Agenda
Alexandria Renew Enterprises Board of Directors Meeting
Tuesday, April 20, 2021@ 6:00 p.m.
VIRTUAL

No.	Item	Presenter	Action Required

Due to Covid-19 pandemic emergency, the April 20, 2021 Alexandria Renew Enterprises Board of Directors meeting is being held electronically pursuant to Virginia Code Section 2.2.3708.2(A)(3), the Continuity of Government ordinance adopted by the City Council on June 20, 2020 and/or Section 4.0.00(g) in HB29 and HB30 to undertake essential business.

The Board of Directors and staff are participating from remote locations through a videoconference call on Zoom:
Links:
Topic: Regular Board of Directors Meeting
Register in advance for this webinar:
https://zoom.us/webinar/register/WN_cML84oz-T5quDUNOMvnsIg

After registering, you will receive a confirmation email containing information about joining the webinar.

Submission of written statements is encouraged. Written statements may be emailed to the Board Secretary at lorna.huff@alexrenew.com.

Public comment will also be received at this meeting. If you wish to speak during public comment, please email or call the Board Secretary at (703) 721-3500 ext. 2260 in advance so you can be added to the speakers list. A recording of the meeting will be posted on the alexrenew.com website after the meeting.

1	Call To Order (6:00 p.m.)	Chairman	
2.	Approval of Agenda (6:02 p.m.)	Chairman	Approval
3.	Explanation of Required Procedures for an Electronic Meeting (6:05 p.m.)	Mr. Rak	Information
4.	Public Comment Period (6:17 p.m.)	Chairman	
5.	Consent Calendar (6:20 p.m.) A. Minutes (Meeting held March 16, 2021**) (Tab 1)**	Chairman	Approval
6.	Unfinished Business (6:45 p.m.)	Chairman	
	A. Consideration of FY2021-22 Capital & Operating Budget for Public Notice and Set Public Hearing for Saturday, May 22, at 9:30 a.m. **(Tab 2)**	Ms. Pallansch	
	B. Consideration of a Resolution to Adopt and Change Certain Rates, Fees & Charges for Public Notice and Set Public Hearing for Saturday, May 22, @ 9:30 a.m. **(Tab 3)**	Ms. Pallansch	
7.	New Business (6:47 p.m.) A. None	Chairman	
8.	AlexRenew Monthly Outcomes Update (7:15 p.m.) **(Tab 4**)	Ms. Pallansch	Information
9.	Adjourn (7:20 p.m.)	Chairman	

Times shown in parentheses are approximate and serve as guidelines

If you need an interpreter, translator, materials in alternate formats or other accommodations to access this service, activity or program, please call (703) 721-3500 ext. 2260 at least three business days prior to the meeting.

The next Board of Directors meeting is scheduled for Tuesday, May 18, 2021
Public Hearing on AlexRenew FY2022 Draft Budget and FY22 – 23 Wastewater Rates is on Saturday, May 22, 2021

Minutes of the 881st Meeting – Virtual
"Celebrating Over 60 Years of Continuous Environmental Excellence"
Alexandria Renew Enterprises
6:00 p.m., Tuesday, March 16, 2021

On Tuesday, March 16, 2021, the Alexandria Renew Enterprises Board of Directors held a virtual Board of Directors meeting with the following present:

Members:	Mr. John Hill, Chairman Mr. James Beall, Vice Chairman, Mr. William Dickinson, Secretary-Treasurer Mr. Bruce Johnson, Member Ms. Adriana Caldarelli, Member
Staff:	Ms. Karen Pallansch, Chief Executive Officer Ms. Liliana Maldonado, Chief Environmental Performance Officer Ms. Christine McIntyre, Chief Financial Officer Ms. Allison Deines, Director of Research & Strategy Engagement Ms. Caitlin Feehan, RiverRenew Program Director Ms. Lorna Huff, Secretary to the Board
Counsel:	Mr. Jonathan Rak, General Counsel, McGuireWoods LLP
Fairfax County Representative:	Ms. Ellie Codding, Deputy Director, Department of Public Works & Environmental Services
City Representative:	Ms. Erin Bevis-Carver, T&ES/Sanitary Sewer Infrastructure Division
Consultants:	Mr. Rob Ori, Principal, Raftelis Mr. Thierry Boveri, Senior Manager, Raftelis Mr. Justin Carl, Brown & Caldwell, Owner's Advisor

Call to Order

The Chairman called the meeting to order at 6:04 p.m.

Approval of Agenda

The Chairman requested that members review the Agenda and inquired if there were changes. There being no changes, the Chairman requested a motion to approve the Agenda. Mr. Johnson moved and Ms. Caldarelli seconded. The Chairman called the roll with all members voting Aye.

Explanation of Virtual Meeting Processes

The Chairman recognized Mr. Rak who provided the following statement:

Due to the Covid-19 pandemic emergency, the March 16, 2021, meeting of the Alexandria Renew Enterprises Board of Directors is being held electronically pursuant to Virginia Code Section 2.2-3708.2(A)(3), the Continuity of Government Ordinance adopted by the City Council on June 20, 2020 and/or Section 4-0.00(g) in HB29 and HB30 to undertake essential business. All of the members of the Board and staff are participating from remote locations through a video conference call on Zoom. Public notice of the meeting includes the link for web access and phone numbers for dial-in access. In accordance with the applicable law, this meeting is being recorded and the recording will be posted on the Alexandria Renew website following the meeting.

In compliance with the special procedures for electronic meetings, only items necessary to continue operations of Alexandria Renew and the discharge of its lawful purposes, duties, and responsibilities will be discussed during today's meeting. All votes during this meeting will require a roll call.

Please let me know if you have any questions about the procedures for this meeting.

Mr. Rak reported that there were no members of the public in attendance and wishing to speak. The Chairman moved to the Consent Calendar.

Consent Calendar

The Chairman noted the Minutes of the February 16, 2021 meeting and inquired if Board members had questions or comments. Mr. Johnson reported that his request for delinquent account information at the end of the last meeting was not reported on the Minutes. There were no additional questions or comments on the Minutes and the Chairman requested a motion to approve. Mr. Johnson moved and Ms. Caldarelli seconded. The Chairman called the roll with all members voting aye.

New Business

A. Overview of FY2022 Draft Operating and Capital Budget & Rate Review

Discussion

The Chairman recognized Ms. Pallansch who reviewed AlexRenew's FY21 Budget highlights noting that the current budget is on target and staff will not request additional funding from the Board for this fiscal year.

For FY2022, AlexRenew's Operating Budget remains stable with estimated increases of 1% in chemical and biosolids, steady employee benefits costs and neutral energy costs. The FY2022 budget includes significant increases in the use of debt proceeds to fund capital work with approximately 70% of this going towards RiverRenew.

Interest rates on new debt are locked in at 1.88% on $321 million for WIFIA and 1.35% on $185 million for the Clean Water Revolving Loan Fund (CWRLF).

For FY2022, AlexRenew has requested $185 million for the Capital and IRR, with peak spending

on the tunnel system beginning this year. The FY2022 Budget request is $227.9 million.

Staff recommended adopting a rate adjustment for the next two fiscal years of 6.9% and 6.5%, respectively, for FY2022 and FY2023. Benefits of the two-year adjustment include maximizing staff and consultant time, flexibility to adjust rates as conditions evolve and certainty for CIP funding during peak tunnel project spending. Based on 4,000 gallons of consumption, bills are projected to be $56 and $59 per month, respectively for FY22 and FY23.

Ms. Pallansch reviewed the community outreach strategy for the rate adjustment to include bill stuffers, RiverRenew, AlexRenew website announcements, social media postings and paid advertising in both digital and print ads. Next steps will include a notice of a public hearing to receive comments on the FY2022 budget and rate adjustment. Adoption of the FY2022 budget and rate adjustment will take place at the June Board meeting

The CEO completed her presentation and recognized the Chairman. The Chairman commended Ms. Pallansch on her presentation. He inquired if members had questions or comments. There were no questions or comments and the Chairman moved to Item B.

B. Review and Approval of Amendment No. 1 to Professional Services Agreement for RiverRenew Tunnel System Resident Engineering and Inspection Services

Discussion
This contract was executed in April 2020 with EPC Consultants, LLC., and included the Scope of Services and Budget for the First Year of the contract. The Design-Build contract with Traylor-Shea Joint Venture was executed in December 2020 and will continue into FY2022. Thus, RE&I services are needed to assist in the continued oversight of final design and construction of the Tunnel Project.

Ms. Pallansch reported that the first year of this contract was approved in 2020. It will need to be reapproved in subsequent years as the project progresses. This action item requests that the Board approve the second year of the contract for an amount of $9,885,000.00 and have the end date to coincide with AlexRenew's fiscal year of June 30, 2022.

Members inquired and requested clarification on the role of the Resident Engineering Inspection and costs and contingencies associated with this contract. Ms. Pallansch clarified REI's role on this project, noting that the contract amount and contingencies are included in RiverRenew project costs. There were no additional questions or comments and the Chairman requested a motion to approve. Mr. Johnson moved and Mr. Beall seconded, the Chairman called the roll with all members voting aye.

Be It Resolved That: the Board authorizes the CEO to execute an Amendment to the Professional Services Agreement for Resident Engineering and Inspection Services in the amount of $9,885,000 with EPC Consultants.

Mr. Hill inquired if there were any questions or comments from Board members. The Chairman commended staff and Raftelis for their clear and concise presentation.

CEO Monthly Outcome Reports

The Chairman recognized Ms. Pallansch who referenced her written report and noted that the delinquent account information is referenced in the financial report. The information shown is the most up to date that is available.

Ms. Pallansch noted the revised RiverRenew Dashboard and requested that members review and advise her if there is additional information that members would like to see included in future reports.

Ms. Pallansch referenced the attached presentation on nutrient credits on the CSOs versus stormwater and inquired if members had additional questions on the CEO Activity Report. Mr. Dickinson requested clarification on construction impacts to Duke Street, Jamieson Avenue, and the African American Heritage Park. Impacts to Duke Street and Jamieson Avenue have been minimized but could not be eliminated. The CEO reported there would be no impacts to the African American Heritage Cemetery. The RiverRenew team will provide a handout illustrating the route of the Hooffs Run and Commonwealth Interceptors in the African American Heritage Park area.

The presentation responds to frequent questions from stakeholders on nutrient credits for the CSOs and stormwater. Ms. Pallansch reported on the Alexandria water system and the ownership of the various infrastructure that comprise the water system in the City of Alexandria. She explained Total Maximum Daily Loads (TMDL) and Waste Load Allocations (WLA) and how they relate to the different structures in the system. She further reviewed nutrient credits, how they are calculated and the role of the Nutrient Credit Exchange. Board members inquired on nutrient trading with the City, the CSO Transfer Agreement, and the different permit systems that govern stormwater, CSOs, and the AlexRenew plant.

Mr. Johnson provided background information on the Taylor Run stream restoration and how it relates to the issue of nutrient credit availability. Members provided feedback on the presentations and suggestions for taking a complex subject and making it easier to explain to the public.

There was no additional discussion on nutrient credits and Mr. Johnson requested that members send questions or comments on the budget to the CEO in advance of the Finance and Audit Committee meeting on March 25.

There was no additional business and the Chairman requested a motion to adjourn. Mr. Johnson moved and Mr. Hill seconded. The Board unanimously approved.

The meeting adjourned at 7:24 p.m.

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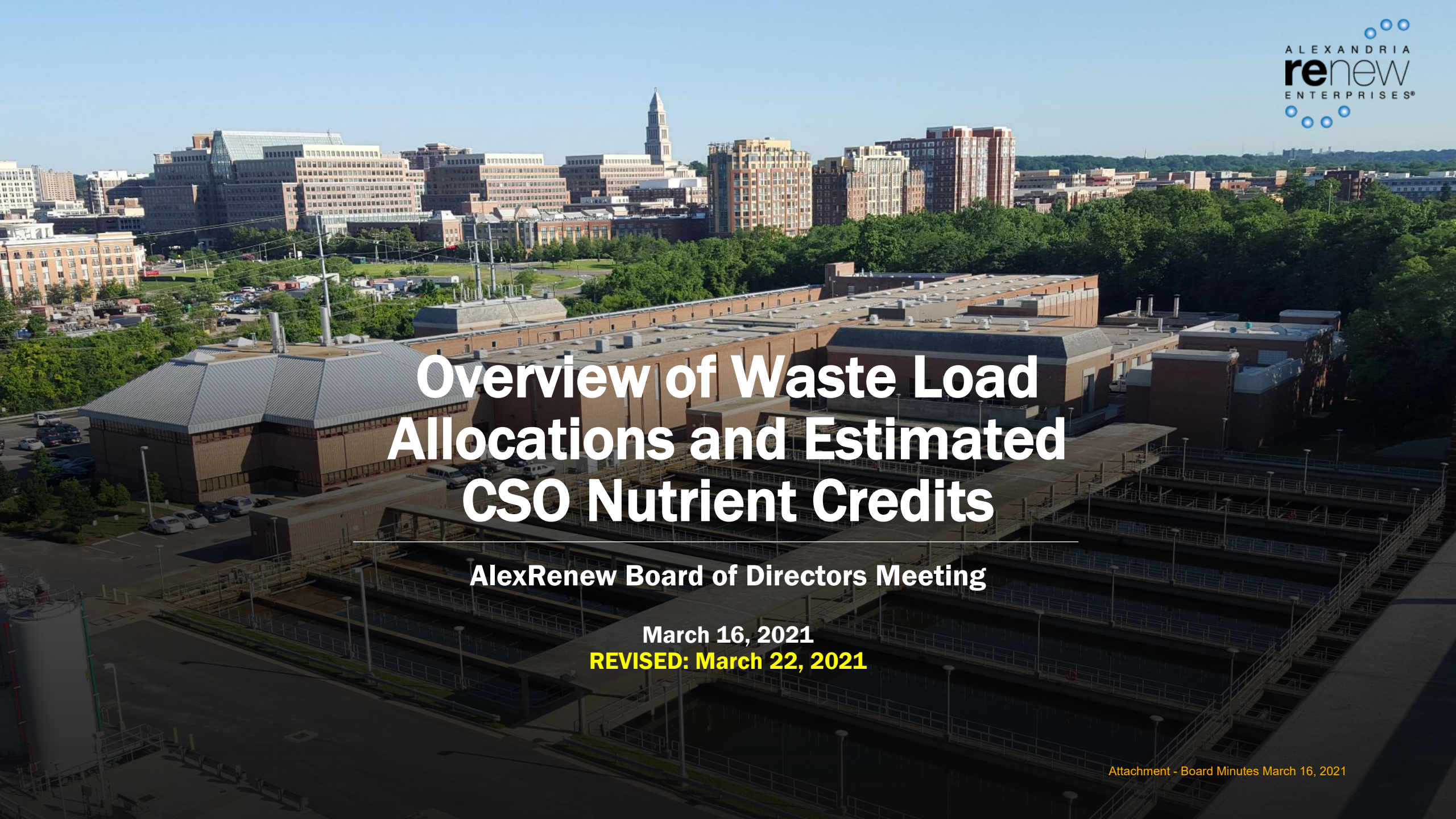
Secretary-Treasurer



Overview of Waste Load Allocations and Estimated CSO Nutrient Credits

AlexRenew Board of Directors Meeting

March 16, 2021
REVISED: March 22, 2021

Attachment - Board Minutes March 16, 2021

How Water Works in the City of Alexandria

Virginia American Water

Sanitary and Combined Sewer System

Wastewater and Combined Sewer Treatment

Stormwater

The 2017 CSO Law Requires Strict Bacteria Reductions for CSO Outfalls

Outfall 001 reductions must meet the **Presumption Approach** in the CSO Control Policy

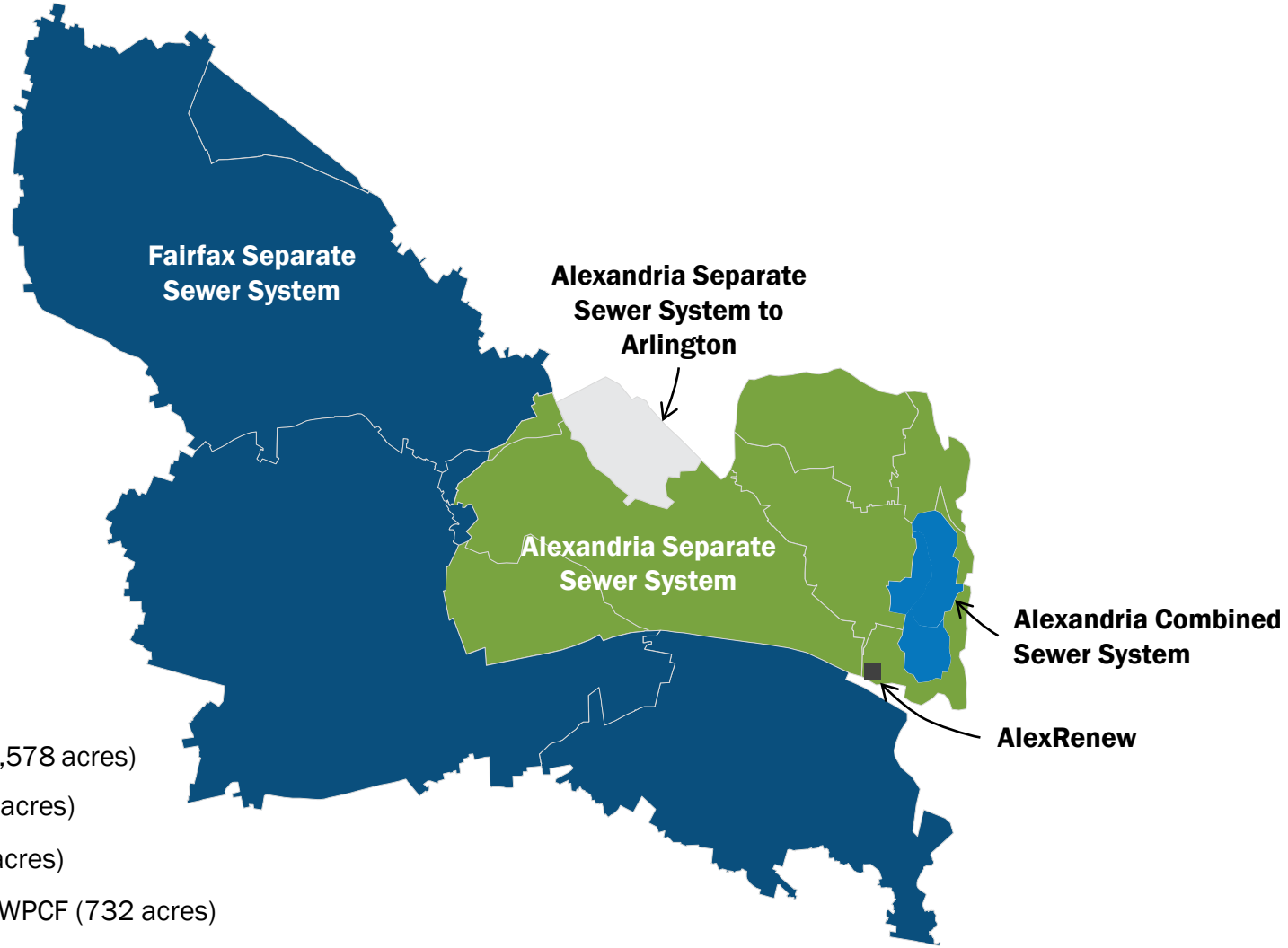
Outfall 002 must have **80% reduction** per bacteria TMDL

Outfall 003 must have **99% reduction** per bacteria TMDL

Outfalls 004 must have **99% reduction** per bacteria TMDL

Attachment - Board Minutes March 16, 2021

Alexandria's Combined Sewer Area is Approximately 6% of the City and 2% of AlexRenew's Service Area

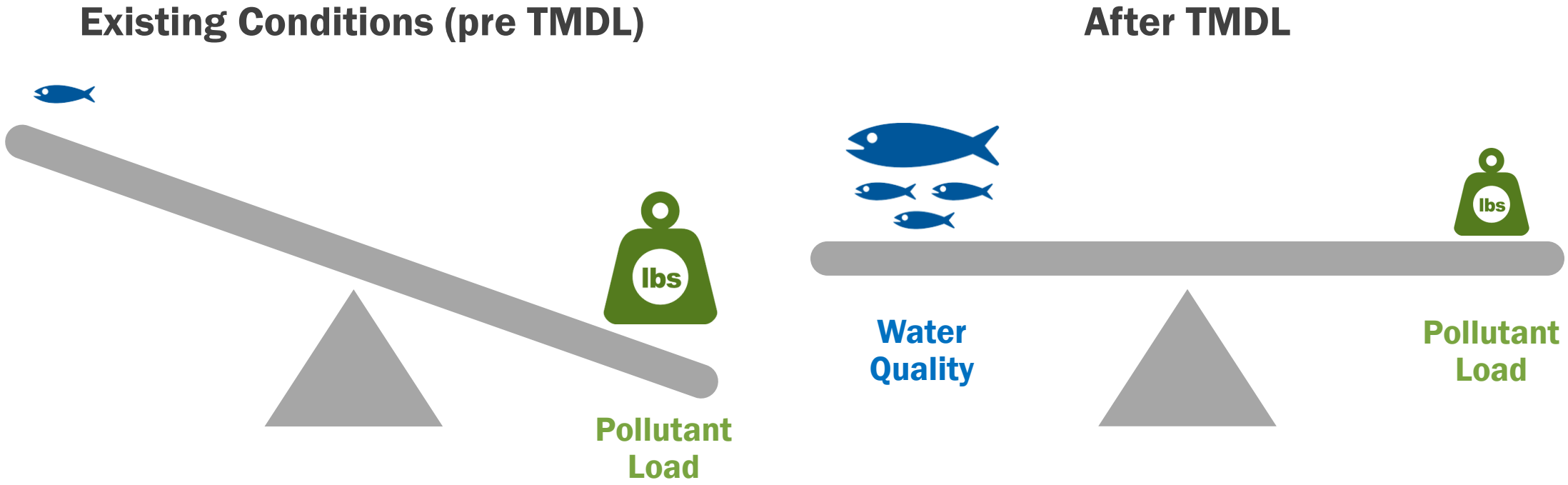


Legend

- Fairfax County Separate Sewer System (24,578 acres)
- Alexandria Separate Sewer System (8,254 acres)
- Alexandria Combined Sewer System (540 acres)
- Alexandria Sewershed treated at Arlington WPCF (732 acres)

In 2010, the USEPA Established the Chesapeake Bay TMDL, which Identified Pollution Reductions from Major Sources of Nitrogen, Phosphorus, and Sediment

