



# 2021-2022 RiverRenew Stakeholder Advisory Group

Meeting No. 6

January 20, 2022



## Recap from November Meeting

- Refinement of flyer describing **Alexandria's Flooding and Water Quality Projects**
- Reviewed RiverRenew Local Employment, Rate Adjustments, and Affordability
- **Construction underway** on all RiverRenew Tunnel Project Components
- **Tunnel Boring Machine** fabrication ongoing in Germany
- **\$40 million grant** for RiverRenew included in Governor Northam's biennial budget proposal
- **Extension of RiverRenew SAG** by City Council

## Tonight's Presentation

- SAG Feedback
- 2022-2023 SAG
- Alexandria's Flooding and Water Quality Projects Flyer
- Overview, Progress, and 6-Month Look-Ahead for RiverRenew Tunnel Project Construction Sites:
  - Pendleton Street
  - Royal Street
  - Hooffs Run
  - AlexRenew
- Community Outreach
- Public Comment Period

# Virtual Meeting Best Practices

## Video

- **Camera turned on** for SAG members, when possible

## Audio

- **Microphones muted** unless speaking
- Avoid speaking over or interrupting each other (**see Ground Rules**)

## Participation

- Questions for **SAG members only** will be taken **after each section**
- Please use the **“Raise Hand”** button to ask a question
- Questions will be **answered in the order received**
- **Public comment** will be taken at the end of the meeting. Each speaker will be allotted **3 minutes**

# SAG Feedback



Review and **monitor construction/program progress**



**Communicate progress** to the community by leveraging existing networks



Identify concerns and **receive input** from the public



**Provide recommendations** regarding mitigation of construction impacts

# In December 2021, City Council Extended the Term of the RiverRenew SAG for an Additional Year

## 2022-2023 SAG Representation and Members:



**Morgan Babcock**  
Eisenhower Partnership  
Nominee



**Mace Carpenter**  
Tobacco Quay, Waterfront  
Residences, or Rivergate



**Liz Birnbaum**  
Carlyle or Duke St.  
Corridor



**Mark McNutt**  
Interest in RiverRenew



**Dan Bradfield (SAG Chair)**  
South Old Town



**Michelle Millben**  
Interest or expertise in  
diversity, race, and social  
equality



**Seeking Applicants**  
Engineering or  
Construction Background



**Erik Olson**  
NOTICe Nominee



**Yvonne Callahan**  
OTCA Nominee

### Charge:

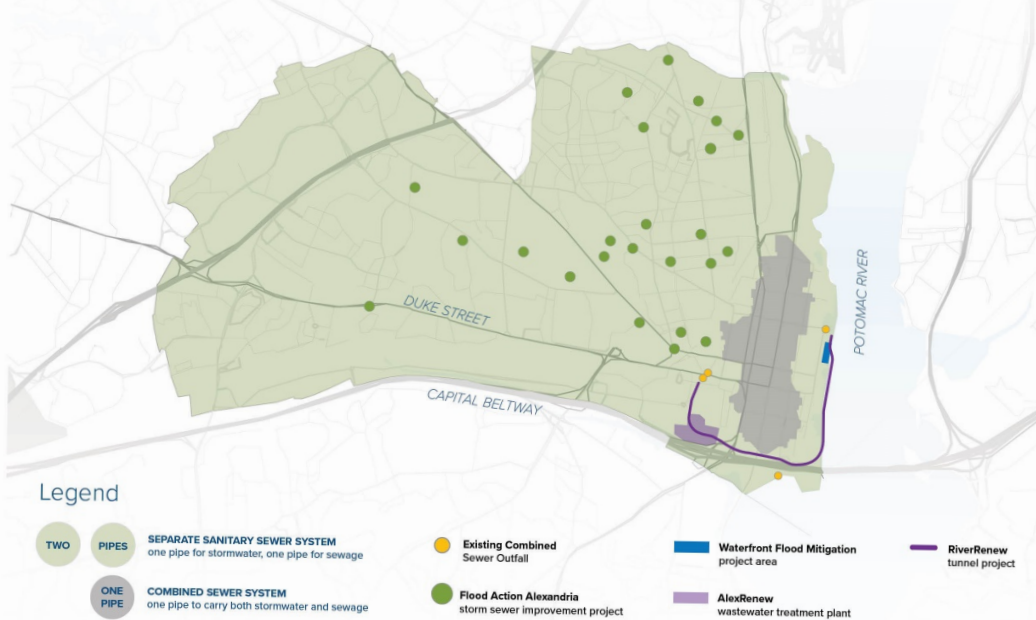
- Review and monitor construction and program progress
- Communicate progress to the community by leveraging existing networks
- Identify concerns and receive input from the public
- Provide recommendations regarding mitigation of construction impacts

### Other Information:

- SAG representation to remain the same
- Term: Feb 2022 – Feb 2023
- SAG can be extended to Feb 2024 (three years from first meeting)

# Alexandria's Flood Mitigation and Water Quality Projects

City of Alexandria's Separate and Combined Sewer Systems



## Legend

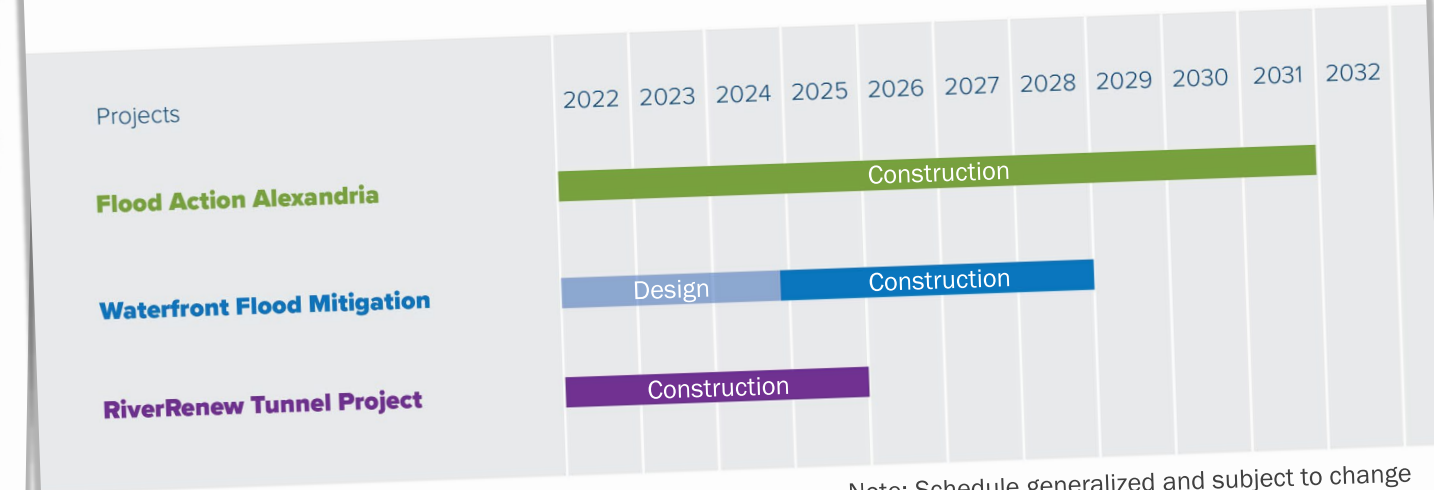
- TWO PIPES** SEPARATE SANITARY SEWER SYSTEM  
one pipe for stormwater, one pipe for sewage
- ONE PIPE** COMBINED SEWER SYSTEM  
one pipe to carry both stormwater and sewage
- Existing Combined Sewer Outfall**
- Flood Action Alexandria storm sewer improvement project**
- Waterfront Flood Mitigation project area**
- AlexRenew wastewater treatment plant**
- RiverRenew tunnel project**

