

City Council/AlexRenew Board CSO Subcommittee/Workgroup

Meeting No. 11

April 19, 2021



RiverRenew is a program owned and implemented
by Alexandria Renew Enterprises, with support from
the City of Alexandria



Presentation Outline

- **Potential Available Nutrient Credits from the Implementation of RiverRenew**
- **AlexRenew Rate Adjustment Update**
- **Right of Entry to Support RiverRenew Tunnel Project Surveys and Monitoring**
- **RiverRenew Stakeholder Advisory Group Update**
- **RiverRenew Tunnel Project Construction Updates**
- **RiverRenew Tunnel Project Look-Ahead**

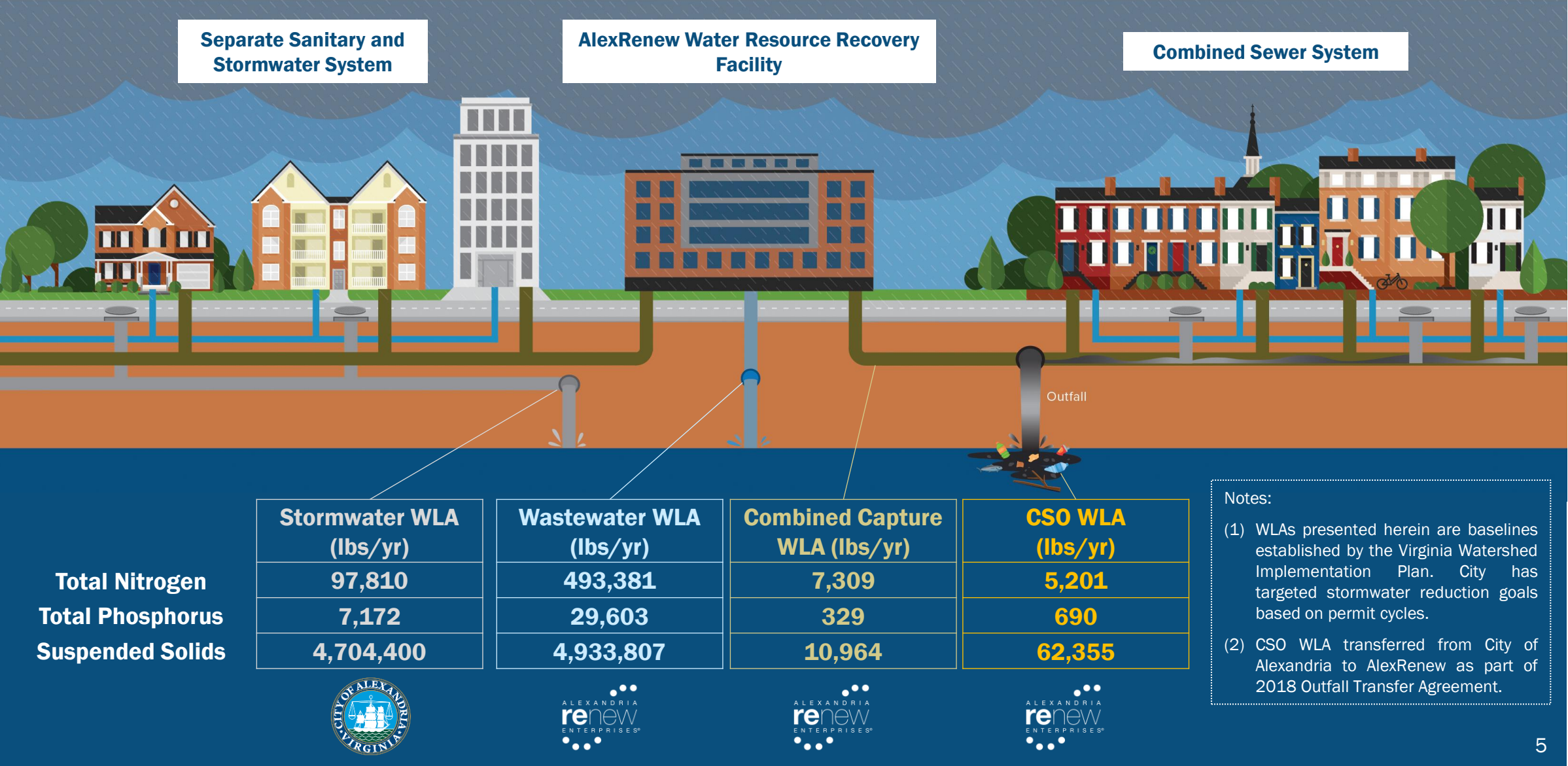


Potential Available Nutrient Credits from the Implementation of RiverRenew

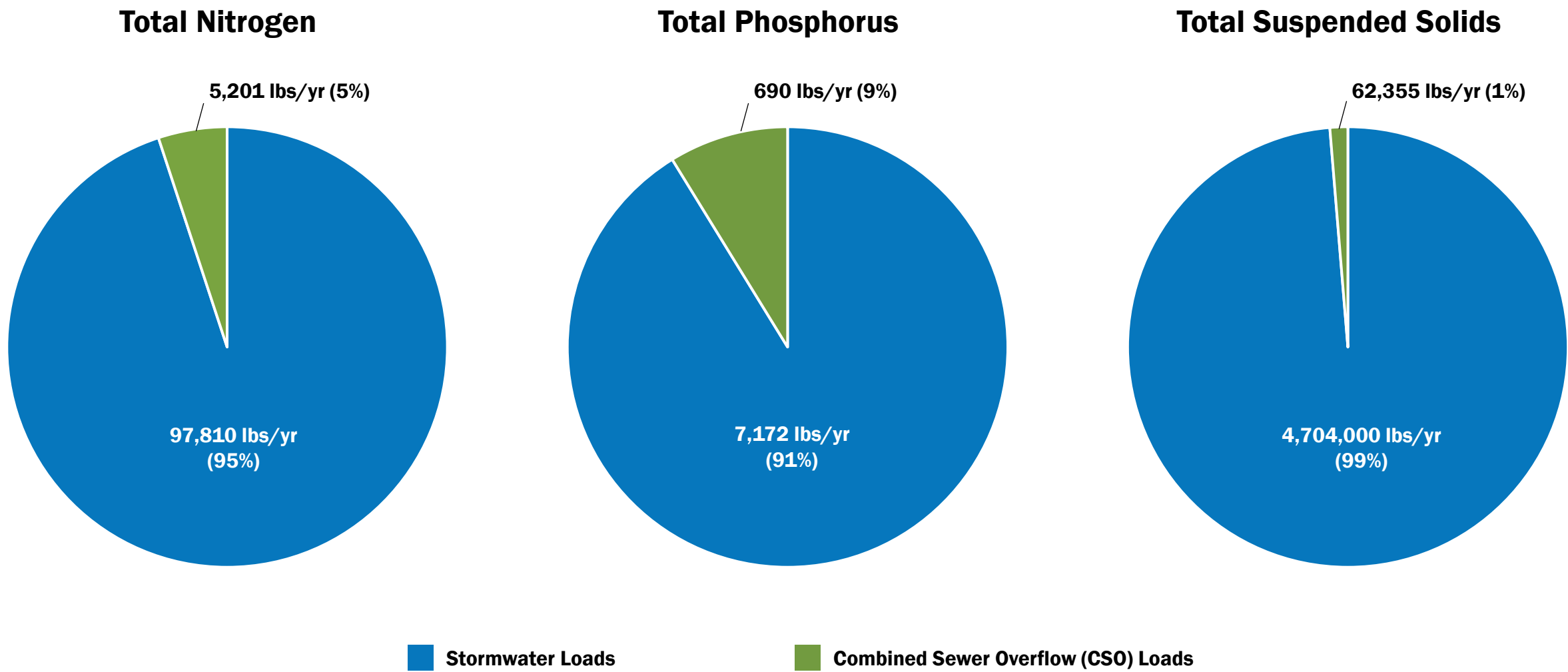
The Virginia Watershed Implementation Plan (WIP) Established Waste Load Allocation (WLA) Requirements for Alexandria's Point Sources

Owner	System	WLA Assigned to:	WLA Flow based on:	What does WIP Require?
AlexRenew	Wastewater	Treated <u>dry</u> weather flow	54 MGD	Meet WLA
	Combined Capture	Treated <u>wet</u> weather flow	Average of 1991-2000 rainfall	Meet concentrations for Total Nitrogen (4 mg/L) and Total Phosphorus (0.18 mg/L)
	CSO	Untreated <u>wet</u> weather flow via CSO outfalls	Average of 1991-2000 rainfall	No requirement
City of Alexandria	Stormwater	Untreated <u>wet</u> weather flow via Municipal Separate Storm Sewer System (MS4) outfalls	Average of 1991-2000 rainfall	Reduction of loads from 2009 baseline

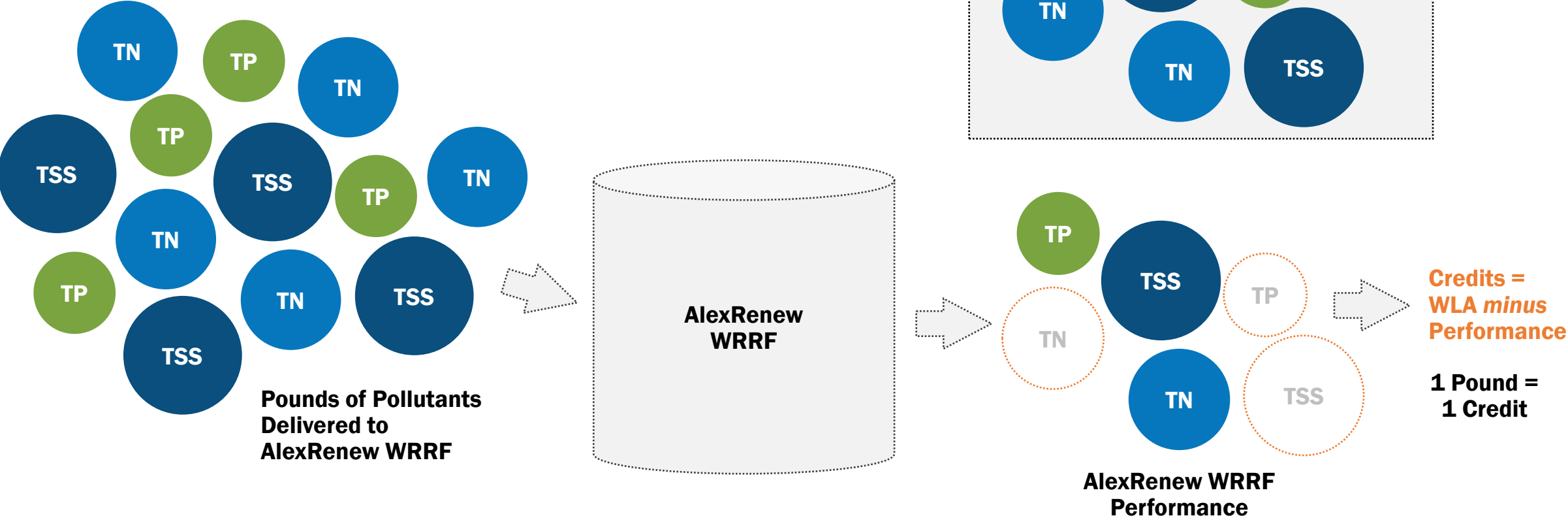
Virginia Watershed Implementation Plan Waste Load Allocations for Wastewater, Combined Capture, CSO, and Stormwater