A Total Maximum Daily Load (TMDL) is a "Pollution Diet" that Identifies the Maximum Amount of a Pollutant a Waterway Can Receive and Meet Water Quality Standards



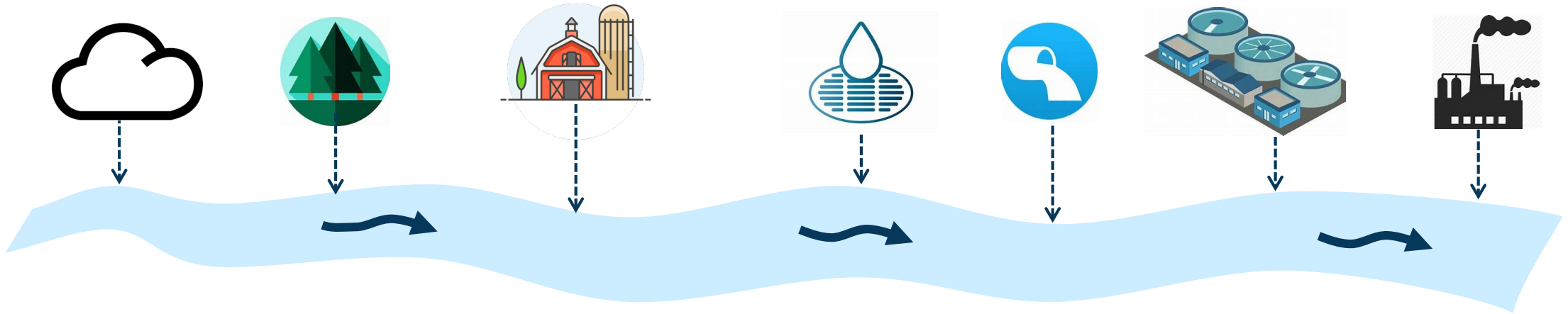
A TMDL is intended to reduce pollutant loads and bring balance to water quality

A Waste Load Allocation (WLA) is a Limit on the Amount of Pollutants Permitted to be Discharged to a Waterway

Non-Point Sources

Point Sources

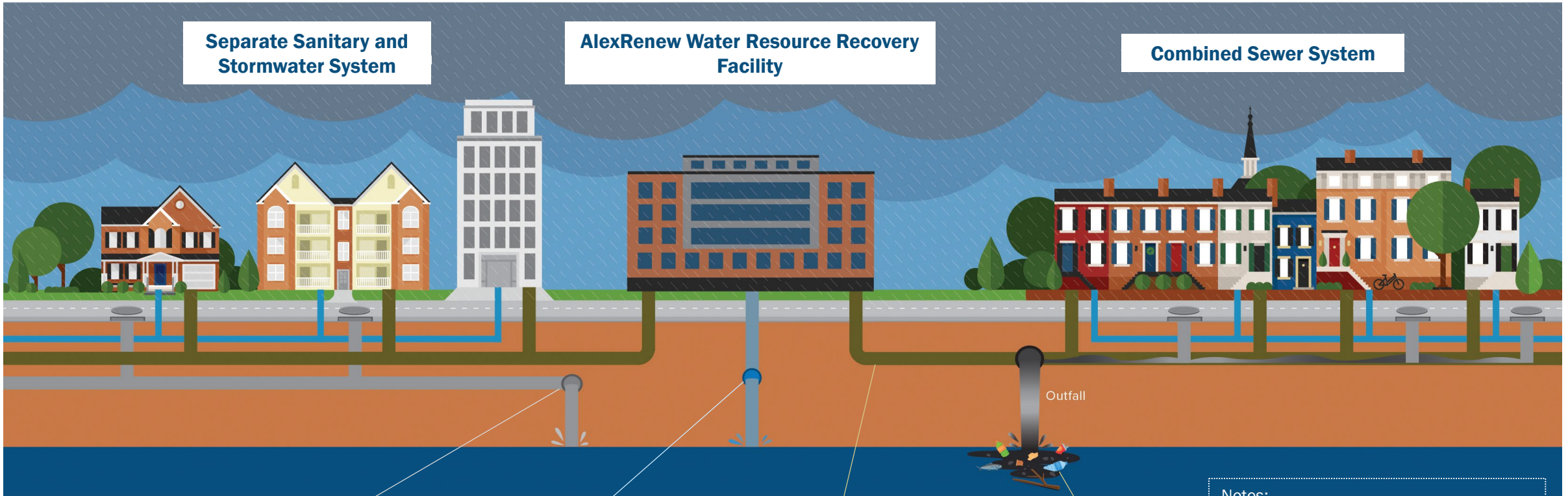
Non-Point Sources are assigned Load Allocations (LA)			Regulated Point Sources are assigned Waste Load Allocations (WLAs)			
Air Deposition	Forest	Agriculture	Stormwater	CSO	Wastewater	Industrial



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

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

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



	Stormwater WLA (lbs/yr)	Wastewater WLA (lbs/yr)	Combined Capture (lbs/yr)	CSO WLA (lbs/yr)
Total Nitrogen	97,810	493,381	7,309	5,201
Total Phosphorus	7,172	29,603	329	690
Suspended Solids	4,704,400	4,933,807	10,964	62,355

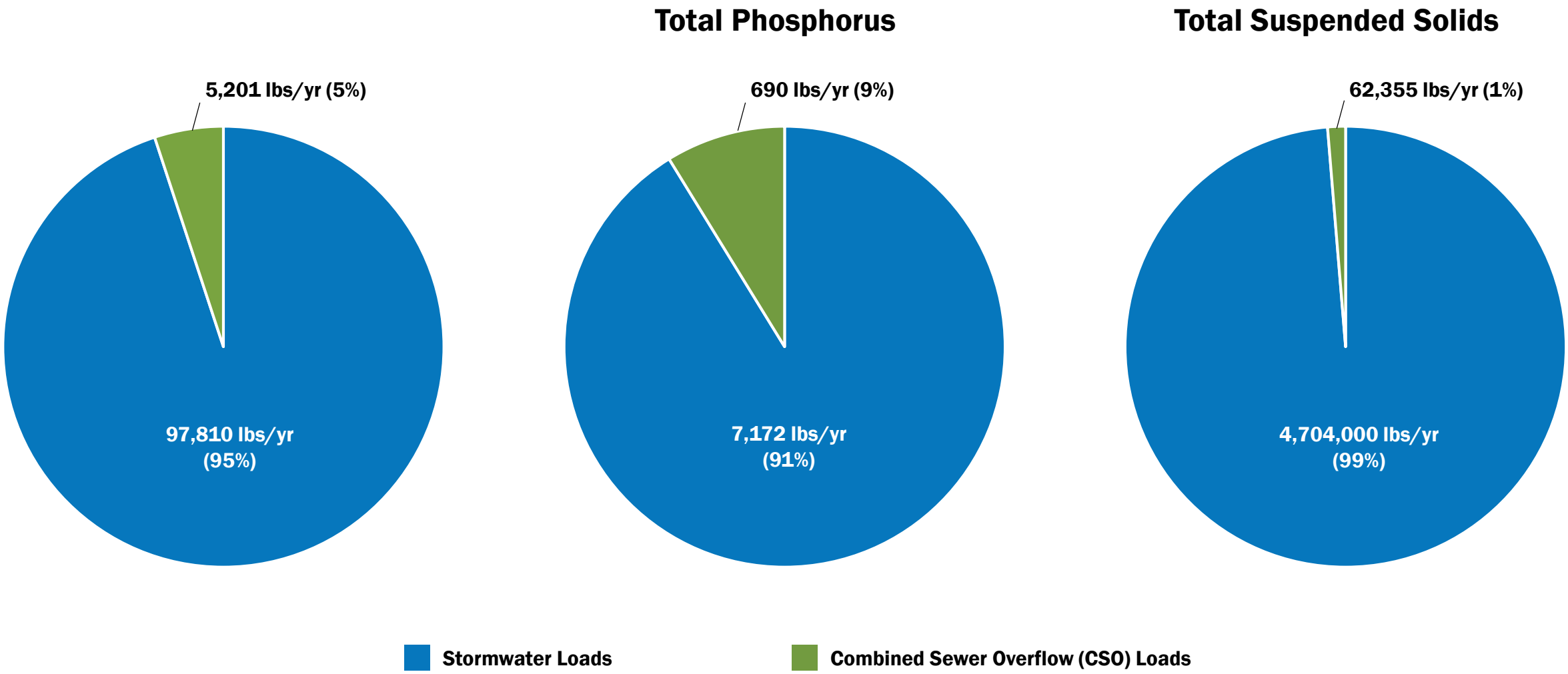
Notes:

(1) WLAs presented herein are baselines established by the Virginia Watershed Implementation Plan. City has targeted stormwater reduction goals based on permit cycles.

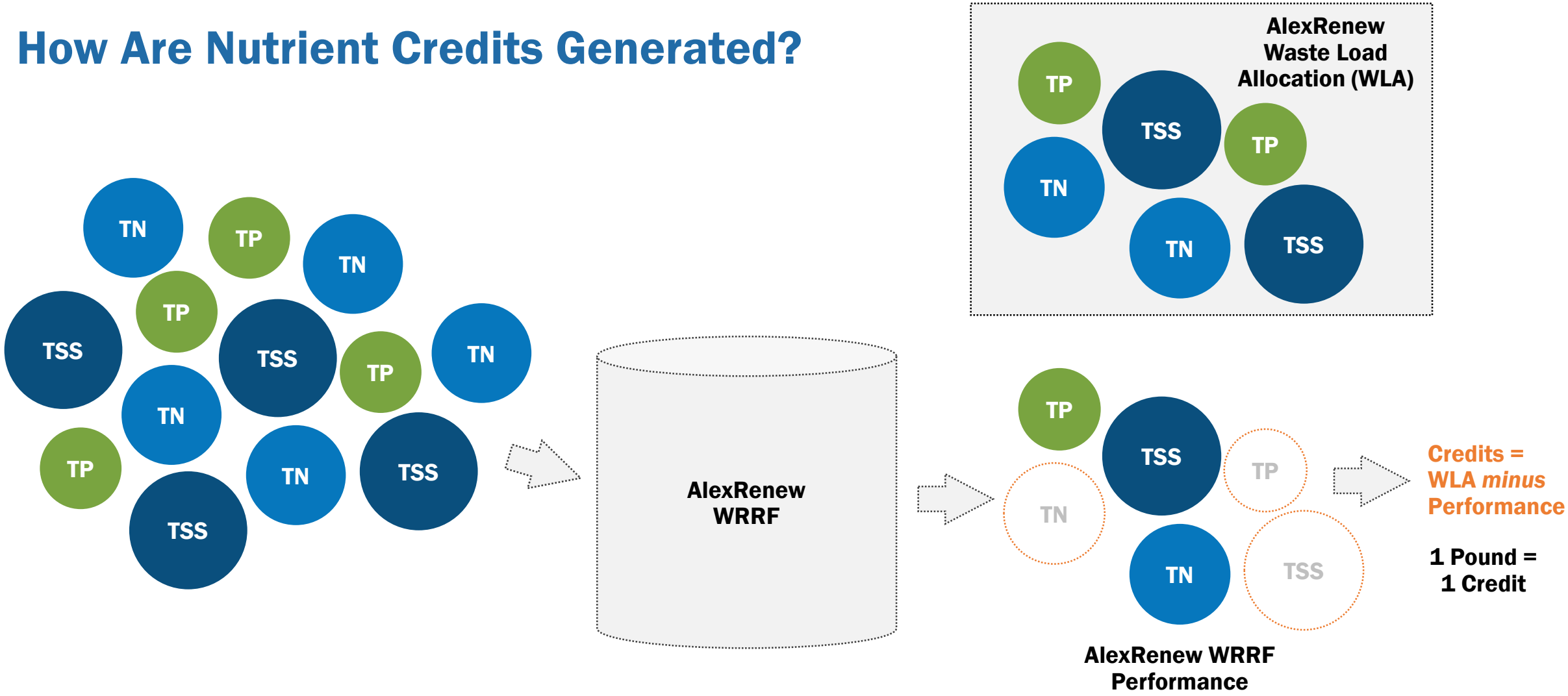
(2) CSO WLA transferred from City of Alexandria to AlexRenew as part of 2018 Outfall Transfer Agreement.

Attachment - Board Minutes March 16, 2021

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

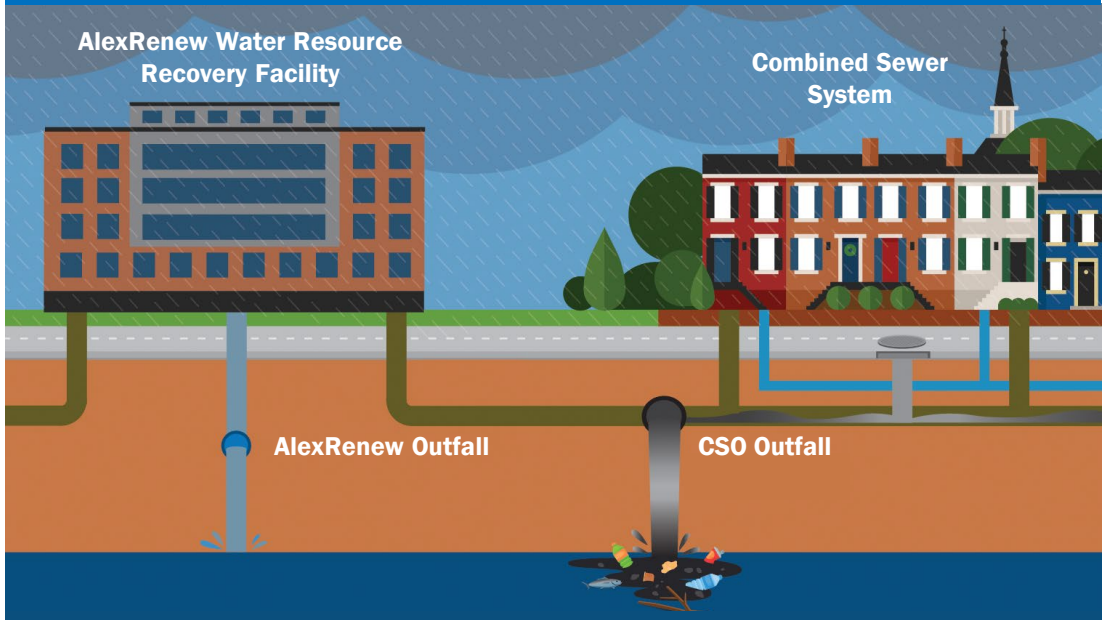


How Are Nutrient Credits Generated?



Example CSO Nutrient Credit Calculation for Total Nitrogen (TN)

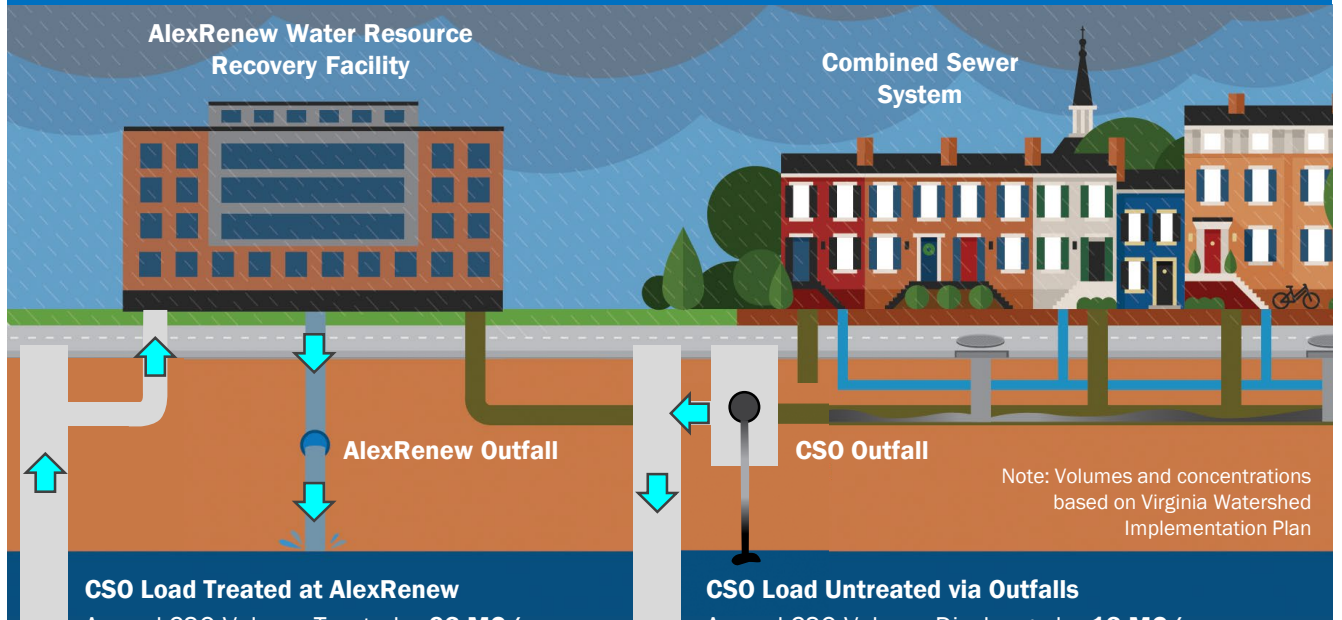
Bay TMDL CSO Total Nitrogen (TN) Waste Load Allocation



Annual CSO Volume Discharged = **106 MG/year**
Average CSO TN Concentration = **5.88 mg/L**
CSO TN Load Discharged = *Volume × Concentration × 8.344* = **5,201 lbs/yr**

Bay TMDL CSO TN Waste Load Allocation = **5,201 lbs/yr**

CSO Total Nitrogen (TN) Load Discharged After RiverRenew



Note: Volumes and concentrations based on Virginia Watershed Implementation Plan

CSO Load Treated at AlexRenew
Annual CSO Volume Treated = **93 MG/year**
Treated CSO TN Concentration = **4.0 mg/L**
CSO TN Load Discharged = **3,104 lbs/yr**

CSO Load Untreated via Outfalls
Annual CSO Volume Discharged = **13 MG/year**
Average CSO TN Concentration = **5.88 mg/L**
CSO TN Load Discharged = **638 lbs/year**

Total CSO TN Load Discharged = *CSO Load Treated + CSO Load Untreated = 3,104 + 638* = **3,742 lbs/yr**

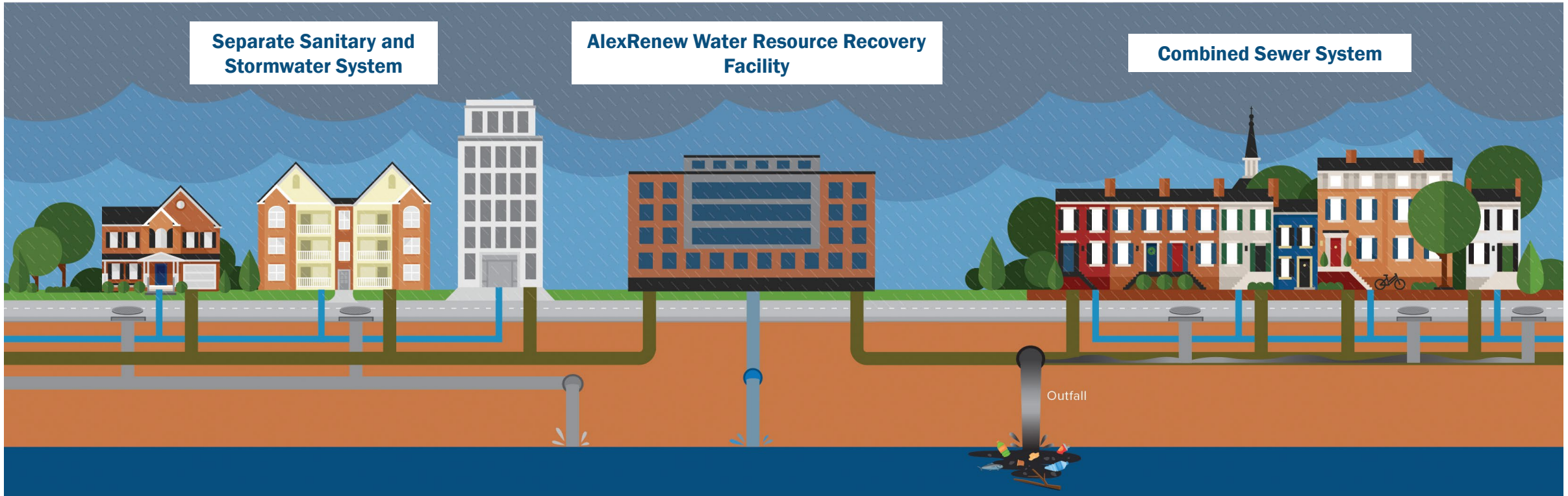
Example TN Credit = *Bay TMDL CSO TN Waste Load Allocation – Total CSO TN Load Discharged After RiverRenew = 5,201 – 3,742* = **1,459 lbs/yr**

Any Available 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 2016-2020			AlexRenew Best Year 2016		
		Defined Treated Conc. (mg/L)	Load Discharged (lbs)	Credit (lbs)	Actual Treated Conc. (mg/L)	Load Discharged (lbs)	Available Credits (lbs)	Actual Treated Conc. (mg/L)	Load Discharged (lbs)	Available Credits (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**

2019 Performance for AlexRenew WRRF and City Stormwater System



	Stormwater WLA (lbs/yr)	2019 Performance (lbs/yr)	AlexRenew WLA (lbs/yr)	2019 Performance (lbs/yr)	CSO WLA (lbs/yr)
Total Nitrogen	97,810	93,496	493,381	315,559	5,201
Total Phosphorus	7,172	6,601	29,603	12,651	690
Suspended Solids	4,704,400	4,206,249	4,933,807	506,770	62,355

Credits Generated by AlexRenew through the Treatment of Wastewater 24/7/365 are Traded on the Virginia Nutrient Exchange

Major Takeaways

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

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To learn more, visit www.alexrenew.com

MEMORANDUM

TO: Alexandria Renew Enterprises Board of Directors

FROM: Karen Pallansch, CEO

DATE: April 14, 2021

SUBJECT: Review and Approve Final Draft Fiscal Year 2022 Operating and Capital Budget for Public Notice and Set the Public Hearing

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Information: Each year, staff presents a draft budget for review and approval. As part of the review, the Board receives public input through a public hearing.

Recommendation: Staff respectfully requests the Board of Directors authorize the CEO appropriately post notice of a virtual public hearing to receive comments on the AlexRenew Draft FY2022 Operating and Capital Budget, on Saturday, May 22, 2021 at 9:30 a.m.

Discussion: Staff is pleased to present the final draft of the FY2022 Operating and Capital Budget. AlexRenew has adapted to the pandemic and has considered its impacts on our operations and finances and our community. The service we provide, exceptional wastewater interception and treatment, has never been more critical.