## Major Projects

## Project Goals

<p><b>Flood Action Alexandria</b></p> 	<p><b>Increase storm sewer capacity to reduce flooding during intense storm events</b></p> 
<p><b>Waterfront Flood Mitigation</b></p> 	<p><b>Minimize nuisance flooding caused by high tides in the Potomac River and undersized storm sewers</b></p> 
<p><b>RiverRenew Tunnel Project</b></p> 	<p><b>Improve the health of Alexandria's waterways by capturing and treating combined sewer overflows</b></p> 

## Schedule for Alexandria's Flood Mitigation and Water Quality Projects



Note: Schedule generalized and subject to change

## Additional Questions and Contact Information

### Flood Action Alexandria

**Stormwater Flooding**  
Contact the City of Alexandria at (703) 746-6499 or visit [alexandriava.gov/stormwater](http://alexandriava.gov/stormwater)



### Waterfront Flood Mitigation

**Tidal Flooding**  
Contact the City of Alexandria at (703) 746-4122 or visit [alexandriava.gov/waterfront](http://alexandriava.gov/waterfront)



### AlexRenew and RiverRenew

**Sewage Treatment**  
Call AlexRenew at (703) 721-3500 or visit [AlexRenew.com/contact-us](http://AlexRenew.com/contact-us)



**RiverRenew Tunnel Project**  
Call the Construction Hotline at (800) 234-6592 or visit [RiverRenew.com/contact-us](http://RiverRenew.com/contact-us)



# Construction at Four Tunnel Project Construction Staging Areas is Underway

**1** Pendleton Street  
Construction Staging Area  
*October 6, 2021*

**2** Royal Street  
Construction Staging Area  
*November 8, 2021*

**3** Hooffs Run  
Construction Staging Area  
*December 8, 2021*  
North of Jamieson Avenue  
**February 7, 2022\***  
South of Jamieson Avenue

**4** AlexRenew  
Construction Staging Area  
*May 17, 2021*

\*Note: Construction start date subject to shift

## Legend

- Existing Outfall
- - Waterfront Tunnel Route
- Hooffs Run Interceptor Route
- Construction Staging Area (CSA)



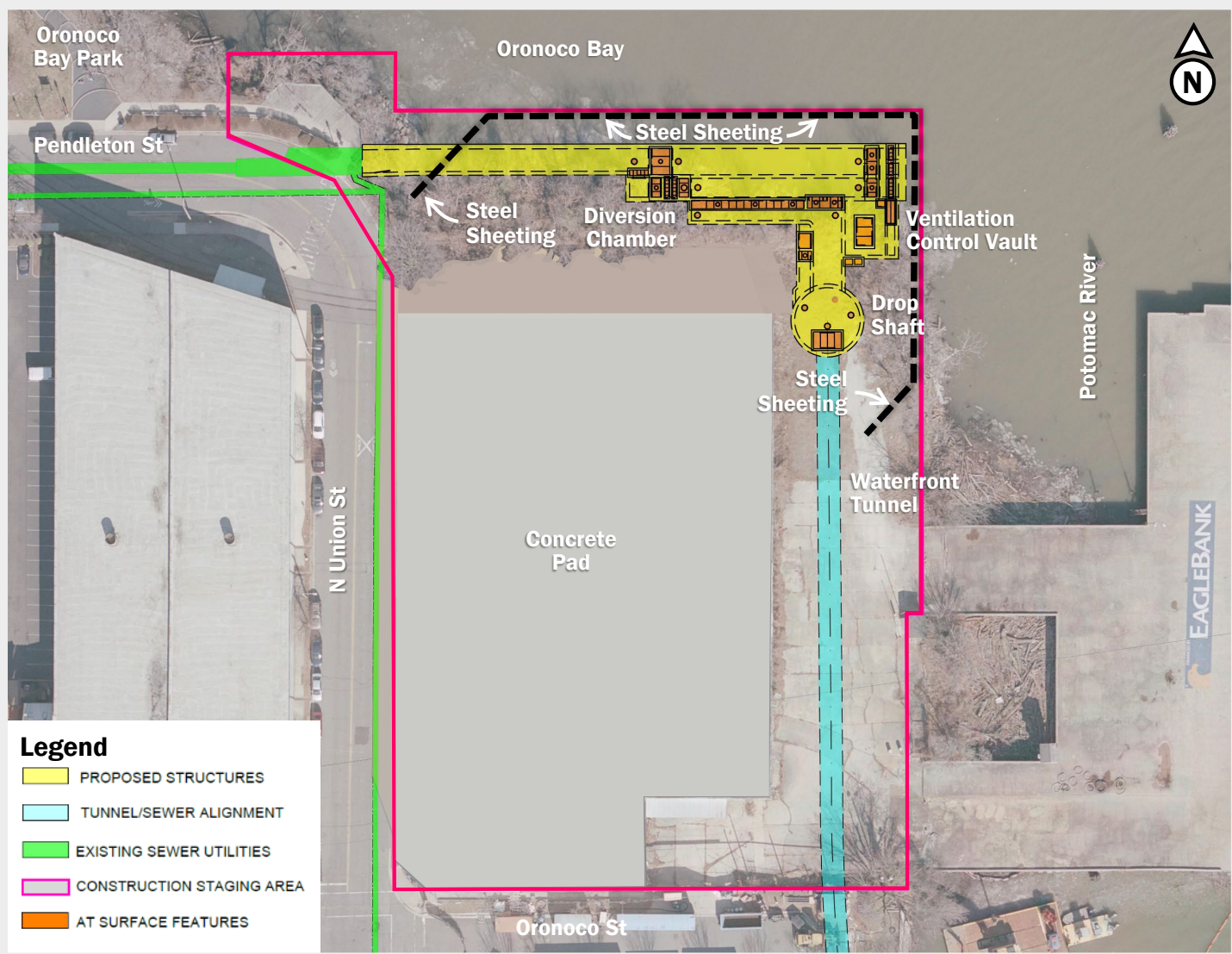


# Pendleton Street Site

Sheeting installation along Oronoco Bay



# Pendleton Street Site Construction Update



**Legend**

- PROPOSED STRUCTURES
- TUNNEL/SEWER ALIGNMENT
- EXISTING SEWER UTILITIES
- CONSTRUCTION STAGING AREA
- AT SURFACE FEATURES



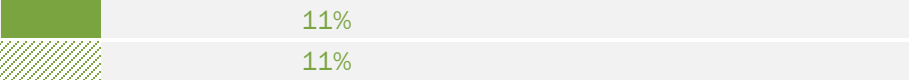
## Design Progress

■ Actual ▨ Planned As of December 30, 2021



## Construction Progress

Jun 2022 ▲



Nov 2024 ▲

## Major Activities

- Temporary utility installation underway
- Support of excavation (sheeting) in the Oronoco Bay and Potomac River nearly complete
- Dewatering of area behind sheeting starting



# Seismographs Installed Near Pendleton Street Site



## WHAT AM I?

I am a **seismograph**! I measure potential ground vibrations during construction of the RiverRenew Tunnel Project at the Pendleton Street Site.

