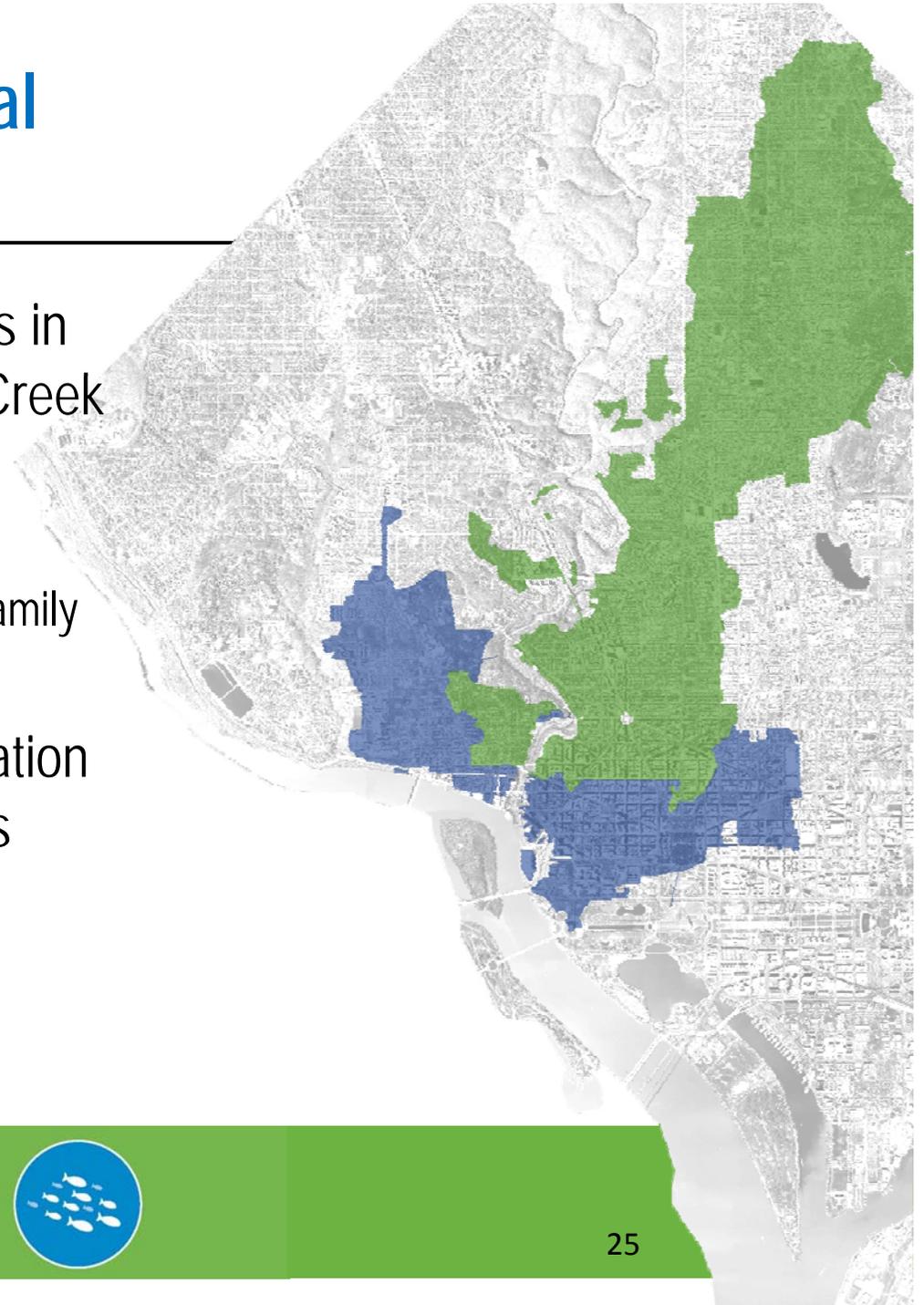
- Survey information to be provided for each site via addendum by July 15, 2013