The proposed Final Draft FY22 Operating and Capital Budget includes an Operating Budget of $28.3 million. It includes a Capital Budget of $179.88 million, for Joint Use and Alexandria only projects. Use of debt proceeds to fund capital projects increases 247% over FY2021.

The total AlexRenew Budget for FY2022 is $227,977,027. Overall, this Final Draft reflects an approximately 97% increase in the total budget year-over-year, which is primarily driven by the increased capital spending planned for the RiverRenew program.

Congruence with AlexRenew Strategic Plan:
This action supports the strategic outcome of Financial Stewardship.

ACTION TAKEN: APPROVED: _____ DISAPPROVED: _____

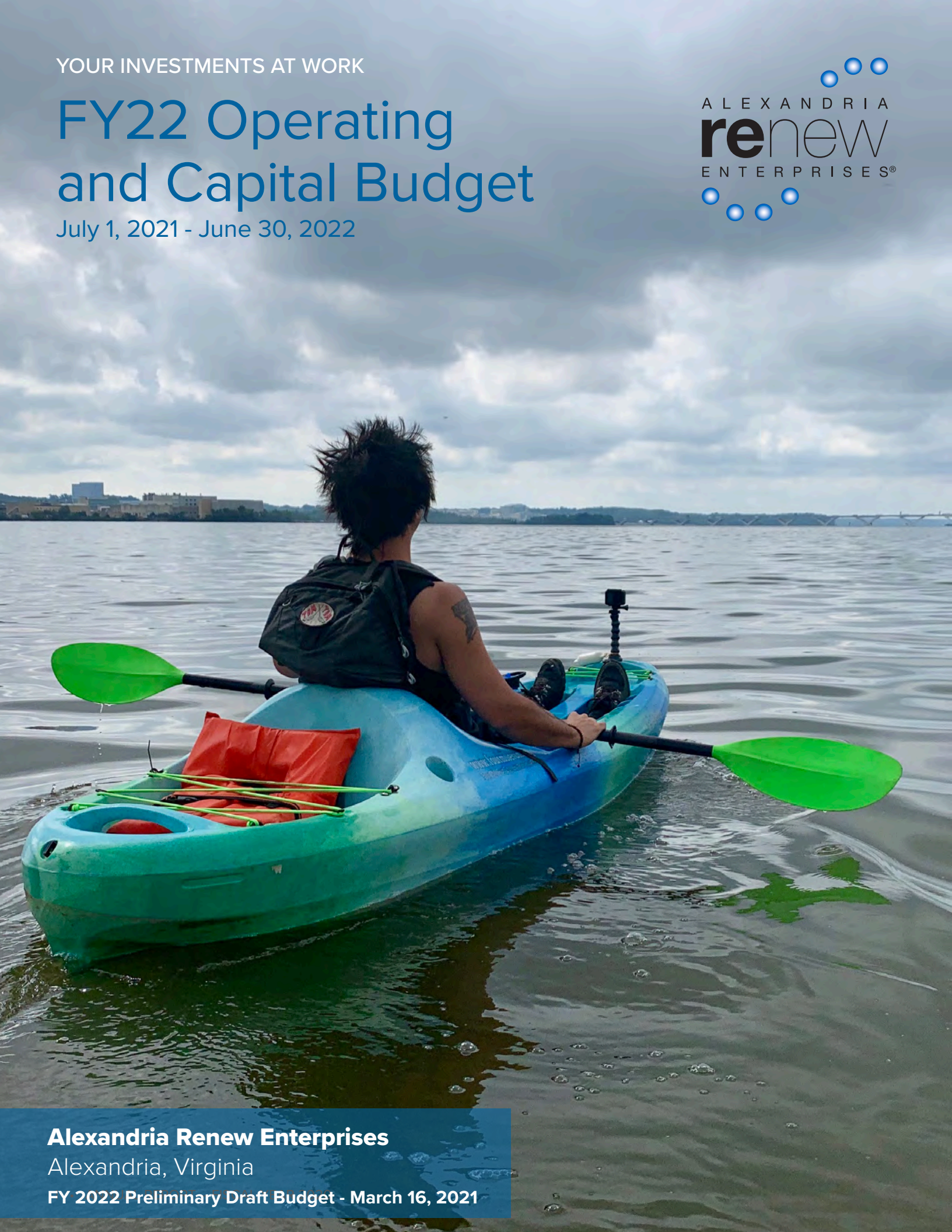
APPROVED WITH MODIFICATION: _____

MODIFICATIONS: _____

YOUR INVESTMENTS AT WORK

FY22 Operating and Capital Budget

July 1, 2021 - June 30, 2022



Alexandria Renew Enterprises

Alexandria, Virginia

FY 2022 Preliminary Draft Budget - March 16, 2021

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James Beall, Vice Chairman
William Dickinson, Secretary-Treasurer
Bruce Johnson, Member
Adriana Caldarelli, Member

Fairfax County Representative to the Board

Shahram Mohsenin, P.E.

Executive Staff

Karen L. Pallansch, Chief Executive Officer
Liliana Maldonado, Chief Environmental Performance Officer
Christine McIntyre, Chief Financial Officer
Dave Roberts, Chief Information Technology Officer
Wendy Callahan, Director of Human Resources
Allison Deines, Director of Research and Strategy Engagement
Caitlin Feehan, RiverRenew Program Director

Chief Executive Officer's Message

To the Board of Directors, Alexandria Renew Enterprises:

Equitable access to clean, healthy water resources is essential for a community's well-being and economic development. Investment in wastewater and water infrastructure creates local jobs, supports local businesses, and improves public health. These are critical success factors as the Nation cautiously builds back from the COVID-19 pandemic.

However, as the community slowly reopens, AlexRenew recognizes that the pandemic has caused disproportionate economic strain on some members of the community. The Fiscal Year 2022 proposed budget and rate structure minimize increases to residential and commercial customers, while maintaining a fiscally sustainable utility and building for the future. The proposed Operating Budget totals $28.3 million, representing a zero year-over-year increase, a decision AlexRenew made to minimize needed rate increases due to the impacts of COVID-19 on the community.

The proposed Capital Improvement Program budget totals $185.6 million. This is a significant increase relative to last year's budget and reflects the increased investment needed to implement the RiverRenew program. The budget includes planned spending increases as work on RiverRenew accelerates in the upcoming year and expenditures on this Program peak in 2023. AlexRenew recently issued two new sewer revenue bonds to fund this construction spending and forecasts that steady annual rate increases will be required in order to repay the bonds.

The RiverRenew program is the City's largest infrastructure project to date. RiverRenew is in response to a 2017 legislative mandate by the Commonwealth of Virginia to fix four combined sewer outfalls in the older parts of Alexandria. The Program features a new network of deep tunnels and sewers that will connect to the outfalls, which currently pollute the City's waterways on rainy days, to capture millions of gallons of sewage for treatment at AlexRenew. By law, RiverRenew must be completed by July 1, 2025. To date, the team has met all major milestones that were set out at program inception in order to meet this deadline.

Looking to the future, AlexRenew will continue to balance the significant financial obligations of the RiverRenew program with the expenditures required to keep its existing wastewater infrastructure well-maintained and capable of supporting increased demands in the future. This balance is reflected in the budget and investments AlexRenew is planning for Fiscal Year 2022.

AlexRenew continues to improve local waterways and help make the environment a cleaner, healthier place, and looks forward to continuing the strong community partnerships that help keep local waterways clean. Thank you for your passionate support of AlexRenew's clean water mission.

Karen Pallansch, Chief Executive Officer
Alexandria Renew Enterprises

Understanding the Budget

AlexRenew's budget is a financial instrument, crafted within a financial, legal, policy, regulatory and capital investment framework to ensure financial sustainability, support public health, and provide a clean, healthy water environment for the community. The budget is developed in a manner that ensures AlexRenew has the financial resources to efficiently construct, operate, and maintain a water resource recovery facility, intercepting system, and pump stations that comply with state and federal law.

Current expenses and capital outlays are estimates based on experience and judgment related to cost trends in labor, materials, and services required to operate and maintain AlexRenew's facilities. AlexRenew has no discretion with respect to the level of service it must provide to meet its regulatory requirements, and no discretionary programs within its assigned scope of activity. The primary purpose of the budget is to ensure AlexRenew maintains its mandated level of service, satisfies the requirements of the Master Indenture of Trust ("Indenture"), and achieves the objectives of AlexRenew's Financial Policies.

AlexRenew has only two major sources of revenue to fund all expenditures: wastewater treatment charges paid by City of Alexandria customers, and the reimbursement of a portion of expenses paid by Fairfax County. Fairfax County makes payments to AlexRenew under an amended and restated Service Agreement dated October 1, 1998 ("Fairfax County Agreement"). In accordance with the Fairfax County Agreement, Fairfax County pays a percentage of operations and maintenance expenses based upon sewer flow volume. Fairfax County also contributes to the Improvement, Renewal and Replacement Fund (IRR) and Capital Improvement Program (CIP), at predetermined levels, to allow for the upgrade and replacement of capital assets as they depreciate, and the acquisition of new assets associated with regulatory compliance.

What is AlexRenew's Strategic Plan?

The AlexRenew Strategic Plan cascades from the AlexRenew's 2040 Vision, shown on the following page. The 2040 Vision was originally developed in 2012 by AlexRenew's citizen-led Board and was most recently updated in 2018. In support of the 2040 Vision, Strategic Plan sets organizational objectives and drives the organization's budget. The current Strategic Plan identifies twelve priority objectives, listed below.

Strategic Outcome 1: Operational Excellence
1.1 Reliably and consistently produce quality products from our community's wastewater
1.2 Become a leading digital community in the water sector

Strategic Outcome 2: Public Engagement and Trust
2.1 Lead regional efforts to keep our watershed healthy and thriving
2.2 Deepen understanding of One Water, the Value of Water, AlexRenew and RiverRenew and related issues
2.3 Support and advance AlexRenew and water sector defining research that promotes triple bottom line sustainability

Strategic Outcome 3: Watershed Stewardship
3.1 Infrastructure partnerships increase AlexRenew reputation and long term effectiveness as a community anchor
3.2 Promote AlexRenew's innovative spirit through a network of partners and cross sector collaborators

Strategic Outcome 4: Adaptive Culture
4.1 Unleash employee support for AlexRenew's vision, values, outcomes and public service mission
4.2 Continually enhance the safety, security and wellness of our people
4.3 Equip our employees with the knowledge, skills and certifications to execute their role in providing a resilient organization and community

Strategic Outcome 5: Financial Stewardship
5.1 Deliver cost effective and balanced wastewater services to our community and contractual partners
5.2 Aggressively seek alternative financing sources and seek best debt financing options

2040 Vision

By 2040, AlexRenew has effectively partnered with all watershed stakeholders to:

Enable local citizens the opportunity to embrace the best use of water resources and establish a **personal connection** with **local waterways**.

Create a **healthy environment** and improve **quality of life** through the exceptional reclamation of used water resources.

Sustainably manage water as a **single resource** through the entire water cycle.

Maximize use of multiple financial options to continue **fiscal stability**.

Strategic Outcomes

Operational Excellence: 100% compliance with all imposed mandates through continuous improvement efforts documented by EMS.

Public Engagement and Trust: Transparency in all public interactions.

Watershed Stewardship: Sustainability and resiliency integrated through effective partnerships.

Adaptive Culture: All employees continue to be fully rounded water professionals.

Effective Financial Stewardship: Provide clean water cost effectively

How is AlexRenew's Budget Organized?

AlexRenew builds its budget from documents that provide legal or internal policy direction. These documents include a Master Indenture of Trust (Indenture) and related financing documents; the Fairfax County Service Agreement; a Service Agreement with the City of Alexandria; a service agreement between AlexRenew and Arlington County (Arlington County Agreement); and Financial Policies adopted by the AlexRenew Board of Directors.

The Indenture is a legal agreement that mandates how AlexRenew will collect and use its revenues for operations, maintenance and capital expenses. This document requires that wastewater treatment charges collected from City of Alexandria sewer system customers be deposited in a Revenue Fund. This document also requires operating expense payments are made by Fairfax County to AlexRenew, for its reserved capacity in the sewer system, also be deposited in the Revenue Fund. The amount due to AlexRenew from Fairfax County is established in the aforementioned Fairfax County Service Agreement.

The Fairfax County Service Agreement further directs the amount and timing for monies to be paid by the County to AlexRenew for improvements and repairs to the sewer system infrastructure and investments in major capital projects.

The Arlington County Service Agreement is like the Fairfax County Service Agreement. This legal document establishes the amount and timing for monies paid by AlexRenew to Arlington County for agreed upon capacity in the Arlington County sewer system by the northwestern quadrant of the City of Alexandria.

AlexRenew's budget is also structure to comply with the Financial Policies adopted by the Board of Directors to maintain a combined 120 days of reserves in the Operating Fund and General Reserve sub-Fund, to ensure that revenues available to pay debt service are at least equal to 1.50 times the amount of debt service due in any fiscal year, and the fund at least 15% of the Capital Improvement Program from cash and reserves (PAYGO).

Budget Timeline

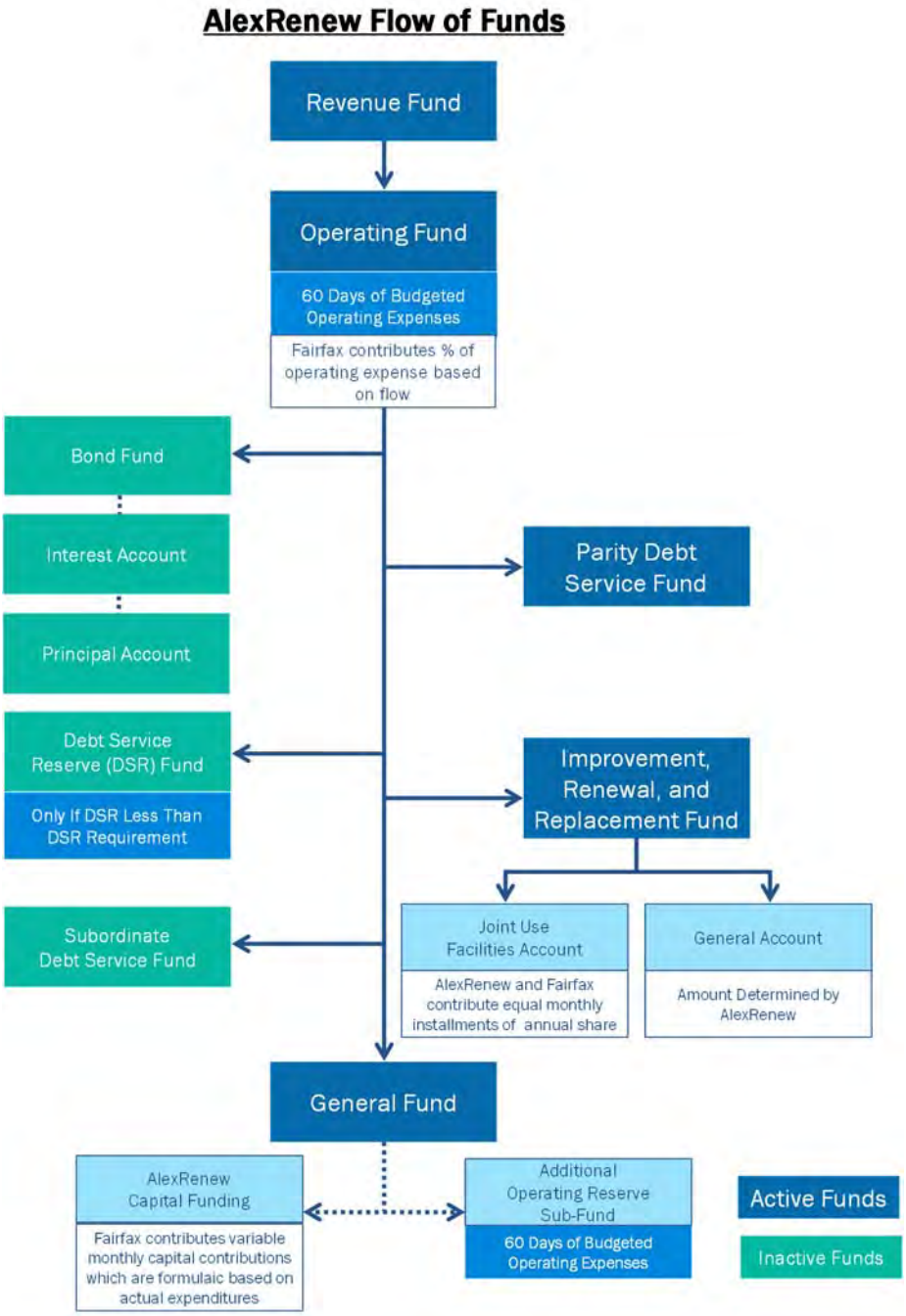
AlexRenew utilizes a fiscal year cycle ending June 30. The FY 2022 budget will encompass the 12-month period from **July 1, 2021 – June 30, 2022**. AlexRenew typically develops the budget during the prior fiscal year before it undergoes review by the Board of Directors and then the public. The FY 2022 budget cycle also includes the adoption of new rates and charges for FY 2022 and FY 2023.

Month	*Customer*	*Board of Directors*	*Staff*
August - February			***Proposed Budget Development*** Departments prepare budget proposals; CEO develops a balanced proposed budget.
March-April		***Budget Review*** Board of Directors request additional information on specific budget issues from staff.	The CEO presents the proposed budget and rates to the Board of Directors.
May	Customers are informed of proposed budget and rates via posting to the AlexRenew website and may provide written comments, if any. Customers invited to attend Public Hearing **May 22**.		
June		***Final Adoption*** Board of Directors makes final decisions and adopts the AlexRenew budget for the upcoming fiscal year.	Budget adoption: **June 15, 2021** Execute adopted FY 2022 Budget starting: July 1, 2021

Consolidated Enterprise Budget Statement

AlexRenew begins its annual budget presentation by preparing a Consolidated Enterprise Budget Statement (Statement) that combines all of the estimated sources and uses of funds for the upcoming fiscal year. This statement is organized in accordance with the terms mandated in Article VII of the Indenture. The primary purpose for this Statement is to demonstrate that the overall FY 2022 operating and capital budgets are in "structural" balance – which means all of the revenues and expenses are consistent with the historical financial performance, all balances that remain in the prescribed funds and accounts meet stated requirements, and if total revenues exceed total expenses, any potential excess funds are deposited in the General Fund to serve as reserves.

The graphic below provides a visual presentation of the flow of monies through the financial structure established in the Indenture. A definition for each fund and account is provided on the following page. In general, customer payments and Fairfax County operating expense charges are deposited in the Revenue Fund and are subsequently transferred to other Funds and Accounts in the order of priority (per below) and the amounts prescribed in the Indenture.



Consolidated Enterprise Budget Statement

The chart below serves as a glossary that can be used to better understand the purpose, order of priority and funding method for each of the Funds and Accounts established in the Indenture.

AlexRenew Fund Overview

Master Indenture of Trust – Flow of Funds	
Revenues	Revenues means all revenues, receipts and other income derived or received by AlexRenew from owning and operating the utility system. This primarily includes AlexRenew wastewater treatment charges and Fairfax County operating expense charges.
Revenue Fund	Revenues are initially deposited into the Revenue Fund and then transferred to the other funds in the following order of priority.
Operating Fund	To the Operating Fund to pay Operating Expenses. At the end of each month, AlexRenew must ensure at least 1/6th (or 60 days) of annual budgeted operating expenses are deposited into the operating fund.
Parity Debt Service Fund	To the Parity Debt Service in order to pay debt service payments in equal monthly amounts such that debt service payments can be paid when due.
Improvement, Renewal and Replacement (IRR) Fund – Joint Use Facilities Account	To the Joint-Use Facilities Account of the IRR Fund an amount equal to 1/12th of AlexRenew's share of the amount due.
Improvement, Renewal and Replacement (IRR) Fund – General Account	To the General Account of the IRR Fund in an amount predetermined by AlexRenew.
General Fund	To the General Fund any revenues remaining.

The Statement on the following page presents a consolidated profile of AlexRenew's overall operating and capital budgets for FY 2022. This schedule directly follows the flow of funds mandated in the Indenture.

Consolidated Enterprise Budget Statement

Consolidated Enterprise Budget Statement	Adopted FY2021	Proposed FY2022
REVENUE FUND (Per Master Indenture)		
AlexRenew Wastewater Treatment Charges	$ 39,492,000	$ 47,814,540
Fairfax County Operating Expense Charge	11,272,272	10,785,305
Total Revenues	**50,764,272**	**58,599,845**
OPERATING FUND		
Beginning Balance	4,742,230	4,666,355
Revenue Fund Transfer	28,301,116	28,376,991
Interest Income	10,000	10,000
Operating Expenses	(28,386,991)	(28,386,991)
Ending Balance (Operating Fund Reserve)	**4,666,355**	**4,666,355**
REVENUE FUND BALANCE [Total Revenues LESS Transfer to Operating Fund]	22,463,156	30,222,855
PARITY DEBT SERVICE FUND		
Beginning Balance	7,329,428	12,364
Revenue Fund Transfer	6,401,276	13,817,255
Interest Income	90,000	90,000
Parity Debt Service Payment	(13,820,704)	(13,919,620)
Ending Balance	**12,364**	**(0)**
REVENUE FUND BALANCE [LESS transfer to Parity Debt Service Fund]	16,061,880	16,405,600
IMPROVEMENT, RENEWAL AND REPLACEMENT FUND		
Joint Use Facilities Account		
Beginning Balance	8,500,404	8,319,883
Revenue Fund Transfer	2,230,239	2,319,561
Fairfax County Annual Required Contribution	3,217,340	3,346,197
IRR Joint Use Facilities Expenses	(5,628,100)	(5,667,100)
Ending Balance	**8,319,883**	**8,318,542**
General Account (Alex-only)		
Beginning Balance	-	-
Revenue Fund Transfer	250,400	124,400
IRR Alex-Only Expenses	(250,400)	(124,400)
Ending Balance	**-**	**-**
REVENUE FUND BALANCE [LESS transfer for IRR Funds]	13,581,241	13,961,638
GENERAL FUND		
Beginning Balance	40,629,271	45,046,760
Revenue Fund Transfer	13,581,241	13,961,638
Interest Income	15,000	15,000
Alex-Only General CIP Capital Costs	(2,278,540)	(4,532,005)
Transfer to CIP - Joint Use Facilities	(6,900,213)	(17,527,058)
Ending Balance	**45,046,760**	**36,964,336**
General Reserve sub-Fund	**(4,666,355)**	**(4,666,355)**
Available Balance	**40,380,405**	**32,297,981**
REVENUE FUND BALANCE [LESS transfer to General Fund]	-	-
PROJECT FUND		
Beginning Balance	-	-
Parity Debt / Prior Issue Bond or Grant Proceeds	9,770,774	3,573,000
Parity Debt / New Bond or Grant Proceeds	30,000,000	134,395,696
Transfer to CIP - Joint Use Facilities	(39,770,774)	(137,968,696)
Ending Balance	**-**	**-**
CAPITAL IMPROVEMENT PROGRAM - JOINT USE FACILITIES		
Beginning Balance	-	-
General Fund Transfer	6,900,213	17,527,058
Project Fund Transfer	39,770,774	137,968,696
Fairfax County Contribution	14,186,824	19,851,158
Line of Credit Balance		-
Joint Capital Costs	(60,857,810)	(175,346,912)
Ending Balance	**-**	**-**

Consolidated Enterprise Budget Summary

The schedule below summarizes the funding sources and expenses associated with AlexRenew's FY 2022 budget. At approximately 81%, capital outlay represents the largest share of the budget. Together with the Parity Debt Service Fund at 6%, these combined expenses are 87% of the FY 2022 budget, demonstrating the capital-intensive nature of the water utility business.

