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

Stakeholder Advisory Group Meeting No. 6

December 12, 2019
Presentation Outline

• Welcome and SAG Member Updates
• Tunnel System Project Procurement Update
• Permitting and Third Party Coordination Update
• RiverRenew Technical Update
• Program Cost Update
• Stakeholder Outreach Update
• Next Steps
Welcome and SAG Member Updates
Caitlin Feehan
RiverRenew SAG Member Roles and Responsibilities

REVIEW AND MONITOR PROGRAM PROGRESS
Gain awareness and understanding for RiverRenew.

COMMUNICATE PROGRESS AND SERVE AS SPOKESPEOPLE FOR PROGRAM
Be a RiverRenew advocate. Disseminate information to networks on progress and increase community awareness of RiverRenew and the benefits it will have for Alexandria.

RECEIVE INPUT FROM THE PUBLIC
Solicit feedback on RiverRenew as we advance toward construction.

ASSIST IN IDENTIFYING COMMUNITY IMPACTS
Provide feedback on approaches to minimize community impacts.
Tunnel System Project Procurement Update
Justin Carl
Design-Build Process for the Tunnel System Project

**Request For Qualifications**

- **A** Industry Outreach
  - Nov 2018

- **B** Request for Qualifications
  - RFQ Issued Jun 7, 2019
  - SOQs Due Aug 20, 2019

- **C** Shortlist
  - Notification of Shortlisted Teams Oct 7, 2019

**Request For Proposals**

- **D** Issue Request for Proposal Documents
  - Feb 11, 2020

- **E** Proposal Period
  - Confidential Meetings Mar-Jun 2020
  - Technical/Management and Sealed Price Proposals Due Aug 2020

- **F** Evaluation and Interviews
  - Interviews with Shortlisted Teams Sep 2020

- **G** Best Value Selection
  - Design-Build Contract Notice to Proceed Dec 2020
AlexRenew Shortlisted Three Design-Build Teams on October 7, 2019

Clark/Atkinson/Michels LLC
Designers: COWI, Arcadis

Kiewit/McNally JV
Designers: McMillen Jacobs, Wade Trim

Traylor/Shea JV
Designer: Jacobs
Subcontractor: Corman
Tunnel System Project Design-Build Procurement Schedule

A  RFP Documents
   Issue Request for Proposals Documents
   Feb 11, 2020

B  Proposal Period
   Kickoff Meeting
   Confidential Meeting No. 1
   Confidential Meeting No. 2
   Terms & Conditions Meeting
   Mar/Apr – Jun 2020

C  Proposals Due
   Confidential Meeting No. 3
   Technical and Sealed Price Proposals Due
   Aug 2020

D  Evaluation and Interviews
   Proposal Evaluation and Interviews with Shortlisted Teams
   Sep 2020

E  Best Value Selection
   Design-Build Contract Notice to Proceed
   Dec 2020
Permitting and Third Party Coordination Update

Justin Carl
## Major RiverRenew Permits and Easements Update

<table>
<thead>
<tr>
<th>Permit</th>
<th>Issuant</th>
<th>Status</th>
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<tbody>
<tr>
<td>DSUP for Tunnel System</td>
<td>City of Alexandria</td>
<td>Approved on July 9, 2019</td>
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<tr>
<td>DSUP for TDPS</td>
<td>City of Alexandria</td>
<td>Approved on September 14, 2019; proposed conditions under review</td>
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<tr>
<td>Floodplain Analysis/No-Rise Certification</td>
<td>City of Alexandria</td>
<td>Approved on July 3, 2019</td>
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<tr>
<td>Environmental Assessment</td>
<td>NPS</td>
<td>Virginia Department of Historic Resources reviewing Programmatic Agreement – Comments expected week of December 9, 2019</td>
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<td></td>
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<td>FONSI anticipated January 2020</td>
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<tr>
<td>Construction ROW Permits</td>
<td>NPS</td>
<td>Open, approval expected February 2020</td>
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<tr>
<td>Clean Water Act Permits</td>
<td>USACE, VDEQ, VMRC</td>
<td>Open, approval expected January 2020</td>
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<tr>
<td>Land Use Permit (tunnel crossing)</td>
<td>VDOT</td>
<td>Approved on December 6, 2019</td>
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### Project Component

