



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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VIA ELECTRONIC MAIL

To:

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From: Mike Rolband

Date: December 20, 2022

Subject: Alexandria Combined Sewer Overflow Outfall Progress Report (2022)

In accordance with the 2017 Virginia Acts of Assembly Chapters 826 and 827, the Department of Environmental Quality is transmitting the attached 2022 General Assembly Report for Virginia Pollution Discharge Elimination System (VPDES) Permit VA0025160 from Alexandria Renew Enterprises (AlexRenew).

If you have any questions concerning this report or would like a hard copy of this report, please contact Brandon Bull, Director – Policy, at (804) 698-4092.



AlexRenew is an independent public authority that manages Alexandria's wastewater to improve our local waterways.

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McGuire Woods, LLP

October 21, 2022

via Electronic Mail

Tom Faha, Director
Virginia Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193-1453

Subject: 2022 General Assembly Report for Virginia Pollution Discharge Elimination System (VPDES) Permit VA0025160

Dear Mr. Faha:

In accordance with Part V, Paragraph I.5 of the Virginia Pollutant Discharge Elimination System (VPDES) Permit VA0025160, effective through June 30, 2026, Alexandria Renew Enterprises (AlexRenew) is submitting this letter to report on the implementation status of the approved 2018 Long Term Control Plan Update (LTCPU).

The approved LTCPU, branded as RiverRenew since July 2018, includes four major projects. Three of these projects were completed as part of the previous reporting period and were essential to meet the milestone set forth in the LTCPU. The remaining project is the Tunnel System Project (Project), the largest of the four. The 2022 General Assembly Report will primarily provide updates specific to the Project, but will also include a programmatic discussion on cost and funding. The report is structured under the following major headings:

- Implementation status;
- Schedule;
- Cost and funding;
- Stakeholder outreach and engagement; and
- Major milestones anticipated in 2023.

RIVERRENEW TUNNEL PROJECT IMPLEMENTATION STATUS

The RiverRenew Tunnel Project (Project) is illustrated in Figure 1 and includes a 12-foot diameter, 2-mile-long storage and conveyance tunnel; a 6-foot diameter, 0.5-mile-long conveyance sewer; a 20 million-gallons-per-day (MGD) tunnel dewatering pumping station; a 130 MGD wet weather pumping station; and wet weather treatment.

Since the 2021 General Assembly Report, AlexRenew has made significant progress on the implementation of the Project. Overall, the Project is 30 percent complete. Due to the design-build nature of the Project, design and construction have been occurring

simultaneously. This past year, over 20 design packages were finalized, and design is anticipated to be complete by the end of the year. Advancing these designs has been crucial to stay on schedule to meet the Project's mandated deadline of July 1, 2025.

In December 2021, construction work had commenced at all Project construction sites, which include AlexRenew's Water Resource Recovery Facility, Pendleton Street (Outfall 001), Royal Street (Outfall 002), and Hooffs Run (Outfalls 003 and 004). A summary of Project milestones for each Project site/component are summarized in Table 1 along with the estimated percent complete for design and construction activities.