# Categories – Commercial and Private Property

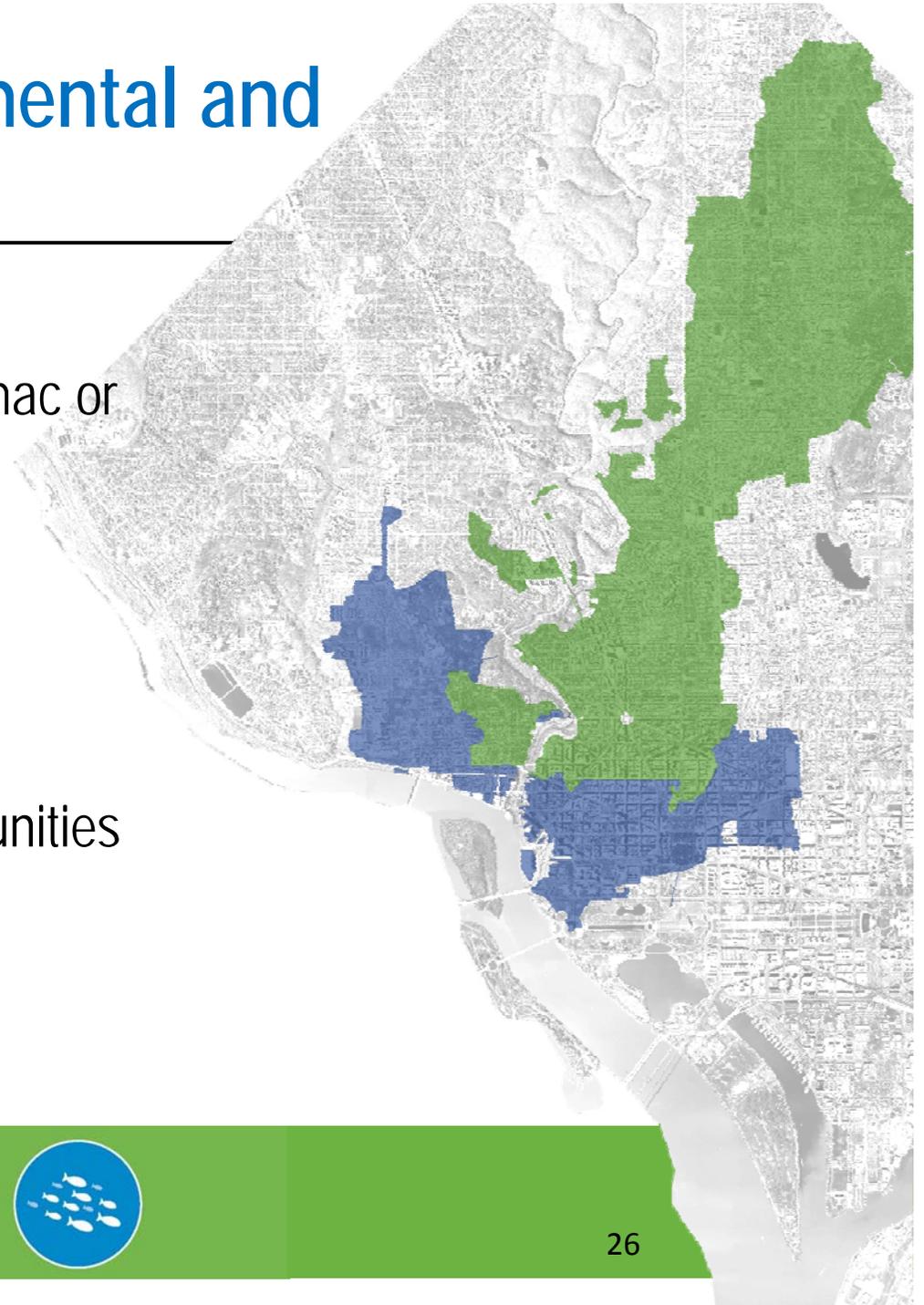
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- Retrofitting existing properties in either the Potomac or Rock Creek sewersheds
  - Commercial
  - Residential Single and Multi Family
- Consider neighborhood enhancements and collaboration with community organizations