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<tr>
<th>Project Component</th>
<th>Owners</th>
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<tbody>
<tr>
<td>Waterfront Tunnel</td>
<td>• Boulevard Condominiums</td>
<td>Negotiations ongoing&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<td>• Private Homes (2 total)</td>
<td>Negotiations ongoing&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<td>• St. Mary’s Cemetery</td>
<td>Negotiations ongoing&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<td></td>
<td>• RTN East LLC</td>
<td>Agreement executed</td>
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<td>Hooffs Run Interceptor</td>
<td>• AVR Alexandria (Marriott)</td>
<td>Negotiations ongoing</td>
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<td></td>
<td>• Duke St. Square Association</td>
<td>Negotiations ongoing&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td></td>
<td>• Presbyterian Cemetery</td>
<td>Negotiations ongoing&lt;sup&gt;(1)&lt;/sup&gt;</td>
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<tr>
<td>WRFF Staging</td>
<td>• Alder Branch</td>
<td>Negotiations ongoing</td>
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<sup>(1)</sup> AlexRenew Board authorized acquisition of easements and authorized condemnation, if necessary, on November 19, 2019.
Waterfront Tunnel Subterranean Easements

1. Boulevard Condominiums
2. Fiske, Diane P.
3. Schlacter, Christine B. and Michael N.
4. St. Mary’s Cemetery
Subterranean Easements are Confined Below Ground

 +/- 75 feet deep to upper easement elevation
Boulevard Condominiums Subterranean Easement

PARCEL ID: 080-04-09-00
OWNER: THE BOULEVARD CONDOMINIUMS
ADDRESS: 900 S WASHINGTON ST
ALEXANDRIA, VA 22314

GROUND SURFACE

- SUBTERRANEAN EASEMENT BUFFER
- WATERFRONT TUNNEL
- PROPERTY LINE
- PROPERTY LINE OF ADDRESSEE
- PERMANENT, SUBTERRANEAN EASEMENT BUFFER
Fiske Subterranean Easement

PARCEL ID: 080-04-07-04
OWNER: DIANE P. FISKE
ADDRESS: 911 S ST ASPATH ST
ALEXANDRIA, VA 22314
Schlacter Subterranean Easement
St. Mary’s Subterranean Easement
1. Presbyterian Cemetery
2. Duke Street Square Association
Presbyterian Cemetery Temporary Construction Easement
Duke Street Square Association Temporary Construction Easement

LEGEND

- Property Lines
- Property Line of Addressee
- Temporary Construction Easement
- Existing Sewer Easement
- Proposed Structures
- Proposed Diversion Sewer
- At Surface Facilities
Tunnel Dewatering and Wet Weather Pumping Station Update
Tunnel Dewatering and Wet Weather Pumping Station Site Plan
Tunnel Dewatering and Wet Weather Pumping Station
Superstructure Room Layout
Major Tunnel Dewatering and Wet Weather Pumping Station Components

- Screening Shaft
- Screening Room
- Ground Level
- Odor Control Room
- Crane Room
- Mechanical, Electrical, I&C Rooms (in background)
- Wet Weather Pump Room
  - Suction Manifold
  - (4) 45 MGD pumps
- Wet Weather Force Main and Valving Room
- Tunnel Dewatering Force Main Room
- Tunnel Dewatering Pump Room
- Suction Manifold
  - (2) 20 MGD dewatering pumps
  - (3) 5 MGD solids pumps
- Waterfront Tunnel
- HGL Control Structure
TD/WWPS Superstructure Aerial View
TD/WWPS Superstructure View from WRRF South Bridge
AlexRenew WRRF Construction Update
AlexRenew’s WRRF Upgrades Began in August 2019 to Pave the Way for RiverRenew’s Tunnel System Project