### SEISMOGRAPH

protected from the elements by a waterproof box

### SOLAR PANEL

powers the seismograph

### GEPHONE

buried sensor detects ground vibrations



#### For more information:

🌐 [RiverRenew.com/construction/pendleton-street](https://www.RiverRenew.com/construction/pendleton-street)





☎ Construction hotline: 1-800-234-6592

✉ [AskRiverRenew@AlexRenew.com](mailto:AskRiverRenew@AlexRenew.com)

# Map of Seismographs Installed Near Pendleton Street Site



# Pendleton Street Site Six-Month Look-Ahead

Feb	Mar	Apr	May	Jun	Jul
Rem. Sheeting	Backfill	Guide Walls	Site largely dormant (awaiting shaft slurry wall equipment from Royal Street Site)		Slurry Set up
 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>15 trucks/day</b></p> <p><b>Remove Existing Sheeting</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>30 trucks/day</b></p> <p><b>Backfill</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>15 trucks/day</b></p> <p><b>Construct Shaft Guide Walls</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>10 trucks/day</b></p> <p><b>Set up Site for Shaft Slurry Walls</b></p>		



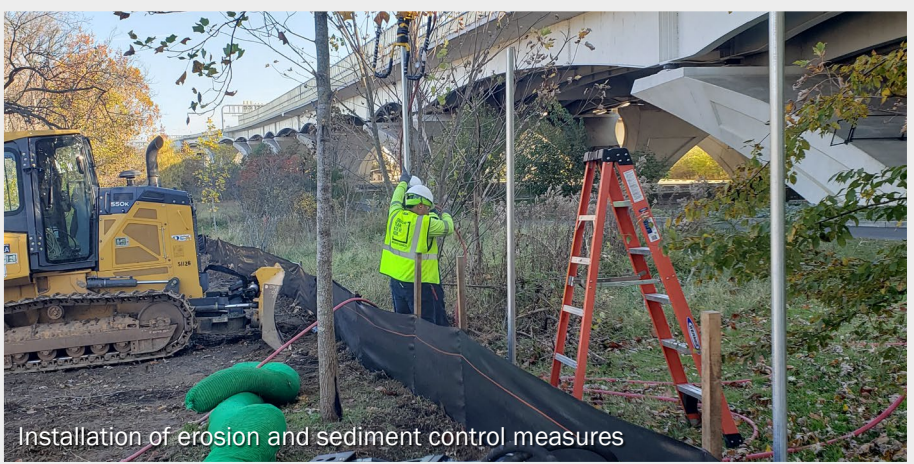
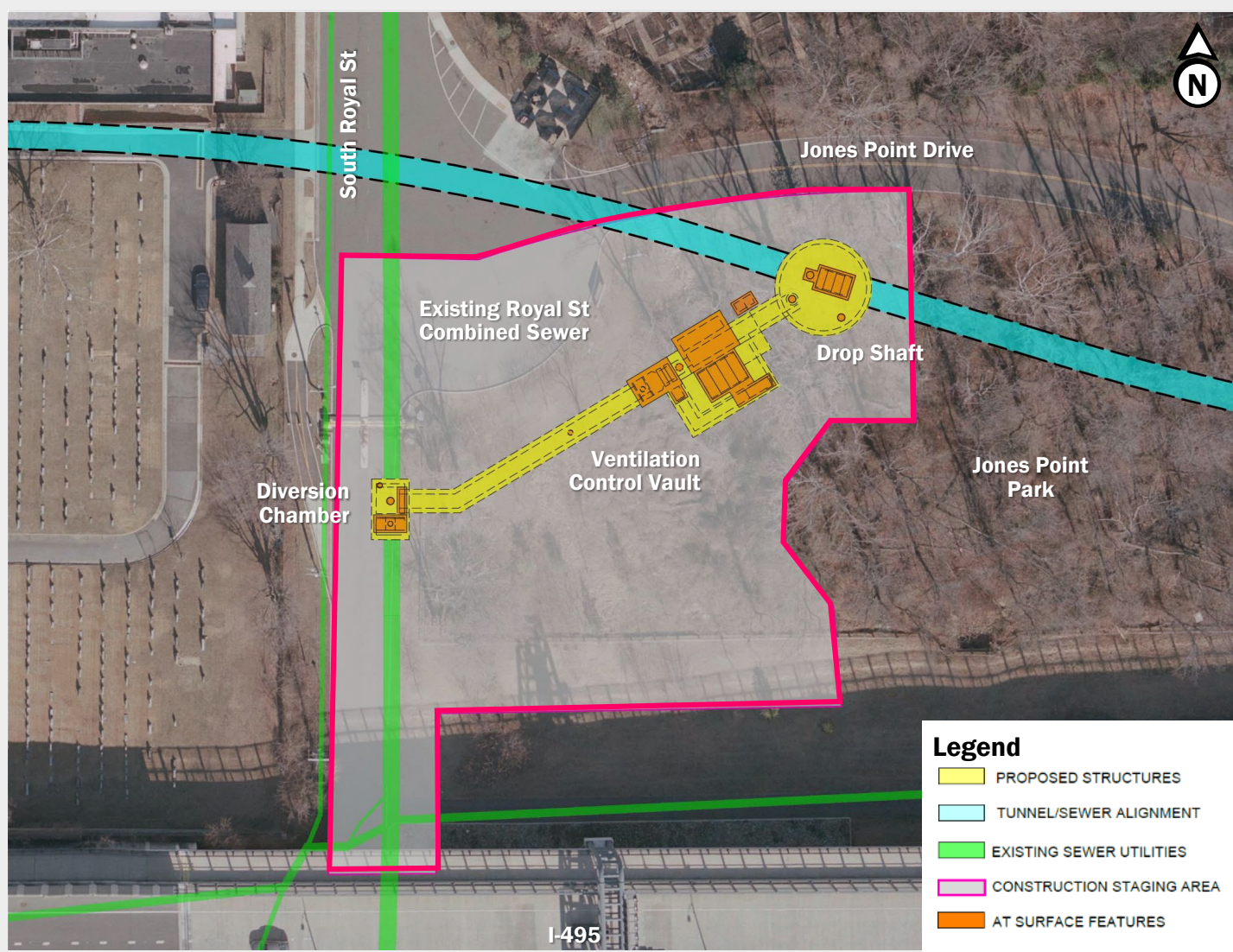
Note: Pictures representative of upcoming construction work

A construction site for the Royal Street Site. In the foreground, a worker in an orange safety vest and white hard hat stands on a large sheet of black plastic liner. To the left, a gravel working base is being installed. In the background, there are several green and yellow storage containers, a yellow excavator, and a worker. A bridge with a metal railing is visible on the left side of the image. The sky is overcast.

# Royal Street Site

Installation of gravel working base in construction staging area

# Royal Street Site Construction Update



Installation of erosion and sediment control measures

### Design Progress

■ Actual ▨ Planned As of December 30, 2021



### Construction Progress

Jun 2022 ▲







Jul 2024 ▲

### Major Activities

- Site preparation and equipment mobilization ongoing
- Erosion and sediment control installation complete



# Royal Street Site Six-Month Look-Ahead

Feb	Mar	Apr	May	Jun	Jul
Site Mobilization and Preparation		Set up for Slurry Walls	Construct Shaft Slurry Walls		Excav. Set up
 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>10 trucks/day</b></p> <p><b>Site Mobilization and Preparation</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>10 trucks/day</b></p> <p><b>Set up Site for Shaft Slurry Walls</b></p>	 <p><b>24 hours (variance)*</b> Mon-Sat</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>75 trucks/day</b></p> <p><b>Construct Shaft Slurry Walls</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>10 trucks/day</b></p> <p><b>Set up Site for Shaft Excavation</b></p>		

\*Note: Variance for 5 days only, limited work hours due to school pick-up/drop-off



