Introducing RiverRenew to Old and Historic Alexandria District Board of Architectural Review

November 28, 2018

RiverRenew

This Evening's Discussion

- Combined Sewer System Background
- Overview of RiverRenew
- National Environmental Policy Act and Section 106 Processes
- Preliminary Site Investigations
- Next Steps

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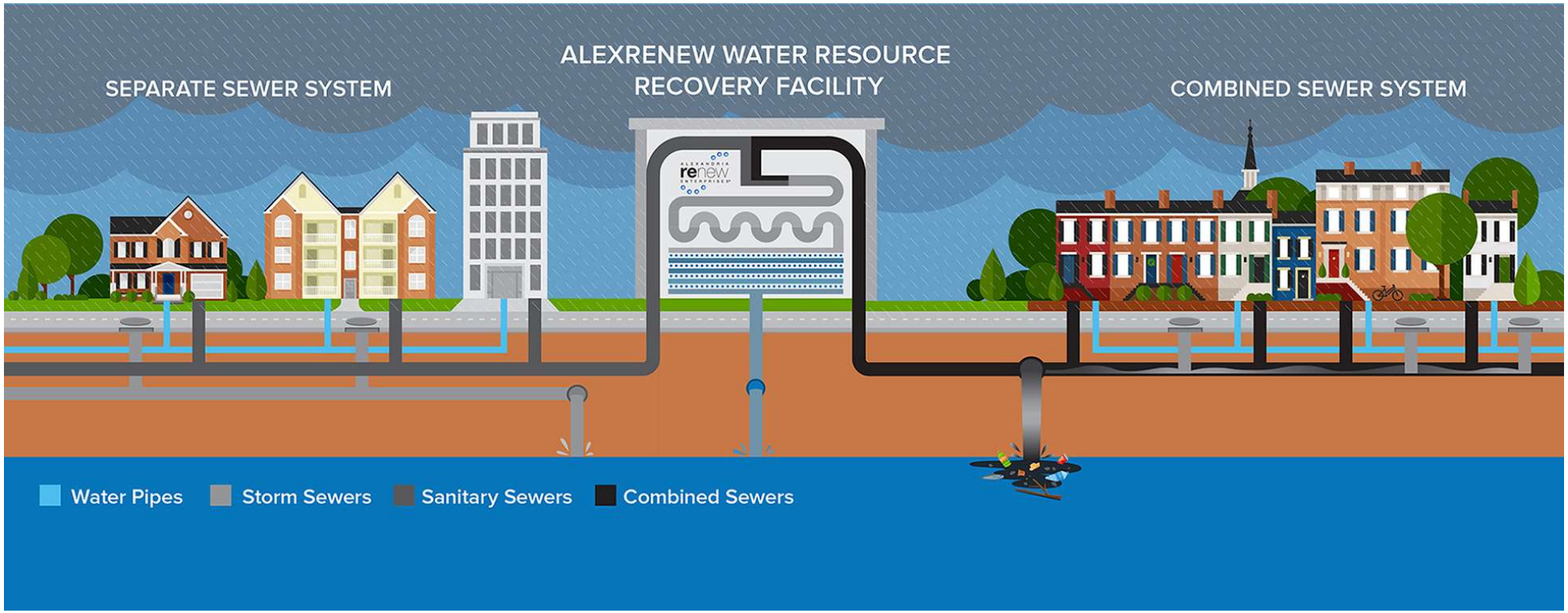
Combined Sewer System Background

What is a combined sewer system?



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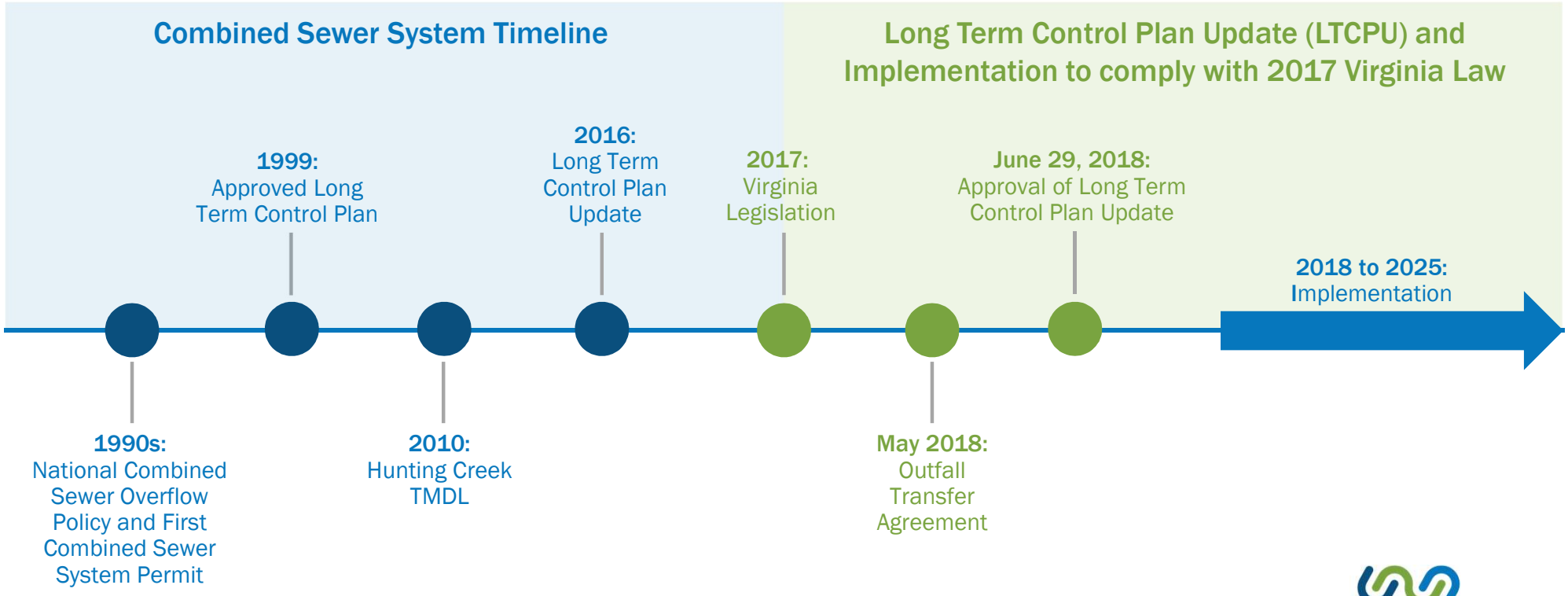
Long Term Control Plan Update Timeline



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2017 Virginia Law Requires Improvements to Alexandria's Combined Sewer System by July 1, 2025