<table>
<thead>
<tr>
<th>Project</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<td>WRFF Site Security</td>
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<td>108 to 116 MGD Expansion</td>
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<td>Building J Decommissioning</td>
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<tr>
<td>Process Air Compressor Blower Upgrades</td>
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Legend:
- Planning
- Design
- Procurement
- Construction
Video of Ongoing RiverRenew Construction Activities at AlexRenew’s WRRF
Status Update on Geotechnical and Environmental Explorations
Goals of Geotechnical Exploration Program

- Waterfront Tunnel and Hooffs Run Interceptor
  - Horizontal spacing of 500 feet
  - Depth of 2 to 3 tunnel diameters below the invert
- Shafts
  - Multiple borings
  - $1.5 \times$ shaft depth
- Conventional Borings: Standard Penetration Test (SPT) every 5 feet and continuous through tunnel envelope
- Sonic Drilling: continuous sampling
- Installation of groundwater observation wells and vibrating wire piezometers
- Gas monitoring (methane and hydrogen sulfide)
- Geotechnical and environmental tests (field and lab)

Last boring completed November 7, 2019

Geotechnical laboratory testing completed December 10, 2019
Alexandria’s Soil Layers

**Alluvium**
- Soft layer consisting of clay, silt, sand, gravel, and organic material
- 20 to 100 feet thick; thickest deposits in Potomac River

**Terrace**
- Dense sand, gravel, and cobbles (not present at all locations)
- 10 to 50 feet thick; thickness generally decreases towards the Potomac River

**Potomac Clay**
- Thick, stiff deposits of clay and silt with some layers of sand and gravel
- 50 to 100 feet thick

**Potomac Sand**
- Coarse-grained sandy soil with clay and silt
- 50 to 100 feet thick
Status Update on Geotechnical and Environmental Explorations

**77** Soil Borings Completed

- **1,150** Geotechnical Soil Samples Collected
- **100** Environmental Soil Samples Collected
- **34** Groundwater Monitoring Wells Installed
- **11** Environmental Groundwater Samples Collected
Waterfront Tunnel Geologic Profile

- **ELEVATION (FT)**
  - 20
  - 0
  - -20
  - -40
  - -60
  - -80
  - -100
  - -120
  - -140
  - -160
  - -180

- **STATION**
  - 10+00
  - 20+00
  - 30+00
  - 40+00
  - 50+00
  - 60+00
  - 70+00
  - 80+00
  - 90+00
  - 100+00
  - 110+00
  - 120+00
  - 125+00

- **Features**
  - FILL
  - TD/WWPS and Screening Shafts
  - 001 Drop Shaft
  - 002 Drop Shaft
  - WATERFRONT TUNNEL
  - POTOMAC FORMATION
  - ALLUVIUM
  - TERRACE
  - "DIP" IN POTOMAC FORMATION
Additional Borings Completed in September to Further Define the Top of the Potomac Clay

Traditional borings could not be advanced through the Alluvium/Terrace due to the presence of cobbles. Sonic borings were completed to collect soil samples in this area.
Outcomes from Environmental Assessment and DSUP for Excavation and Hauling of Excavated Material

- City Council approved hauling of all excavated material in July 2019
- Testing showed that all soil could be hauled to a landfill
- Groundwater discharged to sewer system needs to be pretreated (if necessary)
- Robust approach for hauling includes:

  - Wheel Wash
  - Tarping
  - Street Sweeping
  - Hauling Inspector
Mitigation Practices to be Implemented at Outfall Sites

**Excavation Best Management Practices**
- Excavate Soil in Saturated Conditions
- NO Stockpiling of Excavated Materials

**Site Security and Safety Measures**
- Site Fencing, Cameras, and Security
- Standard PPE
- Continuous Air Monitoring

**Engineering Controls**
- Dust Suppression
- Erosion & Sediment Control
100% of Soil Proposed to be Excavated at AlexRenew WRRF can be Hauled to a Landfill for Daily Cover

Contaminants Encountered

- Diesel Range Organics
- Volatile Organic Compounds
- Arsenic
- Chromium
- Polycyclic Aromatic Hydrocarbons