# Categories – Governmental and Institutional

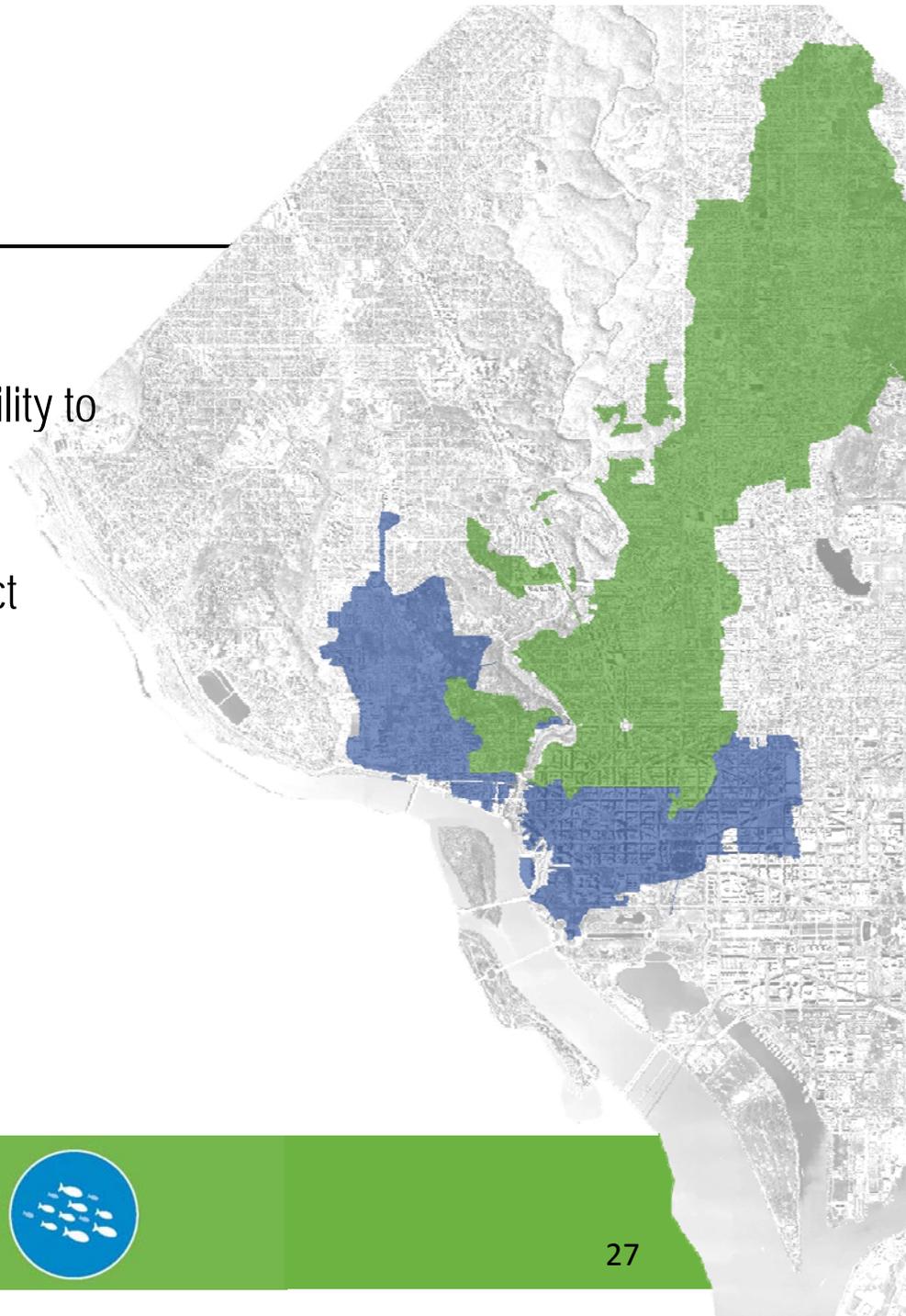
- Government and institutional properties in either the Potomac or Rock Creek sewersheds
  - Federal
  - District
  - Schools and Institutions
  - Non-profit
- Consider educational opportunities