544

acres of combined sewer system area

390

acres of impervious area

4

combined sewer outfalls

4-6 overflows/year

99% reduction of bacteria

80% reduction of bacteria

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Approved LTCPU Includes a Tunnel System Coupled with Upgrades at AlexRenew's WRRF

- Storage/conveyance tunnel to control overflows from Outfalls 001 and 002
- Conveyance tunnel/sewer to control overflows from Outfalls 003 and 004
- Dual-use wet weather treatment facility at AlexRenew WRRF
- Upgrades to the primary treatment capacity of AlexRenew WRRF

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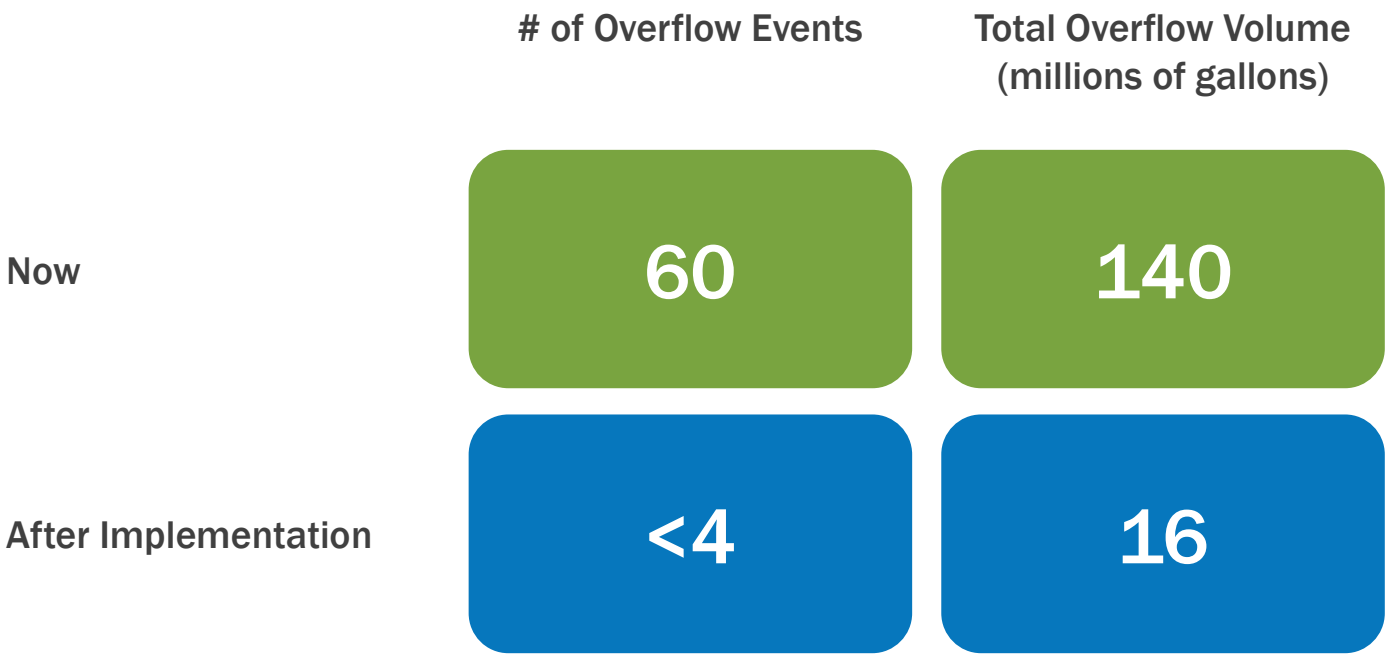
The recommended plan significantly reduces the frequency and volume of discharges



Summary of estimated performance (average over 2000-2016 Study Period)