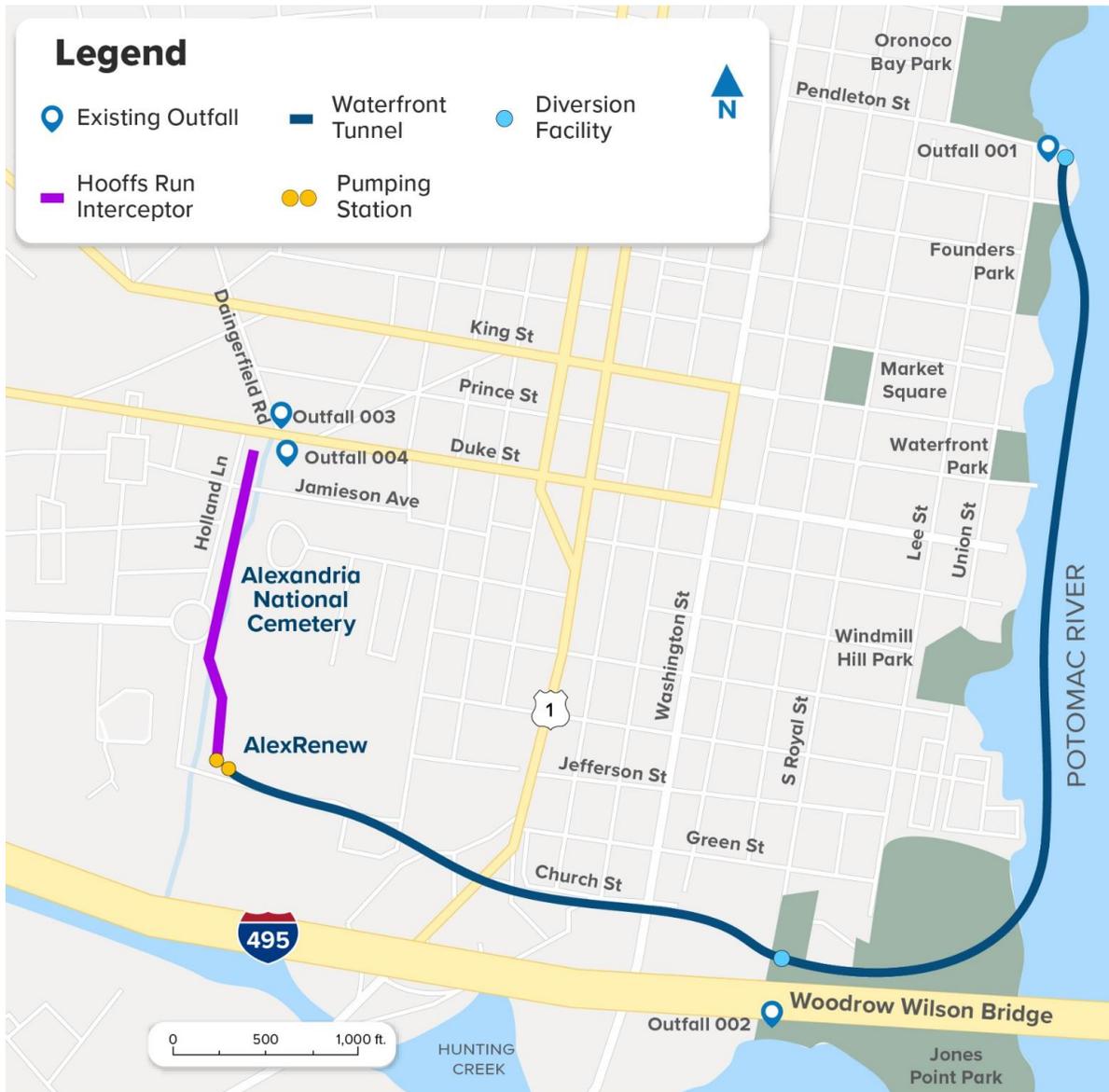


Figure 1. RiverRenew Tunnel System Project

Table 1. Summary of Tunnel Project Progress and Major 2022 Milestones

Project Site/ Component	Proposed Facilities	Major 2022 Milestones	Percent Complete	
			Design	Construction
AlexRenew	65- and 35-foot diameter Pumping and Screening shafts (respectively); diversion chamber; 20 and 130 MGD pumping stations; superstructure	<ul style="list-style-type: none"> • Pumping and Screening shafts' slurry walls installed and shaft excavation complete for both • Diversion chamber support of excavation started 	80%	13%
Pendleton St	35-foot diameter shaft; diversion chamber; overflow structure	<ul style="list-style-type: none"> • Cofferdam installation complete • Shaft slurry walls started 	84%	16%
Royal St	37-foot diameter shaft; diversion chamber	<ul style="list-style-type: none"> • Shaft slurry walls complete • Shaft excavation underway 	92%	18%
Hooffs Run	0.5-mile long, 6-foot diameter sewer interceptor; diversion chamber	<ul style="list-style-type: none"> • Diversion chamber and junction chamber walls underway • Hooffs Run Interceptor support of excavation and foundations underway 	95%	13%
Waterfront Tunnel	2-mile long, 12-foot diameter tunnel constructed by tunnel boring machine	<ul style="list-style-type: none"> • Tunnel boring machine manufacturing completed • Tunnel boring machine delivered, lowered, and assembled in Pumping and Screening shafts • Initial tunnel drive started • 3,000 of 15,000 reinforced precast segments manufactured 	96%	30%