CSOs Make Up A Very Small Percentage of Total CSO and Stormwater Waste Load Allocations



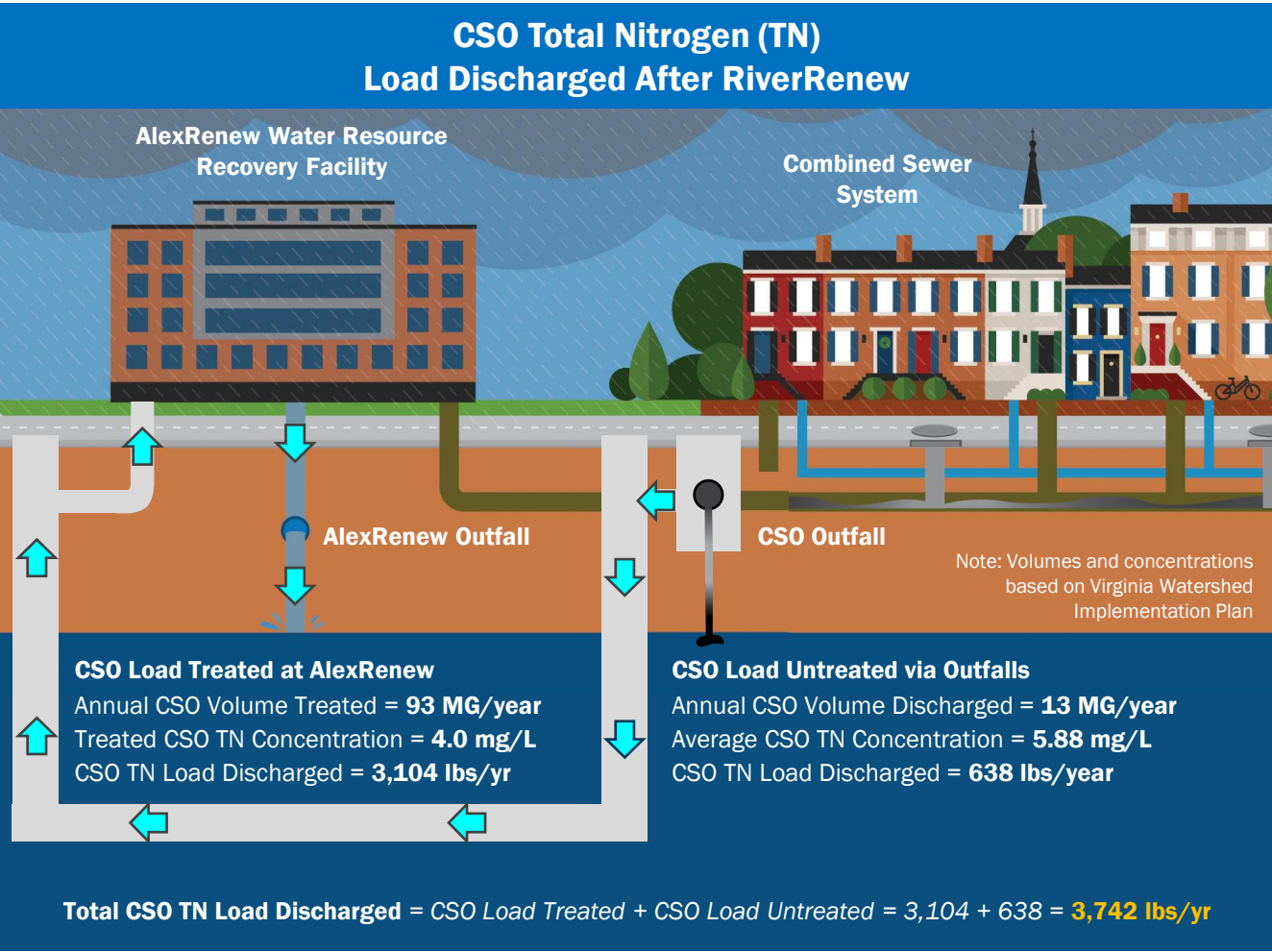
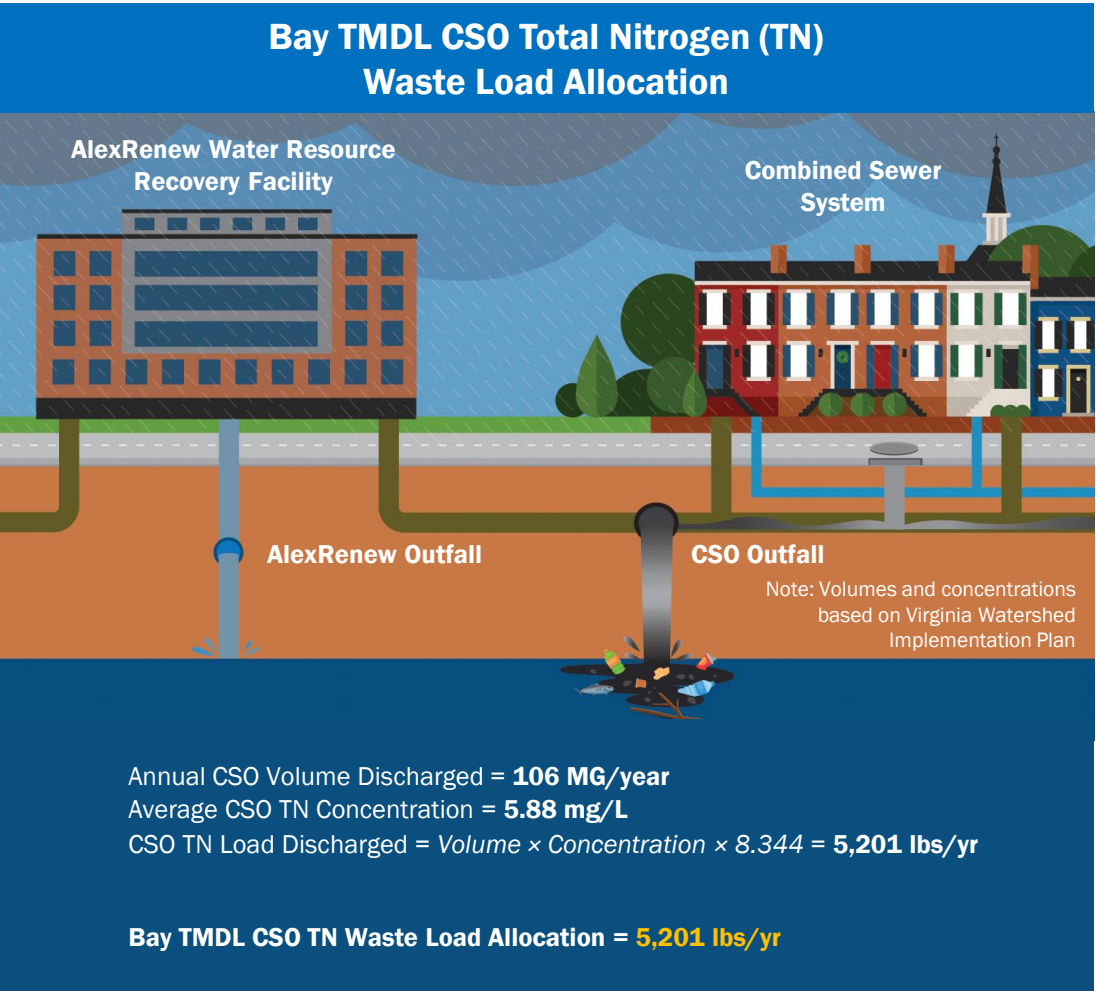
How Are Nutrient Credits Generated?



TN = Total Nitrogen; TP =Total Phosphorus; TSS = Total Suspended Solids



Example CSO Nutrient Credit Calculation for Total Nitrogen (TN)



Example TN Credit = Bay TMDL CSO TN Waste Load Allocation – Total CSO TN Load Discharged After RiverRenew = 5,201 – 3,742 = **1,459 lbs/yr**

CSO Nutrient Credits will be Calculated Annually and Traded to the City based on the 2018 Outfall Transfer Agreement

Example CSO Nutrient Credit Calculations per the Virginia Watershed Implementation Plan (WIP) Concentrations, AlexRenew Average Nutrient Removal Performance, and AlexRenew Best Year Nutrient Removal Performance

Nutrient	CSO Waste Load Allocation (lbs/yr)	WIP			AlexRenew Average			AlexRenew Best Year		
		Defined Treated Conc. (mg/L)	Load Discharged (lbs)	Credit (lbs)	2016-2020			2016		
					Actual Treated Conc. (mg/L)	Load Discharged (lbs)	Credit (lbs)	Actual Treated Conc. (mg/L)	Load Discharged (lbs)	Credit (lbs)
Total Nitrogen	5,201	4	3,742	1,459	2.66	2,702	2,499	2.65	2,693	2,508
Total Phosphorus	690	0.18	224	466	0.08	146	544	0.05	125	565
Total Suspended Solids	62,355	30	30,927	31,428	1.82	9,062	53,293	0.24	7,830	54,525

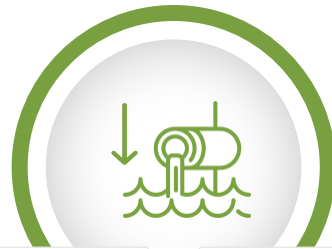
Notes:

- (1) Per Paragraph 15 of the 2018 Outfall Transfer Agreement, after implementation of RiverRenew, AlexRenew will apply the Bay TMDL CSO WLA to any combined sewer system overflows and to the measured, captured, and treated combined flows through AlexRenew's treatment plant. If, after this analysis, allocation of nitrogen, phosphorus, and sediment (suspended solids) remains unapplied, such credits will be calculated using AlexRenew's actual previous year reported annual nitrogen, phosphorus, and sediment (suspended solids) performance and traded to the City for its use.
- (2) Credits are calculated annually by AlexRenew based on its annual treatment overperformance as reported to the Virginia Department of Environmental Quality.
- (3) After RiverRenew, loads calculated by: *Treated CSO Load + Untreated CSO Load*
 - *Treated CSO Load = 93 MG × AlexRenew Concentration Value × 8.344*
 - *Untreated CSO Load = 13 MG × WIP Concentration Value × 8.344*

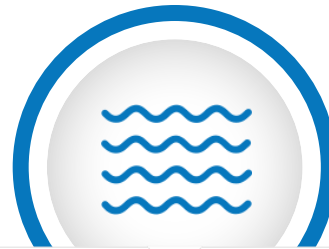
Major Takeaways on Nutrient Credits



AlexRenew **generates annual nutrient credits** and puts them on the exchange for wastewater treatment



CSO reductions are driven by **bacteria requirements** and nutrient removal is a **secondary benefit**



CSO nutrient loads are **much smaller** than stormwater loads



Any **nutrient credits generated** by the capture and treatment of CSOs **will be small**

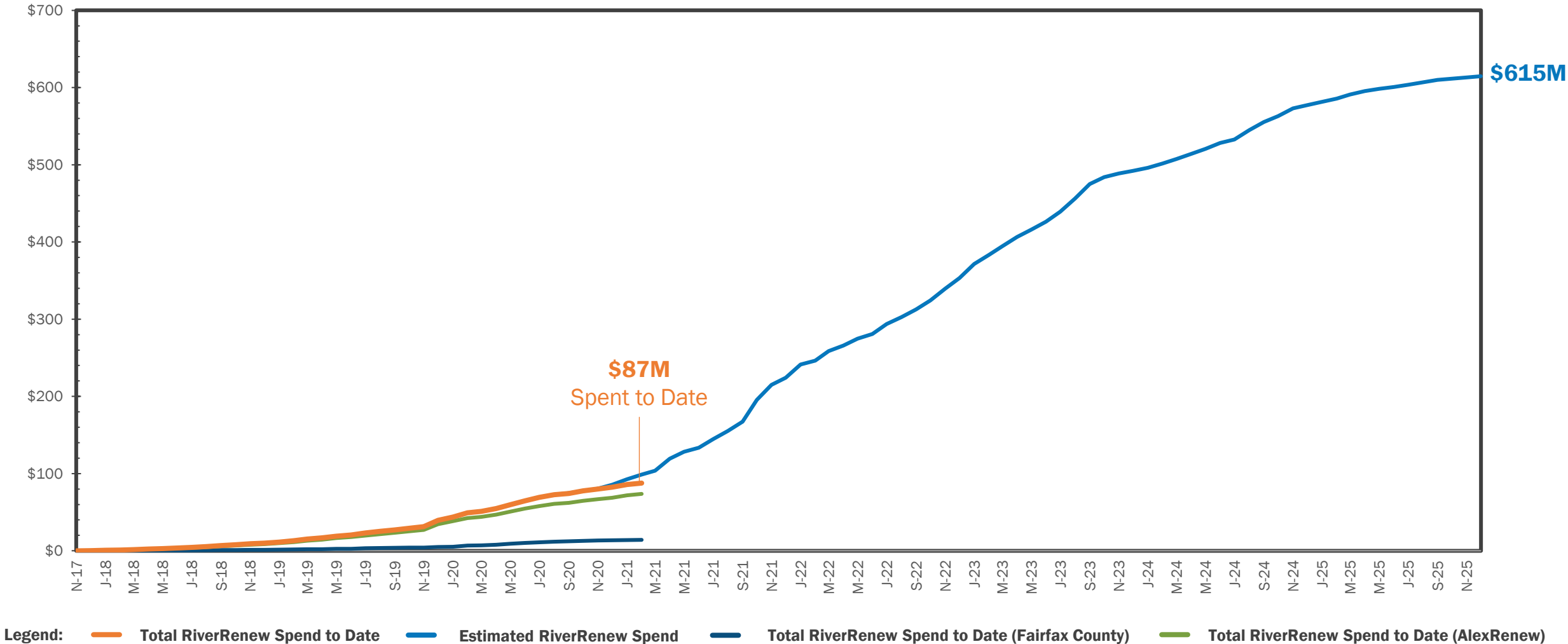


Any **nutrient credits generated** by the capture and treatment of **CSOs** will be **traded to the City** to assist the City in meeting its stormwater requirements