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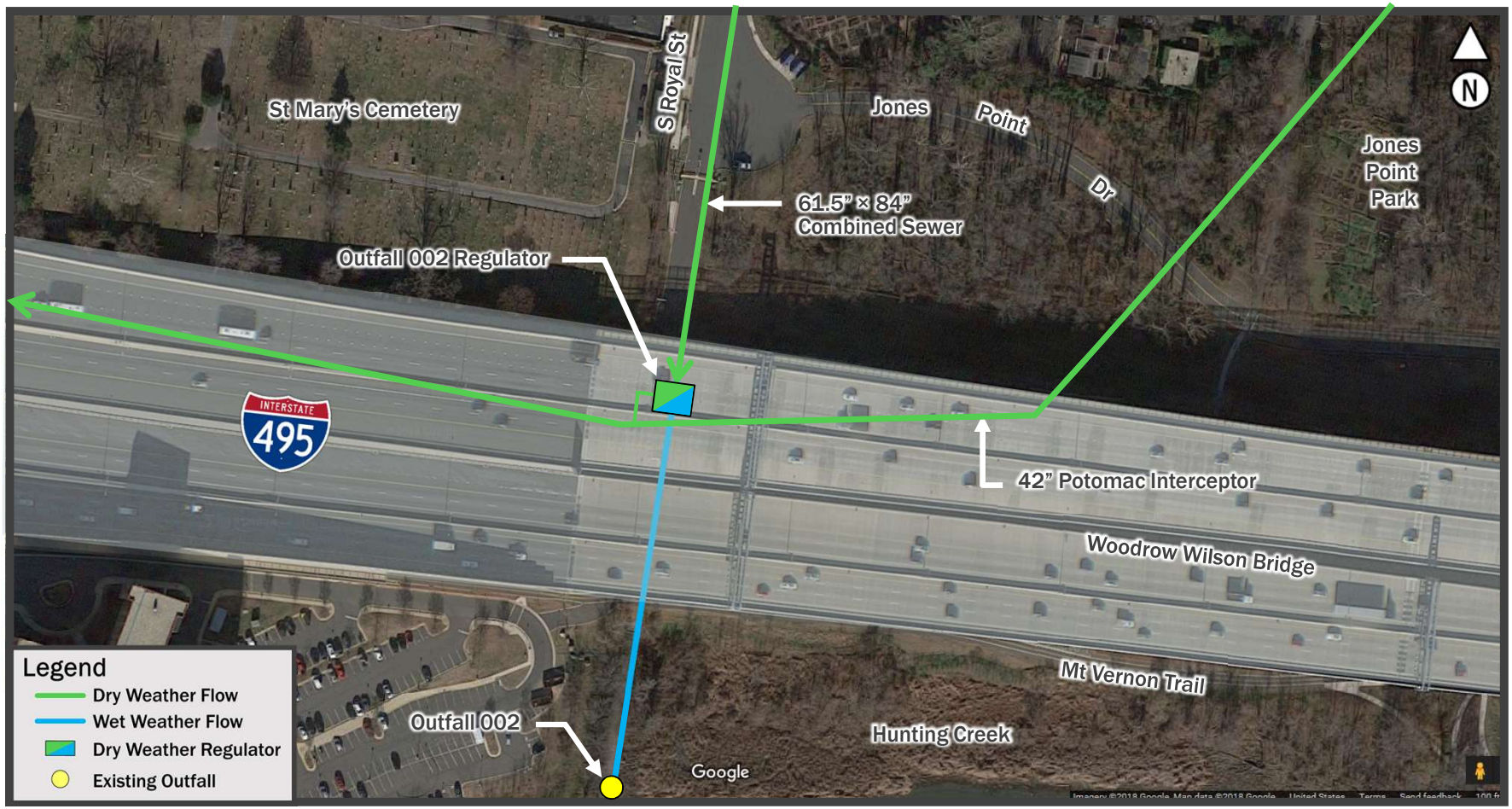
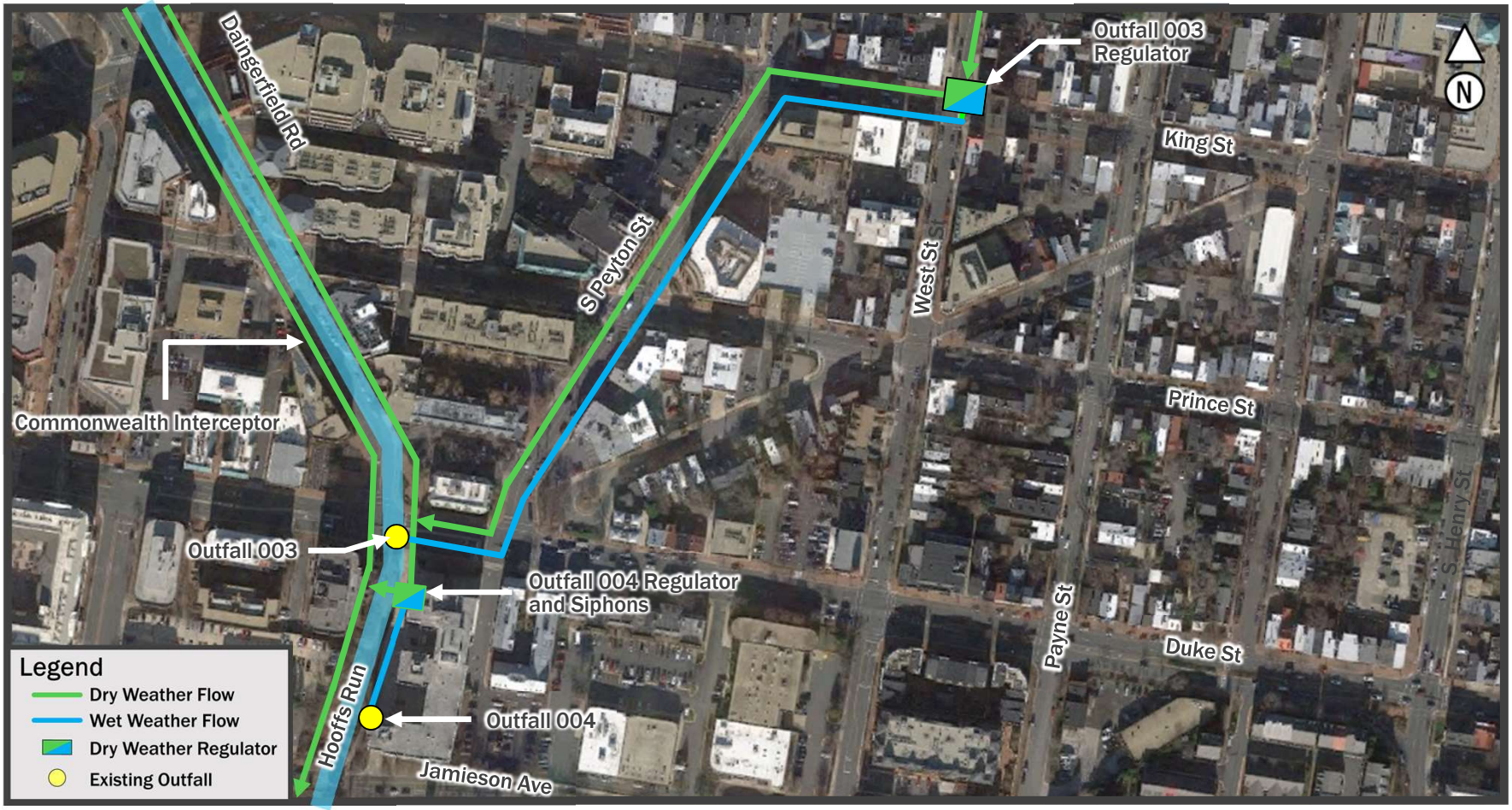
Overview of RiverRenew

Outfall 001 Existing Conditions

Outfall 002 Existing Conditions



Outfalls 003 and 004 Existing Conditions



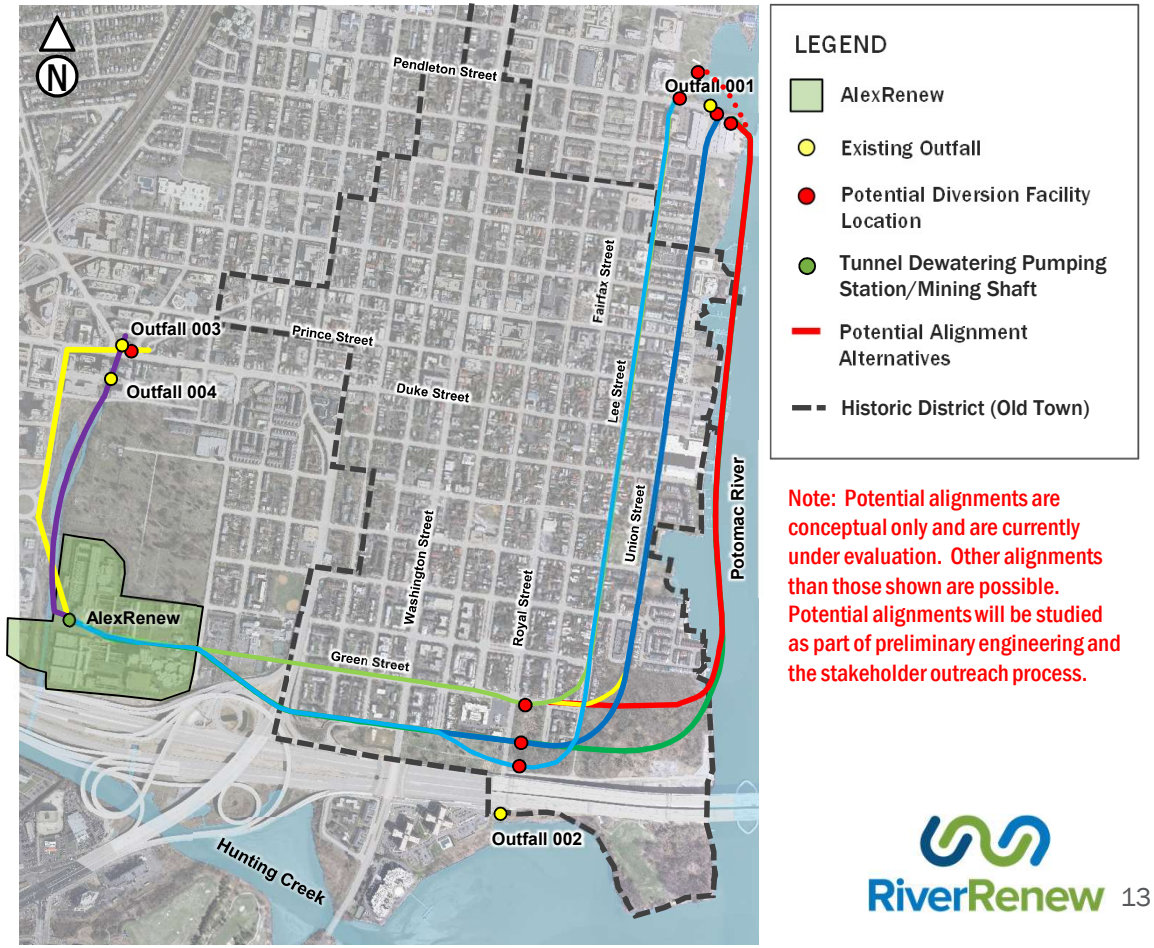
We are currently evaluating potential tunnel alignments and locations of diversion facilities