*Note: Analysis based on in-situ soil volumes.
100% of Soil Proposed to be Excavated at Outfall 002 can be Hauled to a Landfill for Daily Cover

Soil Analysis*

- 80% Clean
- 20% Hazardous

Contaminants Encountered
- Diesel Range Organics
- Volatile Organic Compounds
- Arsenic

*Note: Analysis based on in-situ soil volumes.
100% of Soil Proposed to be Excavated for Hooffs Run Interceptor can be Hauled to a Landfill for Daily Cover

Soil Analysis*

- **Clean**
- **Impacted**
- **Above VDEQ Residential Standards**
- **Above VDEQ Industrial Standards**
- **Hazardous**

Contaminants Encountered

- Diesel Range Organics
- Volatile Organic Compounds
- Arsenic

*Note: Analysis based on in-situ soil volumes.
97% of Soil Proposed to be Excavated at Outfall 001 can be Hauled to a Landfill for Daily Cover

Soil Analysis*

- Clean: 71%
- Above VDEQ Residential Standards: 23%
- Above VDEQ Industrial Standards: 3%
- Hazardous: 3%

Contaminants Encountered

- Lead
- Arsenic
- Mercury
- Diesel Range Organics
- Gasoline Range Organics
- Volatile Organic Compounds
- Polycyclic Aromatic Hydrocarbons

Legend

- Proposed Structures
- Tunnel/Sewer Alignment
- Existing Sewer Utilities
- Construction Staging Area
- Trench/Cut Bank
- At Surface Features
- Boring Location
- Monitoring Well Location

*Note: Analysis based on in-situ soil volumes.
3% of Soil Proposed to be Excavated at Outfall 001 is Considered Hazardous for Disposal due to Elevated Lead Concentrations

Soil contaminated with lead at Outfall 001 is considered hazardous due to its potential to leach

- Dispose at a permitted hazardous landfill or treated

Benzene is NOT a contaminant of concern

- Found in 3 of 26 soil samples at concentrations below residential levels
Excavation Process for Outfall 001 Diversion Facility

- **520 CY***
- **12,400 CY***
- **9,300 CY***

*Note: Analysis based on in-situ soil volumes.
Soil Handling and Loading Plan for Lead-Contaminated Soil

1. **Excavate**
2. Live-load Excavated Soil into Watertight Bags
3. Line Truck Bed
4. Load Watertight Bags onto Truck
5. Cover Truck and Tie Down Tarp
6. Wheel Wash
7. Inspect

**Estimated:**
- 325 Watertight Soil Bags*
- 70 Trucks*
- 1 Month Duration

*Note: Hauling analysis based on bulk soil volumes
Potential Construction Work Zones at Outfall 001 Site

- **Contamination Zone:** Hazardous soil (lead) found in this area
- **Decontamination Zone:** Removal of hazardous material from trucks and equipment
- **Support Zone:** Area where all remaining construction takes place
Construction Approaches and Mitigation Practices Prevent Exposure Pathways to Residents

The presence of contamination in soil does not, by itself, create a risk of exposure.

- A risk of exposure requires:
  - Contaminants of concern in exposed soil, dust, or ambient air; and
  - A point of human exposure or contact.
- Exposure risks to residents will be prevented by site specific soil handling plan and mitigation practices.
- There is no pathway for residents to come into contact with contaminants of concern in soil during construction.
Program Cost Update

Justin Carl
AlexRenew is Soliciting Funds from a Variety of Sources to Minimize Rate Impacts

- **$25 million** in grant funding approved by Commonwealth for FY20
- Additional funding requests for up to $75M part of FY21 Legislative Package
- **Virginia Clean Water Revolving Loan Fund**: Proposed loan would fund **51%** of eligible project costs with a proposed interest rate of **1.85%**
- **Water Infrastructure Finance and Innovation Act**: Proposed loan would fund **49%** of eligible project costs with a proposed interest rate of **2.89%**
RiverRenew Spending Plan based on 60% RFP Documents
## RiverRenew Program Capital Costs by Project