# Eligibility

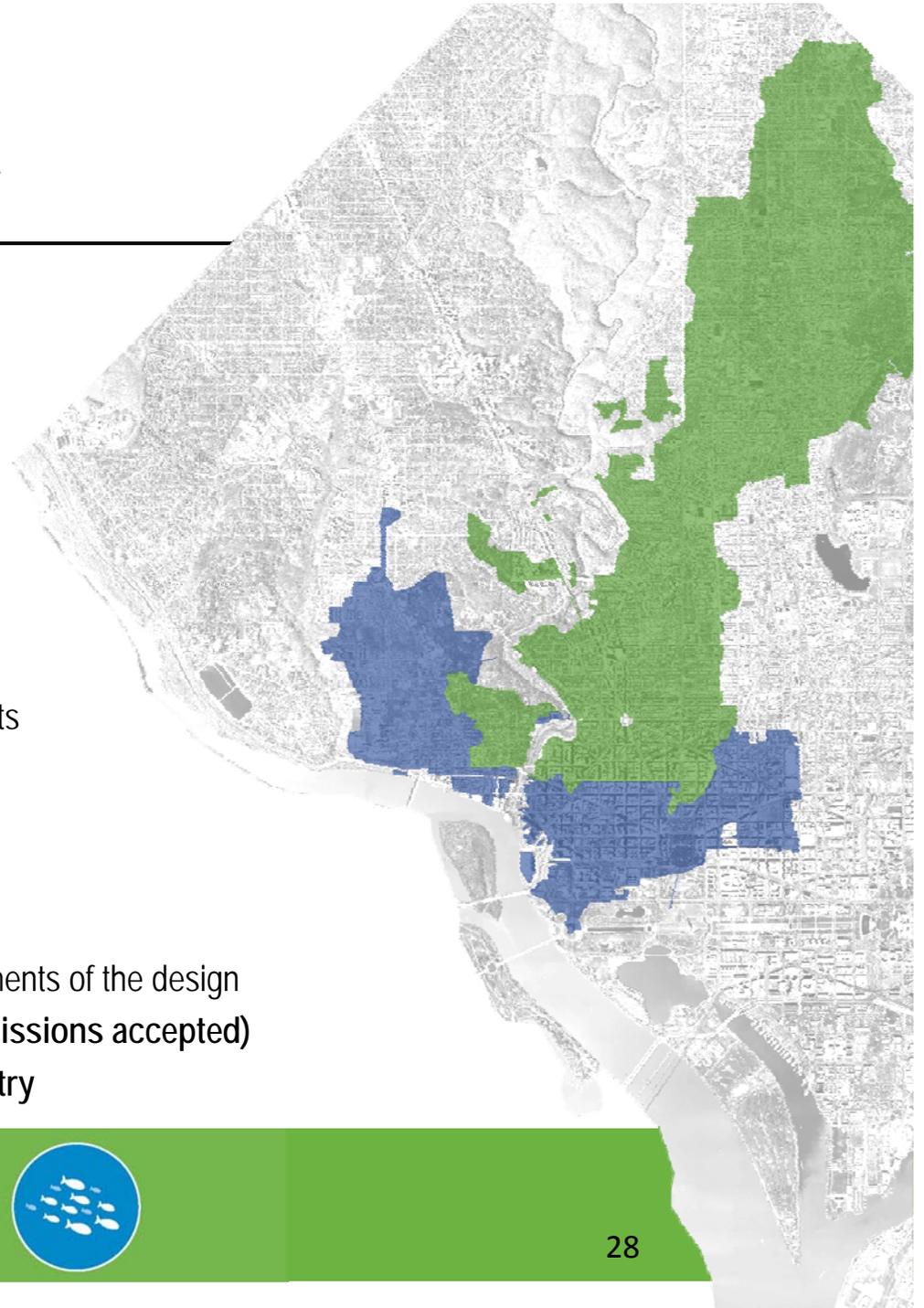
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- Integrated Design Team
  - Professional Engineer (with ability to obtain registration in District of Columbia, if awarded)
  - Registered Landscape Architect
- Multidisciplinary teams are strongly encouraged