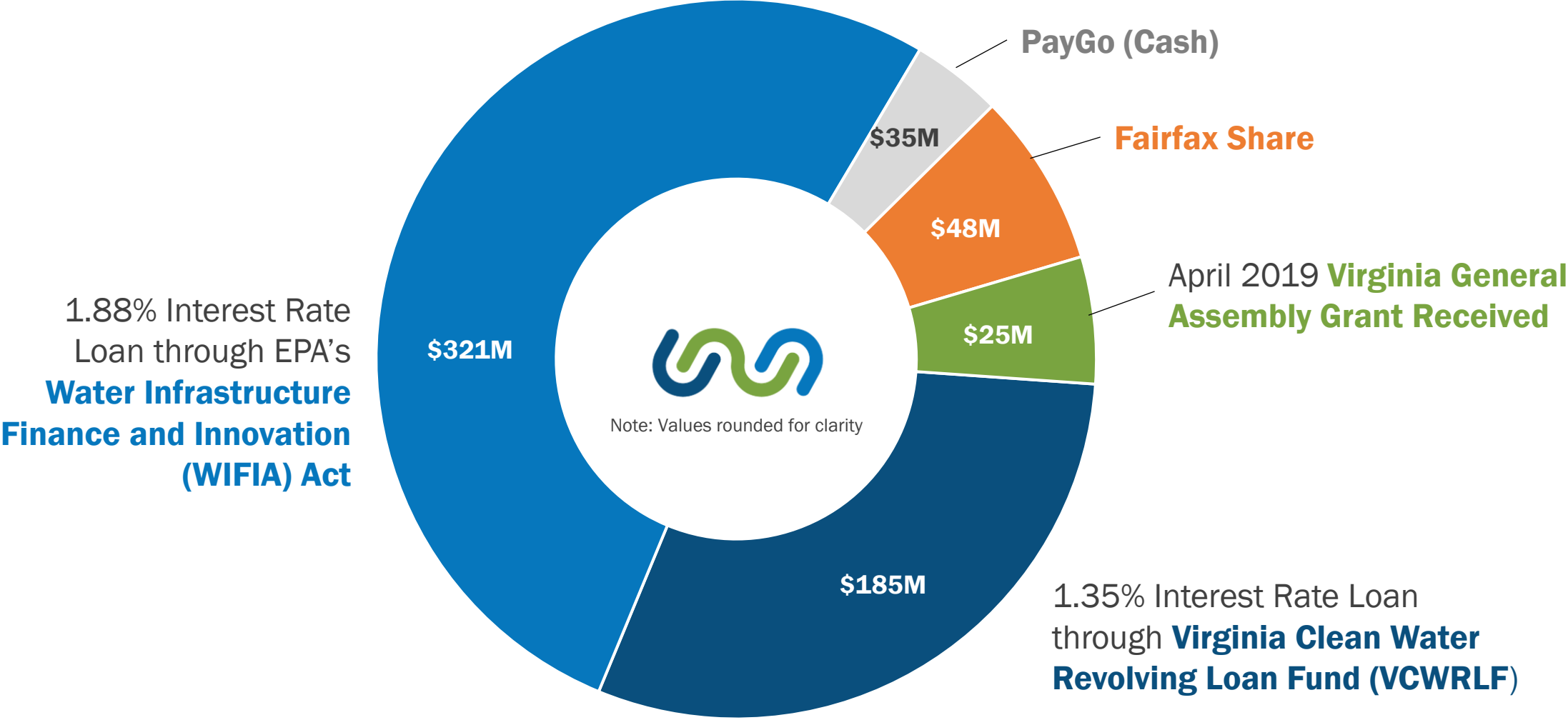


AlexRenew Rate Adjustment Update

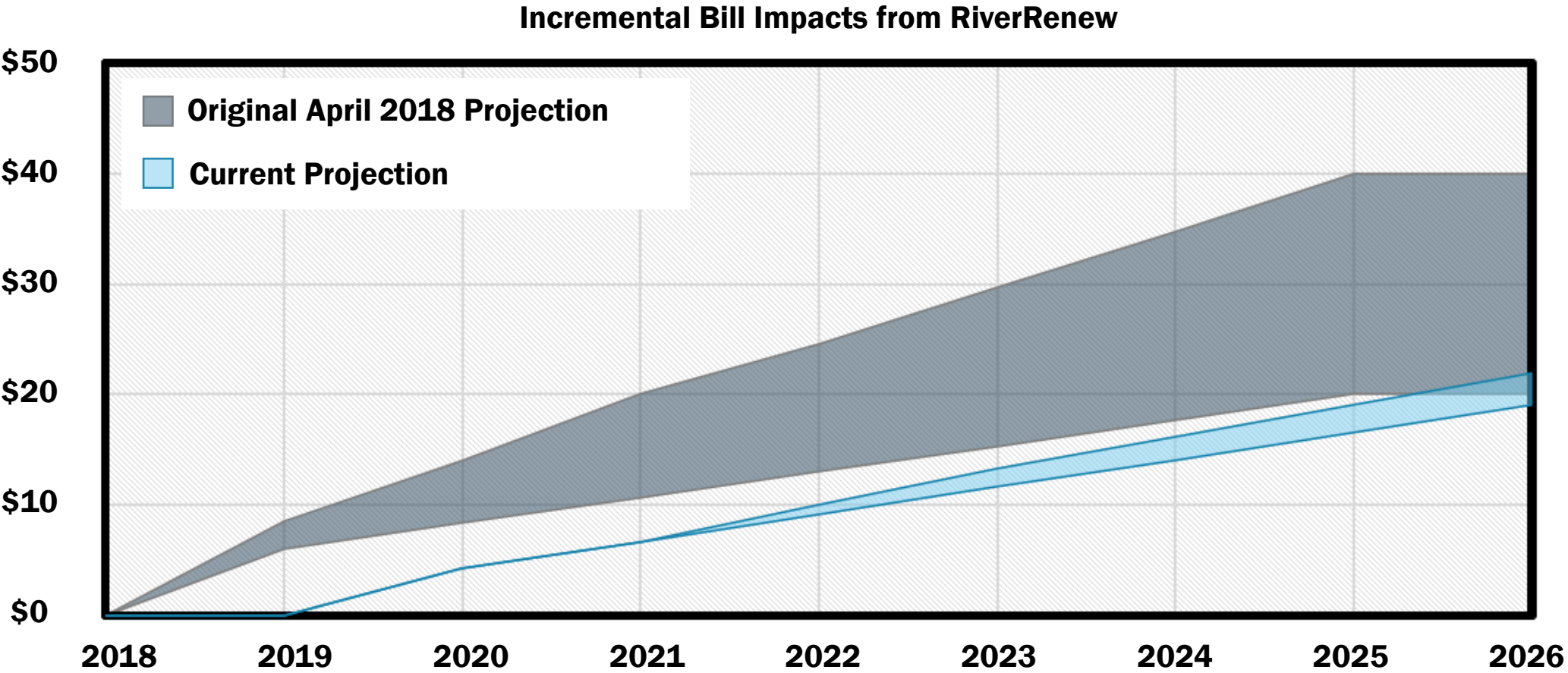
RiverRenew Spending Plan



RiverRenew Capital Funding Plan



Current RiverRenew Fee Projections Are on the Lower End of Original Projections from April 2018 Due to Locked-in Historic Low Interest Rates






Note: Based on 4,000 gallons consumption, excluding City charge



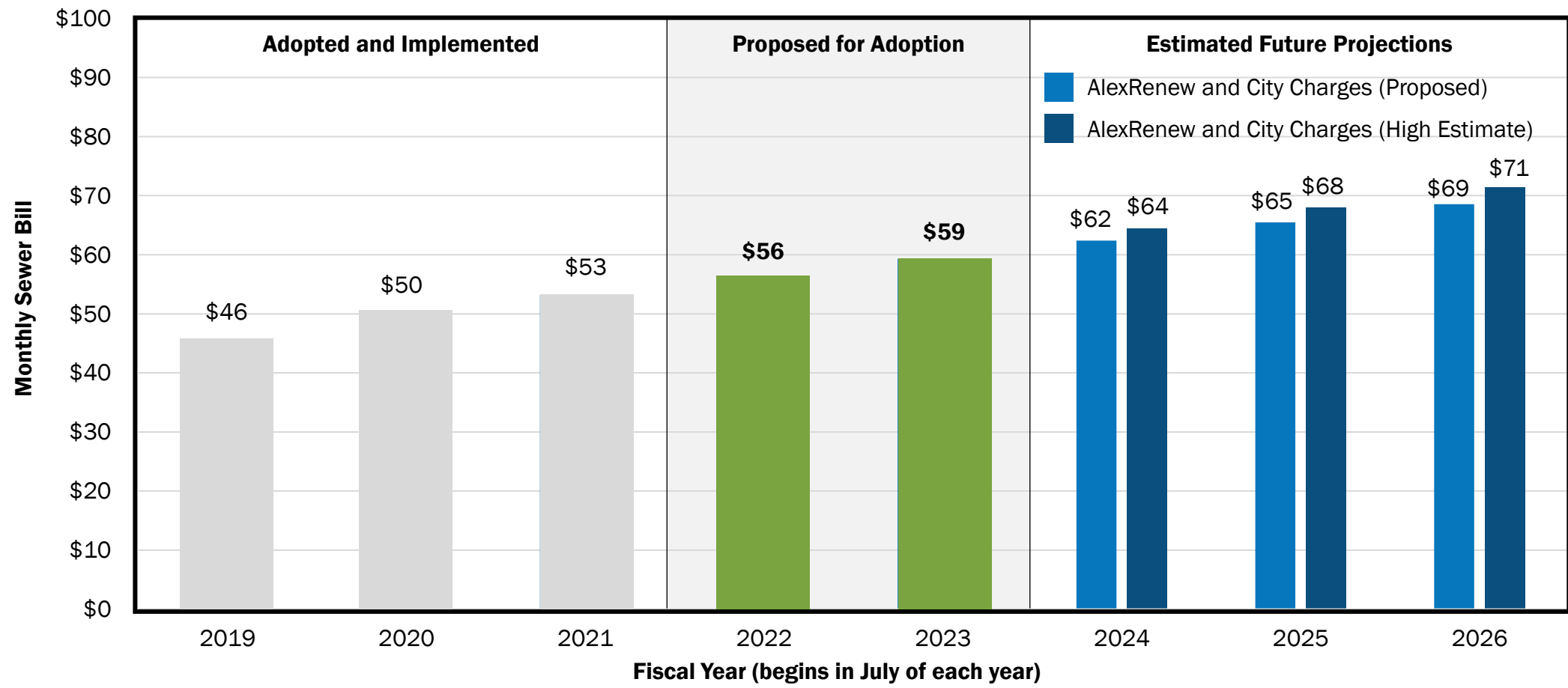
AlexRenew is Proposing a Rate Adjustment for the Next Two Fiscal Years

Proposed Two-Year Rate Adjustment	Fiscal Year	Beginning on:	Maximum Rate Adjustment
	2022	July 1, 2021	6.9%
	2023	July 1, 2022	6.5%

Benefits of a Two-Year Rate Adjustment:

-  **Maximizes efficiency** of staff and consultant time
-  **Allows for adjustment** of rates as conditions evolve
-  **Provides certainty** for CIP funding, particularly in FY 2022-23 when Tunnel Project spending peaks

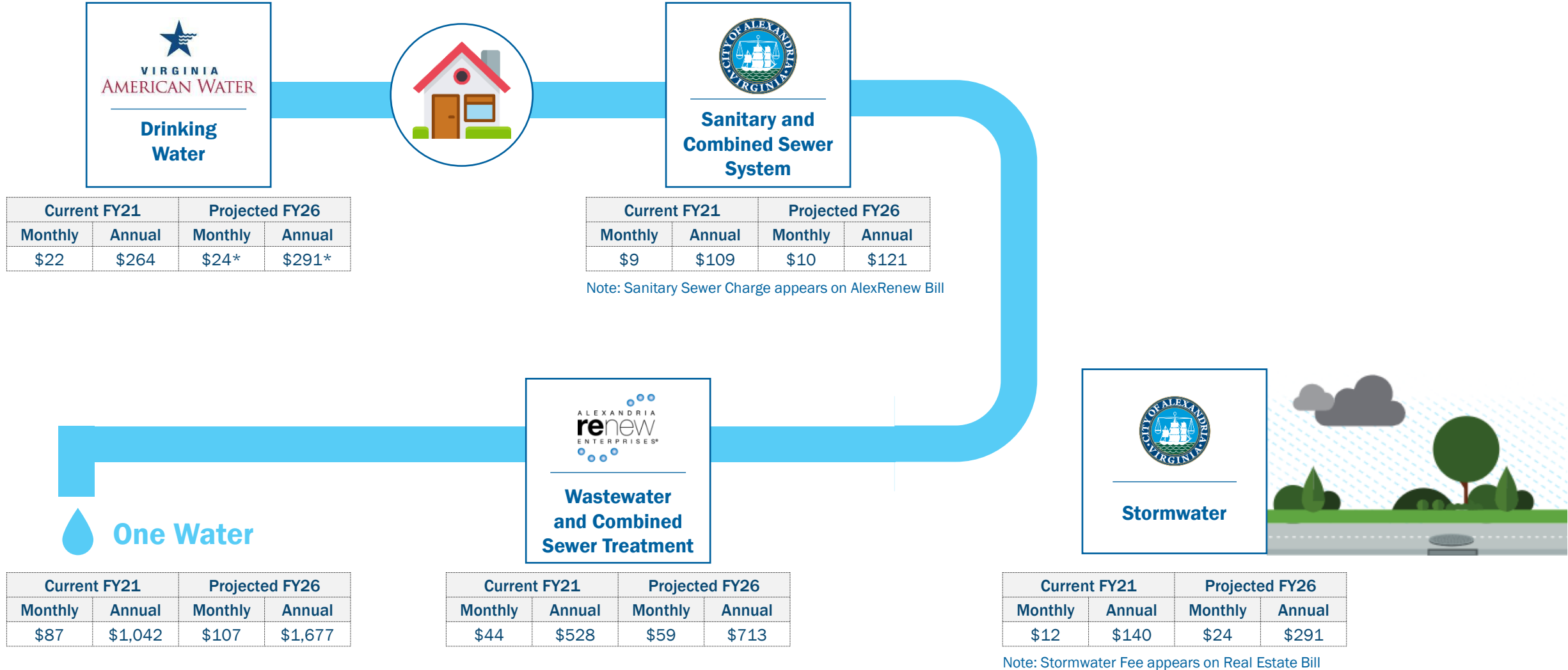
Estimated Future Projections Including Proposed Adjustments in Fiscal Years 2022 and 2023



Note: Based on 4,000 gallons consumption, including estimated City charge as of January 2020; Assumes City sewer charge does not increase from its \$2.28 per KGAL charge.