Waterfront Tunnel work in 2022 was primarily focused on constructing the shafts necessary to launch and retrieve the tunnel boring machine. To date, crews have poured over 24,000 cubic yards of concrete and excavated over 11,000 cubic yards of soil during the construction of these four 12-story deep shafts, enough to cover a football field over 5-feet deep. Additionally, the manufacturing, shipping, delivery, assembly, and launch of the tunnel boring machine was critical to keep Waterfront Tunnel work on-schedule.

In Brandywine, MD, crews were busy setting up the segment plant to manufacture the precast concrete segments that will form the final liner of the Waterfront Tunnel. Approximately 3,000 segments, which will make 510 rings, have been manufactured to date.

Hooffs Run Interceptor work in 2022 focused on the construction of foundations and permanent concrete walls associated with the diversion and junction chambers. Within African American Heritage Park, crews installed support of excavation and prepared sewer bypass pumping operations to begin the open-cut work to install the Hooffs Run Interceptor.

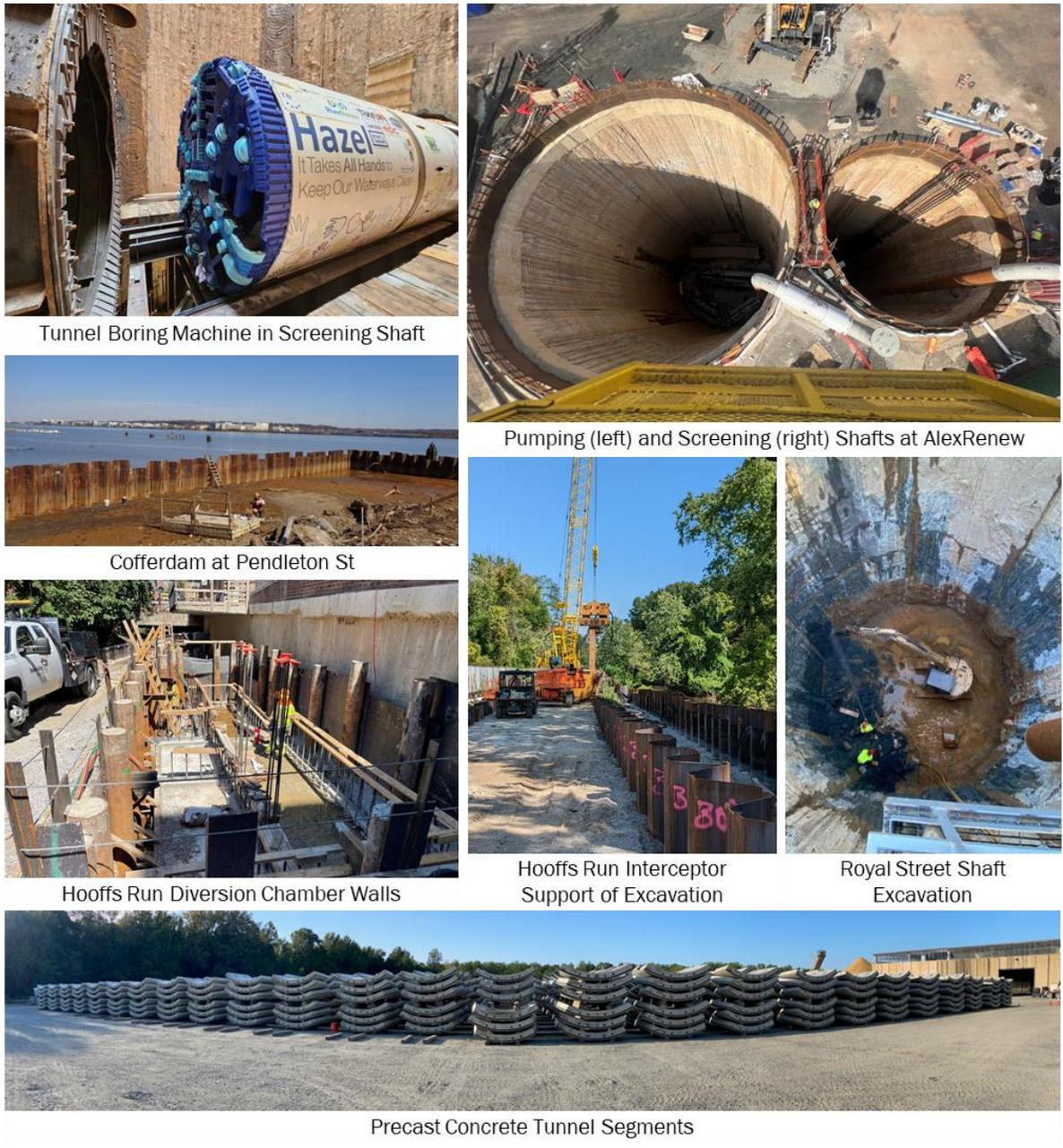


Figure 2. RiverRenew Tunnel Project Progress Photos, November 2021 – October 2022

RIVERRENEW TUNNEL PROJECT SCHEDULE

The Project remains on-schedule to meet its substantial completion date of July 1, 2025. A general schedule for each Project site/component is illustrated in Figure 3. It should be noted that the Project currently has zero days of float, meaning the projected completion date is the same as substantial completion (July 1, 2025). Since November 2021, the Project has ranged from negative 30 to 0 days of float. Schedule negativity resulted primarily from the following challenges:

- January 2022 delay in concrete for Pumping and Screening Shaft slurry walls at AlexRenew. Concrete was delayed due to weather, COVID-19 impacts, a shortage of CDL drivers due to Omicron spike, and a lack of concrete materials in the Greater Metro D.C. area.
- February 2022 delay in the fabrication and delivery of the tunnel boring machine due to COVID-19 and supply chain impacts.

AlexRenew collaborated with the Design-Builder through a series of schedule workshops to review schedule ties, durations, resource constraints, and phasing plans to develop mitigations and address schedule negativity associated with the delays. As a result, the Design-Builder submitted a recovery schedule in September 2022 without negativity (0 days of float).

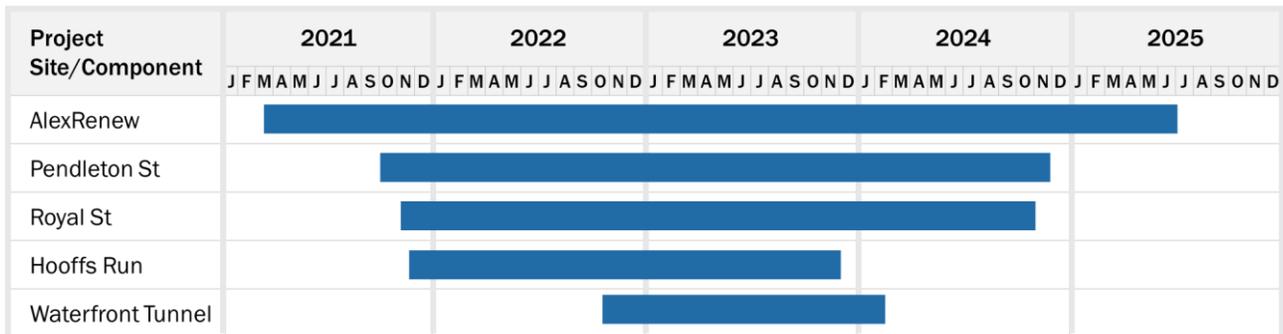


Figure 3. Generalized Schedule for the RiverRenew Tunnel Project

RIVERRENEW PROGRAM COST AND FUNDING

AlexRenew and the City of Alexandria are grateful to the Commonwealth for the continued support of clean and safe water in Alexandria. This year, \$50 million of American Rescue Plan (ARP) funds previously appropriated to City of Alexandria were designated to AlexRenew for this Program. In addition, the June 2022 Commonwealth budget included a \$40 million ARP grant to support the Program. AlexRenew is extremely appreciative of the Commonwealth’s partnership to address this centuries-old pollution issue and help offset dramatic rate increases to the citizens of Alexandria.