# Submission Criteria

- GI Challenge Submission Forms
- Cover
- Abstract
- Organization Structure
- Narrative
  - Innovation
  - Performance
  - Practicality
  - Triple bottom line and job creation benefits
- Press Image
  - Conveys concepts visually on one image
- Design Board
  - Site plan view of proposed GI features
  - Images and narrative conveying the elements of the design
- Electronic submission only (no paper submissions accepted)
- \$100 non-refundable submission fee per entry



# Awards

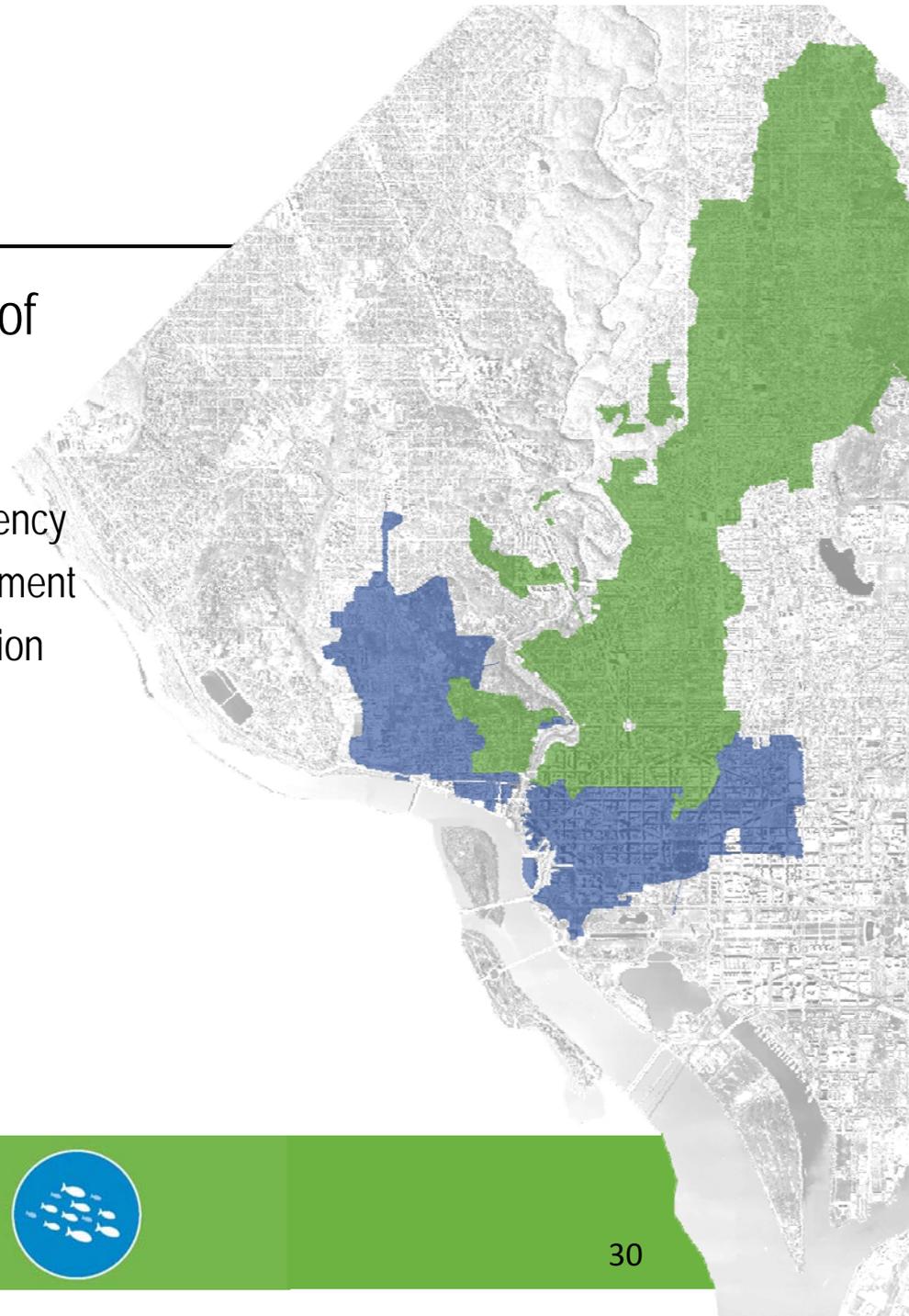
- Awards Ceremony will be held recognizing the winners (location TBD)
- Winning design boards will be showcased in a local exhibition (location and duration TBD)