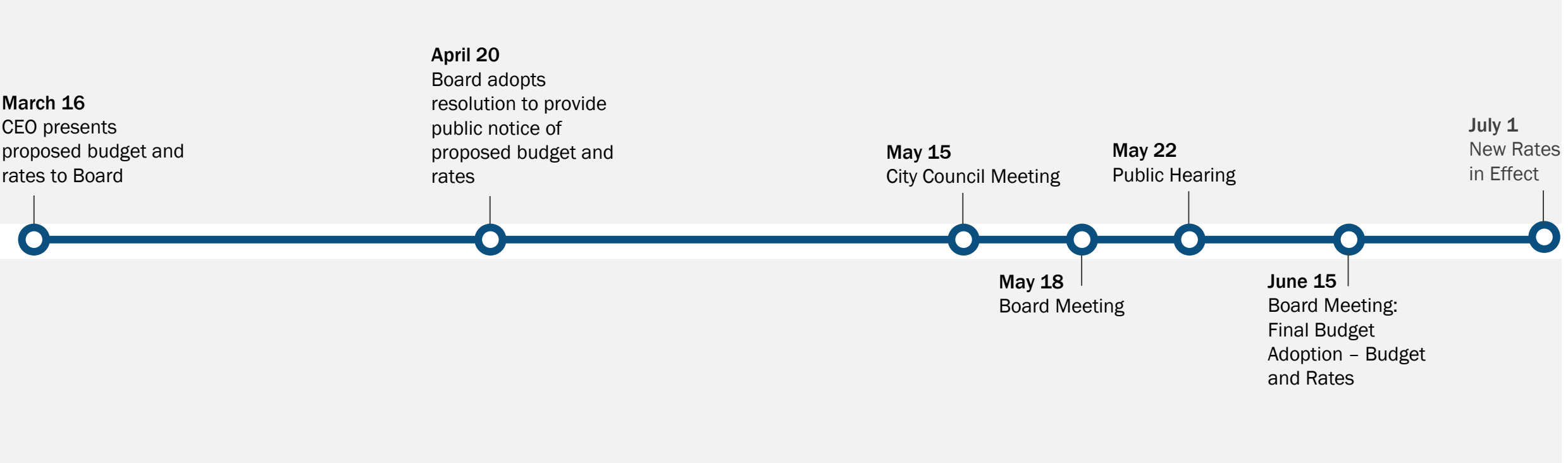


Estimated Cost of One Water in Alexandria, VA



Note: Based on known current increase projections from various Alexandria water entities

Fiscal Year 2022-2023 Rate Adjustment Timeline



Community Outreach Strategy for Rate Adjustment



Digital

- AlexRenew.com
- RiverRenew.com
- Social Media (Facebook, Twitter)



Printed Materials

- Bill Stuffer



Community Meetings

- RiverRenew Stakeholder Advisory Group
- Council-Board Workgroup



Press and Media

- Press Release



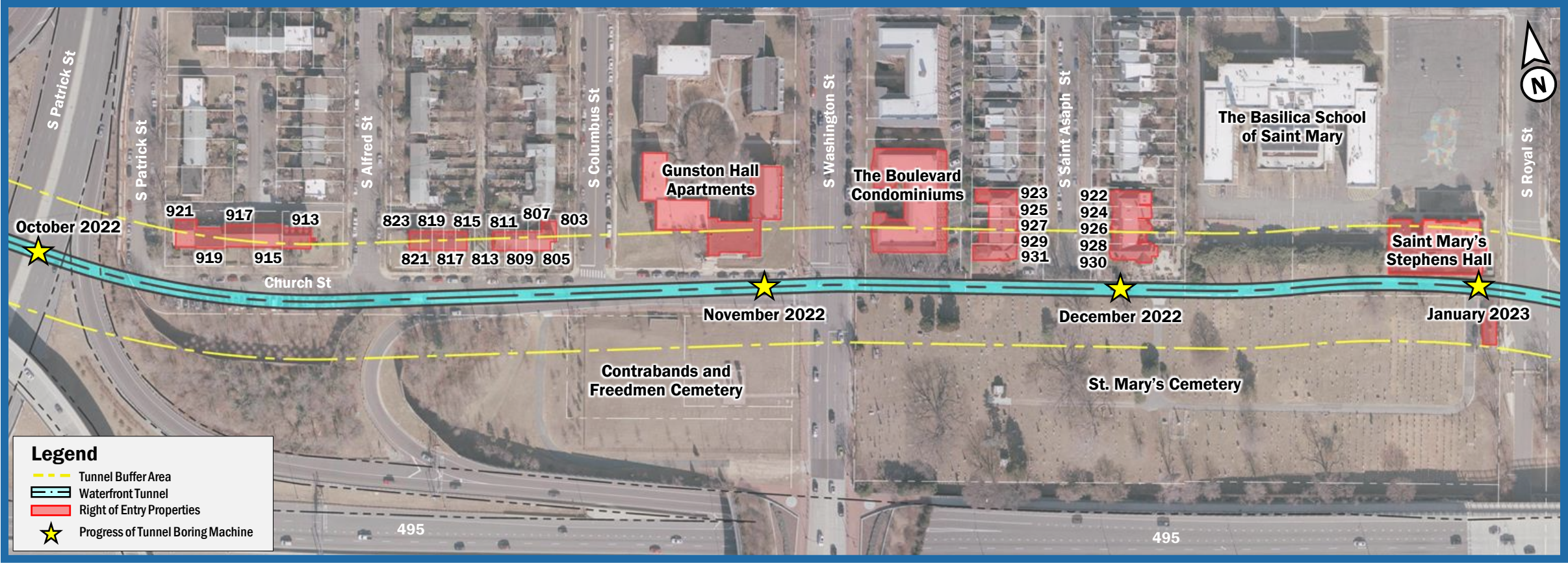
Paid Advertising

- Print Ads
- Digital Ads

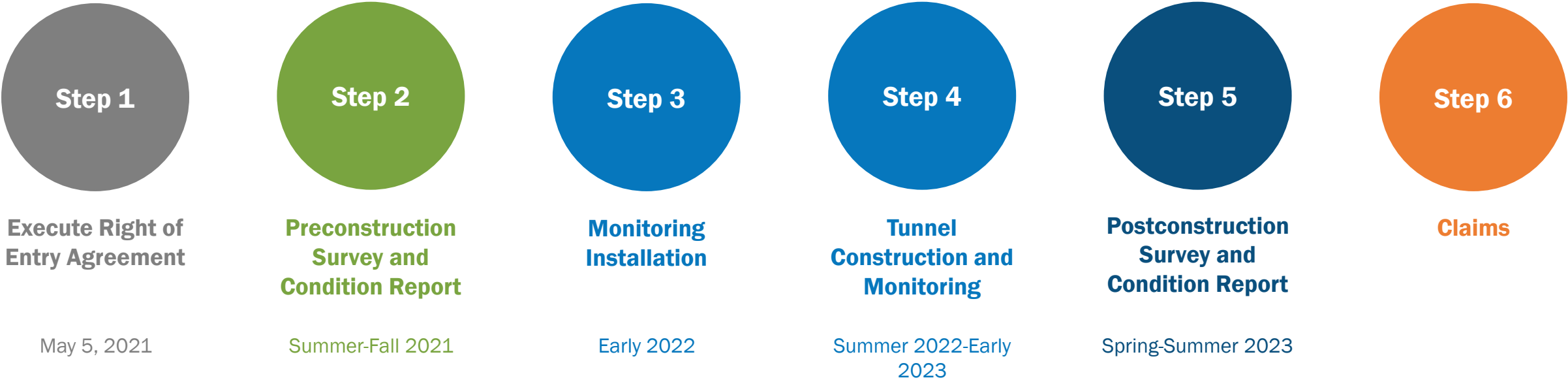
A grayscale photograph of the Georgia State Capitol building, a large neoclassical structure with a prominent central dome and a portico with columns. The building is situated on a hill, surrounded by dense trees and landscaping. The sky is a clear, light blue. Overlaid on the image is the title text in a bold, white, sans-serif font, underlined.

Right of Entry to Support RiverRenew Tunnel Project Surveys and Monitoring

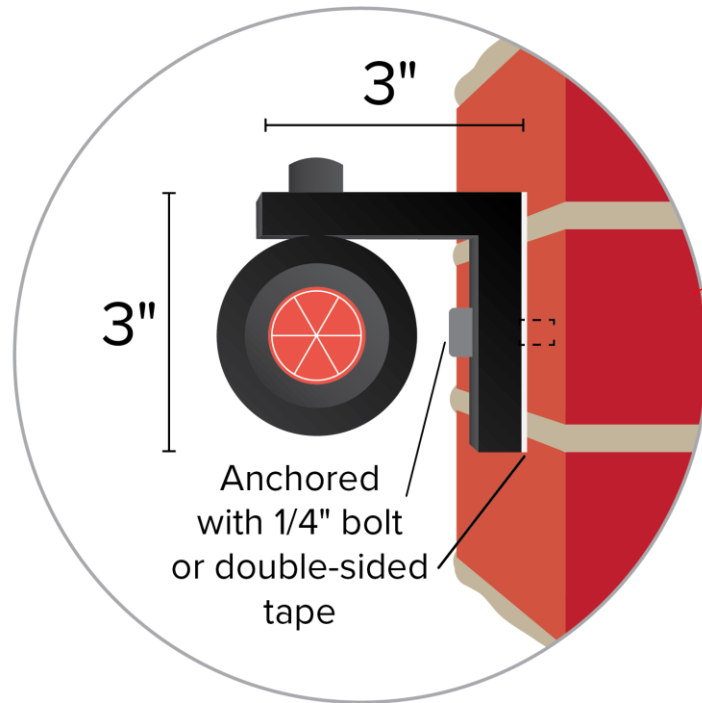
Aerial View of Waterfront Tunnel, Buffer Area, and Right of Entry Request Properties



Preconstruction, Monitoring, and Postconstruction Survey Process



Monitoring Instruments are Typically Installed on Structures within the Tunnel Buffer Area



Monitoring instruments or “targets” are passive devices used to survey the property before, during, and after tunnel construction

A blue-tinted photograph of a historic town, likely Pittsburgh, with a river in the foreground and a church steeple in the background. The text "RiverRenew Stakeholder Advisory Group Update" is overlaid in white, bold, sans-serif font, centered horizontally. A thin white horizontal line is positioned below the text.