Note: Pictures representative of upcoming construction work



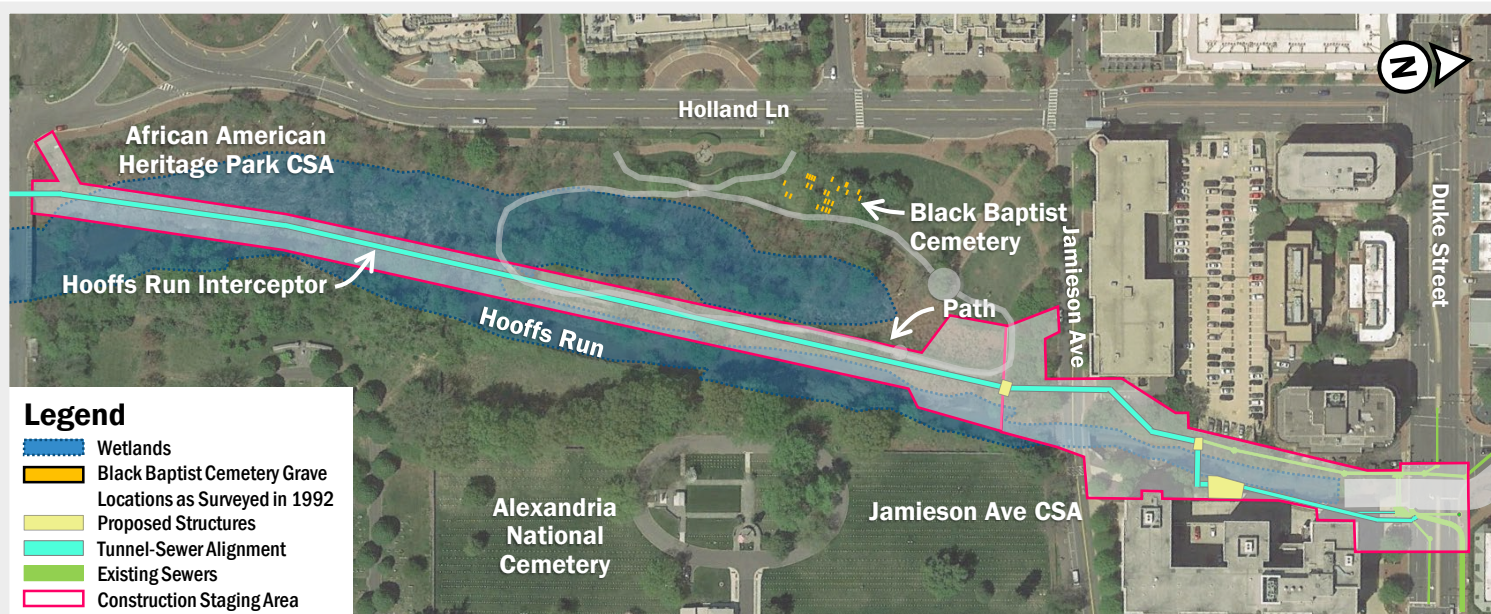
# Hooffs Run Site

---

Site mobilization north of Jamieson Avenue



# Hooffs Run Interceptor Construction Update

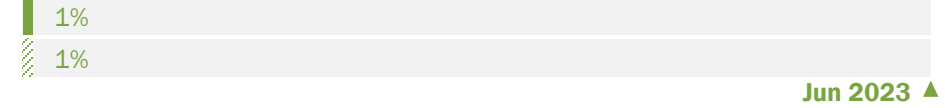


## Design Progress

■ Actual ▨ Planned As of December 30, 2021



## Construction Progress



## Major Activities

- Mobilization and site preparation of Jamieson Ave Site ongoing
- Walkway and portion of Outfall 004 demolished
- Maintenance of flow measures installed



**Mobilization Anticipated in February**




◀ African American Heritage Park CSA



Elevated walkway demolition

◀ Jamieson Avenue CSA

# Jamieson Avenue Site Six-Month Look-Ahead

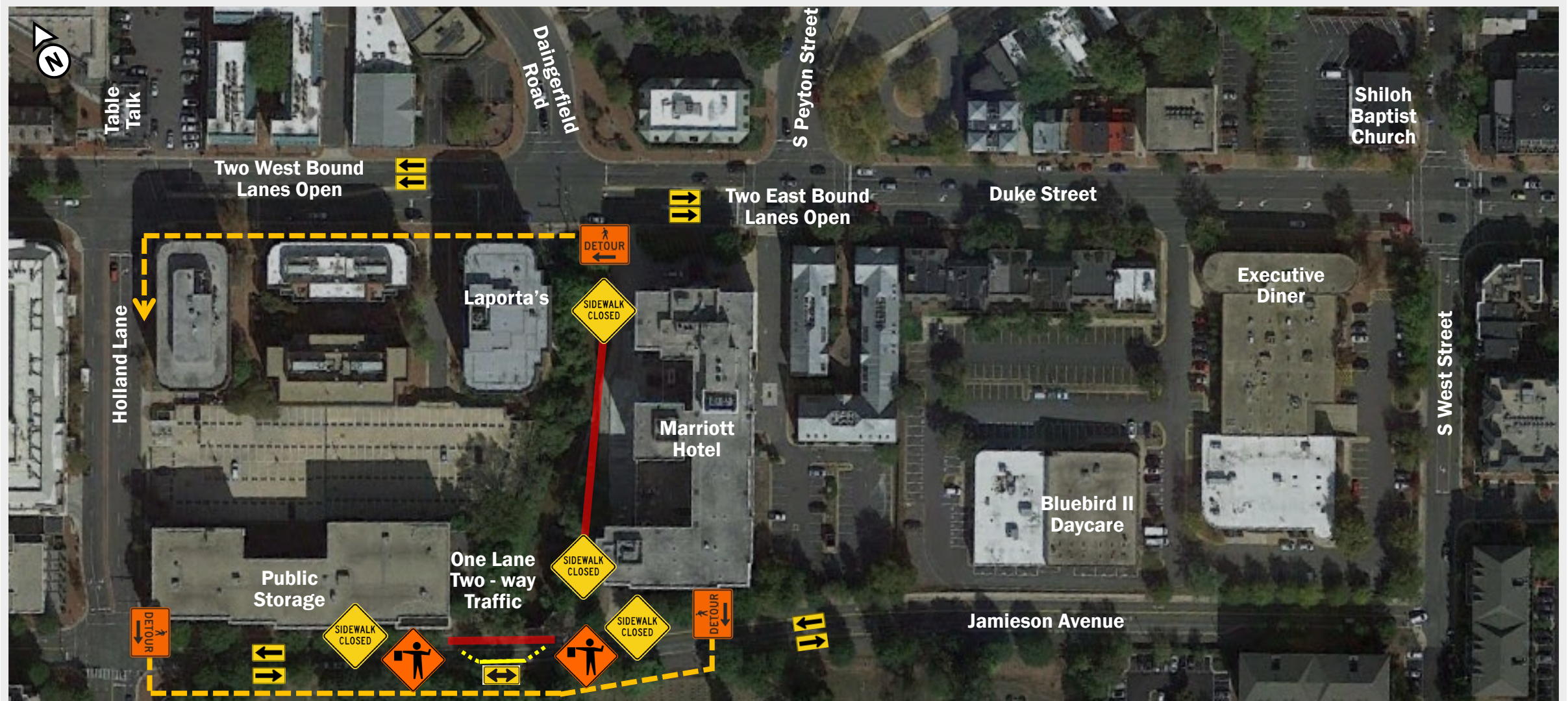
Feb	Mar	Apr	May	Jun	Jul	
Support of Excv. Installation		Diversion Chamber Construction			Open Cut Construction	
						