Category	Concept Design	Final Design and Construction
Public Space	4 awards at \$10K each	2 awards at \$300K each
Commercial/Private	4 awards at \$10K each	2 awards at \$75K each
Government/Institutions	4 awards at \$10K each	2 awards at \$75K each
Subtotals	12 awards totaling \$120K	6 awards totaling \$900K
<b>TOTAL CHALLENGE</b>	<b>\$1.02M</b>	



# Evaluation Panel

- Evaluation Panel will consist of members from
  - DC Water
  - U.S. Environmental Protection Agency
  - District Department of the Environment
  - District Department of Transportation
  - District Office of Planning
  - Other industry experts



# Evaluation Criteria

Category	Criteria	Description	Score (Max points per category)
<b>Innovation</b>	Programmatic	New strategies in GI implementation	15
	New Technologies	New GI technologies	20
<b>Performance</b>	Capture Volume	Total volume managed per acre	10
	Cost Effectiveness	Cost per gallon managed	15
<b>Practicality</b>	O&M Considerations	Practical solutions to long term O&M of GI on large-scale	10
	Constructability	Commitment to construction for this challenge including commitment by land owner to move forward with construction. Adaptability to large-scale implementation.	10
<b>Triple Bottom Line and Job Creation Benefits</b>	Community Enhancement	Neighborhood enhancement and revitalization. Local job creation.	20
<b>Total Points</b>			<b>100</b>



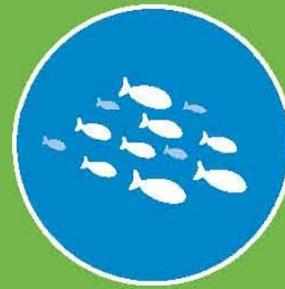
# Timeline

Concept Design Awards	Date
Competition announced	April 18, 2013
Informational meeting	May 10, 2013, 10:00 am – Noon EDT
Submissions due*	October 1, 2013, 5:00 pm EDT
Finalists announced	November 1, 2013
Awards ceremony	December 2, 2013

\*Early submissions encouraged

Design and Construction Awards	Approx. Timeline	Duration
Concept design award winners will develop and submit statement of qualifications	December 2, 2013 – April 2, 2014	4 months
Interview, selection, procurement and planning	April 2, 2014 – September 1, 2014	9 months
Design and construction	September 1, 2014 – September 1, 2016	24 months





# OVERVIEW

## CHALLENGE WEBSITE AND SUBMITTAL

Bethany Bezak

# Website Overview

<http://dcwater.com/greenchallenge>

The screenshot shows the DC Water website's Green Infrastructure Challenge page. At the top, the DC Water logo is displayed with the tagline "water is life" and the text "District of Columbia Water and Sewer Authority" and "George S. Hawkins, General Manager". A search bar and "Contact Us" link are also visible. The navigation menu includes "Who We Are", "What We Do", "Customer Care & Operations", "Environment", "Business Opportunities", "Career Center", and "News & Publications". The breadcrumb trail reads "Home > Environment > Low-Impact Development > Green Infrastructure Challenge".