The FY 2022 revenue projection is based on the rates and charges AlexRenew anticipates will be in effect for FY 2022 as further detailed on pages 14-15 to follow. The projection includes proposed rate increases, as well as certain assumptions about the impact of the COVID-19 pandemic on AlexRenew's revenues.

The operating budget shows a zero increase year-over-year. This is the second year without an operating budget increase. The historical trend shows operating expenses increase at least at the approximate rate of inflation. This reflects an effort to manage costs while our community recovers from impacts related to COVID-19.

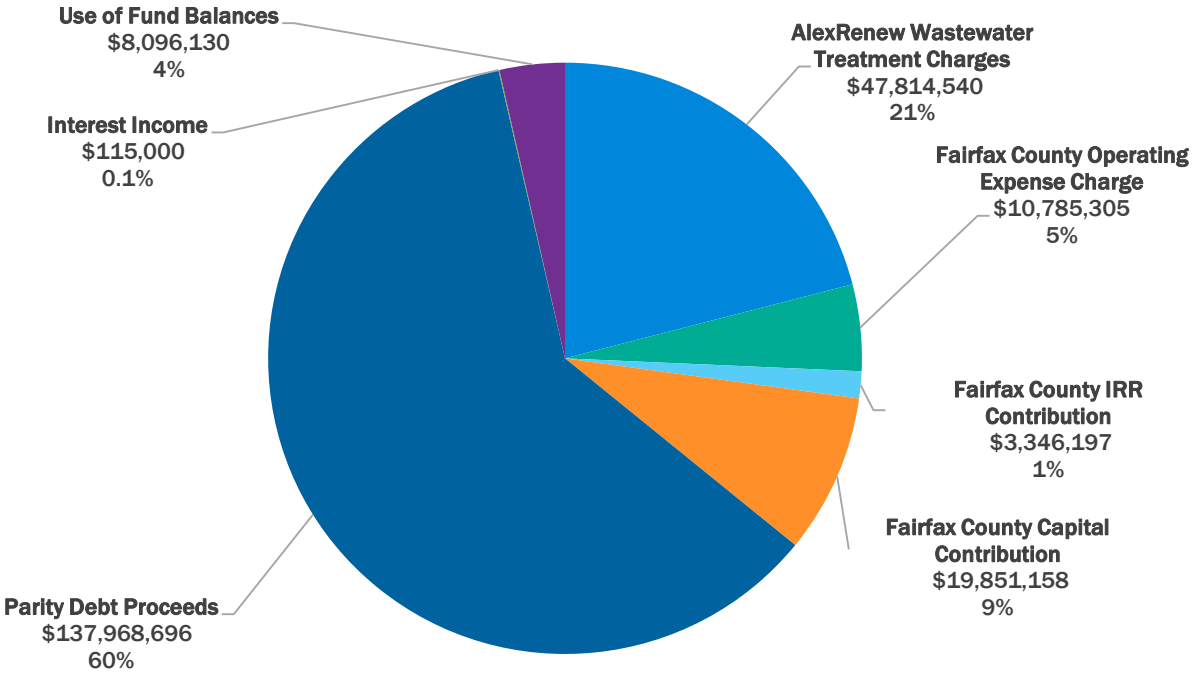
The proposed budget also provides continued funding for improvement, repair and replacement projects, reflecting an effort to ensure timely upgrades of AlexRenew's infrastructure to maintain efficient operations. Capital spending is projected to increase very significantly in FY 2022 to fund the RiverRenew Tunnel Project.

The FY 2022 budget projects the spend down of $8 million in general fund balance, largely to fund the cash portion of the Capital Improvement Program, as well as the utilization of $137 million in debt financing to fund RiverRenew construction.

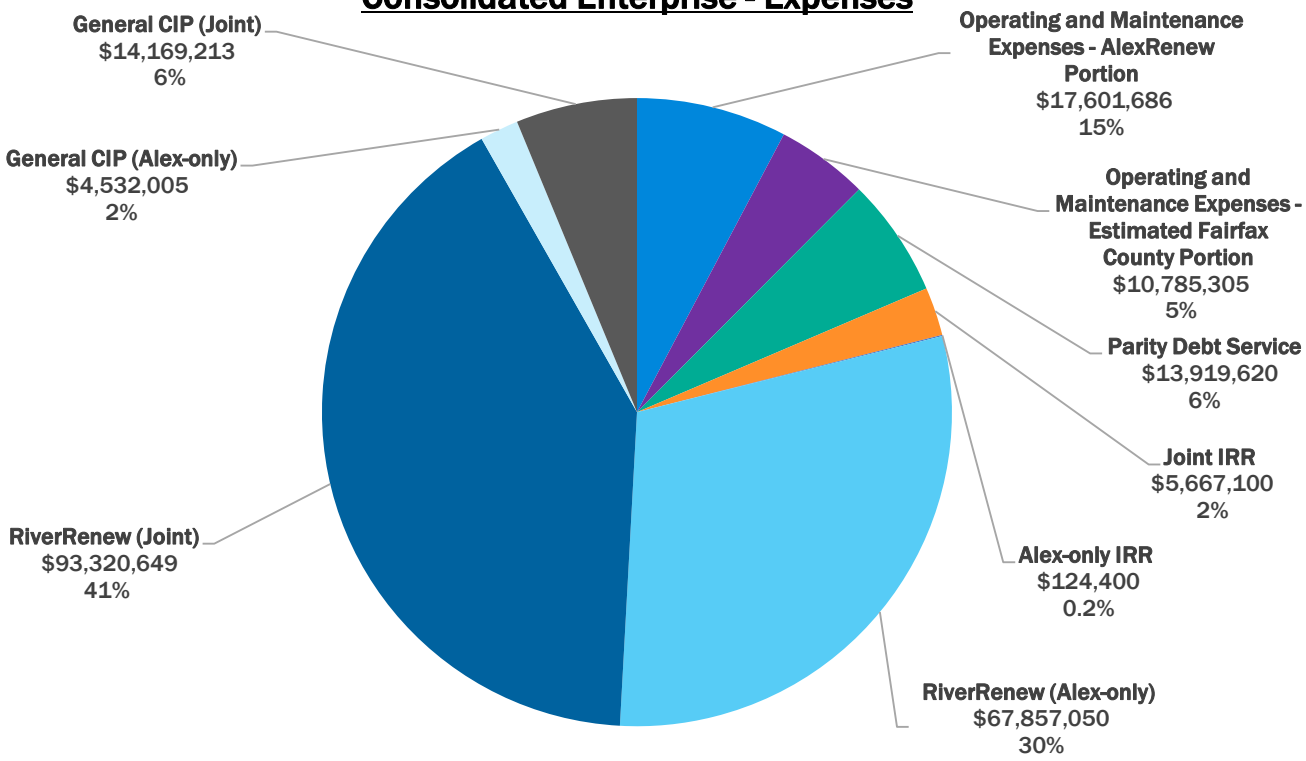
The pie charts on the following page depict funding sources and expenses for the FY 2022, again highlighting the significant activity related to debt financing and capital project construction associated with RiverRenew.

Condensed Summary	Adopted FY2021	Proposed FY2022	ANNUAL VAR %
OPERATING REVENUES			
AlexRenew Wastewater Treatment Charges	$ 39,492,000	$ 47,814,540	21%
Fairfax County Operating Expense Charge	11,272,272	10,785,305	-4%
	$ 50,764,272	$ 58,599,845	15%
IR&R AND CAPITAL CONTRIBUTIONS			
Fairfax County IRR Contribution	$ 3,217,340	$ 3,346,197	4%
Fairfax County Capital Contribution	14,186,824	19,851,158	40%
	$ 17,404,164	$ 23,197,355	33%
DEBT PROCEEDS AND OTHER SOURCES			
Parity Debt Proceeds	$ 39,770,774	$ 137,968,696	247%
Interest Income	115,000	115,000	0%
Use of Fund Balances	7,889,096	8,096,130	3%
	$ 47,774,871	$ 146,179,826	206%
TOTAL FUNDING SOURCES	**$ 115,943,307**	**$ 227,977,028**	**97%**
OPERATING EXPENSES			
Operating and Maintenance Expenses - AlexRenew Portion	$ 17,114,719	$ 17,601,686	3%
Operating and Maintenance Expenses - Estimated Fairfax County Portio	11,272,272	10,785,305	-4%
	$ 28,386,991	$ 28,386,991	0%
NON-OPERATING EXPENSES			
Parity Debt Service	14,123,976	13,919,620	-1%
Joint IRR	5,628,100	5,667,100	1%
Alex-only IRR	250,400	124,400	-50%
Fund Balance Additions	4,417,489	-	-
	$ 24,419,965	$ 19,711,120	-19%
CAPITAL OUTLAY			
RiverRenew (Alex-only)	$ -	$ 67,857,050	100%
RiverRenew (Joint)	46,656,400	93,320,649	100%
General CIP (Alex-only)	2,278,540	4,532,005	99%
General CIP (Joint)	14,201,410	14,169,213	0%
	$ 63,136,350	$ 179,878,918	185%
TOTAL EXPENSES AND CAPITAL OUTLAY	**$ 115,943,307**	**$ 227,977,027**	**97%**

Consolidated Enterprise - Revenues



Consolidated Enterprise - Expenses



Determining Rates, Charges and Revenues

For more than fifteen years, AlexRenew has employed rate modeling to analyze, evaluate and implement an annual and long-term fee structure to support the financial obligations of the enterprise. AlexRenew has engaged an independent, third-party consultant to develop and monitor a rate model designed specifically for AlexRenew. This model is used to manage revenue performance in the current year and to forecast revenue requirements, based on anticipated operating and capital costs, each year over a 10-year time horizon.

In addition to rate modeling, the AlexRenew Board of Directors (Board) has adopted a body of Financial Policies (see Appendix A) to guide the approach to setting rates and maintaining a strong, stable and sustainable financial position. These policies target key financial metrics, represent industry best practices, and ensure AlexRenew maintains cost-efficient operations while delivering superior services for AlexRenew's customers and community.

The Rate Modeling Process

Annually, upon completion and acceptance of AlexRenew's audited financial statements, and more frequently as necessary, rate consultants review and update the AlexRenew rate model. This process, and the model, is heavily data-driven and uses historical and projected data comprised of billing statistics, historical financial data, the current budget, and capital plan forecasts. The rate consultants perform comprehensive due diligence exercises to validate all information provided by AlexRenew and obtained from other relevant sources. Once validation is complete, the rate consultants review their findings with AlexRenew leadership to discuss observed historical trends, how they compare to prior forecasts, what the current projections are, and whether the consultants should make adjustments for known conditions, as a contingency.

The resultant revenues, and assumptions of additional debt and capital funding, are evaluated relative to AlexRenew's annual cash flow requirements and likely financial position at year-end. This iterative process for each fiscal year over the forecast period allows AlexRenew and its rate consultants to examine how subtle changes to rates or assumptions today have the potential to materially influence financial position across the forecast. It also allows for sensitivity analysis and the ability to examine AlexRenew's financial profile under various hypothetical scenarios, which is instructive to management and provides a stronger basis for recommending the timing and magnitude of potential rate adjustments.

As a single, dominant revenue source that accounts for almost 50% of operating revenues, the Wastewater Treatment Charges are critical to the funding of current operations and long-term financial viability. As a result, it is imperative to combine a thorough understanding of the rate modeling process, strict adherence to the terms of the Indenture, faithfulness to AlexRenew's Financial Policies, and the needs of the community when establishing rates and charges.

Revenue Growth Assumptions

AlexRenew has historically modeled growth in Wastewater Treatment Charges of approximately 0.50% - 2.00% and Fairfax County Operating Expense Charges of approximately 1.00% - 3.00% when determining rates and revenues over the forecast period.

Expenditure Growth Assumptions

AlexRenew has historically used CPI to evaluate costs over the forecast period and has commonly assumed an inflation range of 2.0% to 3.5%.

Revenue Forecast Assumptions

For the prior FY 2021 budget, AlexRenew lowered its revenue forecast by 15% to account for the potential for COVID-19 impacts (such as lowered water usage and increased customer delinquencies) to reduce revenues. Since that time, AlexRenew has found the impacts on revenue to be very moderate, and as such, the FY 2022 revenue budget has been increased, reflecting a lower 6% revenue reduction due to COVID-19 factors for the remainder of FY 2021 and only a 3% reduction for the upcoming FY 2022.

Starting in FY 2020, AlexRenew began implementing a 7-year phased rate increase initiative, primarily to fund capital expenditures including the RiverRenew program. The revenue forecast that forms the basis of this budget includes proposed annual rate increases in FY 2022 and FY 2023, as further described on the following page.

Determining Rates, Charges and Revenues

The following schedule details the monthly rates and charges for all individually metered residential customers and commercial customers discharging sewage to and/or requiring wastewater treatment service from AlexRenew. Commercial wastewater customers include all commercial, industrial, government and other public agencies, master-metered residential, and all other accounts or customers not otherwise classified as individually metered residential customers.

A wastewater customer's monthly bill for wastewater interception, treatment and discharge services is based on the sum of their: (1) base charge and (2) wastewater treatment charge, as determined by water meter readings conducted by Virginia American Water, at the customer premise. The base charge serves as the minimum monthly bill for sewer service for all customers served by AlexRenew.

The AlexRenew Board of Directors approved rate adjustments in 2019 for a two-year period to begin funding the RiverRenew program. New rates went into effect July 1, 2019 for FY 2020 and again July 1, 2020 for FY 2021. AlexRenew elected to reduce the planned rate increase for the prior FY 2021 from its original projection of 11% to approximately 6.6% in recognition of the economic stress the pandemic has caused for City residents and its business community. For the upcoming FY 2022 and FY 2023, AlexRenew is proposing similar rate increases as the year prior – 6.9% for FY 2022 and 6.5% for FY 2023. These adjustments are projected to increase the average monthly bill by approximately $3/month in each year. Based on current projections, these rate increases will allow AlexRenew to maintain its fiscal profile while funding the budget and capital program herein. The chart below details the current FY 2021 rate structure and the proposed rate structures for FY 2022 and FY 2023.

Base Charge. Charge per account based on meter size at the customer premise.

Description	Meter Size	Current (Effective July 1, 2020) Monthly	Proposed (Effective July 1, 2021) Monthly	Proposed (Effective July 1, 2022) Monthly
Residential Base Charge	All Meters	$11.54	$12.34	$13.14
Commercial Base Charge	5/8"	$34.63	$37.02	$39.42
	¾"	$34.63	$37.02	$39.42
	1"	$86.59	$92.55	$98.55
	1-1/2"	$173.17	$185.10	$197.10
	2"	$277.08	$296.16	$315.36
	3"	$519.52	$555.30	$591.30
	4"	$865.87	$925.50	$985.50
	6"	$1,731.74	$1,851.00	$1,971.00
	8"	$2,770.79	$2,961.60	$3,153.60
Residential Customer Activation Fee		$15.00	$15.00	$15.00

Treatment Charge. Charge per account based on water consumption as measured by Virginia American Water from meter at customer premise.

Description	Meter Size	Current (effective July 1, 2020) Per 1,000 Gallons	Proposed (effective July 1, 2021) Per 1,000 Gallons	Proposed (effective July 1, 2022) Per 1,000 Gallons
Individual Meter Residential Wastewater Charge	All Meters	$8.13	$8.69	$9.26
Commercial Wastewater Treatment Charge	All Meters	$8.13	$8.69	$9.26

Revenue Fund Statement

AlexRenew's Indenture establishes nine (9) Funds into which monies may be deposited to manage operating and maintenance, non-operating, and capital obligations. The collection and deposit of monies typically occurs monthly at specified times and in specified amounts, and in a prescribed order of priority.

AlexRenew is required to collect and deposit ***Revenues***, as defined in the Indenture, in the Revenue Fund and make monthly transfers to each of its actively managed Funds. Deposits to the Revenue Fund do not include Fairfax County Improvement, Renewal and Replacement (IRR) payments or Capital Contributions. These dollars are deposited by Fairfax County directly into the Joint Use Facilities Account of the IRR Fund or the Project or General Fund for capital outlay reimbursements, as appropriate.

The schedule below presents adopted, proposed and estimated Revenues expected to be received by AlexRenew for the period FY 2021 – FY 2026, respectively. In addition, proposed Revenue transfers to various operating and non-operating Funds are provided to highlight the use or purpose of the funds.

Revenue Fund	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
REVENUES							
AlexRenew Wastewater Treatment Charges	$ 39,492,000	$ 47,814,540	21%	$ 50,889,015	$ 54,013,600	$ 57,059,968	$ 60,186,854
Fairfax County Operating Expense Charge	11,272,272	10,785,305	-4%	11,221,032	11,445,452	11,674,361	12,705,232
Total Revenues	**$ 50,764,272**	**$ 58,599,845**	**$ 0**	**$ 62,110,047**	**$ 65,459,053**	**$ 68,734,329**	**$ 72,892,086**
TRANSFERS							
Transfer to Operating Fund[1]	$ 28,301,116	$ 28,376,991	0%	$ 29,173,484	$ 29,976,030	$ 30,931,994	$ 31,782,899
Transfer to Parity Debt Service Fund	6,401,276	13,817,255	116%	14,637,125	16,346,103	18,954,217	21,272,820
Transfer to IRR Fund - Joint Use Facilities Account	2,230,239	2,319,561	4%	2,262,222	2,301,183	2,335,770	2,370,356
Transfer to IRR Fund - General Account	250,400	124,400	-50%	124,400	103,400	327,400	167,400
Transfer to General Fund	13,581,241	13,961,638	3%	15,912,815	16,732,337	16,184,948	17,298,610
Total Uses	**$ 50,764,272**	**$ 58,599,845**	**$ 1**	**$ 62,110,047**	**$ 65,459,053**	**$ 68,734,329**	**$ 72,892,086**

[1] Includes entire Fairfax County Operating Expense Charge

Fairfax County Contributions

The following schedule demonstrates the method by which Fairfax County annual payments and contributions are determined based on the capacity rights Fairfax County currently receives under the Agreement. The County currently makes equal monthly Operating Expense Charge installments into the Revenue Fund, equal monthly contributions into the Joint Use Facilities Account of the IRR Fund, and variable monthly capital contributions (formulaic reimbursements based actual capital expenditures) into the General Fund.

Fairfax County Contributions	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
Operating Expense Charge:							
Total Estimated Operating Expenses	$ 28,386,991	$ 28,386,991	0%	$ 28,954,731	$ 29,533,825	$ 30,124,502	$ 30,726,992
Less Estimated "Alexandria Only" Expenses	(4,866,578)	(4,379,920)	-10%	(4,467,519)	(4,556,869)	(4,648,006)	(4,740,966)
Net Estimated Joint Operating Expenses	$ 23,520,413	$ 24,007,071	2%	$ 24,487,212	$ 24,976,956	$ 25,476,496	$ 25,986,026
Estimated Fairfax County Net Flow	48.0%	45.0%		45.0%	45.0%	45.0%	45.0%
Estimated Fairfaix County Operating Expense Charge	11,289,798	10,803,182	-4%	11,019,245	11,239,630	11,464,423	11,693,711
Less Alexandria Only Flow Charge	(17,526)	(17,877)	2%	(18,234)	(18,599)	(18,971)	(19,350)
Fairfax County Operating Expense Charge	**$ 11,272,272**	**$ 10,785,305**	-4%	**$ 11,001,011**	**$ 11,221,032**	**$ 11,445,452**	**$ 11,674,361**
IRR Fund - Joint Account Contribution:							
Estimated Joint Use Plant Investment	$ 778,225,549	$ 809,394,053	4%	$ 793,106,223	$ 813,222,465	$ 827,228,123	$ 839,661,300
Estimated Joint Use IRR Funding Percentage	0.7%	0.7%	0%	0.7%	0.7%	0.7%	0.7%
Estimated Joint Use IRR Investment	$ 5,447,579	$ 5,665,758	4%	$ 5,551,744	$ 5,692,557	$ 5,790,597	$ 5,877,629
Investment Allocation at 60%	$ 5,066,248	$ 5,269,155	4%	$ 4,996,569	$ 5,123,302	$ 5,211,537	$ 5,289,866
Investment Allocation at 49%	326,855	339,946	4%	333,105	341,553	347,436	352,658
Investment Allocation at 32%	54,476	56,658	4%	55,517	56,926	57,906	58,776
Total IRR - Joint Account Investment	$ 5,447,579	$ 5,665,758	4%	$ 5,385,191	$ 5,521,781	$ 5,616,879	$ 5,701,300
Fairfax County Allocation at 60%	$ 3,039,749	$ 3,161,493	4%	$ 2,997,942	$ 3,073,981	$ 3,126,922	$ 3,173,920
Fairfax County Allocation at 49%	160,159	166,573	4%	163,221	167,361	170,244	172,802
Fairfax County Allocation at 32%	17,432	18,130	4%	17,766	18,216	18,530	18,808
Total Fairfax County IRR - Joint Account Contribution	**3,217,340**	**3,346,197**	4%	**3,178,928**	**3,259,558**	**3,315,696**	**3,365,530**
Alex Renew Joint IRR Contribution	2,230,239	2,319,561	4%	2,206,263	2,262,222	2,301,183	2,335,770
Capital Project Contribution - Joint Use Facilities:							
Estimated Joint Capital Improvements at 60%/40%	$ 14,201,410	$ 13,059,213	-8%	$ 13,239,871	$ 6,521,910	$ 16,359,810	$ 21,229,110
Fairfax County Allocation at 60%	8,520,846	7,835,528	-8%	7,943,923	3,913,146	9,815,886	12,737,466
Estimated Joint Capital Improvements at 49%/51%	-	1,110,000	100%	-	-	-	1,200,000
Fairfax County Allocation at 49%	-	543,900	100%	-	-	-	588,000
Estimated Joint Capital Improvements RiverRenew	46,656,400	93,320,649	100%	83,286,121	43,721,184	61,784,180	5,854,176
Fairfax County Allocation [1]	5,665,978	11,471,731	102%	10,473,387	7,244,874	7,975,960	2,913,373
Estimated Joint Capital Improvements at 32%/68%	-	-	0%	-	-		300,000
Fairfax County Allocation at 32%	-	-	0%	-	-		96,000
Total Fairfax County Capital Contribution	14,186,824	19,851,158	40%	18,417,310	11,158,020	17,791,846	16,334,839
Total Fairfax County Contributions	**$ 28,676,436**	**$ 33,982,661**	19%	**$ 32,597,250**	**$ 25,638,610**	**$ 32,552,994**	**$ 31,374,731**

Operating Fund Statement

AlexRenew manages its Operating Fund by department and strategic outcome. This allows the enterprise to understand the impact of each department on the overall budget and how monies are being spent to achieve key business objectives.