<p align="center"><b>7am-6pm</b> Mon-Fri</p>		<p align="center"><b>7am-6pm</b> Mon-Fri</p>			<p align="center"><b>7am-6pm</b> Mon-Fri</p>	
<p align="center">Lane and sidewalk closures: Duke St and Jamieson Ave</p>		<p align="center">Lane and sidewalk closures: Duke St and Jamieson Ave</p>			<p align="center">Lane and sidewalk closures: Duke St and Jamieson Ave</p>	
<p align="center"><b>20 trucks/day</b></p>		<p align="center"><b>30 trucks/day</b></p>			<p align="center"><b>30 trucks/day</b></p>	
<p align="center"><b>Support of Excavation Installation</b></p>		<p align="center"><b>Diversion Chamber Construction</b></p>			<p align="center"><b>Open Cut Construction</b></p>	



Note: Pictures representative of upcoming construction work

# Jamieson Avenue Intermittent Lane and Sidewalk Closures (9am–3pm)

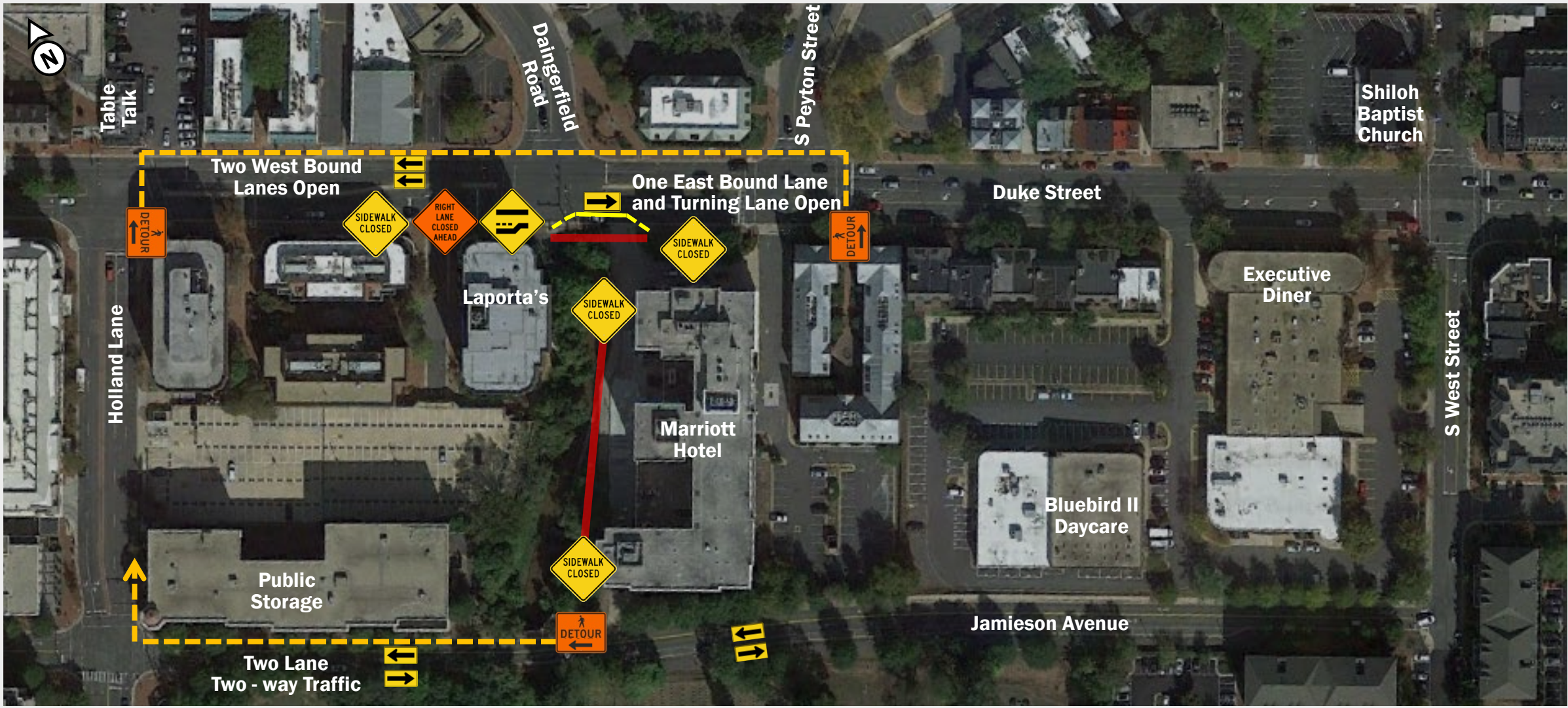
Ongoing through October 2022



Note: Jamieson Avenue lane closure is not concurrent with Duke Street lane closure




# Duke Street Intermittent Lane and Sidewalk Closures (9am–3pm)

Ongoing through June 2022



Note: Duke Street lane closure is not concurrent with Jamieson Avenue lane closure

# African American Heritage Park Site Six-Month Look-Ahead

Feb	Mar	Apr	May	Jun	Jul	
Site Mobilization and Preparation		Junction Chamber Construction			Open Cut Construction	
 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>10 trucks/day</b></p> <p><b>Site Mobilization and Preparation</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>20 trucks/day</b></p> <p><b>Junction Chamber Construction</b></p>	 <p><b>7am-6pm</b> Mon-Fri</p> <p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p> <p><b>30 trucks/day</b></p> <p><b>Open Cut Construction</b></p>				



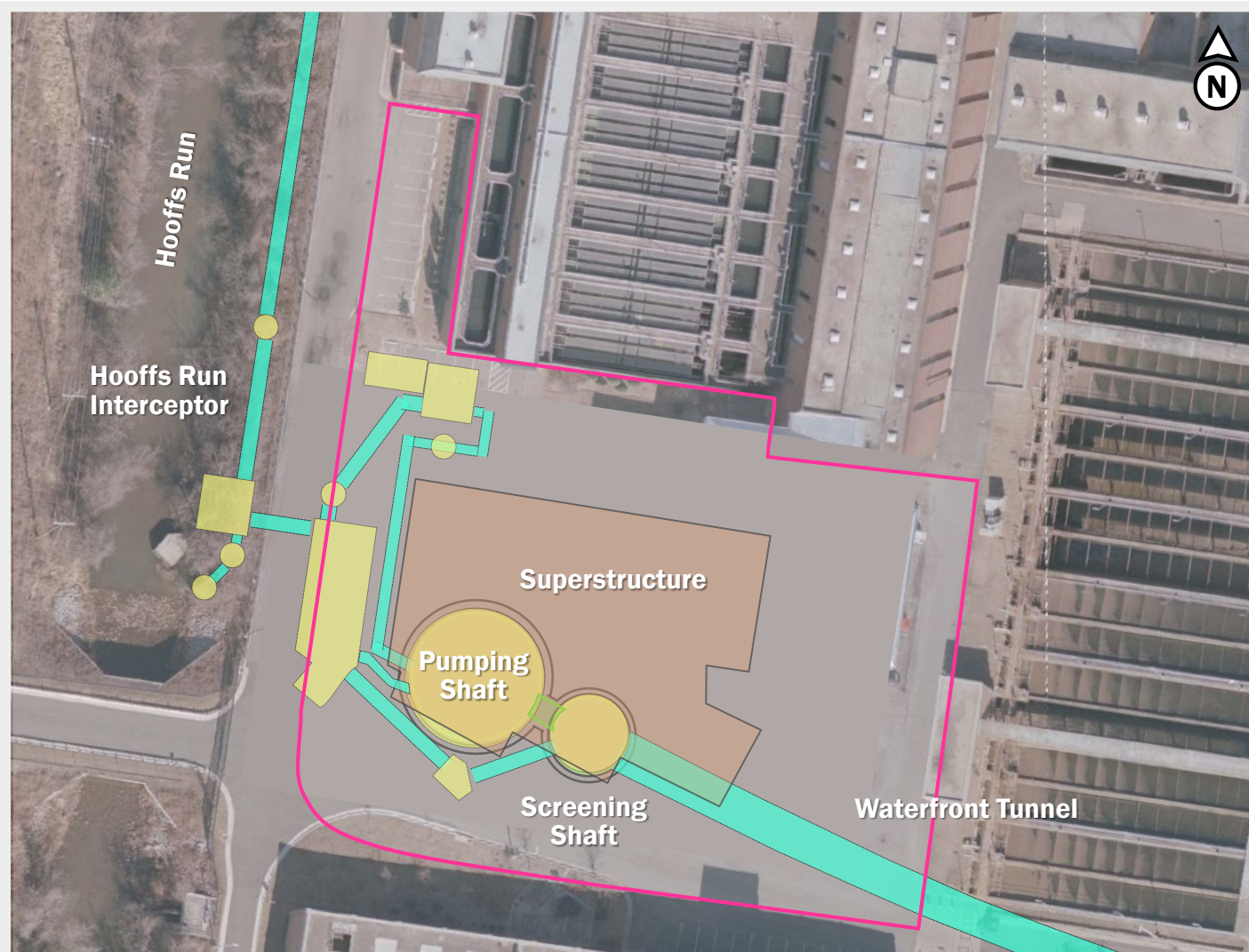
Note: Pictures representative of upcoming construction work