<table>
<thead>
<tr>
<th>Project</th>
<th>Long Term Control Plan Update Capital Costs in $ Millions (1)</th>
<th>Preliminary Engineering Report Capital Costs in $ Millions (3)</th>
<th>Current Capital Costs in $ Millions</th>
<th>Percent Change from Preliminary Engineering Report</th>
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</thead>
<tbody>
<tr>
<td>108 to 116 MGD Expansion</td>
<td>2.7</td>
<td>2.9</td>
<td>4.7 (4)</td>
<td>+62%</td>
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<tr>
<td>Building J Facilities Relocation and Decommissioning</td>
<td>- - (2)</td>
<td>21.6</td>
<td>25.7 (4)</td>
<td>+19%</td>
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<td>WRRF Site Security and Access</td>
<td>- - (2)</td>
<td>- - (2)</td>
<td>2.1 (4)</td>
<td>- - (2)</td>
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<tr>
<td>Tunnel System</td>
<td>353.0</td>
<td>345.7</td>
<td>432.0 (5)</td>
<td>+25%</td>
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<tr>
<td>Total Estimates</td>
<td>356.0</td>
<td>370.2</td>
<td>464.5</td>
<td>+25%</td>
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<tr>
<td>Upper Range of Total Estimates</td>
<td>535.0 (+50%)</td>
<td>555.3 (+50%)</td>
<td>597.5 (+30%)</td>
<td>+8%</td>
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</table>

(1) Estimate at 0 to 2 percent level of project definition.
(2) Project not defined.
(3) Estimate at 10 percent level of project definition.
(4) Construction award.
(5) Estimate at 30 percent level of project definition; used for budgeting.
# Overview of RiverRenew Community Outreach Campaigns through June 2020

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<td>Council-Board Workgroup Engagement (ongoing)</td>
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<td>Tunnel Takeover Tuesday #TTT on Social Media (ongoing)</td>
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<td>Outfall Signage (through June 2021)</td>
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## Events:
- **10/02** African American Heritage Park Pop-Up
- **10/12** Portside in Old Town Festival
- **11/25** Potomac Yard Park Pop-Up
- **12/6** Carlyle Holiday Market Pop-Up
- **12/7** Scottish Christmas Walk Parade

**Comments and Feedback from SAG?**
Artist in Residency Update

Connect Alexandrians with clean water through art

Phase 1 (May 2019-Fall 2020): Focus on AlexRenew/wastewater

Sto Len is a printmaker, painter, installation and performance artist and AlexRenew’s Artist in Residence.

- stoishere.com and stoishere on Instagram
- Specialty in water-based art – makes prints off surfaces of waterways
- Grew up in Alexandria
- Selected by public art stakeholder group convened by City of Alexandria Office of the Arts out of 42 entries
- Currently in research and discovery phase
Scottish Christmas Walk Parade 2019
Hosted by the Campagna Center
Takeaways and Next Steps from Tonight’s Meeting

Information Sharing

• Three Design-Build teams were shortlisted for the second step of the Design-Build Procurement Process

• Second step of the Design-Build Procurement Process lasts from February – December 2020
  • This process includes a series of proprietary meetings with each shortlisted Design-Build Team

• Construction at AlexRenew’s WRRF started in August 2019 and anticipated to be complete by March 2021. This work will pave the way for the construction of the Tunnel System

• AlexRenew is currently negotiating a small number of temporary and permanent easements with property owners in Alexandria along the tunnel alignment and interceptor

• The Finding of No Significant Impact (FONSI) and other major permits are anticipated to be finalized in early 2020

• 99.5% of soil excavated for the tunnel system can be hauled to a landfill and used for cover

SAG Member Next Steps

• Final SAG Meeting tonight

• Continued engagement during Design-Build Procurement Phase (input requested):
  • Monthly email to SAG
  • Stay in touch with the RiverRenew team by keeping us informed with information and feedback from your networks and assigned areas in the community
  • Send events or pop-up locations to the outreach team to extend the Program’s reach

Get together for a group shot before leaving tonight!
Public Comment Period