As illustrated in Figure 4, the capital cost of the RiverRenew Program is projected to be \$615 million with a total spend through September 2022 of \$254.4 million. The majority of this capital cost is associated with the Tunnel Project at \$584 million.

AlexRenew has solicited funds from a variety of sources to support this significant investment and minimize rate impacts on its customers. This funding strategy includes low-interest state and federal loans and state grants, which include:

- \$185.7 million loan with an interest rate of 1.35 percent through the Virginia Clean Water Revolving Loan Fund (VCWRLF);
- \$321 million loan with an interest rate of 1.88 percent through EPA’s Water Infrastructure Finance and Innovation Act;
- \$50 million in grants from the Commonwealth of Virginia; and
- \$90 million American Rescue Plan (ARP) funds from the Commonwealth of Virginia.

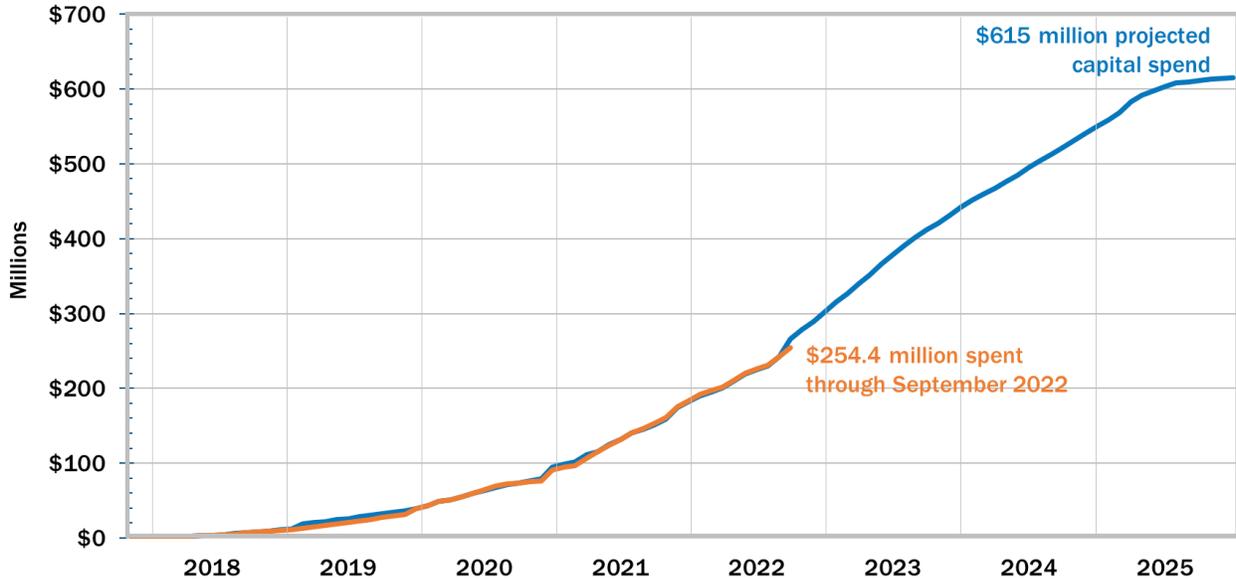


Figure 4. Projected RiverRenew Program Capital Spending to Date

As of September 2022, AlexRenew has expended \$104.8 million of the VCWRLF loan, \$47.1 million of state grants, and \$102.5 million of cash, to fund the RiverRenew Program. AlexRenew submitted the Combined Sewer Overflow (CSO) Program Application to VDEQ on September 22, 2022, and is awaiting the Grant Agreement documentation from VDEQ to access the funds. If the \$90 million ARP funds are received by December 2022, they will be expended by October 2023 in support of ongoing capital expenses associated with the Tunnel Project. Following the expenditure of ARP funds and VCWRLF proceeds, AlexRenew will draw on the WIFIA loan to fund the remaining Program expenditures.