# AlexRenew Site

---

Hydromill excavation of a slurry wall panel at AlexRenew

# AlexRenew Site Construction Update



## Design Progress

■ Actual ▨ Planned As of December 30, 2021



## Construction Progress

Jun 2022 ▲



Jul 2024 ▲

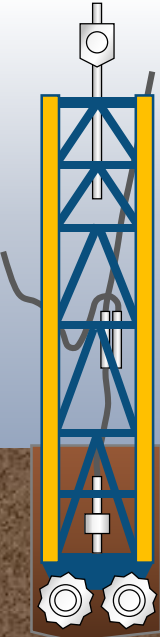
## Major Activities

- Shaft slurry wall construction ongoing

# Excavating a Shaft Slurry Wall Panel with the Hydromill



Click to play.





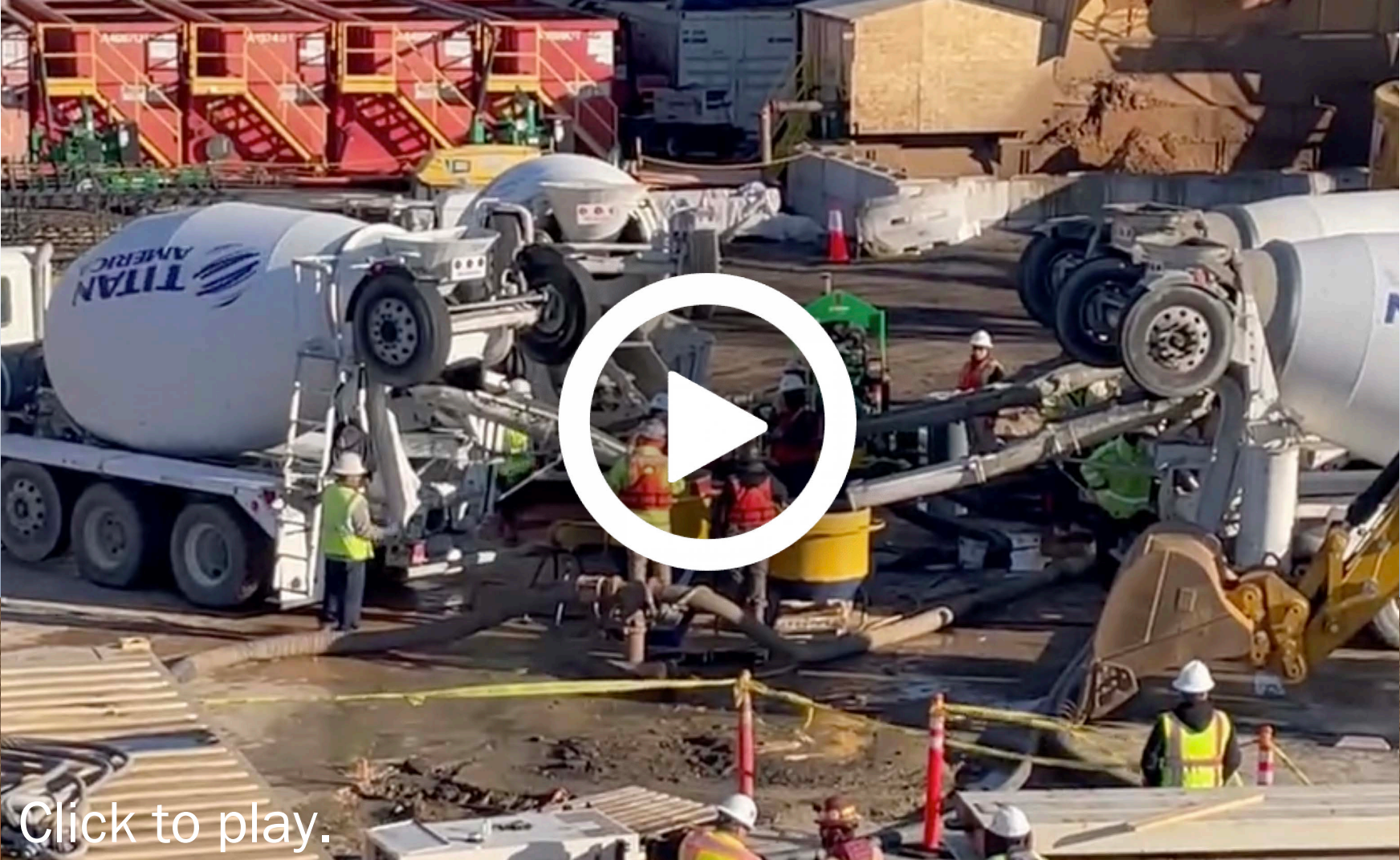
# Placing Steel Reinforcing Cage in the Excavation



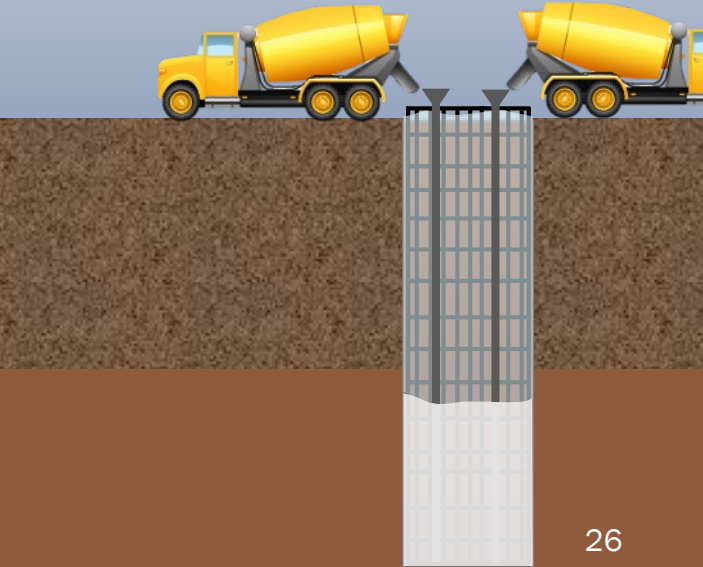
Click to play.