RiverRenew Stakeholder Advisory Group Update

Existing Commonwealth Interceptor Route in Proximity to Baptist Cemetery

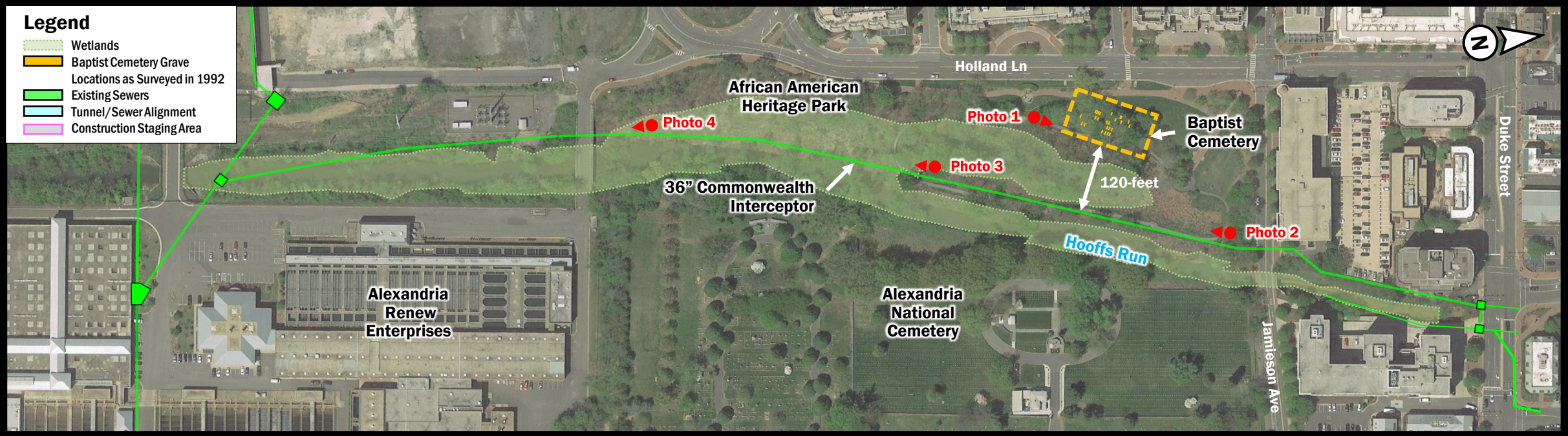


Photo 1. Baptist Cemetery Headstones



Photo 2. Asphalt Path Along Hooffs Run

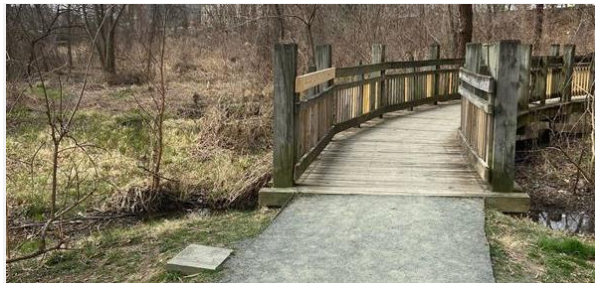


Photo 3. End of Asphalt Path Along Hooffs Run



Photo 4. AlexRenew North Bridge

Proposed RiverRenew Hooffs Run Interceptor Route in Proximity to Baptist Cemetery

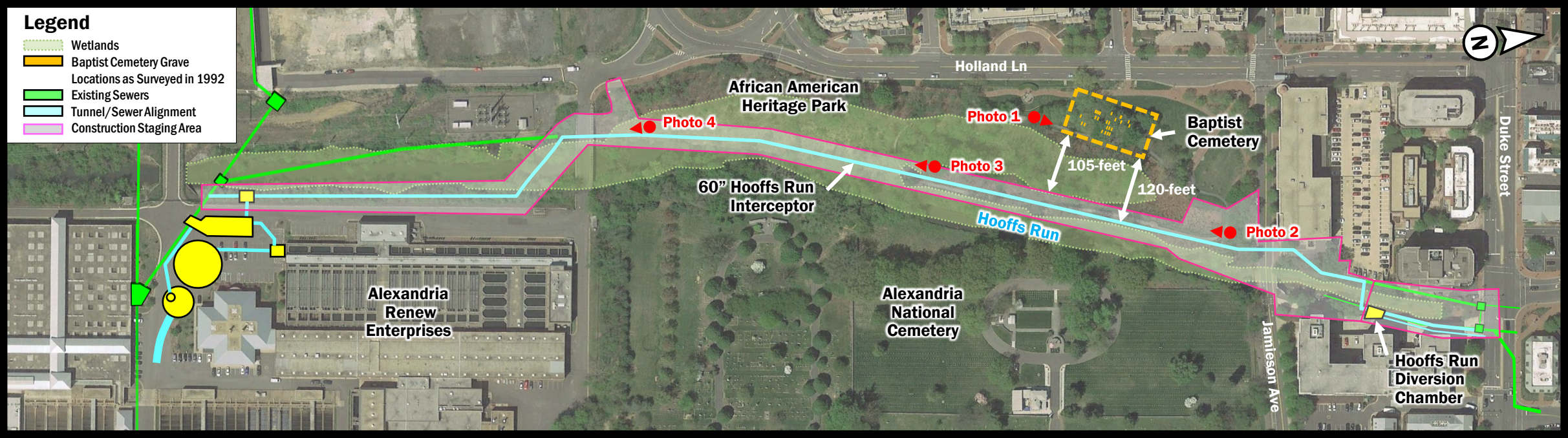


Photo 1. Baptist Cemetery Headstones



Photo 2. Asphalt Path Along Hooffs Run

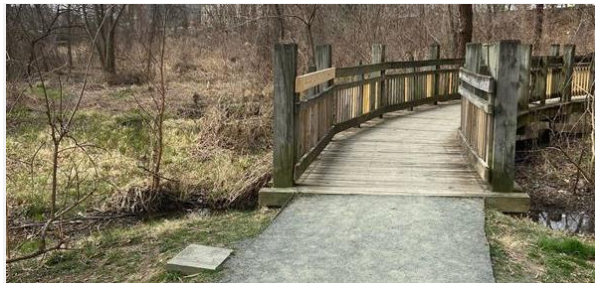
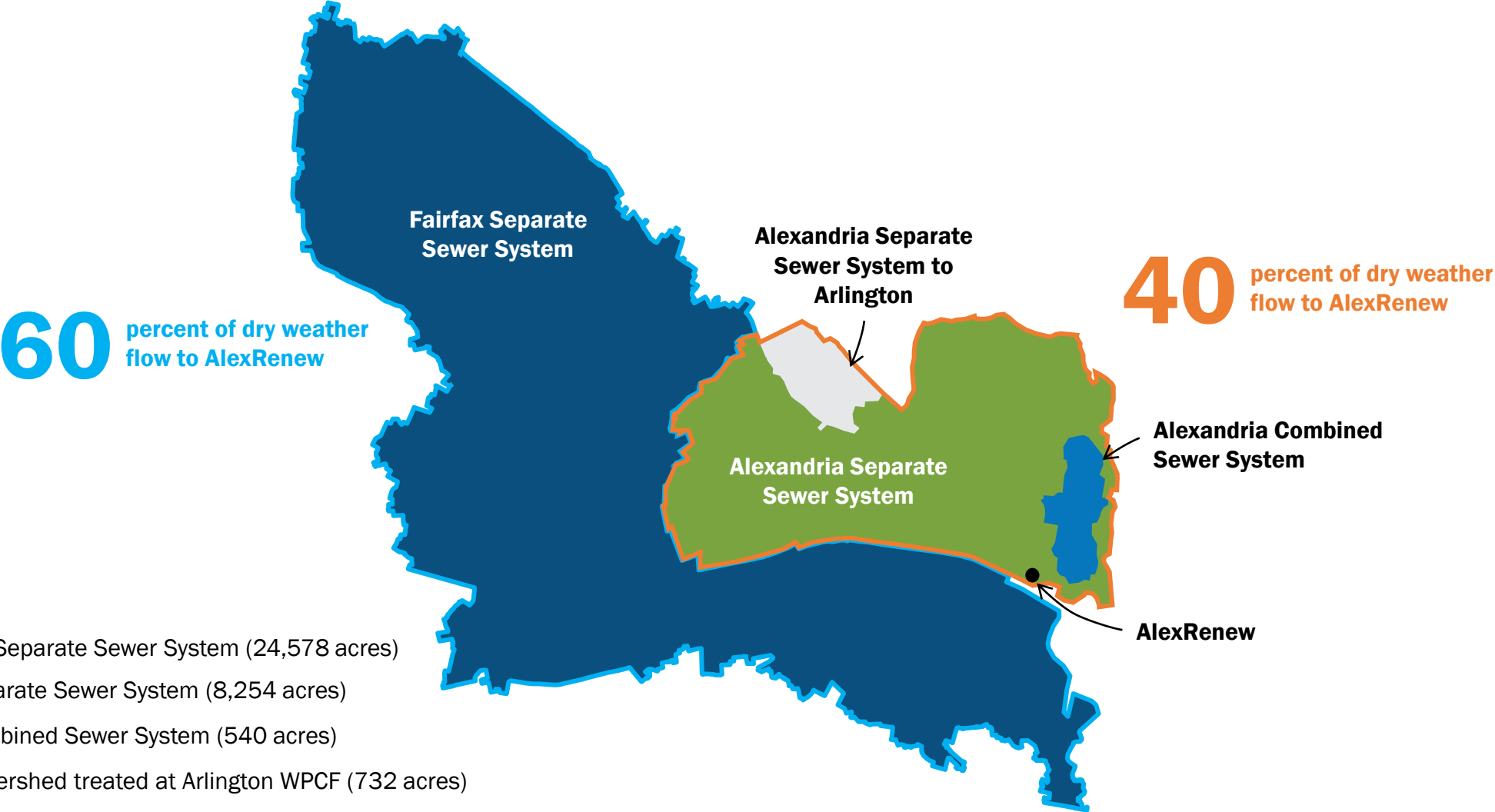