It should be noted that recent market and economic conditions are affecting the availability, supply, and cost of equipment, materials, and commodities needed to construct the Tunnel Project. The Design-Build, subcontractors, and suppliers have been significantly impacted by escalation. Initial estimates show that escalation could impact final contract value by over \$30 million, which is partially driven by the Project's mandated completion date. For example, purchase of equipment and materials cannot be delayed and are being purchased at higher prices.

To minimize potential schedule delays, claims, disputes, and litigation, AlexRenew is considering expending the majority of its project contingency to assist with the escalation burden. If contingencies are not sufficient to cover escalation, the contract price may need to be increased. To assist with these unforeseen expenditures, AlexRenew may seek additional grant funding from the Commonwealth.

STAKEHOLDER OUTREACH AND ENGAGEMENT

In the past year, AlexRenew has continued to prioritize stakeholder outreach. The primary goals of outreach efforts over the last year were to proactively communicate construction activity, provide unique pathways to understanding complex technical Project components, share major milestones with the community, and continue to educate and inform all Alexandrians about the largest infrastructure project in our city's history.

Community Meetings and Listening Sessions

AlexRenew hosted a virtual community listening session in January 2022, where the project team shared an overview of construction progress and upcoming work activities. A series of more detailed, site-specific community listening sessions were held in-person at each of the four outfall sites in July and were attended by over 100 community members. A return to in-person meetings led to a marked increase in attendance, and subsequent community listening sessions are being planned for key times throughout the next year as construction progresses.

Additionally, AlexRenew held a public hearing on its Fiscal Year 2023 budget and previously approved sewer rate adjustment in May 2022.



Figure 5. Community Listening Sessions, July 11-14, 2022

Coordination with Stakeholder Groups

Consistent with previous phases of the Project, City Council approved an extension of the RiverRenew Stakeholder Advisory Group (SAG) in October 2021 to continue monitoring the progress of the Project through final design and construction. The SAG, consisting of nine members, has convened for five meetings since November 2021. AlexRenew will continue to meet with the group on the third Thursday of every other month as construction ramps up in the community.

In accordance with the 2018 Outfall Transfer Agreement between AlexRenew and the City of Alexandria, the City Council-AlexRenew Board Workgroup has continued to be engaged on a quarterly basis over the last year. The Workgroup consists of Mayor Justin Wilson, Vice Mayor Amy Jackson, and AlexRenew Board Chair John Hill and Vice Chair James Beall. The group continues to serve as a liaison to review progress on Program implementation.

Other Outreach Initiatives

Throughout the year, AlexRenew continued to enhance the Program’s digital presence. Refreshed in 2021, the RiverRenew.com website now serves as a hub for construction updates, news, events, and more. This information is also delivered directly to subscribers’ inboxes in the quarterly River Renewer newsletter. In addition, AlexRenew’s Facebook, Twitter, and Instagram social media channels feature the most shareable content, including video series also available for viewing at riverrenew.com/community/videos.

To help engage younger Alexandrians, AlexRenew has continued the all-ages outreach campaign that began with the introduction of Cloe the Tunnel Boring Machine in 2020. This year saw the introduction of more descriptive banners, including an ongoing series of behind-the-scenes banners posted at the outfall sites offering an inside look at construction activities that are not outwardly visible to the community. Activities can be found at Cloe’s Corner: riverrenew.com/community/cloes-corner.

On July 14, 2022, AlexRenew hosted a reception to welcome and unveil the name of the tunnel boring machine that will construct the Waterfront Tunnel. The event was hosted at AlexRenew’s Water Resource Recovery Facility and attended by over 100 guests from the community and region to celebrate a historic milestone for healthier waterways in Alexandria.