# Pouring Tremie Concrete into the Excavation

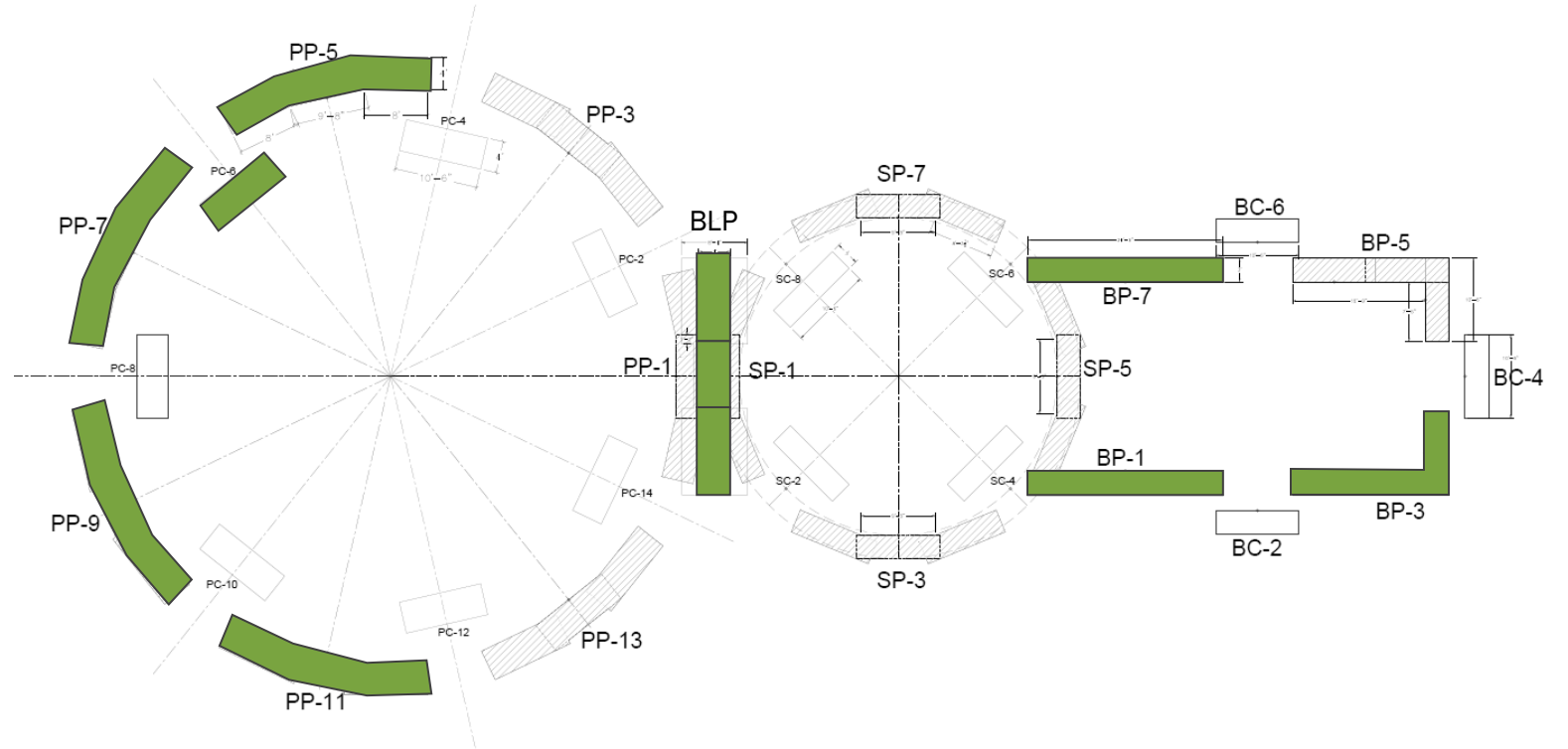


Click to play.

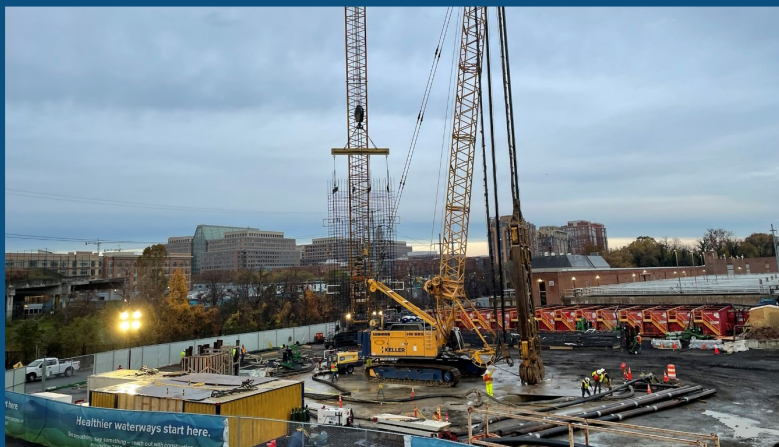

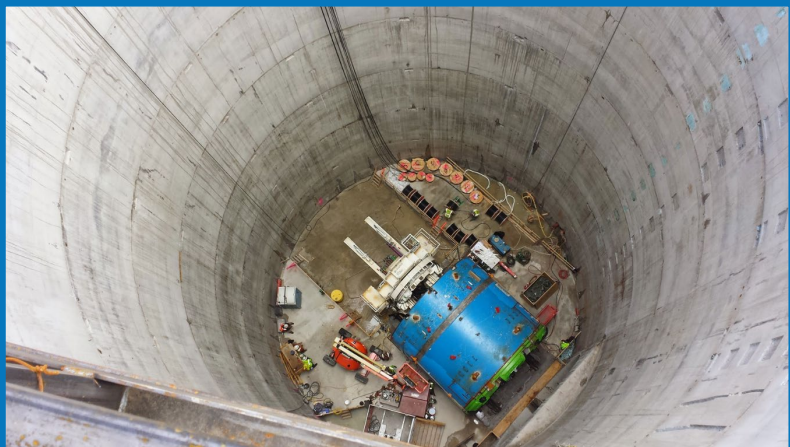


# Shaft Slurry Wall Progress at AlexRenew

Panel ID	Cubic Yards of Concrete	Pounds of Reinforcing
PP-5	744	57,000
PP-7	748	57,000
PP-9	728	57,000
PP-11	744	57,000
PC-6	293	26,000
BLP-1	480	Unreinforced
BLP-2	688	Unreinforced
BP-1	544	Unreinforced
BP-3	480	Unreinforced
BLP-3	272	Unreinforced
BP-7	544	Unreinforced