001/2 Tunnel Alignments

East-West	North-South
Green Street	Lee Street
Church Street	Union Street
	Potomac River

003/4 Tunnel Alignments

Option	Approx. Depth
Deep	100-feet
Trenchless	20 to 40-feet
Hooffs Run	10 to 20-feet



Note: Potential alignments are conceptual only and are currently under evaluation. Other alignments than those shown are possible. Potential alignments will be studied as part of preliminary engineering and the stakeholder outreach process.

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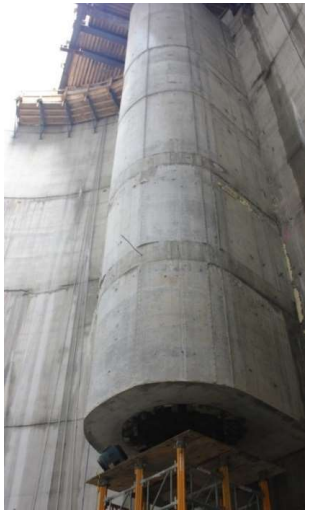
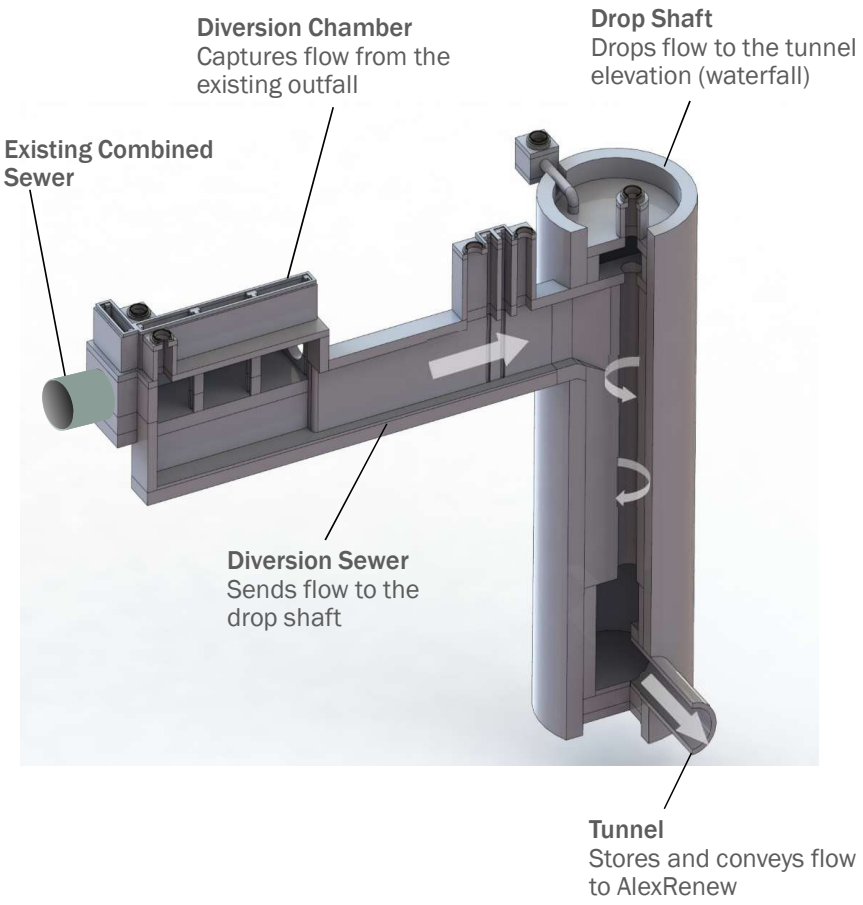
RiverRenew includes these major components:

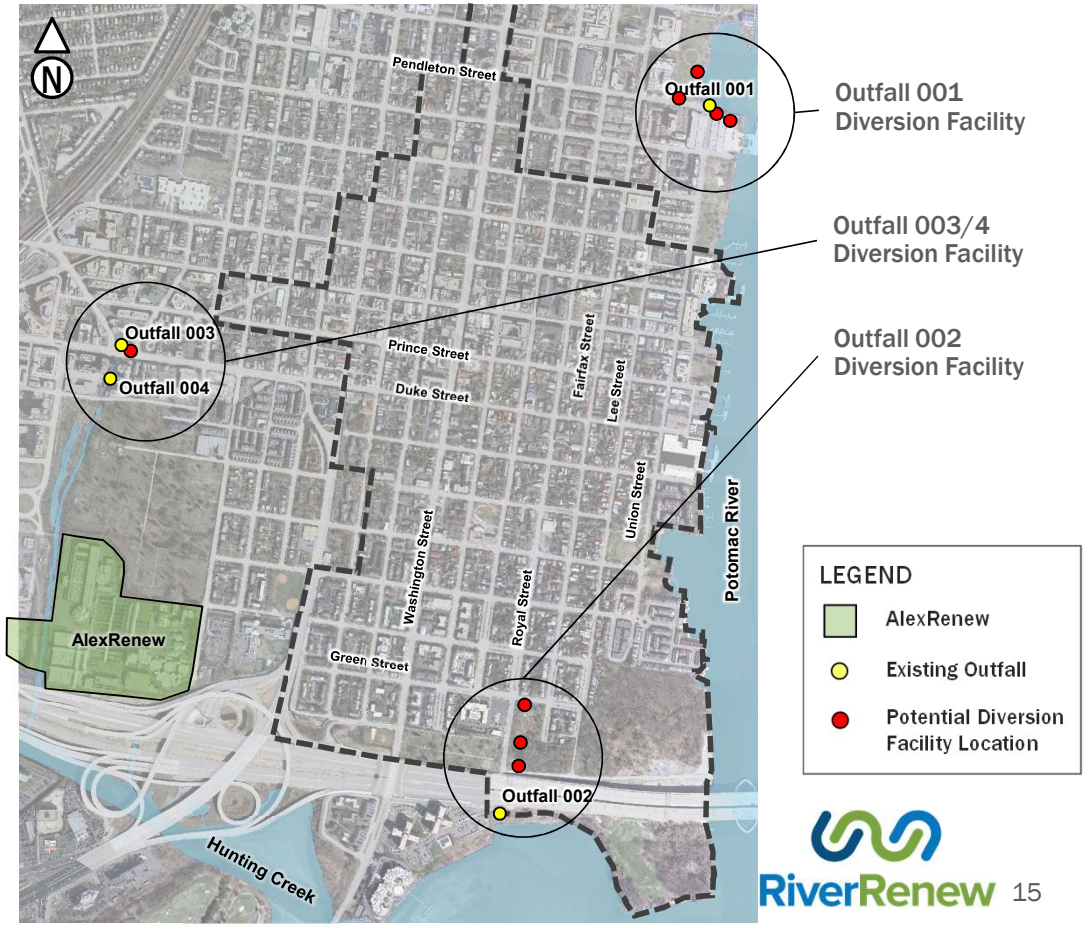
Diversion Chambers	Drop Shafts	Tunnels	Wet Weather Treatment	WRRF Upgrades	Equipment
  	 	 			   

Tunnel System

Work at AlexRenew

Diversion facilities will be located near the existing outfalls





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Diversion facilities are largely below-grade when complete

Construction in city street

Restoration in city street

Construction along Potomac

Restoration along Potomac

Photos courtesy of DC Water's Clean Rivers Project

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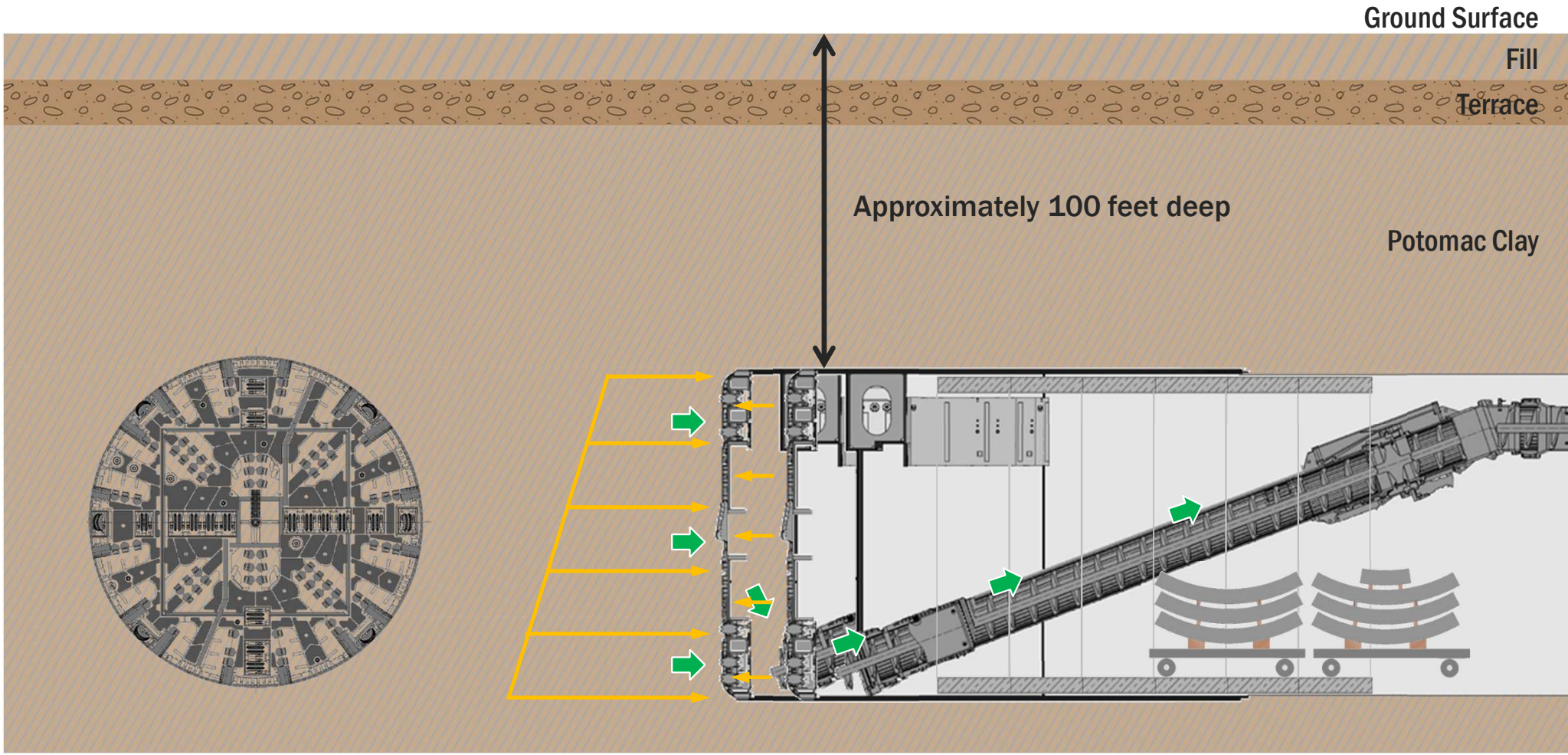
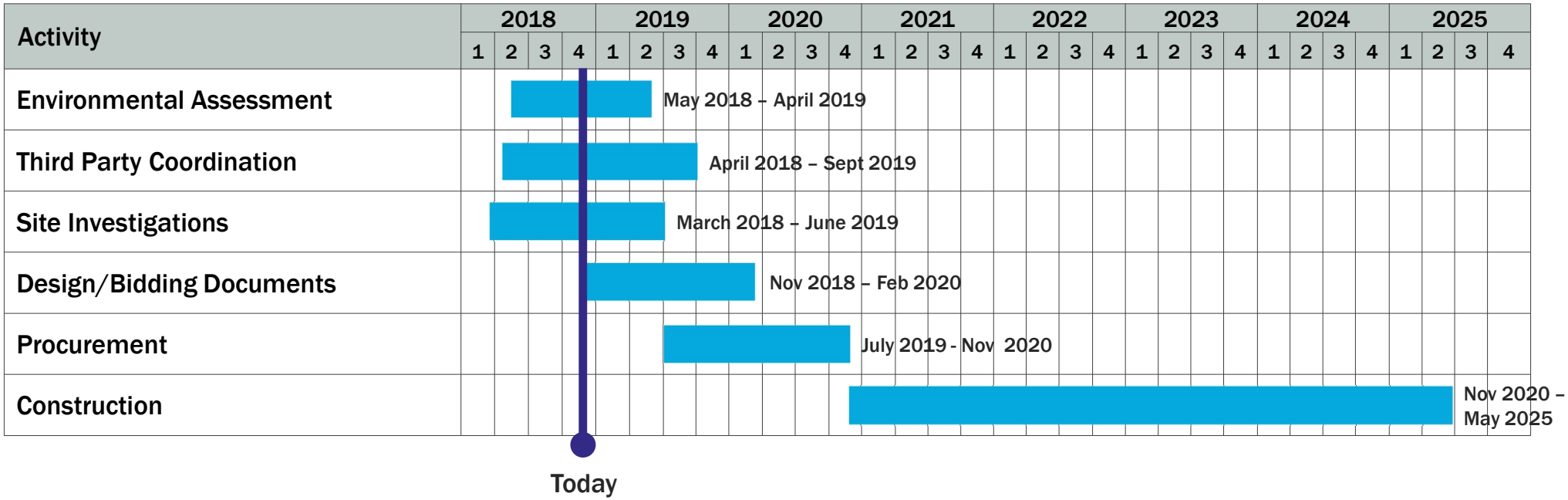
Deep tunnels will be constructed using tunnel boring machines