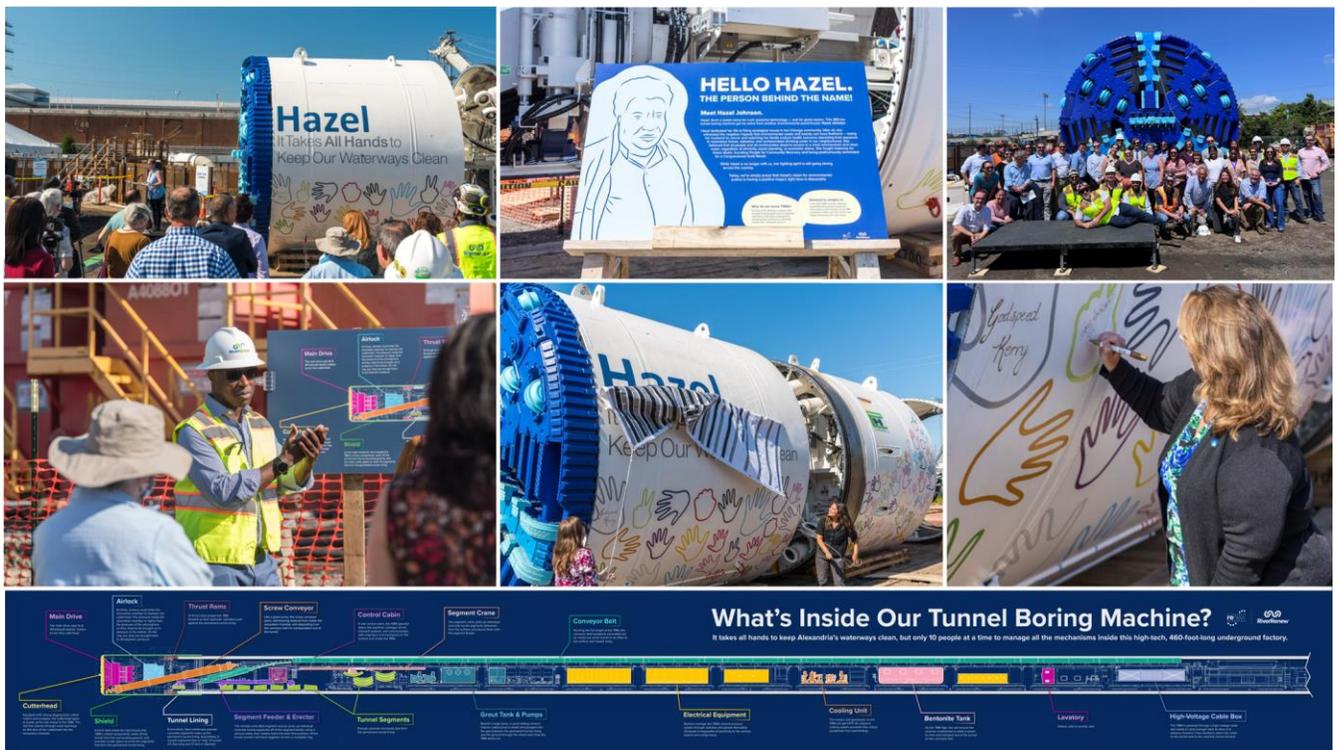


Figure 6. Tunnel Boring Machine Welcome Reception at AlexRenew, July 14, 2022.

LOOK-AHEAD AND CLOSING

To date, the Program remains on schedule to meet the mandated completion date of July 1, 2025. Major activities for next year include the mining and installation of the Waterfront Tunnel, construction of the permanent concrete associated with the diversion facilities at Royal and Pendleton Streets, and installation of the Hooffs Run Interceptor.

In March 2023, AlexRenew will begin outreach to propose implementation of the third two-year rate adjustment to help fund the RiverRenew Program. Consistent with previous years, this rate adjustment will include a public process and require approval from the AlexRenew Board of Directors. In addition, AlexRenew will continue its community outreach program to continue to educate and engage Alexandrians on construction progress. This outreach will include a community tour of the Waterfront Tunnel and a new storybook highlighting Hooffs Run Interceptor construction.

AlexRenew remains grateful for VDEQ's continued support and assistance as we build towards healthier waterways. Should you have any questions or comments, please contact me directly at (703) 232-0096 or karen.pallansch@alexrenew.com.

Sincerely,



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