Photo 3. End of Asphalt Path Along Hooffs Run

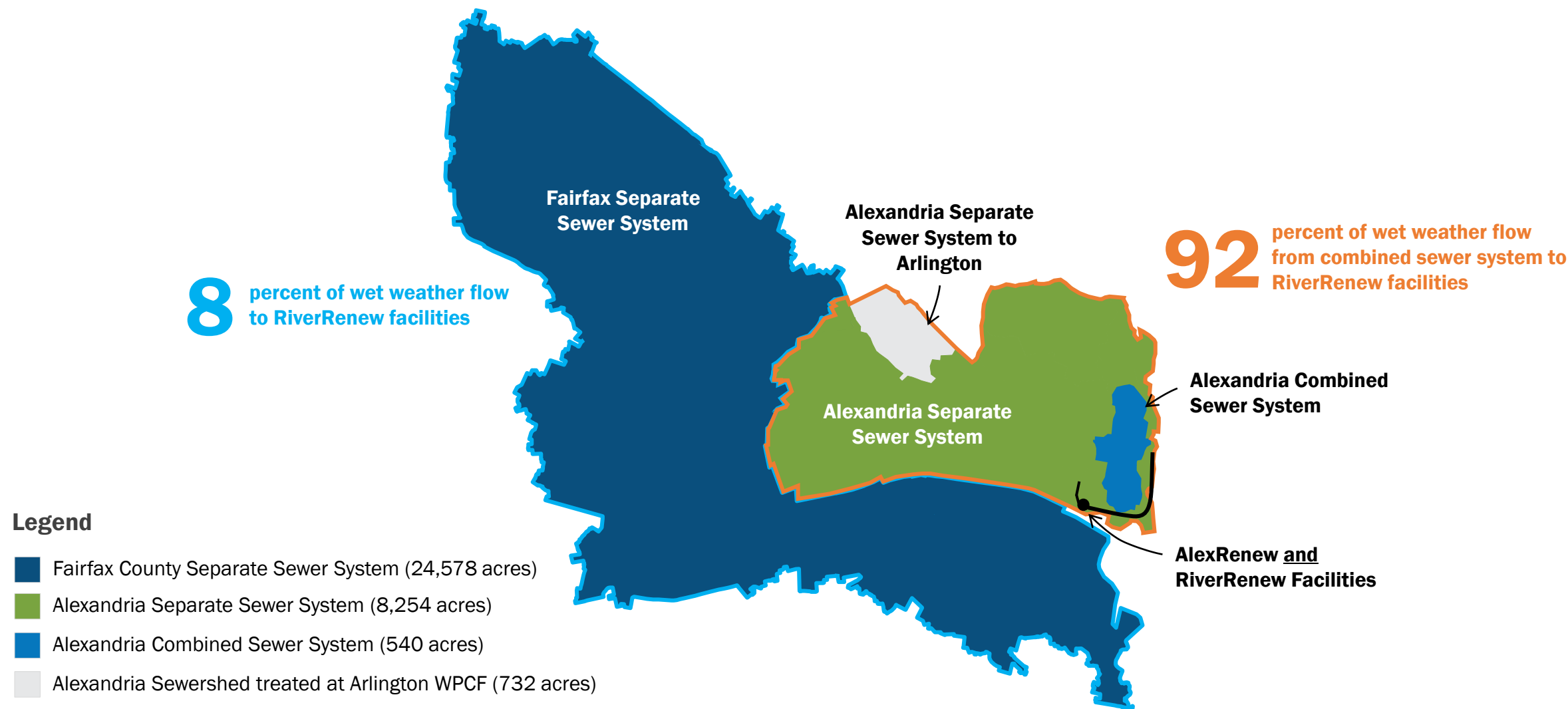


Photo 4. AlexRenew North Bridge

During Dry Weather, the Flow Split between Alexandria and Fairfax is 40 Percent and 60 Percent

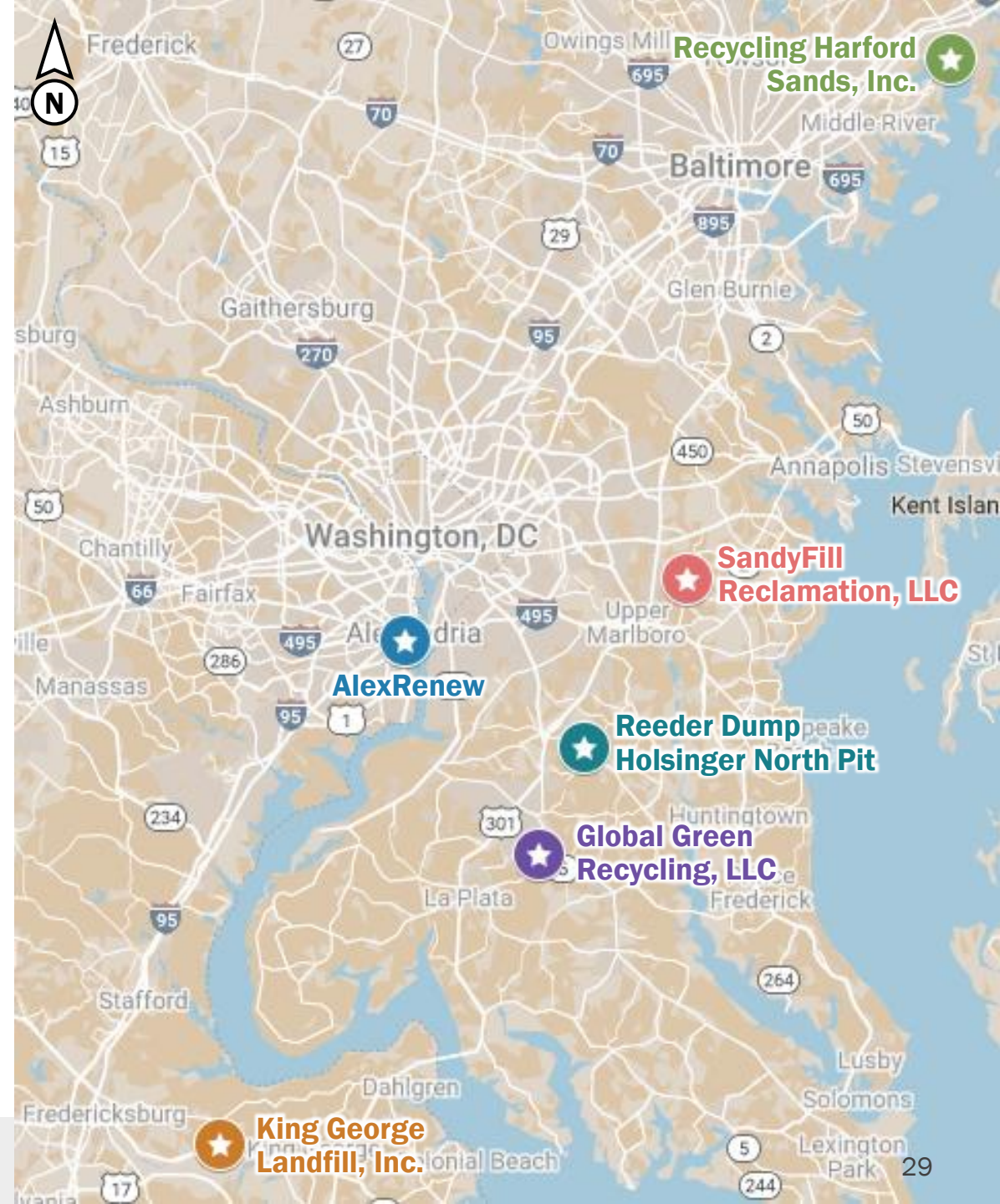


The Wet Weather Flow Percentages Delivered to RiverRenew Facilities from Alexandria and Fairfax Established the RiverRenew Cost Share



Potential Disposal Sites for the RiverRenew Tunnel Project Excavated Materials

Potential Disposal Site	Location
King George Landfill, Inc.	King George, VA
Global Green Recycling, LLC	Waldorf, MD
Reeder Dump Holsinger North Pit	Brandywine, MD
SandyFill Reclamation, LLC	Harwood, MD
Recycling Harford Sands, Inc	Joppatowne, MD



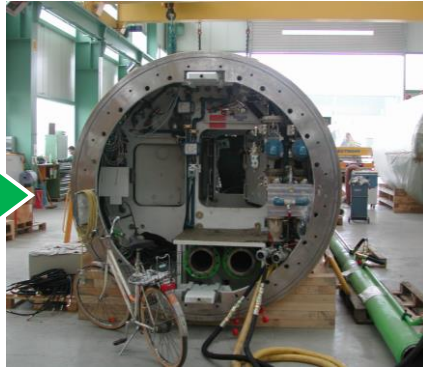
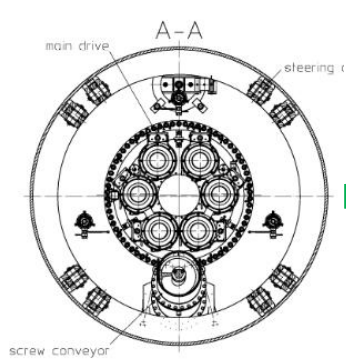


RiverRenew Tunnel Project Construction Updates

Traylor-Shea is Currently Conducting Site Investigations in the Community to Support the RiverRenew Tunnel Project



Scheduling the RiverRenew Tunnel Boring Machine's Trip from Germany to Alexandria



Design

Dec 2020 to Jul 2021

Manufacture and Factory Testing

Jun 2021 to Feb 2022

Shipping

Feb 2022

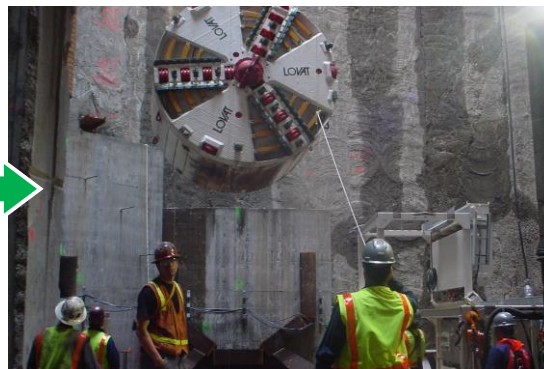
Delivery

Mar 2022



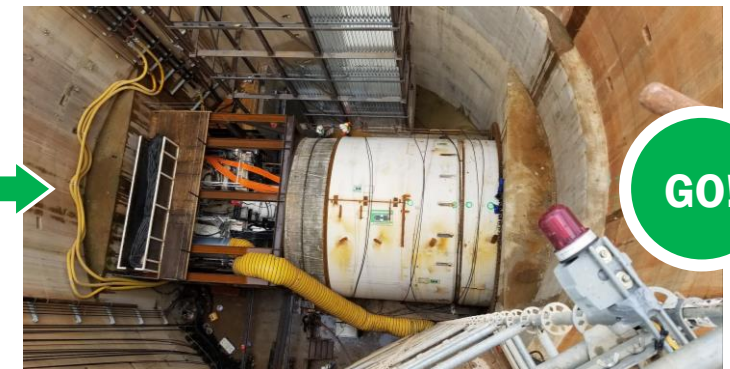
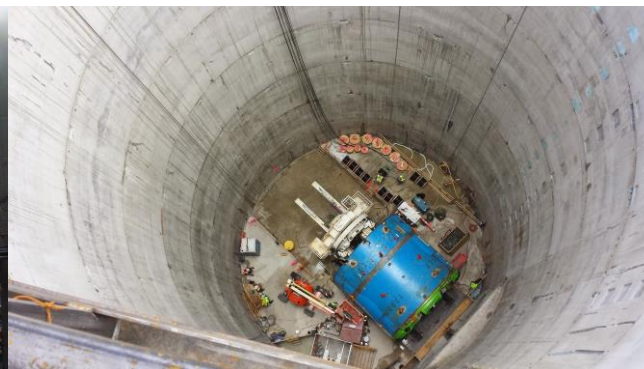
TBM Unveiling