RiverRenew Schedule

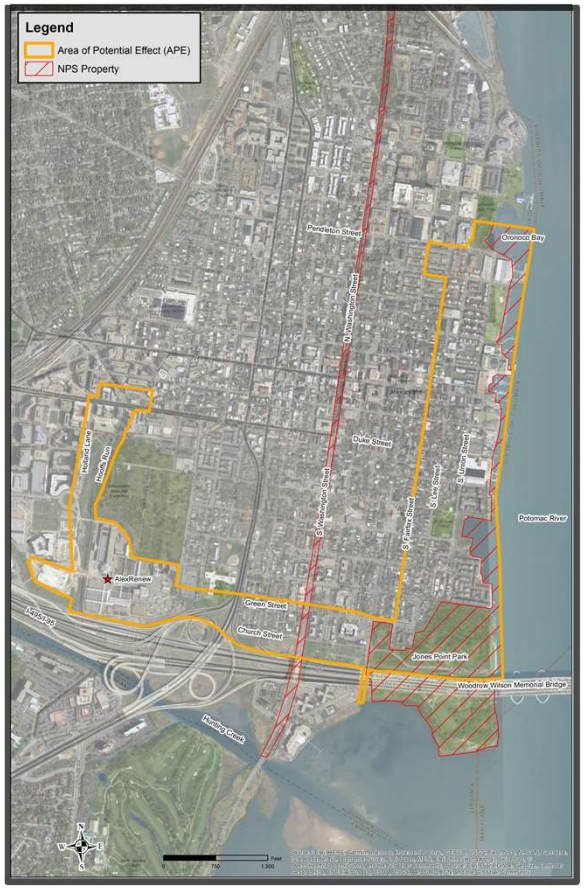


NEPA and Section 106 Processes

Why does RiverRenew need to comply with NEPA?

- Why?
  - RiverRenew will require permits from the National Park Service (NPS)
  - These permits comprise the federal action that triggers NEPA
- How?
  - NPS determined an Environmental Assessment is the appropriate NEPA pathway

NPS is the lead federal agency



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EA initial scoping comment period closed October 25, 2018

Over 150 comments received from a wide range of stakeholders

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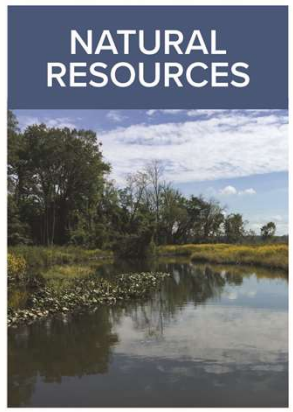
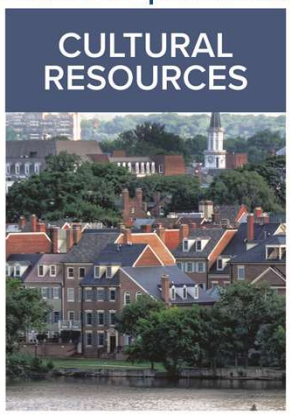
EA Next Steps

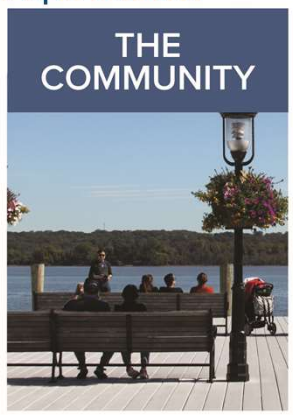
Compile Data/ Advance Project Design → Draft EA in Conjunction with NPS → NPS Publishes EA → 30-Day Public Comment Period → NPS Issues Decision Document*

*Expected Spring 2019

The EA will consider potential impacts to:







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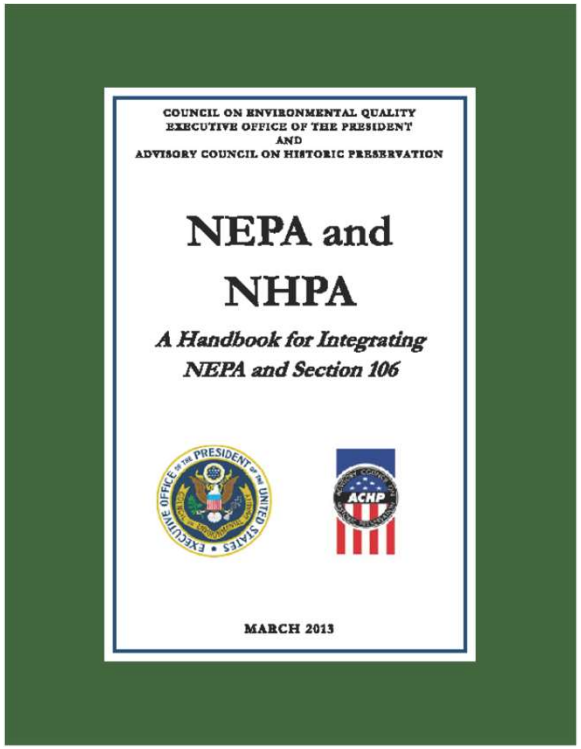
Section 106 Consultation will run concurrent with EA