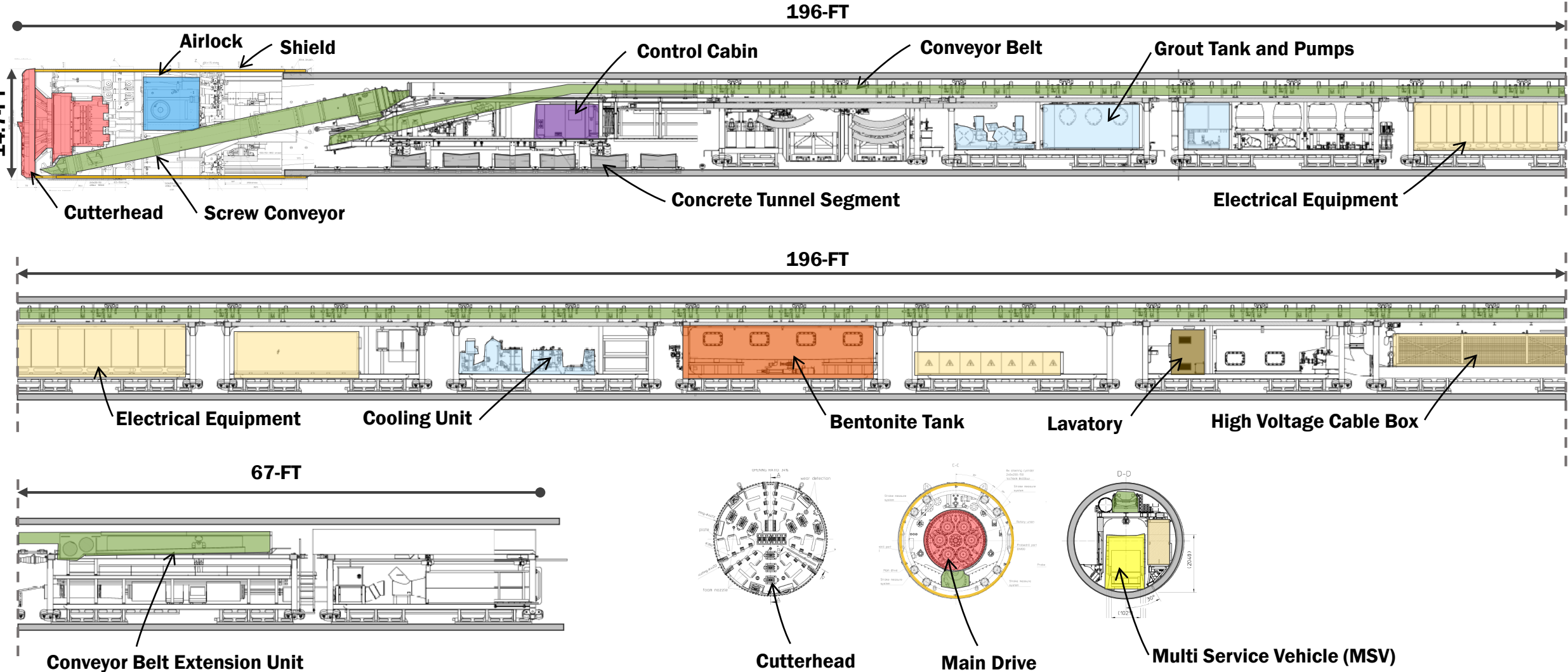
# AlexRenew Site Six-Month Look-Ahead

Feb	Mar	Apr	May	Jun	Jul	
Construct Shaft Slurry Walls		Excavate Shafts			Assemble Tunnel Boring Machine	
						
<p><b>7am-6pm</b> Mon-Fri</p>		<p><b>7am-11pm (variance)   Hauling 7am-6pm</b> Mon-Fri</p>			<p><b>7am-6pm</b> Mon-Fri</p>	
<p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p>		<p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p>			<p>No anticipated impacts to sidewalks, bicycle routes, or travel lanes</p>	
<p><b>75 trucks/day</b></p>		<p><b>100 trucks/day</b></p>			<p><b>10 trucks/day</b></p>	
<p><b>Construct Shaft Slurry Walls</b></p>		<p><b>Excavate Pumping and Screening Shafts</b></p>			<p><b>Assemble Tunnel Boring Machine</b></p>	



Note: Pictures representative of upcoming construction work

# Major Components of the RiverRenew Tunnel Boring Machine



# Tunnel Boring Machine Fabrication Update

Shield, Main Drive, and Cutterhead



Tunnel Boring Machine Front Shield



Main Drive



Cutterhead

# Tunnel Boring Machine Fabrication Update

## Airlock



Airlock



Compression/Decompression Chamber



Decompression Chamber

# Tunnel Boring Machine Fabrication Update

## Trailing Gear



Gantry 1



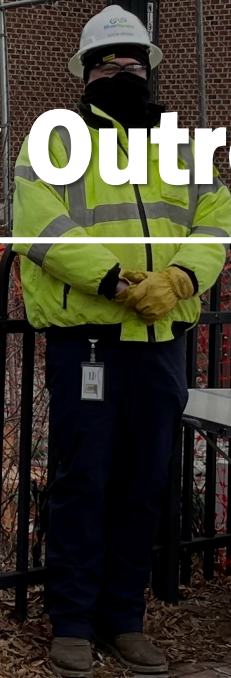
Gantry 4



Gantry 8



# Community Outreach



# AlexRenew Awarded 2022 NACWA Award for National Environmental Achievement in Public Information and Education: Educational Program



## National Environmental Achievement

AWARDS



CLOE  
The Tunnel Boring Machine
WAYNE  
The Cranes
EDIE  
The Excavator
BLAKE & BRIAN  
The Backhoe Brothers
CECE  
The Concrete Mixer
TODD  
The Heavy Hooper
ELAINE  
The All-Terrain Crane
SAM  
The Street Sweeper

2022  
NACWA National  
Environmental Achievement  
AWARD WINNER FOR  
PUBLIC INFORMATION & EDUCATION:  
EDUCATIONAL PROGRAM

### CLOE AND FRIENDS SAVE THE WATERWAYS

*In a world where millions of gallons of combined sewage pollute Alexandria's waterways every year...  
One community must come together to support the construction of a massive tunnel project...  
And one team must make sure every Alexandrian understands what it takes to protect our rivers and streams.*

"My kids love Cloe!"  
-Stakeholder Advisory Group Member

"Can we get flames on the real thing?"  
-Mayor of Alexandria

★★★★★

"This morning and from my roof, I enjoyed watching Edie the Excavator taking down the walls!"  
-Community Member

1800 Limerick Street | Alexandria, VA 22314  
RiverRenew is a program owned and implemented by Alexandria Renew Enterprises.

Scan to  
watch our  
movie trailer!

# Stay Engaged on RiverRenew Progress!



## Spot the Equipment at AlexRenew Banner

**Take a look!** Our team is digging deep underground, preparing to launch the machine that will dig the Waterfront Tunnel. Use your phone to scan the QR codes below and learn more about each step!

[riverrenew.com](#)  
[RiverRenew](#)

**@ Limerick Street Soccer Field**

## Cloe's Corner

[riverrenew.com/  
community/  
cloes-corner](http://riverrenew.com/community/cloes-corner)

## Sip 'n See Events

**CONSTRUCTION QUESTIONS?**

**Hooffs Run: Tues 10-1  
Pendleton St: Weds 10-1**



**Sign Up for  
Construction  
Alerts**

[riverrenew.com/  
construction/  
alerts](http://riverrenew.com/construction/alerts)

## Check out our Time-Lapse Cameras



# Upcoming Community Events



Let's talk tunnels with RiverRenew engineers and contractors.

**RiverRenew Virtual Community Listening Session**  
Wednesday, January 26  
6:00-8:00 p.m.

[REGISTER NOW](#)

Building for the future of Alexandria's waterways

RiverRenew.com  



ALEXANDRIA  
EARTH DAY  
April 2022 TBD



TBM UNVEILING CEREMONY  
• JUNE 2022 •



**Community Listening Sessions**

**July 2022**

@ Pendleton St, Royal St, Hooffs Run, & AlexRenew



# Public Comment Period

Concrete pour for shaft slurry wall at AlexRenew



**RiverRenew**<sup>TM</sup>

INVESTING IN HEALTHIER WATERWAYS FOR ALEXANDRIA