**Environment**

- ▶ Sewer System Improvements
- ▶ Reusing Biosolids in Agriculture
- ▼ Low-Impact Development
  - ▼ [Green Infrastructure Challenge](#)
    - ▶ [Submit Your Design](#)
- ▶ Nitrogen Reduction Program
- ▶ Cleaning Our Waterways
- ▶ Chesapeake Bay
- ▶ Understanding the Watershed
- ▶ Partnerships and Community Activities
- ▶ Environmental Education
- ▶ Environment-Related Links
- ▶ For Kids

**Green Infrastructure Challenge**

DC Water is challenging firms to design innovative green practices to absorb rain water before it can enter the combined sewer system. These practices, known as Green Infrastructure, include installing green roofs (gardens on rooftops), rain gardens, rain barrels, and pervious pavements, removing impervious surfaces, and using other natural means to capture and infiltrate rain water.

DC Water will award more than \$1 million for design and construction of Green Infrastructure projects in the Potomac and Rock Creek drainage areas in the District of Columbia. The Green Infrastructure Challenge invites proposals of projects that absorb rain water on public, private, government and institutional properties before it reaches the storm and sewer systems. Prize money will be awarded to winning designs in each category for the design and construction phases. For more details see the Green Infrastructure Challenge Briefing Document.

[Boundary Map](#)

DC Water will host an informational meeting on May 10 from 10AM-12PM at the [Kellogg Conference Hotel](#)-Ballroom, 800 Florida Avenue, NE Washington, D.C. 20002. Please RSVP by May 6, 2013 COB.

[RSVP to Informational Meeting](#)

Submissions are due October 1, 2013 and finalists will be announced on November 1, 2013. An awards ceremony will follow where the winning designs will be showcased at a local gallery or institution.

[Submit Your Design](#)

This Challenge will serve as a model to support DC Water's proposal to conduct a large-scale, multi-million dollar demonstration project in the Potomac and Rock Creek sewersheds to evaluate the feasibility of using green practices, in place of or in conjunction with "gray" engineering solutions, to capture rain water and prevent combined sewer overflows (CSOs). More information on DC Water's Green Infrastructure initiatives can be found at [www.dewater.com/lid](http://www.dewater.com/lid).

For any questions about the Green Infrastructure Challenge, please email [greenchallenge@dcwater.com](mailto:greenchallenge@dcwater.com)

**Briefing Document**

**Addenda**

No addenda at this time.



# Submittal Process

[https://www.dcwater.com/education/green\\_submission.cfm](https://www.dcwater.com/education/green_submission.cfm)

**Environment**

- ▶ Sewer System Improvements
- ▶ Reusing Biosolids in Agriculture
- ▼ Low-Impact Development
  - ▶ Green Infrastructure Challenge
    - ▶ [Submit Your Design](#)
- ▶ Nitrogen Reduction Program
- ▶ Cleaning Our Waterways
- ▶ Chesapeake Bay
- ▶ Understanding the Watershed
- ▶ Partnerships and Community Activities
- ▶ Environmental Education
- ▶ Environment-Related Links
- ▶ For Kids

### Submit Your Design

**Download Form**

[Submission Form](#)

After filling out the form above, submit documents using the form below.