Operational Excellence. This element of the operating budget primarily includes utilities and chemicals required to meet all regulatory compliance obligations for AlexRenew's cleaned water product as well as ongoing operating needs such as bio-solids reuse and solids disposal.

Public Engagement and Trust. This operating budget category includes community education and outreach, and customer collection and billing services.

Watershed Stewardship. This operating budget item encompasses the costs for legal, financial, and engineering partners. It also includes the cost of supporting the operations and maintenance associated with the City's capacity rights at the Arlington County Water Pollution Control Plant.

Adaptive Culture. This operating budget category covers personnel services including all compensation related costs, required safety materials, training and professional development, and licensing and dues. This operating budget item also contains the ancillary services required to ensure clean, safe water for the community and environment, including laboratory testing and research support.

Effective Financial Stewardship. This component of the operating budget covers all preventative and corrective maintenance for infrastructure assets, technology investments, general back office support, and annual asset renewal and insurance needs.

Operating Fund	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
REVENUES							
Transfer from Revenue Fund	$ 28,301,116	$ 28,376,991		$ 29,173,484	$ 29,976,030	$ 30,931,994	$ 31,782,899
Interest Income	10,000	10,000		10,000	10,000	10,000	10,000
Total	**$ 28,311,116**	**$ 28,386,991**	**0.27%**	**$ 29,183,484**	**$ 29,986,030**	**$ 30,941,994**	**$ 31,792,899**
EXPENSES							
Operational Excellence	$ 7,005,864	$ 7,168,460	2.32%	$ 7,365,593	$ 7,568,147	$ 7,776,271	$ 7,990,118
Public Engagement and Trust	2,404,946	2,385,686	-0.80%	2,451,292	2,518,703	2,587,967	2,659,136
Watershed Stewardship	2,950,459	2,758,250	-6.51%	2,834,101	2,912,039	2,992,120	3,074,404
Adaptive Culture	13,842,707	14,073,082	1.66%	14,460,092	14,857,744	15,266,332	15,686,156
Effective Financial Stewardship	2,183,015	2,001,514	-8.31%	2,056,555	2,113,111	2,171,221	2,230,930
Total	**$ 28,386,991**	**$ 28,386,991**	**0.00%**	**$ 29,167,633**	**$ 29,969,743**	**$ 30,793,911**	**$ 31,640,744**
Excess (Deficiency) [1]	**$ (75,875)**	**$ (0)**		**$ 15,851**	**$ 16,287**	**$ 148,083**	**$ 152,155**
FUND BALANCE - Beginning	**$ 4,742,230**	**$ 4,666,355**		**$ 4,666,355**	**$ 4,682,206**	**$ 4,682,206**	**$ 4,698,492**
FUND BALANCE - Ending [1]	**$ 4,666,355**	**$ 4,666,355**		**$ 4,682,206**	**$ 4,698,492**	**$ 4,830,289**	**$ 4,850,648**

[1] Operating Reserve Requirement of 60 days cash

Adaptive Culture Highlights

AlexRenew continues to invest in its workforce in order to recruit and retain the best talent. Over $13 million (46%) of AlexRenew's budgeted operating expenditures are utilized for personnel expenses, consisting of salaries and benefits. Salaries are provided for full and part time employees, while fringe benefits for qualifying employees include healthcare, retirement, social security, short and long-term disability, personal protective gear and other competitive benefits. Paid time off is provided at a rate based on years of service.

Personnel Budget		
Salaries	$	9,381,682
Benefits		3,623,815
Total Personnel Budget	$	13,005,497

Operating Budget		
Personnel	$	13,005,497
Non-Personnel		15,381,493
Total Operating Budget	$	28,386,991

Other personnel and compensation highlights from the FY 2022 Budget include:

- Employees are eligible for performance-based pay increases ranging from 2.0 to 4.5% of salary. Currently, AlexRenew has 14 general salary grades. The Proposed FY 2022 Budget includes performance-based pay increases, which may be further evaluated depending on COVID-19 impacts.
- In December 2020, AlexRenew received the employee health insurance renewal rates from United Healthcare. The renewal rate was zero percent. AlexRenew will continue to offer only one medical plan option, High Deductible with Health Savings Account. AlexRenew pays 85% for employee-only premiums and continues to pay 83% of dependent coverage.
- Ninety-five percent (95%) of the employees took part in the Employee Wellness Incentive Program that ran from March 2020 through January 2021. The program encourages employees to participate in wellness program activities, events, or challenges. The Employee Assistance Program was expanded to allow for 7 free counseling visits (from 3) to enhance availability of mental health resources to AlexRenew's staff.
- A total of 1,205 hours of safety training are planned for AlexRenew employees during FY 2022, reflecting investing in the safety, wellness, and health of AlexRenew team members

Retirement Benefit

Budgeted funds for staff retirement are the contributions AlexRenew pays into the Virginia Retirement System (VRS). VRS administers pension plans and other benefits for Virginia's covered public sector employees and updates the employer contribution every other even calendar year. AlexRenew's contribution to VRS will decrease from 7.27% from FY 2019 to FY 2020 to 6.44% from FY 2021 to FY 2022. This reduction will result in cost savings of approximately $85,000 in FY 2021 and FY 2022 for AlexRenew.

Full-time, regular employees hired since January 1, 2014 have been placed into the VRS Hybrid plan unless they are already participating in VRS from previous employment. The VRS Hybrid plan does not offer disability benefits as part of its core provisions. VRS has offered the VLDP (Virginia Local Disability Plan) for jurisdictions who do not elect to opt out. AlexRenew has opted out of the VLDP Plan and provides a comparable disability plan.

AlexRenew currently has 23 employees in the VRS Plan 1 retirement plan, which allowed enrollment before July 1, 2010. AlexRenew has 9 employees in the VRS 2 retirement plan, which was available between July 1, 2010 and December 31, 2013. Sixty-three (63) employees are enrolled in the VRS Hybrid plan, which started on January 1, 2014 and is still in effect.

Other Post-Employment Benefits (OPEB)

OPEB funding supports retiree healthcare benefits. The FY 2022 budget provides for approximately $173,583 in OPEB funding. AlexRenew currently has 7 retirees receiving this benefit.

Adaptive Culture Highlights

Workforce by Full Time Equivalent (FTE)

As shown below by Focus Area, the FY 2022 budget has no increase in head count compared to the FY 2021 Approved Budget.

Focus Area	FY 2021 Approved	FY 2022 Proposed	FTE Impact
Effective Financial Stewardship			
Board of Directors	5	5	0
Executive	3	5	+2
Finance	12	11	-1
Subtotal	20	21	+1
Watershed Stewardship			
Environmental Performance	11	11	0
Subtotal	11	11	0
Public Engagement and Trust			
Communications	5.5	2.5	-3
Subtotal	5.5	2.5	-3
Operational Excellence			
Operations & Maintenance	69.5	69	-0.5
Engineering & Planning	11.5	12	+0.5
Information Systems	6	7	+1
Subtotal	87	88	+1
Adaptive Culture			
Human Resources	2	3	+1
Subtotal	2	3	+1
Grand Total	**125.5**	**125.5**	**+0**

Equity in the Workplace

AlexRenew is committed to fostering, promoting, and preserving a culture of diversity and inclusion throughout the workplace. To support this commitment, our current diversity and inclusion initiatives extend to our practices and policies on recruitment and selection; compensation and benefits; professional development and training; and the ongoing development of a work environment built on the premise of gender and diversity equity. An example of one practice, all employees are also required to attend and complete biannual diversity awareness training. To continue to evolve and grow this culture, we are striving to evaluate and update these policies and practices frequently, including a recent update to our Equity in the Workplace policy in 2020. The racial makeup of AlexRenew's current workforce is 34% white, 42% Black, 5% Asian, 9% Hispanic, and 2% that identify in other categories.

Adaptive Culture Highlights

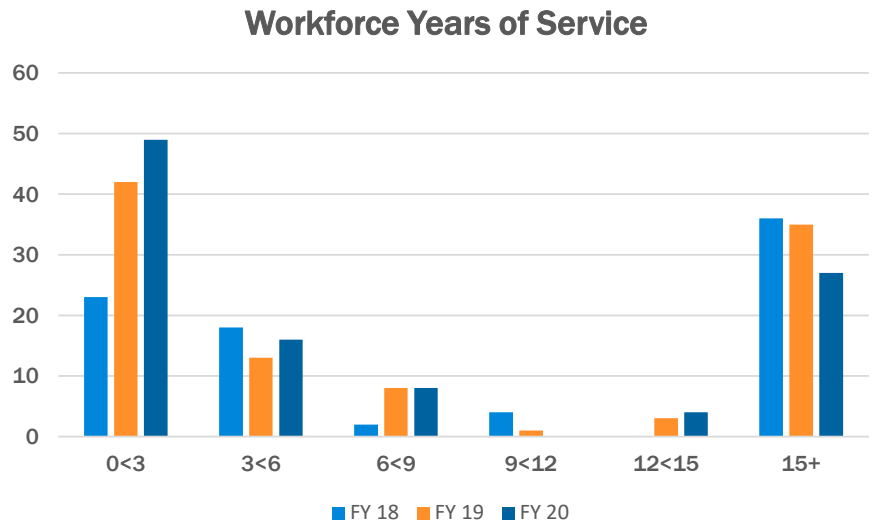
Voluntary Retirement Program

As part of its COVID response and to enhance employee safety, AlexRenew offered a Voluntary Retirement Program to employees with over twenty (20) years VRS service, and nine (9) employees elected to retire under this program between October 2020 and January 2021. AlexRenew also saw COVID impact its workforce, as people relocated back to hometowns and families and made other life decisions impacting their tenure at AlexRenew. AlexRenew continues to utilize the apprentice program for succession development for the trades positions.

FY 2020 Turnover	Total Number of Staff
Voluntary Turnover	13
Involuntary Turnover	3
Retirement	9
Total Turnover FY 2020	**20%**
Total Turnover FY 2019	14%

Years of Service

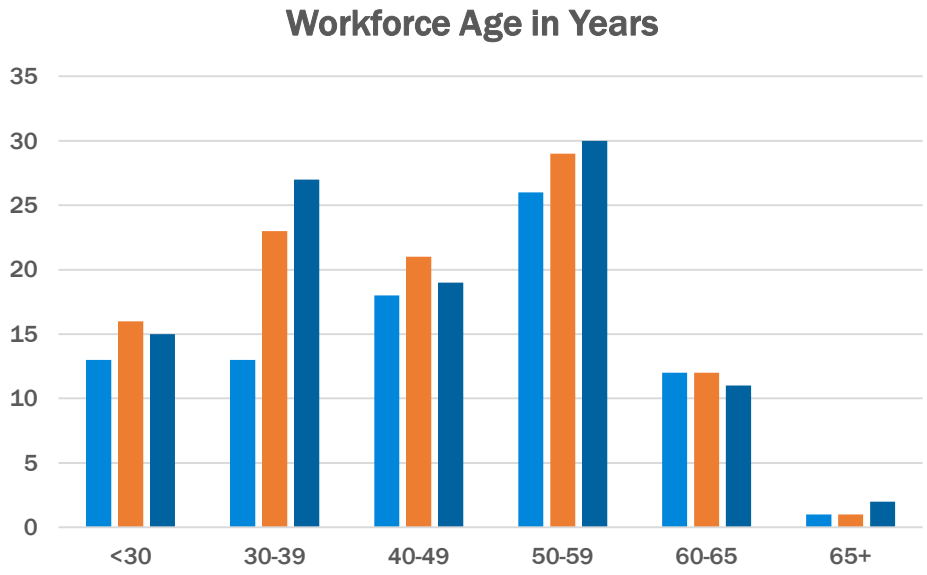
Almost three quarters of the current workforce (70%) has been employed with AlexRenew for ten years or less. Thirty one (30%) have worked for AlexRenew for more than 10 years or more. The average years of service is currently nine (9) years. Over the past three years, the number of AlexRenew employees with less than three years of service increased while those with fifteen years service or more decreased.



Adaptive Culture Highlights

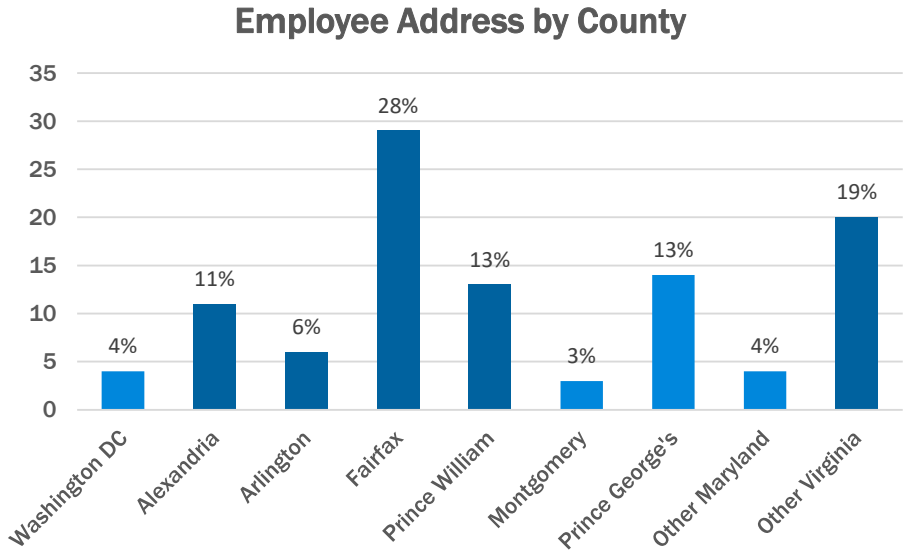
Employee Demographics

Over eighty percent (80%) of AlexRenew's workforce fall within the ages of 30 and 60 years old with and average age of 44 years old. The percentage of the AlexRenew workforce in the 30-39 and 50-59 age range have increased considerably over the past three years, while the 60-65 age range has declined.



Employee Home Address by County

Just over three-quarters (76%) of AlexRenew's workforce live in Virginia (depicted in dark blue below) and eleven percent (11%) live in the City of Alexandria. The remainder live in Washington DC (4%) or in Maryland (20%).



Parity Debt Service Fund Statement

The Parity Debt Service Fund includes the amounts due in FY 2022 to pay principal and interest on outstanding and projected AlexRenew debt. To date, AlexRenew has borrowed from the Virginia Clean Water Revolving Loan Fund (CWRLF) and Virginia Pooled Financing Program (VPFP) through the Virginia Resources Authority (VRA) as well as through the federal Water Infrastructure Financing and Innovation Act (WIFIA) loan program. Within the context of the Indenture, capital funding in this manner is deemed parity debt.

During FY 2021, AlexRenew issued two new sewer revenue bonds to fund construction associated with the RiverRenew capital program – a loan of up to $185.6 million from the CWRLF and a loan of up to $320.9 million from the WIFIA program. AlexRenew also has remaining proceeds from two prior bond issues – approximately $3.5 million from the Series 2017A Bonds, which are invested in the Virginia SNAP fund and are expected to be spent in FY 2022, and the Series 2019 Bonds, which AlexRenew is currently utilizing to fund its PAC Blower Replacement project. A small amount of proceeds from the Series 2019 Bonds (approximately $300,000) are projected to be remaining at the end of FY 2021 to be spent in FY 2022. In total, the FY 2022 budget assumes that AlexRenew funds $137.9 million of its capital spending through debt or grants.

The debt service schedules below make certain assumptions about the pace of spending the debt proceeds and the repayment schedules shown may vary (but will not exceed) the levels shown below. All of AlexRenew's outstanding bonds bear interest at fixed interest rates; the Series 2021 CWRLF Bonds at 1.35%, the Series 2021 WIFIA Bonds at a 1.88% and the Series 2019 Bonds at a 1.10%. Repayment of the Series 2019 Bonds begins in the upcoming FY 2022; repayment of the Series 2021 CWRLF Bonds are deferred until FY 2023 and the Series 2021 WIFIA Bonds until FY 2025.

AlexRenew also currently maintains a $30 million line of credit with a commercial bank to provide cash flow flexibility. AlexRenew fully drew on the facility in FY 2021 to fund construction and expects to repay the line with proceeds of a bond issue in the future. The line of credit is bears interest at a variable rate. The line of credit is considered subordinate debt under the Indenture and as such, projected interest and fees associated with it are budgeted as an operating expense rather than included in the Parity Debt Service fund.

Parity Debt Service Fund	Adopted FY2021	Proposed FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
REVENUES						
Beginning Balance	$ 7,329,428	$ 12,365	$ 0	$ 0	$ (12,383)	$ (12,391)
Transfer from Revenue Fund	6,401,276	13,817,255	14,637,125	16,346,103	18,954,217	21,272,820
Interest Income	90,000	90,000	90,000	90,000	90,000	90,000
Total Revenue	**13,820,704**	**13,919,620**	**14,727,125**	**16,436,103**	**19,031,834**	**21,350,429**
EXPENDITURES						
VRA BOND SERIES 00B INTEREST	$ 592,209	$ 345,827	$ 77,464	$ -	$ -	$ -
VRA BOND SERIES 00B PRINCIPAL	6,336,945	6,589,727	4,024,113	-	-	-
VRA BOND SERIES 04 INTEREST	123,656	45,433	31,609	17,646	3,543	-
VRA BOND SERIES 04 PRINCIPAL	1,327,078	1,378,979	1,392,803	1,406,766	708,669	-
VRA BOND SERIES 06 INTEREST	100,042	48,246	39,187	30,038	20,798	12,979
VRA BOND SERIES 06 PRINCIPAL	870,701	903,561	912,620	921,769	830,185	737,180
VRA BOND SERIES 09 INTEREST	218,987	197,438	175,299	152,554	129,186	105,178
VRA BOND SERIES 09 PRINCIPAL	786,890	808,439	830,578	853,324	876,692	900,700
VRA BOND SERIES 11 INTEREST	138,633	129,590	120,332	110,856	101,157	91,277
VRA BOND SERIES 11 PRINCIPAL	382,577	391,620	400,877	410,353	420,053	429,982
VRA BOND SERIES 14A INTEREST	171,313	120,112	112,361	104,513	96,566	88,520
VRA BOND SERIES 14A PRINCIPAL	589,369	618,159	625,910	633,758	641,705	649,751
VRA BOND SERIES 14B INTEREST	32,820	22,362	20,857	19,333	17,792	16,231
VRA BOND SERIES 14B PRINCIPAL	119,192	125,062	126,567	128,117	128,859	130,410
VRA BOND SERIES 14C INTEREST	867,784	855,463	841,625	827,019	811,772	795,756
VRA BOND SERIES 14C PRINCIPAL	255,000	260,000	280,000	290,000	305,000	320,000
VRA BOND SERIES 17A INTEREST	907,506	907,506	892,772	862,534	830,759	797,319
VRA BOND SERIES 17A PRINCIPAL	-	-	575,000	605,000	635,000	670,000
VRA BOND SERIES 19 INTEREST	-	167,096	114,070	112,970	111,870	110,220
VRA BOND SERIES 19 PRINCIPAL	-	5,000	100,000	100,000	100,000	300,000
VRA BOND SERIES 21 INTEREST	-	-	3,045,463	3,597,117	8,867,258	2,293,042
VRA BOND SERIES 21 PRINCIPAL	-	-	-	5,264,825	2,442,336	6,514,011
WIFIA BOND SERIES 21 INTEREST	-	-	-	-	1,047,488	6,284,926
WIFIA BOND SERIES 21 PRINCIPAL	-	-	-	-	-	100,291
TOTAL EXPENSES	**$ 13,820,704**	**$ 13,919,620**	**$ 14,739,509**	**$ 16,448,494**	**$ 19,126,687**	**$ 21,347,774**
Total Interest	3,152,951	2,839,073	5,471,040	5,834,582	12,038,188	10,595,449
Total Principal	10,667,753	11,080,547	9,268,468	10,613,912	7,088,499	10,752,325
	$ 13,820,704	**$ 13,919,620**	**$ 14,739,509**	**$ 16,448,494**	**$ 19,126,687**	**$ 21,347,774**

IRR Fund Statement - Joint Use Facilities Account

The Improvement, Renewal & Replacement (IRR) Fund – Joint Use Facilities Account funds the project costs associated with the upgrade of infrastructure and equipment for the portions of the facility used jointly by the City and Fairfax County.

As noted in the accompanying schedule, contributions to the Joint Use Facilities Account are made annually by both AlexRenew and Fairfax County in a combined amount equal to 0.7% of AlexRenew's estimated capital asset value for FY 2022. Fairfax County's portion of the total contribution is also based on the allocation percentages detailed on page 16 and affirmed in the Agreement.