- NPS formally initiated Section 106 with VDHR
- Data Collection
  - AlexRenew's consultant will conduct a Documentary Study and field investigations
    - Scope coordinated with City staff
  - We're seeking input from informed stakeholders
- NPS currently identifying Consulting Parties
  - Initial meeting to be scheduled in December or January



Section 106 Consultation will also occur in conjunction with Clean Water Act permitting

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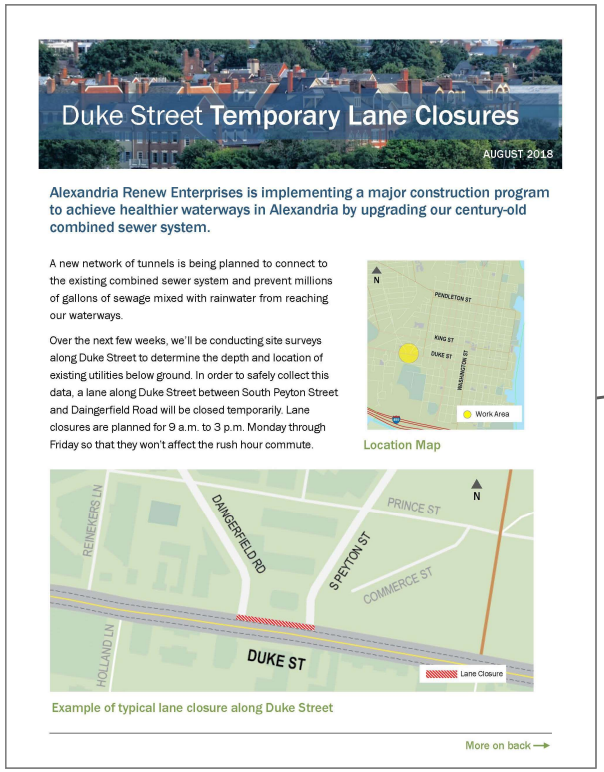
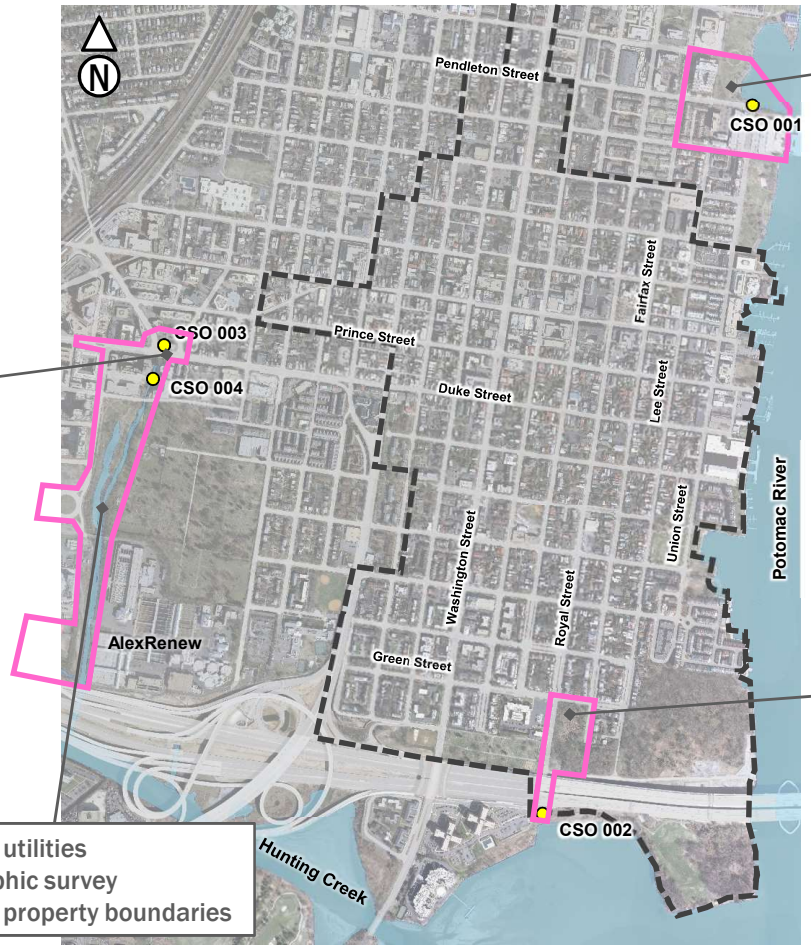
Preliminary Site Investigations

We're currently conducting field surveys



Survey required to determine invert elevations and locations of utilities between Daingerfield Road and S Peyton Street



- Bathymetric survey
- Locating utilities
- Topographic survey
- Locating property boundaries

LEGEND

- Existing Outfall
- Field Survey Areas
- Historic District (Old Town)

- Locating utilities
- Topographic survey
- Locating property boundaries

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- Topographic survey
- Locating property boundaries

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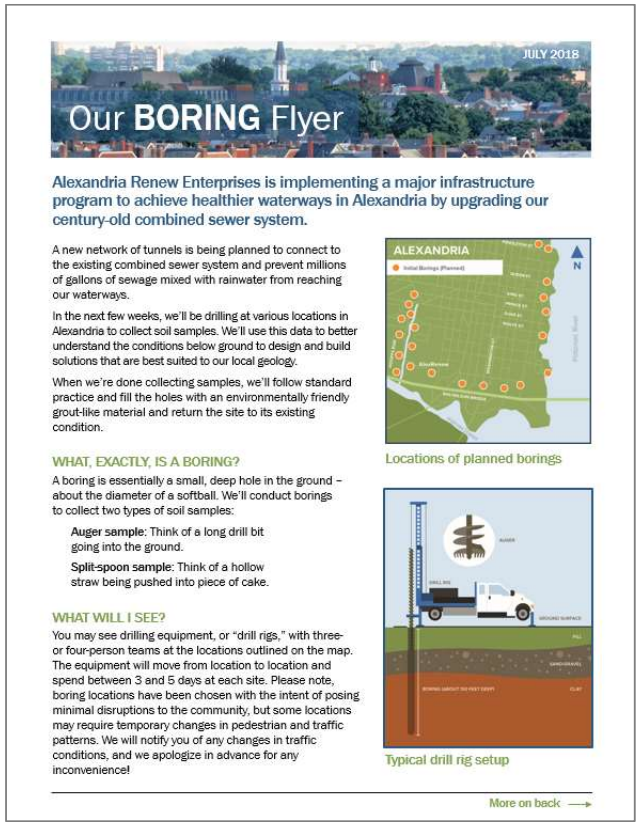
We're currently conducting borings to collect soil samples



JULY 2018

Our **BORING** Flyer

Alexandria Renew Enterprises is implementing a major infrastructure program to achieve healthier waterways in Alexandria by upgrading our century-old combined sewer system.