**\*\*please be sure to fill out all fields\*\***

<b>Entry Details</b>	
Team Name	<input type="text"/>
Phone	<input type="text"/>
Email	<input type="text"/>
<b>Submission Form (pdf)</b>	
<input type="button" value="Choose File"/>	No file chosen
Cover, Abstract, Org Structure, and Narrative (pdf)	
<input type="button" value="Choose File"/>	No file chosen
Press Image (jpg)	
<input type="button" value="Choose File"/>	No file chosen
Design Board (pdf)	
<input type="button" value="Choose File"/>	No file chosen
<b>Billing Details</b>	
First Name	<input type="text"/>
Last Name	<input type="text"/>
Credit Card Number	<input type="text"/> <small>Visa, MasterCard, and Discover accepted.</small>
CVV2 Number	<input type="text"/> <a href="#">What is this?</a>
Credit Card Expiration Date	<input type="text"/> <input type="button" value="Select Month"/> <input type="button" value="Select Year"/>
Billing ZIP code	<input type="text"/>
	
<b>Instructions &amp; Agreement</b>	
▶ Enter text from the image above in field below	
<input type="text"/>	
▶ Agree Terms and Conditions	
<input type="checkbox"/> I consent DC Water and Sewer Authority to debit \$100.00 from my account.	
<input type="checkbox"/> I agree to the <a href="#">Terms and Conditions</a> .	



# Questions and Answers

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1. *Question: Are there actual awards to the team or are they allocations for planning, and design fees and construction costs?*

**Answer:** Prize money will be awarded to winners of the concept design phase. Concept design phase award winners will be asked to submit Proposals and Statements of Qualifications (SOQ) as part of the evaluation process for construction awards. Construction awards will be based on the review of the Proposals and SOQs consistent with DC Water Procurement Regulations.

2. *Question: May a design team submit 3 projects, one from each of the 3 categories? May a design team submit 2 or more projects in any single category, such as a proposal for Kennedy and Prospect street.*

**Answer:** A design team may submit multiple entries per category and can submit in multiple categories. Please note that the \$100 non-refundable submission fee is required for each submittal.

# Questions and Answers

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3. **Question:** *Will DC Water participate in the negotiations to get approval for green infrastructure projects on city and institutional/governmental properties?*

**Answer:** During the concept design phase, the contestants are encouraged to negotiate with land owners. DC Water will not assist during the concept design phase. Higher scores for constructability will be awarded based on the strength of commitment from land owners. Once construction projects have been awarded, DC Water will participate in discussions with land owners.

4. **Question:** *Will DC Water provide system information to allow modeling of the impact of the green infrastructure project on the sewer systems? Will DC Water provide information of the ability of the adjacent sewer system to convey/not convey (flood) storm flows?*

**Answer:** No information will be provided on impact to or capacity for conveyance in the sewers. Any necessary information will be provided to concept design award winners if needed.

# Questions and Answers

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5. *Question: Is the Green Infrastructure Challenge the same program as the “Green Infrastructure Demonstration Project”*

**Answer:** No, the Challenge is separate. However, Challenge results may be incorporated into the Demonstration Project.

6. *Question: Are federal agencies able to submit designs for your competition?*

**Answer:** Yes, as long as they meet the minimum team requirements. DC Water, Greeley and Hansen, Jacobs Associates, and Wetland Studies and Solutions, Inc. employees are not eligible.

7. *Question: Are firms permitted to submit multiple designs in the same category? In addition, are firms permitted to submit designs with multiple design teams specifically in duplicated categories?*

**Answer:** Yes, firms can submit multiple designs in the same category. Yes, firms can submit in multiple categories. Please note that each submission requires the \$100 non-refundable submission fee.

# Questions and Answers

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8. *Question:* Is this an EPA Federal-aid project?

*Answer:* No.

9. *Question:* Are firms allowed to submit a design entry for a project that is currently in progress? If that is allowed is there a stipulation on how far into the design process the project is allowed to be?

*Answer:* Yes, firms can submit for a project in progress if the project construction Notice to Proceed is after September 1, 2014.

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# *Questions & Answers*

# *Networking*



District of Columbia  
Water and Sewer Authority  
5000 Overlook Ave, SW  
Washington, DC 20032