IRR Fund - Joint Use Facilities Account	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
REVENUES							
Revenue Fund Transfer	$ 2,230,239	$ 2,319,561	4%	$ 2,262,222	$ 2,301,183	$ 2,301,183	$ 2,335,770
Fairfax County Contribution	3,217,340	3,346,197	4%	3,178,928	3,259,558	3,315,696	3,365,530
Total Revenues	**$ 5,447,579**	**$ 5,665,758**	**4%**	**$ 5,441,151**	**$ 5,560,741**	**$ 5,616,879**	**$ 5,701,300**
EXPENSES							
Preliminary / Primary Infrastructure	$ 343,333	$ 80,000	-77%	$ 80,800	$ 81,608	$ 82,424	$ 83,248
Secondary Infrastructure	1,156,333	1,638,000	42%	1,654,380	1,670,924	1,687,633	1,704,509
Tertiary Infrastructure	890,333	358,000	-60%	361,580	365,196	368,848	372,536
Solids Infrastructure	1,740,500	1,635,500	-6%	1,651,855	1,668,374	1,685,057	1,701,908
Campus Wide Projects	500,600	315,600	-37%	318,756	321,944	325,163	328,415
Information Technology Projects	600,000	1,350,000	125%	1,363,500	1,377,135	1,390,906	1,404,815
Campus Digital Signage	140,000	-	-100%	-	-	-	140,000
Collection System Projects	-	15,000	100%	15,150	-	-	15,302
Centrate Pretreatment Facility Improvements	185,000	258,000	39%	-	-	-	-
Tertiary Treatment Improvements	72,000	17,000	-76%	-	-	-	-
WRRF Fire Alarm Upgrade	-	-	-	-	-	-	300,000
Joint IRR Expenses	**$ 5,628,101**	**$ 5,667,101**	**0.69%**	**$ 5,446,022**	**$ 5,485,181**	**$ 5,540,033**	**$ 6,050,734**
FUND BALANCE - Beginning	**$ 8,500,404**	**$ 8,319,882**		**$ 8,318,540**	**$ 8,313,668**	**$ 8,313,668**	**$ 8,389,229**
FUND BALANCE - Ending	**$ 8,319,882**	**$ 8,318,540**		**$ 8,313,668**	**$ 8,389,229**	**$ 8,390,515**	**$ 8,039,795**

IRR Fund Statement - General Account

The Improvement, Renewal & Replacement (IRR) Fund – General Account funds the project costs associated with the upgrade of infrastructure and equipment for the portions of the facility used for the benefit of the City only.

Contributions to the General Account are made annually for projects AlexRenew determines are necessary to maintain the safe and effective operation of the facility.

IRR Fund - General Account	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
Revenues							
Revenue Fund Transfer	$ 250,400	$ 124,400	-50%	$ 103,400	$ 327,400	$ 167,400	$ 87,400
Total Revenue	**$ 250,400**	**$ 124,400**	**-50%**	**$ 103,400**	**$ 327,400**	**$ 167,400**	**$ 87,400**
Expenses							
Campus Wide Projects	$ 21,000	$ 21,000	0%	$ 21,000	$ 195,000	$ 21,000	$ 21,000
Collection System Projects	229,400	103,400	-55%	82,400	132,400	146,400	66,400
Total Expenses	**$ 250,400**	**$ 124,400**	**-50%**	**$ 103,400**	**$ 327,400**	**$ 167,400**	**$ 87,400**

General Fund Statement

The General Fund is the repository of funds remaining after deposits to all other Funds are made and may be used for any lawful purpose of AlexRenew. AlexRenew uses the General Fund to finance City-only capital improvements, contribute PAYGO (cash) funding to the Joint capital program, manage unanticipated expenditures, and maintain sufficient reserves to promote ongoing financial strength.

The General Fund balance for FY 2022 is projected to decline by approximately $8 million as AlexRenew spends down fund balance to contribute higher levels of PAYGO to the CIP throughout the year, but it is still projected to remain strong at fiscal year-end, with a projected available balance of $36.9 million, equivalent to over 475 days of operating expenses.

General Fund	Adopted FY2021	Proposed FY2022	VAR %	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026
REVENUES							
Revenue Fund Transfer	$ 13,581,241	$ 13,961,638	3%	$ 15,912,815	$ 16,732,337	$ 16,184,948	$ 17,298,610
Interest Income	15,000	15,000	0%	15,000	15,000	15,000	15,000
Total Revenues	**$ 13,596,241**	**$ 13,976,638**	**3%**	**$ 15,927,815**	**$ 16,747,337**	**$ 16,199,948**	**$ 17,313,610**
EXPENSES							
Alex-only Capital Exenses	$ 2,278,540	$ 4,532,005	99%	$ 3,496,245	$ 3,969,040	$ 5,678,440	$ 5,270,240
Transfer to Joint CIP Project Fund	6,900,213	17,527,058	154%	21,071,078	6,017,043	6,017,043	2,687,119
Total Expenses	**$ 9,178,753**	**$ 22,059,063**	**140%**	**$ 24,567,323**	**$ 9,986,083**	**$ 11,695,483**	**$ 7,957,359**
Fund Balance Increase (Decrease)	$ 4,417,489	$ (8,082,424)	-283%	$ (8,639,508)	$ 6,761,254	$ 4,504,465	$ 9,356,251
Fund Balance - Beginning	$ 40,629,271	$ 45,046,760		$ 36,964,336	$ 28,324,827	$ 28,324,827	$ 35,086,081
Fund Balance - Ending	$ 45,046,760	$ 36,964,336	-18%	$ 28,324,827	$ 35,086,081	$ 32,829,292	$ 44,442,332
General Reserve sub-Fund [1]	$ (4,666,355)	$ (4,666,355)		$ (4,794,679)	$ (4,926,533)	$ (4,926,533)	$ (5,062,013)
Available Balance	$ 40,380,405	$ 32,297,981	-20%	$ 23,530,148	$ 30,159,548	$ 27,902,759	$ 39,380,320

[1] Additional Operating Reserve Requirement of 60 days cash per Board-approved Financial Policies

Capital Improvement Program

AlexRenew manages its capital outlay for both Joint Use and City only infrastructure and equipment through its Capital Improvement Program (CIP). The CIP is summarized in the 10-year plan and is a key element in planning for and managing to future regulatory compliance through large-scale capital investments.

The 10-year plan is an important tool used to formulate future project financing plans, maximize federal and state grant opportunities, proactively plan for the replacement or reconstruction of essential assets nearing the end of their service life, and schedule and coordinate the execution of multiple projects to minimize operational impact. The FY 2022 – FY 2031 CIP includes project cost assumptions for all capital projects, including the RiverRenew program, as well as the Improvement, Renewal and Replacement program.

While the CIP provides a long-term roadmap for planned capital expenditures, AlexRenew retains the ability to defer projects if needed, and may elect to defer certain new capital projects, depending on revenue performance throughout the fiscal year.

Definition of Capital Projects

A capital project involves expenditures to construct or acquire assets of a relatively permanent nature such as property, plant, and equipment with a useful life that exceeds approximately two years.

CIP Funding

Potential funding sources for CIP projects include loans from the Virginia Department of Environmental Quality (VA DEQ), Clean Water Revolving Loan Fund (CWRLF), Virginia Pooled Financing Program (VPFP), Commonwealth of Virginia Grant programs, Water Infrastructure Finance and Innovation Act (WIFIA) loans, revenue bond issues, bank loans and lines of credit, and AlexRenew pay-as-you-go (cash) funds. To comply with its Board-adopted Financial Policies, AlexRenew funds at least 15% of the annual CIP with pay-as-you-go funds.

Alex-Only CIP

Capital projects that are the responsibility of AlexRenew only are funded pay-as-you-go from General Fund resources and/or through the use of various financing instruments. Costs associated with the Alex-only CIP are detailed on page 33 and specific project information is provided on pages 34-47.

Capital projects for which AlexRenew and Fairfax County share joint responsibility are funded pay-as-you-go from General Fund resources and/or through the use of various financing instruments. Costs associated with the Joint Use Facilities CIP are detailed on pages 48-49 and specific project information is provided on pages 50-103.

Proposed CIP Overview

AlexRenew is proposing a FY 2022 capital budget of $185.6 million and a total 10-year capital budget of $721 million. Based on current project spending projections, the capital spend in FY 2022 is expected to increase by $116 million (169%) compared to the year prior, with FY 2022 and FY 2023 representing the peak spending period for the largest of the RiverRenew projects, the Tunnel System project. The total 10-year budgeted CIP expenditures increased year-over-year by approximately 20% to reflect the updated cost estimate and contract award on the Tunnel System project and changes in other capital projects.

In addition to RiverRenew, highlights of the FY 2022 CIP include:

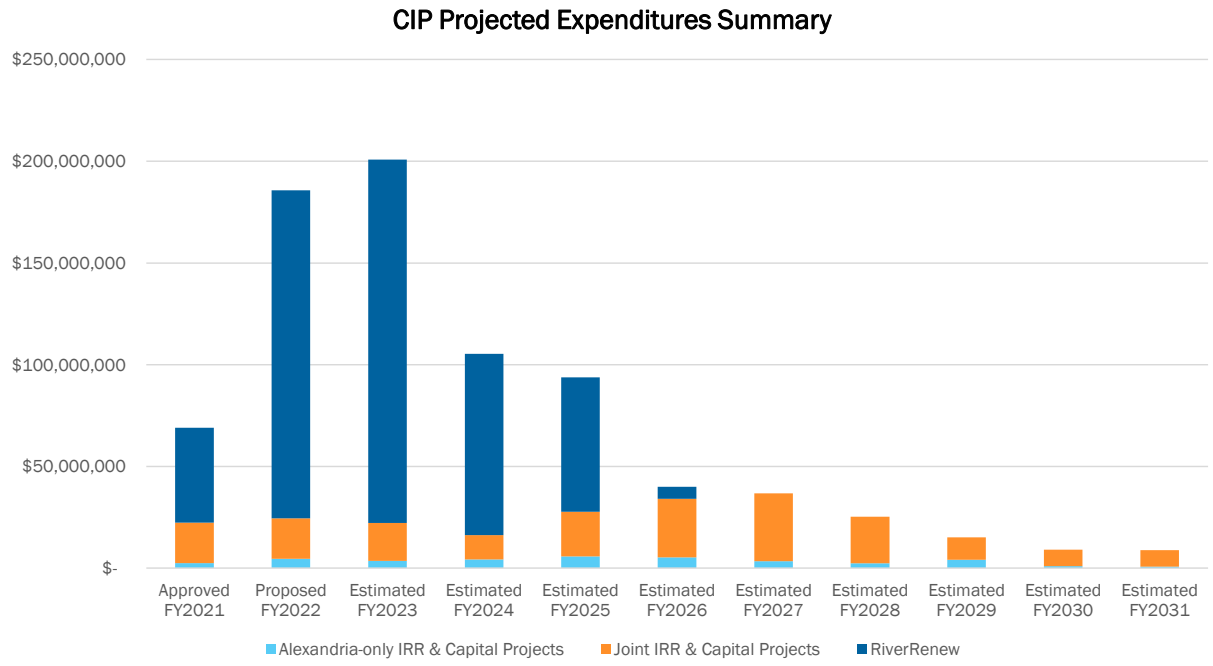
- Funding for City-only projects such as improvements to the Potomac Yard Pump Station, design and construction of the Innovation District Pump Station, and improvements to AlexRenew's Environmental Center
- Continued funding for Joint projects such as the Process Air Compressor (PAC) System Upgrade

- New funding for Upper Holmes Run Trunk Sewer Rehabilitation allocated $40k in FY 2022
- Investment in IT systems and infrastructure including upgrades to Campus Wide Fiber Optic Backbone, and HMI and SCADA Systems
- Funding for Biosolids Management master planning initiative
- Funding for upgrades to Preliminary/Primary Systems
- Appropriate investment in existing assets through IRR program

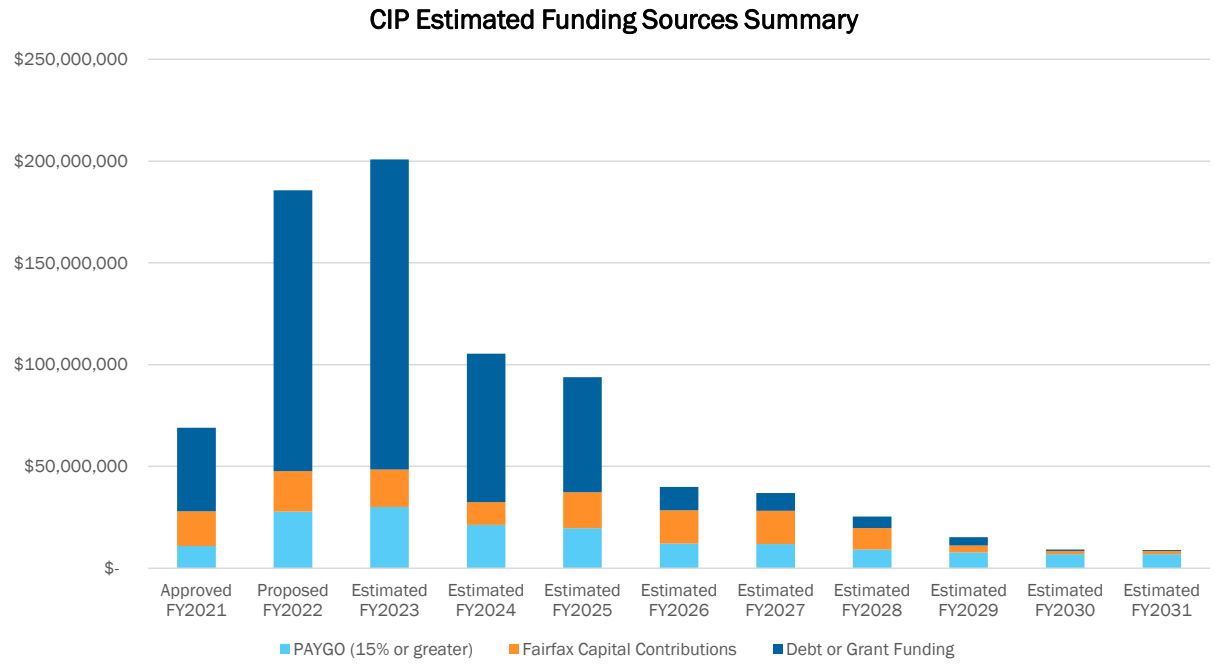
Highlights of the 10-year plan include:

- Annual increase to account for award of Tunnel System contract
- Continued funding for Preliminary Primary System upgrades through 2026
- Continued funding for IT systems and infrastructure and care of existing assets
- Funding for future Biosolids Management projects to come from master planning initiative
- Continued capital contributions to Arlington County
- Periodic odor control system upgrades
- Contingency based on overall capital spend

The graph below illustrates the planned capital spending over the 10-year period including the significant increase in capital spend for RiverRenew through 2025.



The specific funding sources for the proposed CIP include PAYGO (cash contributions from AlexRenew's operations and reserves), capital contributions from Fairfax County (which are determined according to negotiated percentages for the relevant project), and debt or grant funding. Per AlexRenew's Financial Policies, at least 15% of the CIP is funded from PAYGO in each fiscal year. Expected debt and grant funding sources include proceeds from four existing AlexRenew loans – its Series 2017, Series 2019 and Series 2021 Bonds issued through the Virginia Clean Water Revolving Loan Fund (CWRLF) and the Series 2021 WIFIA loan. Additional details on the loans can be found on pages 23-24 under the detailed Parity Debt Service Fund statement. Although funding from the debt facilities is projected to be sufficient to fund the capital plan, AlexRenew has also pursued state grant funding to support the RiverRenew program; to the extent additional grant proceeds are available in the coming fiscal years, a like amount less debt would be utilized to fund capital work that year. The graph below illustrates the planned capital funding sources over the 10-year period including the significant debt financing to be utilized in the next several fiscal years to fund the high level of ongoing capital work.



The proposed CIP complies with all relevant AlexRenew financial policies including the required 15% PAYGO funding requirement and sufficient projected net revenues to produce coverage of debt service requirements in excess of the 1.5x policy minimum.

The pages to follow provide additional detail on the specific funding levels for each project over each of the next ten fiscal years, as well as a project sheet for each major project detailing the project's description, justification, benefits, milestones, useful life, and impact to the community.

10-year Capital Improvement Program Summary

SUMMARY OF ESTIMATED EXPENDITURES

	Approved FY2021	Proposed FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Estimated FY2029	Estimated FY2030	Estimated FY2031	Project Totals FY22-31
IRR Program												
Alex-only IRR	$ 250,400	$ 124,400	$ 103,400	$ 327,400	$ 167,400	$ 87,400	$ 153,400	$ 314,400	$ 130,400	$ 137,400	$ 137,400	$ 1,683,000
Joint IRR	$ 5,628,100	$ 5,667,100	$ 5,446,021	$ 5,485,180	$ 5,540,032	$ 6,050,733	$ 6,366,386	$ 5,404,900	$ 5,458,949	$ 5,528,688	$ 5,583,975	$ 56,531,965
IRR Program Subtotal	$ 5,878,500	$ 5,791,500	$ 5,549,421	$ 5,812,580	$ 5,707,432	$ 6,138,133	$ 6,519,786	$ 5,719,300	$ 5,589,349	$ 5,666,088	$ 5,721,375	$ 58,214,965
General CIP												
Alex-only Capital Improvement Projects	$ 2,274,540	$ 4,532,005	$ 3,496,245	$ 3,969,040	$ 5,678,440	$ 5,270,240	$ 3,280,740	$ 2,147,040	$ 4,006,040	$ 889,740	$ 639,740	$ 33,909,270
Joint Capital Improvement Projects	$ 14,201,410	$ 14,169,213	$ 13,239,871	$ 6,521,910	$ 16,359,810	$ 22,729,110	$ 27,076,610	$ 17,476,410	$ 5,638,910	$ 2,545,910	$ 2,545,910	$ 128,303,664
General CIP Subtotal	$ 16,475,950	$ 18,701,218	$ 16,736,116	$ 10,490,950	$ 22,038,250	$ 27,999,350	$ 30,357,350	$ 19,623,450	$ 9,644,950	$ 3,435,650	$ 3,185,650	$ 162,212,934
RiverRenew Program												
RiverRenew 108 to 116 mgd Expansion	$ 740,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RiverRenew Bdg J Fac. Reloc. & Decom.	$ 4,422,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
RiverRenew Site Security and Access	$ 258,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RiverRenew Tunnel System	$ 41,236,400	$ 161,077,699	$ 178,492,758	$ 89,020,889	$ 66,074,254	$ 5,854,175	$ -	$ -	$ -	$ -	$ -	$ 500,519,775
RiverRenew Subtotal	$ 46,656,400	$ 161,177,699	$ 178,492,758	$ 89,020,889	$ 66,074,254	$ 5,854,175	$ -	$ -	$ -	$ -	$ -	$ 500,619,775
Total CIP Expenditures	**$ 69,010,850**	**$ 185,670,417**	**$ 200,778,295**	**$ 105,324,419**	**$ 93,819,936**	**$ 39,991,658**	**$ 36,877,136**	**$ 25,342,750**	**$ 15,234,299**	**$ 9,101,738**	**$ 8,907,025**	**$ 721,047,674**

SUMMARY OF ESTIMATED FUNDING SOURCES

	Approved FY2021	Proposed FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Estimated FY2029	Estimated FY2030	Estimated FY2031	Project Totals FY22-31
Joint IRR Fund	$ 4,319,000	$ 5,667,100	$ 5,446,021	$ 5,485,180	$ 5,540,032	$ 6,050,733	$ 6,366,386	$ 5,404,900	$ 5,458,949	$ 5,528,688	$ 5,583,975	$ 56,531,965
General Fund PAYGO	$ 6,631,050	$ 22,183,463	$ 24,670,723	$ 15,798,663	$ 14,072,990	$ 5,998,749	$ 5,531,570	$ 3,801,413	$ 2,285,145	$ 1,365,261	$ 1,336,054	$ 97,044,030
Fairfax Capital Contributions	$ 17,058,400	$ 19,851,158	$ 18,417,310	$ 11,158,020	$ 17,791,846	$ 16,334,839	$ 16,245,966	$ 10,485,846	$ 3,383,346	$ 1,527,546	$ 1,527,546	$ 116,723,423
Debt or Grant Funding	$ 41,002,399	$ 137,968,696	$ 152,244,241	$ 72,882,556	$ 56,415,068	$ 11,607,337	$ 8,733,214	$ 5,650,591	$ 4,106,859	$ 680,243	$ 459,450	$ 450,748,256
Known Grant Funding	$ 25,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Series 2019 CWRLF (PAC)	$ -	$ 301,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 301,200
Series 2021 CWRLF (Building J + Tunnel)	$ -	$ 137,667,496	$ 47,982,504	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 185,650,000
Series 2021 WIFIA	$ -	$ -	$ 104,261,737	$ 72,882,556	$ 56,415,068	$ 11,607,337	$ -	$ -	$ -	$ -	$ -	$ 245,166,698
Future Debt	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,733,214	$ 5,650,591	$ 4,106,859	$ 680,243	$ 459,450	$ 19,630,357
Debt or Grant Funding Subtotal	$ 25,000,000	$ 137,968,696	$ 152,244,241	$ 72,882,556	$ 56,415,068	$ 11,607,337	$ 8,733,214	$ 5,650,591	$ 4,106,859	$ 680,243	$ 459,450	$ 450,748,255
Total Estimated CIP Funding	**$ 69,010,850**	**$ 185,670,417**	**$ 200,778,295**	**$ 105,324,419**	**$ 93,819,936**	**$ 39,991,658**	**$ 36,877,136**	**$ 25,342,750**	**$ 15,234,299**	**$ 9,101,738**	**$ 8,907,025**	**$ 721,047,674**