Apr 2022



Lower TBM into Shaft

May 2022



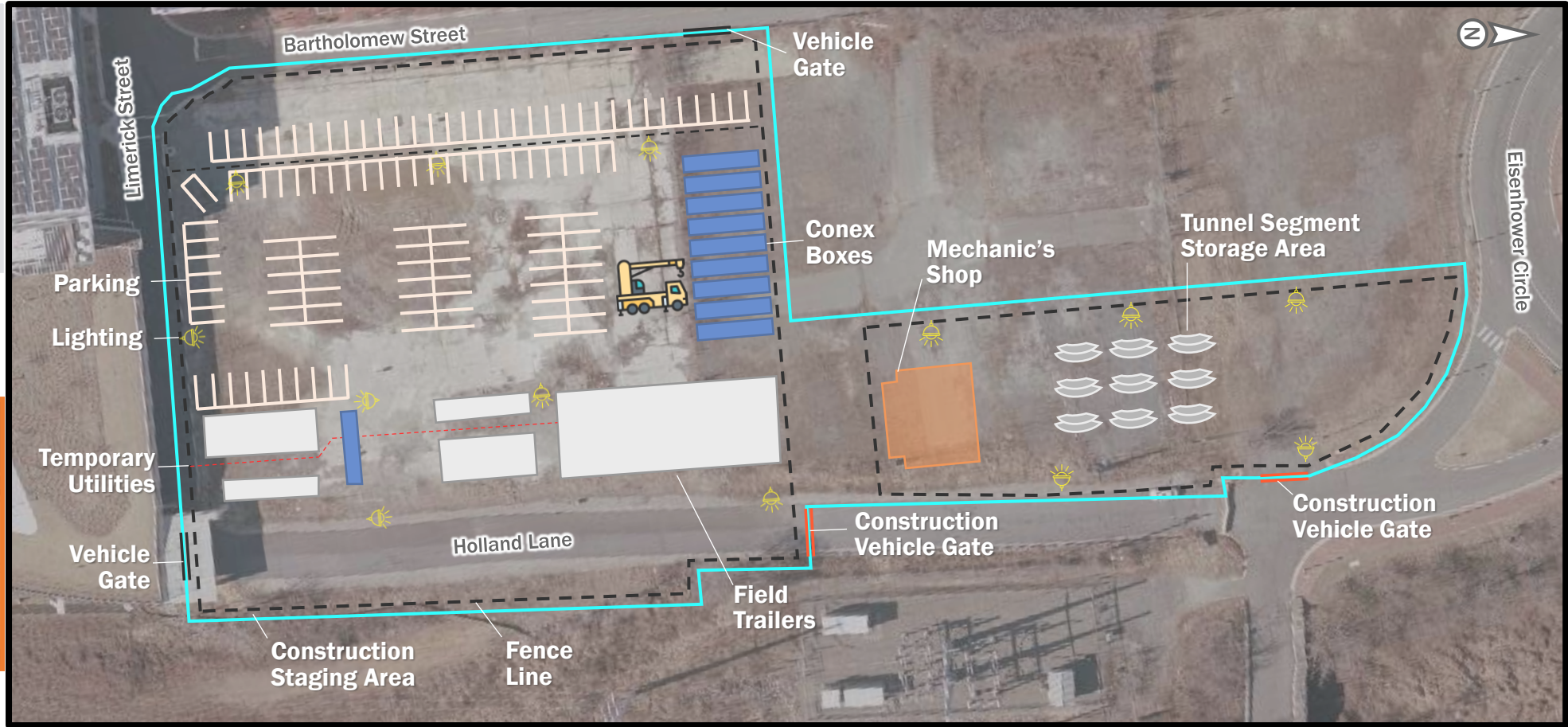
Setting up the Holland Lane Lot to Support the RiverRenew Tunnel Project



Field Trailers:
May – June 2021



Mechanic's Shop:
May – June 2021



Conex Box
Placement:
April 12 – 16



Working Surface:
April 5 – 16



Utility Work: May 2021 – Jun 2021



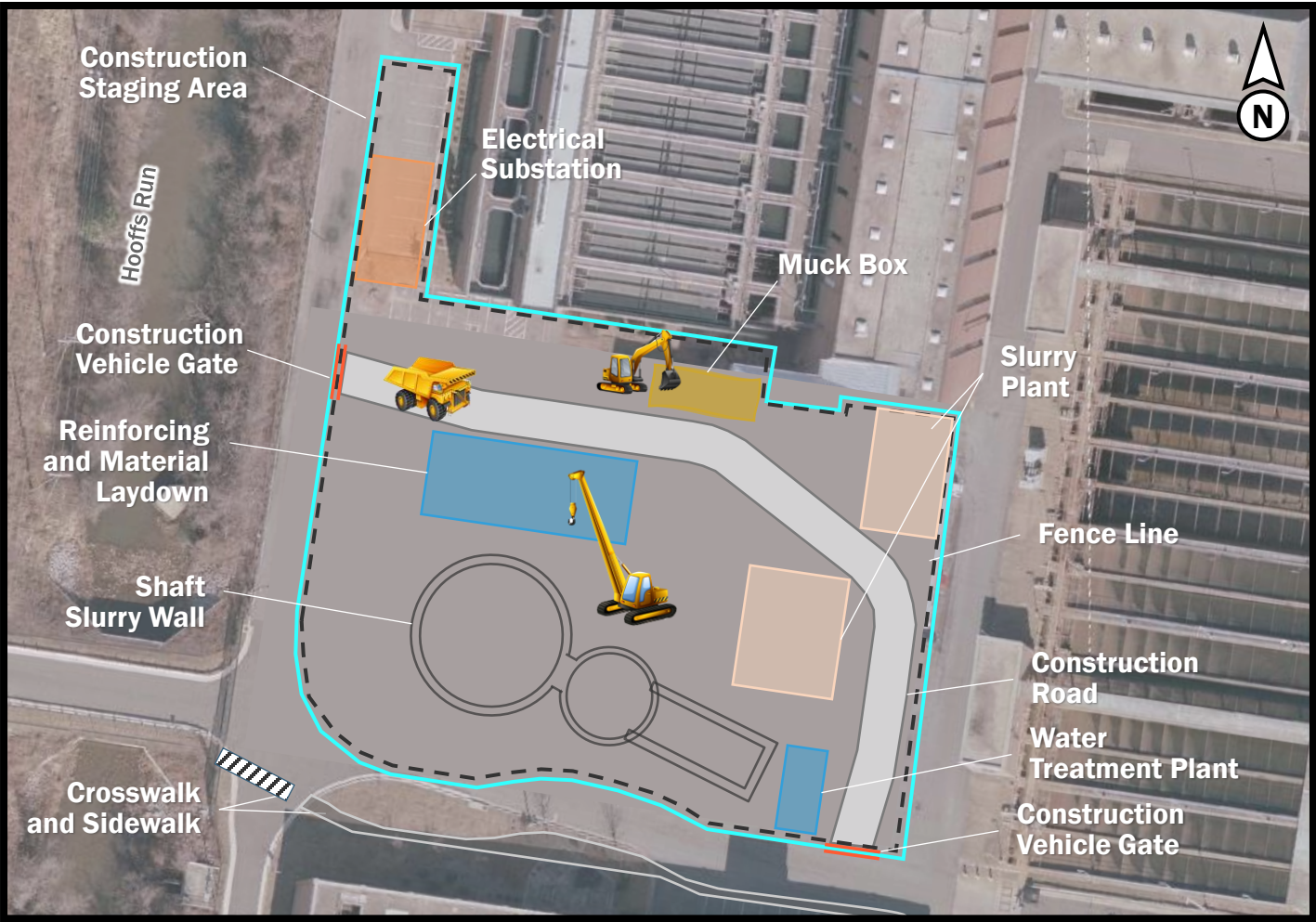
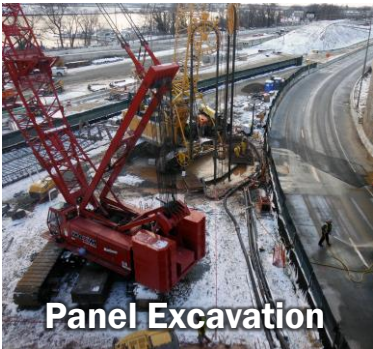
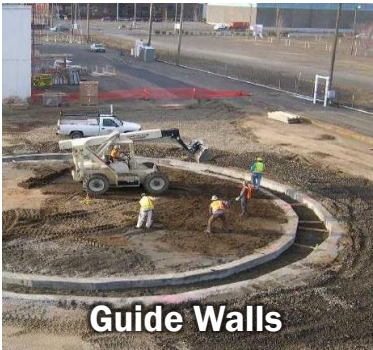
Tunnel Segments: Mid 2022 – Early 2024



Crane On Site: April 12 - 16

RiverRenew Tunnel Project Mobilization to AlexRenew is Scheduled for June 2021

The First Phase of Work Is Support of Excavation from August 2021 to January 2022



A black and white photograph of a park. In the foreground, a large tree trunk is on the left, and a paved path leads from the bottom right towards the center. A tall, black lamppost with a white globe stands on the path. The middle ground shows a grassy area with several benches and picnic tables. In the background, there are more trees and a building with a gabled roof. The sky is clear and light-colored.

RiverRenew Tunnel Project Look-Ahead

RiverRenew Tunnel Project Look-Ahead through December 2021

April	May	June	July	August	September	October	November	December
Right of Entry Agreement Open House 4/7	AlexRenew Listening Session 5/20	SAG Meeting No. 3 6/17	Pendleton Street Listening Session 7/15	SAG Meeting No. 4 8/19	Groundbreaking Ceremony	SAG Meeting No. 5 10/21	W.A.T.E.R Fund Virtual Event No. 2	SAG Meeting No. 6 12/16
SAG Meeting No. 2 4/15	Rates Public Hearing 5/22	Duke Street Listening Session 6/24	Royal Street Listening Session 7/22	TBM Outreach to Alexandria Schools	Council-Board Workgroup Meeting		Quarter 4 River Renewer	Council-Board Workgroup Meeting
Council-Board Workgroup 4/19	Quarter 2 River Renewer	Construction Starts at AlexRenew	W.A.T.E.R Fund Virtual Event No.1	Quarter 3 River Renewer	Construction Starts at Pendleton Street		Construction Starts along Hooffs Run	Construction Starts at Royal Street
Website Refresh Launch				RiverRenew Construction Hotline				
Rate Adjustment Outreach April 21 – June 30								

Legend:

- Digital Media
- Events
- Meetings
- General Outreach
- Construction (anticipated)



To learn more, visit www.RiverRenew.com