A new network of tunnels is being planned to connect to the existing combined sewer system and prevent millions of gallons of sewage mixed with rainwater from reaching our waterways.

In the next few weeks, we'll be drilling at various locations in Alexandria to collect soil samples. We'll use this data to better understand the conditions below ground to design and build solutions that are best suited to our local geology.

When we're done collecting samples, we'll follow standard practice and fill the holes with an environmentally friendly grout-like material and return the site to its existing condition.

Locations of planned borings

WHAT, EXACTLY, IS A BORING?

A boring is essentially a small, deep hole in the ground – about the diameter of a softball. We'll conduct borings to collect two types of soil samples:

- **Auger sample:** Think of a long drill bit going into the ground.
- **Split-spoon sample:** Think of a hollow straw being pushed into piece of cake.

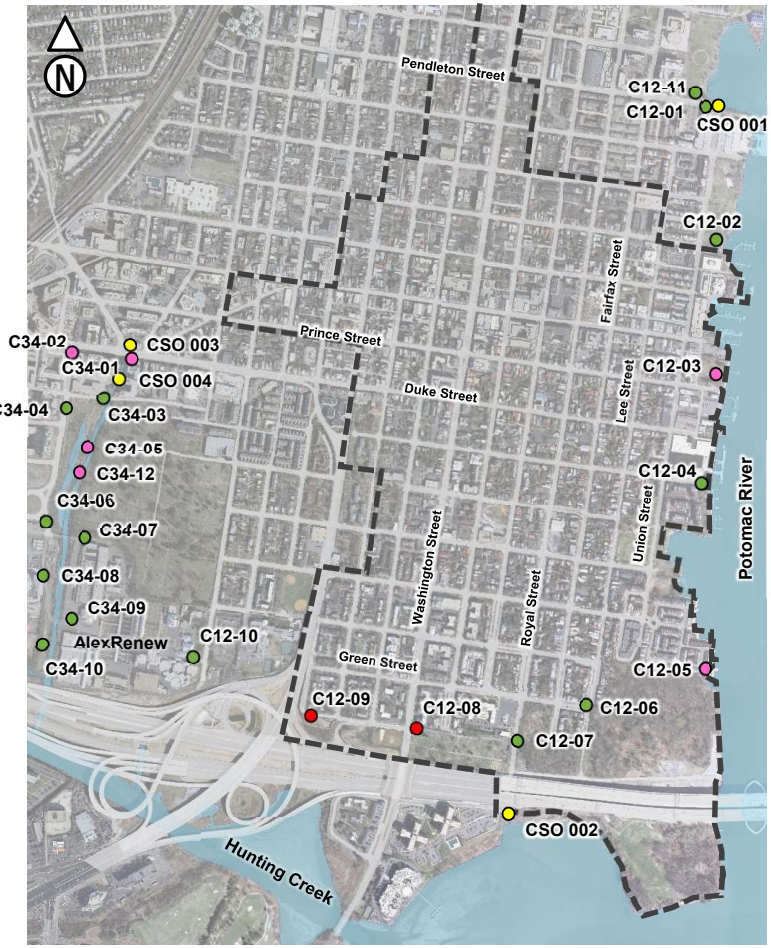
Typical drill rig setup

WHAT WILL I SEE?

You may see drilling equipment, or "drill rigs," with three- or four-person teams at the locations outlined on the map. The equipment will move from location to location and spend between 3 and 5 days at each site. Please note, boring locations have been chosen with the intent of posing minimal disruptions to the community, but some locations may require temporary changes in pedestrian and traffic patterns. We will notify you of any changes in traffic conditions, and we apologize in advance for any inconvenience!

More on back ⟶

Additional borings will be conducted in Spring 2019



LEGEND

- Existing Outfall
- Completed Borings
- Active Borings
- Future Borings
- Historic District (Old Town)

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Typical Approach to Structure Protection

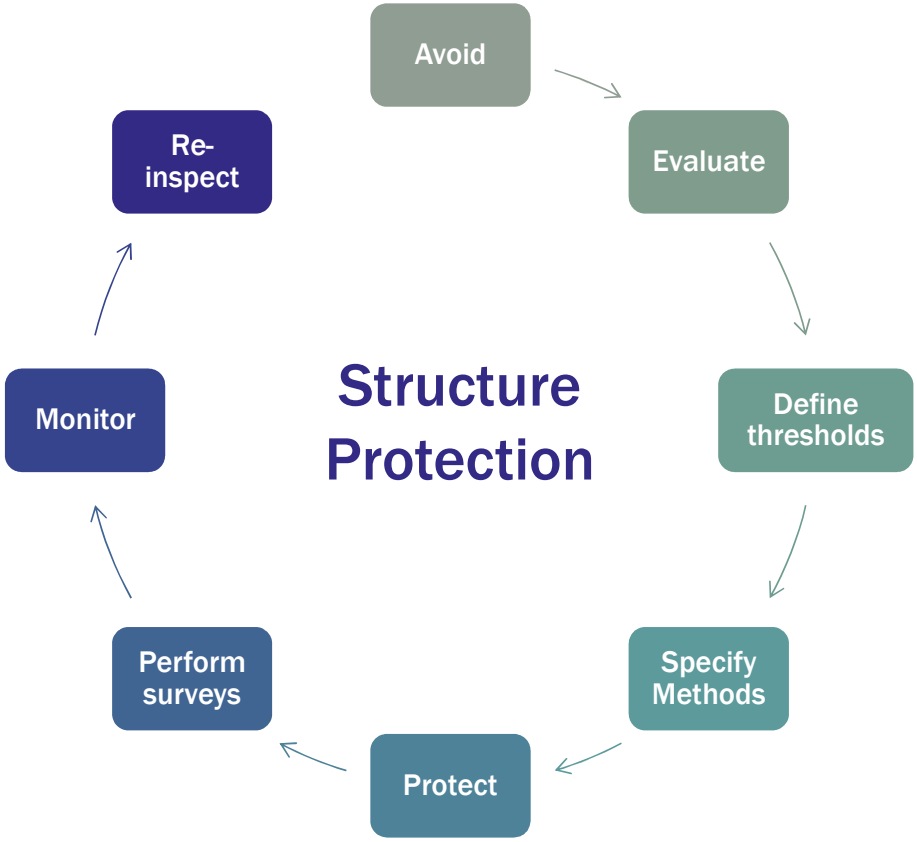

Image courtesy of DC Water, First Street Tunnel in Bloomingdale

Next Steps

Next Steps

- **Ongoing.** Conduct site investigations
- **Now – Spring 2019.** Develop Environmental Assessment
- **Now – Spring 2019.** Section 106 Consultation
- **December 2018.** Submit Joint Permit Application for Clean Water Act Permits
- **Late 2020.** Anticipated start of construction

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