10-year Capital Improvement Program Detailed Expenditures

FY22 10-YEAR CAPITAL IMPROVEMENT PROGRAM

	Adopted FY2021	Proposed FY2022	Estimated FY2023	Estimated FY2024	Estimated FY2025	Estimated FY2026	Estimated FY2027	Estimated FY2028	Estimated FY2029	Estimated FY2030	Estimated FY2031	Project Totals FY22-31
Alex-Only Capital Projects												
Interceptor/ Trunk Sewers Rehabilitation Program												
Commonwealth Interceptor Rehabilitation	$ -	$ -	$ 18,500	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ 268,500
Potomac Interceptor Rehabilitation	$ -	$ -	$ -	$ -	$ 423,000	$ 1,000,000	$ 1,545,000	$ 1,545,000	$ 3,090,000	$ -	$ -	$ 7,603,000
Improvement, Rehabilitation, Replacement Program												
IRR: Campus Wide Projects	$ 21,000	$ 21,000	$ 21,000	$ 195,000	$ 21,000	$ 21,000	$ 21,000	$ 195,000	$ 21,000	$ 21,000	$ 21,000	$ 558,000
IRR: Collection System Projects	$ 229,400	$ 103,400	$ 82,400	$ 132,400	$ 146,400	$ 66,400	$ 132,400	$ 119,400	$ 109,400	$ 116,400	$ 116,400	$ 1,125,000
RiverRenew Program												
RiverRenew Tunnel System - Category 1, City-only Portion	$ -	$ 67,857,050	$ 95,206,637	$ 45,299,705	$ 4,290,074	$ -	$ -	$ -	$ -	$ -		$ 212,653,465
Service Chambers and Pump Stations Upgrade Program												
Bush Hill Service Chamber	$ -	$ -	$ 150,000	$ 300,000	$ 750,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,200,000
Mark Center Pump Station Study	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250,000
Potomac Yards PS: Odor Control System Upgrade	$ 19,000	$ 1,942,065	$ 647,355	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,589,420
Potomac Yards PS: Ventilation Improvement Project	$ 32,000	$ 100,000	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 215,000
Potomac Yards PS: Wet Well Chimney Exhaust Stack Modifications	$ 31,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Innovation District PS	$ -	$ 125,000	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 175,000
WRRF Improvements Program												
NMF Wet Well Elimination	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ 200,000	$ -	$ -	$ -	$ -	$ 300,000
Other Capital												
Arlington County Capital Contributions	$ 1,173,000	$ 1,817,000	$ 1,574,000	$ 2,947,000	$ 3,747,000	$ 3,466,000	$ 1,073,000	$ 205,000	$ 204,000	$ 211,000	$ 211,000	$ 15,455,000
Capital Financing Fees	$ 750,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 2,000,000
CONTINGENCY												
Contingency on Alex-Only Funding Excluding RR	$ 273,540	$ 297,940	$ 441,390	$ 472,040	$ 508,440	$ 454,240	$ 312,740	$ 247,040	$ 562,040	$ 278,740	$ 278,740	$ 3,853,350
Alex-Only Capital Project Subtotal	**$ 2,528,940**	**$ 72,513,455**	**$ 98,806,282**	**$ 49,596,145**	**$ 10,135,914**	**$ 5,357,640**	**$ 3,434,140**	**$ 2,461,440**	**$ 4,136,440**	**$ 1,027,140**	**$ 777,140**	**$ 248,245,735**
Joint-Use Capital Projects												
Interceptor/ Trunk Sewers Rehabilitation Program												
Commonwealth Interceptor Pile Intrusion	$ -	$ -	$ -	$ -	$ -	$ 183,000	$ 607,000	$ -	$ -	$ -	$ -	$ 790,000
Upper Holmes Run Trunk Sewer Rehabilitation	$ -	$ 40,000	$ -	$ 837,000	$ 354,000	$ 1,860,000	$ 1,860,000	$ 279,000	$ 279,000	$ 1,860,000	$ 1,860,000	$ 9,229,000
Improvement, Rehabilitation, Replacement Program												
IRR: Preliminary/Primary Infrastructure	$ 343,333	$ 80,000	$ 80,800	$ 81,608	$ 82,424	$ 83,248	$ 34,081	$ 34,422	$ 34,766	$ 35,113	$ 35,465	$ 581,927
IRR: Secondary Infrastructure	$ 1,156,333	$ 1,638,000	$ 1,654,380	$ 1,670,924	$ 1,687,633	$ 1,704,509	$ 1,671,554	$ 1,688,270	$ 1,705,153	$ 1,722,204	$ 1,739,426	$ 16,882,054
IRR: Tertiary Infrastructure	$ 890,333	$ 358,000	$ 361,580	$ 365,196	$ 368,848	$ 372,536	$ 326,262	$ 329,524	$ 332,819	$ 336,148	$ 339,509	$ 3,490,422
IRR: Solids Infrastructure	$ 1,740,500	$ 1,635,500	$ 1,651,855	$ 1,668,374	$ 1,685,057	$ 1,701,908	$ 1,668,927	$ 1,685,616	$ 1,702,472	$ 1,719,497	$ 1,736,692	$ 16,855,898
IRR: Campus Wide Projects	$ 500,600	$ 315,600	$ 318,756	$ 321,944	$ 325,163	$ 328,415	$ 281,699	$ 284,516	$ 287,361	$ 290,235	$ 293,137	$ 3,046,824
IRR: Information Technology Projects	$ 600,000	$ 1,350,000	$ 1,363,500	$ 1,377,135	$ 1,390,906	$ 1,404,815	$ 1,368,864	$ 1,382,552	$ 1,396,378	$ 1,410,342	$ 1,424,445	$ 13,868,937
IRR: Campus Digital Signage	$ 140,000	$ -	$ -	$ -	$ -	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ 140,000
IRR: Collection System Projects	$ -	$ 15,000	$ 15,150	$ -	$ -	$ 15,302	$ 15,000	$ -	$ -	$ 15,150	$ 15,302	$ 90,903
IRR: Centrate Pretreatment Facility Improvements	$ 185,000	$ 258,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 258,000
IRR: Tertiary Treatment Improvements	$ 72,000	$ 17,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,000
IRR: WRRF Fire Alarm Upgrade	$ -	$ -	$ -	$ -	$ -	$ 300,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ 1,300,000
Non-Process Facilities Program												
Environmental Center: 5th Floor Build Out / 6th Floor Modifications	$ -	$ 1,000,000	$ -	$ -	$ -	$ 1,200,000	$ -	$ -	$ -	$ -	$ -	$ 2,200,000
Environmental Center: Lobby Upgrade	$ -	$ 110,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 110,000
Holland Lane Re-Alignment	$ -	$ -	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
South Carlyle Partnership	$ -	$ -	$ -	$ -	$ -	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 300,000
WRRF HVAC Automation System Upgrade	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000	$ -	$ -	$ -	$ 1,000,000

Continued on following page

10-year Capital Improvement Program Detailed Expenditures (continued)

Continued from previous page

RiverRenew Program													
RiverRenew 108 to 116 mgd Expansion	$ 740,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RiverRenew Bdg J Fac. Reloc. & Decom.	$ 4,422,000	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000
RiverRenew Site Security and Access	$ 258,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RiverRenew Tunnel System - Joint Use	$ 41,236,400	$ 93,220,649	$ 83,286,121	$ 43,721,184	$ 61,784,180	$ 5,854,175	$ -	$ -	$ -	$ -	$ -	$ -	$ 287,866,310
WRRF Improvements Program													
Biosolids Management: Biosolids Master Plan	$ -	$ 750,000	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000
Biosolids Management: Building 55: Additional Cooling for Digesters	$ -	$ -	$ 3,120,001	$ 208,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,328,001
Biosolids Management: Building 55: Replace Valves on W3 Cooling	$ -	$ -	$ 20,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,400
Biosolids Management: Building 55: Solids Screen Replacement	$ -	$ -	$ 507,960	$ 332,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 839,960
Biosolids Management: Solids/Resource Recovery Upgrades	$ -	$ -	$ -	$ -	$ 3,039,000	$ 5,628,000	$ 5,628,000	$ 5,628,000	$ 901,000	$ -	$ -	$ -	$ 20,824,000
Biosolids Management: Pre-Pasteurization System Improvements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building 22: Primary Weir Observation House	$ -	$ -	$ -	$ -	$ -	$ 2,094,000	$ 3,101,000	$ 517,000	$ -	$ -	$ -	$ -	$ 5,712,000
Building 60: NMF SCADA Improvements	$ 150,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building F: Effluent W3 System Improvements	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Building G/3: Filter Underdrain Replacement	$ -	$ -	$ -	$ -	$ 330,000	$ 330,000	$ 2,200,000	$ -	$ -	$ -	$ -	$ -	$ 2,860,000
Building L: Centrifuge Replacement	$ -	$ -	$ -	$ -	$ 1,461,000	$ 1,461,000	$ 4,591,000	$ 4,591,000	$ 1,531,000	$ -	$ -	$ -	$ 13,635,000
Campus Wide FOB Network Planning and Installation	$ 395,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Campus-wide Electrical Upgrade Sub-Program	$ -	$ -	$ -	$ 781,000	$ 3,334,000	$ 3,278,000	$ 4,301,000	$ 2,652,000	$ 646,000	$ -	$ -	$ -	$ 14,992,000
HMI Upgrade	$ 1,730,000	$ 1,336,425	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,336,425
Intermediate Pump Station Pump Study	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Main Campus Galleries Improvements	$ -	$ -	$ -	$ -	$ 500,000	$ 500,000	$ 300,000	$ -	$ -	$ -	$ -	$ -	$ 1,300,000
Odor Control System Upgrade	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ 1,000,000	$ 1,000,000	$ -	$ -	$ -	$ 2,500,000
PLC Equipment and Network Upgrade	$ 718,000	$ 235,308	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 2,935,308
Power Distribution Monitors	$ -	$ -	$ -	$ -	$ 50,000	$ 100,000	$ 100,000	$ -	$ 250,000	$ -	$ -	$ -	$ 500,000
Preliminary /Primary System Upgrades	$ 1,000,000	$ 8,249,270	$ 7,415,000	$ 3,030,000	$ 4,434,000	$ 1,802,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,930,270
Process Air Compressor (PAC) System Upgrade	$ 7,758,000	$ 743,314	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 743,314
Security Services During Construction	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ 400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000
Stormwater System - Struct./Nonstruct. BMPs	$ -	$ -	$ -	$ -	$ -	$ 783,000	$ 828,000	$ 227,000	$ 9,000	$ 9,000	$ 9,000	$ 9,000	$ 1,865,000
Truck Scale Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ 86,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 86,000
CONTINGENCY													
Contingency on Joint Funding Excluding RR	$ 1,850,410	$ 1,304,896	$ 1,226,510	$ 633,910	$ 1,657,810	$ 2,124,110	$ 2,760,610	$ 1,782,410	$ 722,910	$ 376,910	$ 376,910	$ 376,910	$ 12,966,986
Joint Capital Project Subtotal	**$ 66,485,910**	**$113,156,962**	**$101,972,013**	**$ 55,728,274**	**$ 83,684,022**	**$ 34,634,018**	**$ 33,442,996**	**$ 22,881,310**	**$ 11,097,859**	**$ 8,074,598**	**$ 8,129,885**	**$ 472,801,938**	
ALEXRENEW 10-YEAR CIP TOTAL	**$ 69,014,850**	**$185,670,417**	**$200,778,295**	**$105,324,419**	**$ 93,819,936**	**$ 39,991,658**	**$ 36,877,136**	**$ 25,342,750**	**$ 15,234,299**	**$ 9,101,738**	**$ 8,907,025**	**$ 721,047,674**	

Alexandria-Only CIP Project Details

The table below details the FY 2022 – FY 2031 (10-year) Alexandria-only CIP Projects and the strategic outcome to which they are attached. Following this summary are detailed project sheets for each project that include the project description, benefits, community impacts, lifetime budget, and other relevant details.

10-year Capital Improvement Program – Alexandria Only

Projects	Watershed Stewardship	Operational Excellence	Adaptive Culture	Public Engagement and Trust	Effective Financial Stewardship
Arlington County Capital Contributions	●				
Bush Hill Service Chamber		●			
Capital Financing Fees					●
Commonwealth Interceptor Rehabilitation					●
Innovation District Pump Station Design & Construction	●				
IRR: Campus Wide Projects		●			
IRR: Collection System Projects		●			
Mark Center Pump Station Study		●			
NMF Wet Well Elimination		●			
Potomac Interceptor Rehabilitation					●
Potomac Yards Pump Station - Odor Control System Upgrade Project				●	
Potomac Yards Pump Station - Ventilation Improvement Project		●			
RiverRenew Tunnel System – Category 1*	●				

* RiverRenew Tunnel System project sheet in Joint CIP section to include Category 1 (Alex-only) expenses

Arlington County Capital Contributions

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Finance	Various	Other Capital ☒ Alexandria Only ☐ Joint Use	20 Years	Ongoing

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$1,173,000	$1,817,000	$1,574,000	$2,947,000	$3,747,000	$3,466,000	$1,073,000	$205,000	$204,000	$211,000	$211,000	$15,455,000
Financing												
AlexRenew	$1,173,000	$1,817,000	$1,574,000	$2,947,000	$3,747,000	$3,466,000	$1,073,000	$205,000	$204,000	$211,000	$211,000	$15,455,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- AlexRenew maintains 3.0 MGD in capacity rights for the City at the Arlington County Water Pollution Control Plant. Per the service agreement with the County, AlexRenew makes annual contributions to fund allocable portions of various capital improvements at the Arlington plant's facilities. Current capital projects to which AlexRenew has budgeted contributions include: Improvements to the Arlington plant's Eads Street Property (the plant's off-site warehouse which requires work to a retaining wall), Non-Expansion Maintenance Capital (includes HVAC improvements and energy optimization studies), Technology Enhancements (Process Control System projects to protect critical infrastructure), Odor Control, Primary Clarifier Upgrades (work to pumps, motors, and instrumentation), Secondary Clarifiers (necessary rehabilitation to support permit compliance), Solids Master Plan (both immediate needs such as replacing the motor control center and future phases that support a long-term solution to producing a Class A biosolids project) and the relining of the Four Mile Run Interceptor.

Benefits	Strategic Outcome Area
• This project ensures the Arlington plant remains in good condition to accommodate AlexRenew's capacity rights	• Watershed Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• While these milestones are the County's to manage, work is progressing on the County's Solids Master Plan, several technology and HVAC projects, and an Odor Control Duct Replamement in FY 2022	• Results in other operational efficiencies for the Arlington plant

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• Updated based on Arlington County draft FY22 operating and capital budget

Bush Hill Service Chamber

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Bush Hill	Service Chambers & PS Upgrades ☒ Alexandria Only ☐ Joint Use	20 Years	$1,200,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr Total
Total	$0	$0	$150,000	$300,000	$750,000	$0	$0	$0	$0	$0	$0	$1,200,000
Financing												
AlexRenew	$0	$0	$150,000	$300,000	$750,000	$0	$0	$0	$0	$0	$0	$1,200,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: Evaluate the Bush Hill Service Chamber (BHSC).
- Project Background: The Bush Hill Service Chamber was constructed in November 2002 to service the Holiday Inn located at 2460 Eisenhower Avenue. The Holiday Inn previously experienced sewer back-ups resulting from a surcharged section of the Holmes Run Trunk Sewer, so the service chamber was constructed to prevent these backups from occurring on the property. This project a condition assessment of the BHSC followed by asset rehabilitation or replacement, as needed. As part of this project a retrofit of the BHSC inflow orifice with a bar screen will be considered if the wet weather load is considered to be significant.
- Project Components: TBD.

Procurement Method: TBD.

Benefits	Strategic Outcome Area
• Maximizes asset performance and life.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• None	• Improves asset performance and reliability.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Bar screen portion: August 2017 Greeley & Hansen Condition Assessment Summary and Recommendations	• Start of project moved to FY23.

Capital Financing Fees

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Finance	Various	Service Chambers & PS Upgrades ☒ Alexandria Only ☐ Joint Use	20 Years	Ongoing

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$750,000	$250,000	$250,000	$250,000	$250,000	$250,000	$150,000	$150,000	$150,000	$150,000	$150,000	$2,000,000
Financing												
AlexRenew	$750,000	$250,000	$250,000	$250,000	$250,000	$250,000	$150,000	$150,000	$150,000	$150,000	$150,000	$2,000,000
Fairfax												
VRLF												
Grant												
Line of Credit												

Project Description and Justification

- AlexRenew has set aside funds in its capital budget to accommodate various fees associated with the financing of the capital program. These fees could include financial advisory fees related to the structuring of debt to fund both the General CIP and the RiverRenew program, legal fees such as Bond Counsel work to review legal documentation, rate consultant work to consider the impact of funding mechanism on rates, and application fees to potential grant or loan programs.

Benefits	Strategic Outcome Area
• Investing in capital finance fees helps ensure that capital financing is executed in the most efficient manner	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• Maintain ongoing WIFIA portfolio management process • Maintain public rating	• None

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Per Board guidance on capital and debt planning	• Budget decreased to reflect execution of loans and payment of upfront ratings and WIFIA fees in FY21

Commonwealth Interceptor Rehabilitation

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Commonwealth Avenue	Interceptor/Trunk Sewers Rehab. ☒ Alexandria Only ☐ Joint Use	20-30 years	$268,500

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$18,500	$0	$0	$0	$0	$0	$0	$250,000	$0	$268,500
Financing												
AlexRenew	$0	$0	$18,500	$0	$0	$0	$0	$0	$0	$250,000	$0	$268,500
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Based upon cleaning and inspection conducted in early 2018, the Commonwealth Interceptor is in good condition, having experienced a variety of rehabilitation projects in 1997, 2001, and 2008. However, there are recommendations based upon inspection:

- Monitor the excess grout detected downstream of MH6974, at the intersection of Wyatt and Commonwealth, for retention of debris
- Monitor the detached sliplining downstream of MH 9669, at the intersection of Myrtle and Commonwealth, for increased rates of infiltration or degradation
- Monitor failed slipliner repair downstream of MH 9593, as soon as practical, to determine if immediate action is required.

Benefits	Strategic Outcome Area
• Appropriate minor repairs and maintenance activities maximize asset life.	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Any cleaning and/or inspection on the Commonwealth requires coordination with Operations and Maintenance personnel to actively manage the flow downstream of the Four Mile Run Pumping Station. Cleaning activities require City permitting for traffic control, and parking impacts. • Citizens are to be notified if contractor equipment will be in their neighborhood.

Commonwealth Interceptor Rehabilitation (continued)	
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Draft Sept. 2018 Greeley & Hansen Report "Commonwealth Interceptor Condition Assessment"	• None

Innovation District Pumping Station Design & Construction

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Various	Service Chambers & PS Upgrades ☒ Alexandria Only ☐ Joint Use	20 Years	Ongoing

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$125,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$175,000
Financing												
AlexRenew	$0	$125,000	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$175,000
Fairfax												
VRLF												
Grant												
Line of Credit												

Project Description and Justification

- Project Purpose: To participate in the design and construction of the Innovation District Pumping Station (IDPS).
- Project Background: The innovation Pump Station is being built to serve new developments in the City brought on by the arrival of the Virginia Tech (VT) Campus
- Project Components:
  Collaborate with the City and the Developer on sewer impacts and the related infrastructure improvements
  Review Permit, Design, and Construction submittals

Benefits	Strategic Outcome Area
• Ensures that new IDPS is constructed in accordance with the design specifications and AlexRenew's requirements.	• Watershed Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• To participate in/provide services related to the design and construction of the new facility.	• Supports the City's partnership with VT

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• New Project

IRR: Campus Wide Projects

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Information Technology and River Renew (Business Owner)	Main and West Campus	Improve., Rehab., Replacement ☒ Alexandria Only ☐ Joint Use	10 years for Data Center and Network Improvements	$558,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2022	10 Yr Total
Total	$21,000	$21,000	$21,000	$195,000	$21,000	$21,000	$21,000	$195,000	$21,000	$21,000	$21,000	$558,000
Financing	$21,000	$21,000	$21,000	$195,000	$21,000	$21,000	$21,000	$195,000	$21,000	$21,000	$21,000	$558,000
AlexRenew												
Fairfax												
VRLF												
Grant												
Line of Credit												

Project Description and Justification

This subprogram to the Improvement, rehabilitation and Replacement program covers the comprehensive enterprise-wide records management policy that complies with the Virginia Public Records Act (VPRA) guidelines provided by the Library of Virginia (LVA); supporting infrastructure and network to minimize outages , disruptions and extended unavailability; monitoring and securing the AlexRenew environment and updating the emergency notification systems.

Benefits	Strategic Outcome Area
• 24/7 near real time security monitoring and incident response. • Ensure and improve compliance with federal, state and local regulatory recordkeeping directives, • Establish a classification scheme that facilitates the capture, storage and speedy retrieval of records by staff when needed to conduct day-to-day business activities, preserve historically and culturally important records as well as provide support in litigation, • Prevention of technological obsolesces • Reduce physical storage space and staff resources required to maintain current paper records, and support continued and on-going awareness of staff recordkeeping responsibilities through the use of training. • Up to date security patching for critical assets. • And upgrading the emergency notification systems. • Vulnerability management and monitoring of network and hosts.	• Operational Excellence

IRR: Campus Wide Projects (continued)	
Key Milestones for FY 22	**Impact on Operations or Community**
• Development of detailed roadmap and roll out plan • Pilot of VDI solution • Security Event Monitoring and Incident Response	• Data is more secure • Decreased bandwidth requirements. • Information access is better controlled and managed • Operational, reputational, and legal risks are managed. • Provides secure, available, and accurate systems and data • Reduced hardware costs • Regulatory Compliance • Results in operational efficiencies
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Cybersecurity Assessment completed by AchillesShield, including assessment of vulnerabilities and hacker exploitation; and a physical security assessment • Electronic Records Management (ERM) As-Is Observation Report Contract: 14-016 Task Order 2015-1	• None

IRR: Collection System Projects

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations & Maintenance	Four Mile Run PS Mark Center PS Outfalls Potomac Yards Slater's Lane PS	Improve., Rehab., Replacement ☒ Alexandria Only ☐ Joint Use	3 years for pumps and grinders	$1,125,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY2030	FY2031	10 Yr Total
Total	$229,400	$103,400	$82,400	$132,400	$146,400	$66,400	$132,400	$119,400	$109,400	$116,400	$116,400	$1,125,000
Financing												
AlexRenew	$229,400	$103,400	$82,400	$132,400	$146,400	$66,400	$132,400	$119,400	$109,400	$116,400	$116,400	$1,125,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with the pump stations, service chambers, and outfalls that are funded solely by AlexRenew.

Benefits	Strategic Outcome Area
• Full redundancy and reliability of Four Mile Run Pump Station, Mark Center Pump Station, outfalls, Potomac Yards and Slater's Lane Pump Station.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• 100% compliance on all outfall maintenance related tasks	• Elimination of possible basement backups • Increase equipment availability for high flow events • Increase equipment availability to process

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• None

Mark Center Pump Station Study

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Mark Center Pump Station	Service Chambers & PS Upgrades. ☒ Alexandria Only ☐ Joint Use	N/A	$250,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY2030	FY2031	10 Yr Total
Total	$0	$0	$250,000	$0	$0	$0	$0	$0	$0	$0	$0	$250,000
Financing												
AlexRenew	$0	$0	$250,000	$0	$0	$0	$0	$0	$0	$0	$0	$250,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: Evaluate the Mark Center Pump Station (MCPS).

Benefits	Strategic Outcome Area
• Maximizes asset performance and life.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Improves PS performance and reliability.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Commission study to evaluate the MCPS including MCPS reliability and redundancy.	• Project delayed until FY23

NMF Wet Well Elimination

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 60	WRRF Improvements ☒ Alexandria Only ☐ Joint Use	N/A	$300,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY2030	FY2031	10 Yr Total
Total	$0	$0	$0	$0	$0	$100,000	$200,000	$0	$0	$0	$0	$300,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$100,000	$200,000	$0	$0	$0	$0	$300,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To eliminate/re-purpose the NMF wet well and reduce NMF pump vibration and harmonics.
- Project Background: The NMF wet well was designed to function as part of the wet weather pumping station (WWPS) associated with the tunnel system. As the location of the WWPS has changed, the NMF wet well is no longer needed. In addition, NMF pump harmonics have been observed to be higher than desired due to higher than anticipated structure vibrations. vibration—filling in the NMF wetwell with concrete was proposed as a vibration dampening measure…we will likely need to include money in the CIP for a study in the FY proceeding the NMF construction/field work. This project is for the design and construction of the elimination of the wet well. the wet well must be modified to address the
- Project Components: TBD. As the extent of the construction costs are unknown, the budget only reflects the costs for an engineering study and preliminary design.
- Procurement Method: TBD

Benefits	Strategic Outcome Area
• Eliminates/re-purposes an unused structure and maximizes asset life.	• Operational Excellence

Key Milestones for FY22	Impact on Operations or Community
• N/A	• Decrease future O&M costs

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Commission study to explore vibration dampening measures and best way to eliminate/re-purpose the existing wet well.	• Project delayed to 2026

Potomac Interceptor Rehabilitation

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	East Alexandria	Interceptor/Trunk Sewers Rehab. ☒ Alexandria Only ☐ Joint Use	20-30 years	$7,603,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$423,000	$1,000,000	$1,545,000	$1,545,000	$3,090,000	$0	$0	$7,603,000
Financing												
AlexRenew	$0	$0	$0	$0	$423,000	$1,000,000	$1,545,000	$1,545,000	$3,090,000	$0	$0	$7,603,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Project Purpose: To inspect, replace and/or rehabilitate the Potomac Interceptor (PI).
Background: Parts of the Potomac Interceptor were CCTV inspected in 2015/2016. Several defects were found including pipe settlement in the area of Jones Point Park
Project Components: (Recommended)

- Replace the 1,450 linear feet of 42-inch pipe within Jones Point Park (Permits required for work in the National Park Service jurisdiction)
- Rehabilitate all 26 manholes of Potomac Interceptor
- Clean and/or Re-inspect the entire length of the Potomac Interceptor (City Permit required) segments, staining from reinforcing steel.
- Procurement Method: TBD. Due to RiverRenew, all work prior to FY2025 has been postponed. Work in FY2025 includes

Phased lining of the entire length, which is now exhibiting exposed aggregate, and in some CCTV to reconfirm the repairs and some immediate manhole repairs.

Benefits	Strategic Outcome Area
• Maximizes asset life.	• Effective Financial Stewardship

Key Milestones for FY22	Impact on Operations or Community
• N/A	• Improve reliability and longevity of the PI. • Traffic and parking impacts possible due to pipe cleaning/inspection and/or pipe repair/rehab activities • Presence/storage of contractor equipment possible in City neighborhoods.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• 2017 Greeley and Hansen Report, "Potomac Interceptor Condition Assessment Summary and Recommendations"	• None

Potomac Yards Pump Station – Odor Control System Upgrade Project

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Potomac Yards Pumping Station	Service Chambers and PS Upgrades ☒ Alexandria Only ☐ Joint Use	20 years	$2,589,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$19.000	$1,942,065	$647,355	$0	$0	$0	$0	$0	$0	$0	$0	$2,589,000
Financing												
AlexRenew	$19.000	$1,942,065	$647,355	$0	$0	$0	$0	$0	$0	$0	$0	$2,589,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: Minimize odor impacts of Potomac Yards Pumping Station (PS) on adjacent community.
- Background: The Potomac Yards Pumping Station was installed by a developer in 2009 and officially transferred to AlexRenew in 2018. The Potomac Yards Pumping Station has been experiencing elevated odors due to the configuration of the ventilation and odor control systems installed by the developer. The work proposed under this project will increase the efficacy of the odor control system.
- Project Components: This project includes the installation of a new odor control system and associated appurtenances.
- Procurement Method: Design-bid-build

Benefits	Strategic Outcome Area
• Minimizes PS odors.	• Public Engagement and Trust

Key Milestones for FY 22	Impact on Operations or Community
• Complete the design the order control improvements and begin construction.	• Reduction in objectionable odors from the Potomac Yards Pumping Station.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Recommendations from the Potomac Yards Pump Station Basis of Design Report, January 28, 2021	• Accelerated to FY22-23

Potomac Yards Pump Station – Ventilation Improvement Project

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Potomac Yards Pumping Station	Service Chambers and PS Upgrades ☒ Alexandria Only ☐ Joint Use	20 years	$247,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$32,000	$100,000	$115,000	$0	$0	$0	$0	$0	$0	$0	$0	$215,000
Financing												
AlexRenew	$32,000	$100,000	$115,000	$0	$0	$0	$0	$0	$0	$0	$0	$215,000
Fairfax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To improve the Potomac Yards Pumping Station (PS) ventilation system.
- Background: The Potomac Yards Pumping Station was installed by a developer in 2009 and officially transferred to AlexRenew in 2018. The Potomac Yards Pumping Station has been experiencing elevated odors due to the configuration of the ventilation and odor control system installed by the developer. The work proposed under this project will increase the efficacy of the PS ventilation system and will include the declassification (in accordance with NFPA 820) specific PS areas and to protect operation and maintenance staff from potential sewer gas. Improvements are expected to be done in will be done in three phases.
- Project Components: This project includes the relocation of two supply air duct release points in the Screen Room closer to the potent foul air to promote better circulation of airflow; extension of an exhaust air duct to the opposite side of the Screen Room to improve foul air capture and reduce the potential for short-circuiting; installation of two volume dampers on the exhaust air ducts and a new exhaust air intake in the Compactor Room to improve airflow and move exhaust air towards the chimney.
- Procurement Method: Rider Contract

Benefits	Strategic Outcome Area
• Enhances PS ventilation and protects operations and maintenance staff from potential sewer gas.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• Complete design and begin construction of ventilation improvements.	• Provides safe working environment for operations and maintenance staff.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Recommendations from the Phase 1 and Phase 2 Technical Memorandum for the Potomac Yards Pump Station Ventilation and Odor Control System Improvements, February 1, 2021	• None

Joint Use Facilities CIP Project Details

The table below and on the following page detail the FY 2022 – FY 2031 (10-year) Joint-use CIP Projects and the strategic outcome to which they are attached. Following this summary are detailed project sheets for each project including the project description, benefits, community impacts, lifetime budget, and other relevant details. Also included are descriptions of the Improvement, Renewal and Replacement Projects that are funded from the Joint IRR Fund.

10-year Capital Improvement Program – Joint Use

Projects	Watershed Stewardship	Operational Excellence	Adaptive Culture	Public Engagement and Trust	Financial Stewardship
Biosolids Management: Biosolids Master Plan					●
Biosolids Management: Building 55 - Additional Cooling for Digesters		●			
Biosolids Management: Building 55 - Replace Valves on W3 Cooling System		●			
Biosolids Management:: Building 55 -Solids Screen Replacement		●			
Biosolids Management: Solids/Resource Recovery Upgrade					●
Building 22 Primary Weir Observation House		●			
Building G/3 Filter Underdrain Replacement		●			
Building L: Centrifuge Replacement		●			
Campus-Wide Electrical Upgrade Sub-Program					●
Commonwealth Interceptor Pile Intrusion		●			
Environmental Center - 5th/6th Floor Modifications			●		
Environmental Center - Lobby Upgrade				●	
HMI Upgrade			●		
Holland Lane Realignment					●
IRR: Campus Wide Projects					●
IRR: Collection System Projects					●
IRR: Campus Digital Signage			●		
IRR: Centrate Pretreatment Facility		●			
IRR: Information Technology Projects			●		
IRR: Preliminary/Primary Infrastructure		●			
IRR: Secondary Infrastructure		●			
IRR: Solids Infrastructure					●
IRR: Tertiary Infrastructure		●			
IRR: Tertiary Treatment Improvements		●			
IRR: WRRF Fire Alarm Upgrade			●		
Main Campus Galleries Improvements		●			
Odor Control System Upgrade				●	

Continued on following page

Joint Use Facilities CIP Project Details

Continued from previous page

Projects	Watershed Stewardship	Operational Excellence	Adaptive Culture	Public Engagement & Trust	Financial Stewardship
PLC Equipment and Network Upgrade					●
Power Distribution Monitors		●			
Preliminary /Primary System Upgrades					●
Process Air Compressor (PAC) System Upgrade					●
RiverRenew: Bdg J Fac. Reloc. & Decom.		●			
RiverRenew: Tunnel System	●				
Security Services During Construction					●
South Carlyle Partnership	●				
Stormwater System - Struct./Nonstruct. BMPs	●				
Upper Holmes Run Trunk Sewer Rehabilitation					●
WRRF: HVAC Automation System Upgrade					●
WRRF: Truck Scale Rehabilitation	●				

Biosolids Management: Biosolids Master Plan

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building L Building 55	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$1,000,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$750,000	$250,000	$0	$0	$0	$0	$0	$0	$0	$0	$1,000,000
Financing												
AlexRenew	$0	$300,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$400,000
Fairfax	$0	$450,000	$150,000	$0	$0	$0	$0	$0	$0	$0	$0	$600,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: to create a master plan for the biosolids process located at AlexRenew's WRRF.
- Background: Components of the WRRF biosolids process have been evaluated in the recent past, but a holistic study of the system has not been performed. The masterplan will take a holistic look at the system, including its performance and ability to meet current and future process needs. Biosolids management, to include solids handling, disposal and volume reduction options, will be explored in the context of sustainability and regulatory drivers, available technologies, and best practices.

  The following CIP/IRR projects may be affected by the results of the plan:

  Biosolids Management: Building 55: Additional Cooling for Digesters
  Biosolids Management: Building 55: Replace Valves on W3 Cooling System
  Biosolids Management: Solids/Resource Recovery
  Odor Control System Upgrade
  Pre-Pasteurization System Improvements

- Project Components: TBD
- Procurement Method: TBD

Benefits	Strategic Outcome Area
• Creates a written plan outlining the measures needed to ensure the longevity and performance of the WRRF biosolids system.	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• Biosolids Master Plan NTP	• Ensure reliability and longevity of the WRRF biosolids system.

Biosolids Management: Biosolids Master Plan (continued)	
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017) • AlexRenew BOA 14-017-2 Task Order WA2-2015-4, Pre-pasteurization System Evaluation, Heat Exchangers Recommendations – Draft, January 2016 • AlexRenew BOA 14-017-2 Task Order WA2-2015-4, Pre-pasteurization Tank Exhaust System Replacement, Preliminary Design, December 2015 • Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Accelerated to FY22-23

Biosolids Management: Building 55 - Additional Cooling for Digesters

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 55	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$3,320,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$3,120,001	$208,000	$0	$0	$0	$0	$0	$0	$0	$3,328,000
Financing												
AlexRenew	$0	$0	$1,248,000	$83,200	$0	$0	$0	$0	$0	$0	$0	$1,331,200
Fairfax	$0	$0	$1,872,001	$124,800	$0	$0	$0	$0	$0	$0	$0	$1,996,801
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Project Purpose: This project will install a new chiller system, pumps, and a heat exchange to increase the cooling capacity in the summer.
Background: Historically, the heat exchangers have used plant effluent water and have been unable to cool the pasteurized sludge to mesophilic anaerobic digestion temperatures (95 deg F) during summer months. Digester upset will occur if the digesters operate above the healthy digester operating range.
Project Components: A new chiller system, pumps, and a heat exchanger.
Procurement Method: TBD. The need for this project will be confirmed under the Biosolids Master Plan project.

Benefits	Strategic Outcome Area
• Improves digester performance during summer months. • Minimizes risk of digester upset.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Improved solids operations during summer months.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017) • Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Budget increased based on inflation and scope

Biosolids Management: Building 55 - Replace Valves on W3 Cooling System

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 55	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$20,400

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$20,400	$0	$0	$0	$0	$0	$0	$0	$0	$20,400
Financing												
AlexRenew	$0	$0	$8,160	$0	$0	$0	$0	$0	$0	$0	$0	$8,160
Fairfax	$0	$0	$12,240	$0	$0	$0	$0	$0	$0	$0	$0	$12,240
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Project Purpose: To replace the pressure regulating valves on the pre-pasteurization system and establish their performance settings.
Background: Pre-pasteurization heat exchanges have not been able to cool sludge to the desired temperature in summer. It is suspected that insufficient cooling water is being provided to the system due to faulty pressure regulating valves.
Project Components: Pressure regulating valves
Procurement Method: TBD. The need for this project will be confirmed under the Biosolids Master Plan project.

Benefits	Strategic Outcome Area
• Improves pre-pasteurization system performance.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Increased operational efficiency.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4	• Budget adjusted for inflation

Biosolids Management: Building 55 - Solids Screen Replacement

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 55	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$839,960

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$507,960	$332,000	$0	$0	$0	$0	$0	$0	$0	$839,960
Financing												
AlexRenew	$0	$0	$203,184	$132,800	$0	$0	$0	$0	$0	$0	$0	$335,984
Fairfax	$0	$0	$304,776	$199,200	$0	$0	$0	$0	$0	$0	$0	$503,976
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Project Purpose: To replace the existing solids screens with a new technology to improve solids capture.
Background: The solids screens are a current process limitation as they cannot pass solids at the design concentration (200 gpm @5.4% solids each screen).
Project Components: TBD
Procurement Method: TBD. The need for this project will be confirmed under the Biosolids Master Plan project.

Benefits	Strategic Outcome Area
• Improves biosolids system performance.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Increased operational efficiency.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Solids Handling and Energy Optimization Update to the Long Range Plan (CH2M, January 2017) • Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Budget adjusted for inflation

Biosolids Management: Solids/Resource Recovery Upgrades

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building L Building A Building C	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	20 Years for Equipment	$20,824,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$3,039,000	$5,628,000	$5,628,000	$5,628,000	$901,000	$0	$0	$20,824,000
Financing												
AlexRenew	$0	$0	$0	$0	$1,215,600	$2,251,200	$2,251,200	$2,251,200	$360,400	$0	$0	$8,329,600
Fairfax	$0	$0	$0	$0	$1,823,400	$3,376,800	$3,376,800	$3,376,800	$540,600	$0	$0	$12,494,400
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To implement recommendations related to improved carbon utilization and resource recovery at the WRRF.
- Background: In FY2017, an update to the Long Range Plan (LRP) was performed for the WRRF solids handling processes. The following studies and evaluations were recommended in the LRP Update:
  - Gravity Thickener Evaluation
  - Digestion Evaluation
  - Combined Heat and Power (CHP) Study
  - Co-Digestion FOG Evaluation
- Project Components: TBD.
- Procurement Method: TBD.

Benefits	Strategic Outcome Area
• Explores measures needed to ensure the longevity and performance of sub-processes within the WRRF biosolids system.	• Financial Stewardship

Key Milestones for FY22	Impact on Operations or Community
• N/A	• Improved biosolids system performance.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Solids Handling and Energy Optimization Update to the Long Range Plan, CH2M January (2017)	• No changes

Building 22: Primary Weir Observation House

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 22	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$5,712,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$2,094,000	$3,101,000	$517,000	$0	$0	$0	$5,712,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$837,600	$1,240,000	$206,800	$0	$0	$0	$2,284,800
Fairfax	$0	$0	$0	$0	$0	$1,256,400	$1,860,000	$310,200	$0	$0	$0	$3,427,200
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To repair and/or replace the Primary Weir Observation House
- Background: The Primary Weir Observation House is deteriorating per the results of the Primary Weir Observation House Condition Evaluation (see Preliminary/Primary System Upgrades project). The weir house needs to be repaired or replaced.
- Project Components: (Recommendations)
  Repair: sandblasting interior walls and the ceiling to remove any corroded or rusted materials; painting exposed metallic elements; and replacing instrumentation & control equipment that cannot be rehabilitated.
  Replacement: removing the building and installing aluminum flat covers over the weir area. Installation of the flat covers requires the existing 60-in odorous air pipe to be rerouted; however, no additional odor treatment capacity is required. Eliminates safety risks since fall risk (into the tanks) is mitigated.
  The replacement costs are budgeted.
- Procurement Method: TBD. The scope of this project will be confirmed under the PPSU project.

Benefits	Strategic Outcome Area
• Maintains functionality of the Primary Weir Observation House (or replaces it with covers that provide a similar function).	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Maintains operational efficiencies/improves operator safety.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• None.

Building G/3: Filter Underdrain Replacement

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building G/3	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$2,860,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$330,000	$330,000	$2,200,000	$0	$0	$0	$0	$2,860,000
Financing												
AlexRenew	$0	$0	$0	$0	$132,000	$132,000	$880,000	$0	$0	$0	$0	$1,144,000
Fairfax	$0	$0	$0	$0	$198,000	$198,000	$1,320,000	$0	$0	$0	$0	$1,716,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: to repair/replace defective filter underdrains.
- Background: Scope of work will be based on the results of the filter underdrain assessment (see Tertiary Treatment Improvements Project). Estimated cost includes removing filter media, repairing underdrains, and replacing filter media one filter at a time to maintain plant operations.
- Project Components: Repair of up to 22 filter underdrains.
- Procurement Method: TBD

Benefits	Strategic Outcome Area
• Improves/maintains filter performance.	• Operational Excellence

Key Milestones for FY22	Impact on Operations or Community
• N/A	• Improves/maintains filter performance.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• No changes

Building L: Centrifuge Replacement

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building L	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$13,635,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$1,461,000	$1,461,000	$4,591,000	$4,591,000	$1,531,000	$0	$0	$13,635,000
Financing												
AlexRenew	$0	$0	$0	$0	$584,400	$584,400	$1,836,400	$1,836,400	$612,400	$0	$0	$5,454,000
Fairfax	$0	$0	$0	$0	$876,000	$876,000	$2,754,600	$2,754,600	$918,600	$0	$0	$8,181,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Project Purpose: To replace the existing dewatering & thickening centrifuges.
Background: Four thickening centrifuges (two duty, two standby) are used to thicken WAS and three dewatering centrifuges (two duty, one standby) are used to dewater digested sludge. Both systems are part of the WRRF's solids handling process and were placed into service in 2003. Both systems are expected to reach the end of their useful lives in the next few years.
Project Components: Centrifuges and associated appurtenances.
Procurement Method: TBD

Benefits	Strategic Outcome Area
• Maintains solids process performance.	• Operational Excellence

Key Milestones for FY22	Impact on Operations or Community
• N/A	• Maintains solids process performance.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Planned equipment replacement.	• None.

Campus-Wide Electrical Upgrade Sub-Program

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Main Campus	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	20 -30 years	$14,992,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$781,000	$3,334,000	$3,278,000	$4,301,000	$2,652,000	$646,000	$0		$14,992,000
Financing												
AlexRenew	$0	$0	$0	$312,400	$1,333,600	$1,311,200	$1,720,400	$1,060,800	$258,400		$0	$5,996,800
Fairfax	$0	$0	$0	$468,600	$2,000,400	$1,966,800	$2,580,600	$1,591,200	$387,600		$0	$8,995,200
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

In 2011 Greeley and Hanson performed an Energy Master Plan Study. As a result of the study, 9 projects were identified to plant reliability and safety. The UV disinfection upgrades recommended are not included in this project.

Project C-2: Switchgear 1A Upgrades: Switchgear "1A" was installed in 1978 to serve the Carbon Facilities in Building "G" and the Tertiary Sedimentation Tanks. The Carbon Facilities were removed in the early 2000s. The Tertiary Sedimentation Tanks remain in-service along with the building loads (HVAC and lighting). Switchgear "1A" has reached the end of its useful life. The Switchgear bus has corrosion and spare parts are difficult to find. The primary feed to Switchgear "1A" should also be replaced as part of the Switchgear "1A" upgrades.

Project C-3: Electrical Boiler Study: This study is to reassess the functionality of the electric boilers within a larger context of energy neutrality, sustainability and cost effectiveness. Since the size of Switchgear "C" and associated transformers are directly related to the outcome of this study, it should be performed before specifying the replacement for Switchgear "C".

Project C-4: Arc Flash Hazard Reduction Project: Switchgears SS-1 and SS-2 and Switchgears "L-1" and "L-2" have very dangerous arc flash ratings. This would retrofit Switchgears SS-1 and SS-2 with remote Trip/Racking devices and Switchgears "L-1" and "L-2 with ARMs devices to lower arc flash hazards for electricians performing routine maintenance.

Project C-5: Emergency Power for Control Room: The power supply to the control room is currently backed up with a single UPS. This UPS is fed from a single plant bus, and there is currently no second feed from the other plant bus to the control room. In the event of the total loss of the bus feeding the UPS, the control room will be out of power when the UPS batteries are exhausted, which will result in a loss of the SCADA system used to monitor and operate the treatment plant.

Campus-Wide Electrical Upgrade Sub-Program (continued)

It is recommended that improvements to the control room power supply include an ATS connected to both busses of Switchgear "1A" that will provide a real time emergency power backup system for the plant's SCADA system including UPS power. Step the second source down to 208 volts from 480 volts and connect the two sources to the control room UPS power system through a new ATS. Provide an external manual maintenance bypass switch to remove the UPS from the circuit for maintenance without losing power to the control room. A separate standby generator should also be considered.

Project C-6: Switchgear "C" Upgrades: Switchgear "C" was installed in 1976 to serve the Rotating Biological Contactors (RBCs) and the gravity thickening facilities. As new improvements were incorporated into the plant processes, more loads and MCCs have been added to Switchgear "C". Currently Switchgear "C" supplies power to the following Motor Control Centers (MCCs) and facilities:

- MCC-MC-2: Abandon RBC Equipment and building loads including MCC-MC-1
- MCC-MT-1: Gravity Thickening Facility installed in 1981
- MCC-N-A1B1: UV Disinfection Facility
- MCC-F-1A1B: Post Aeration and Plant Water (W3)
- MCC-55 and 55-C: Pre-Pasteurization
- Electrical Boilers 1 and 2

Switchgear "C" has reached the end of its useful life and is currently overloaded. If one of the electrical feeds is lost and the tie breaker must be closed to restore service, Switchgear "C" cannot support the downstream loads without intentionally disabling the electric boilers. MCCs MT-1, MC-1, and MC-2 have also reached the end of their useful life and each has several buckets/breakers that are abandoned. MCC-MC-1, and MCC-MC-2 should be consolidated into a single double ended MCC. The UV Disinfection Facility upgrades should be separated from Switchgear "C" upgrades. Transformers TC-1 and TC-2 serving Switchgear "C" should be replaced during Switchgear "C" upgrades with transformers sized for the remaining loads on the switchgear less the UV processes. New conductors should be installed from SS-1 to the new TC-1 and TC-2 transformers and from the TC-1 and TC-2 transformers to the transformers servicing MCC-20-1A1B. New conductors will also be required between Switchgear "C" and the downstream MCCs.

Project C-7: Utility Supply Improvements: Analysis of power reliability requirements for this site indicates that the provisions of the Virginia DEQ SCAT Regulations define the mandatory level of electrical reliability. There are two aspects of the current utility delivery system required modification to improve the regulatory compliance and electrical reliability of utility supply, which are described are relocation of one of the two Dominion aerial distribution feeders and addition of a fire block between the Dominion transformers.

Project C-8: Access Building 23 Electrical Upgrades: The switchboard in Access Building 23 provides power to Return Activated Sludge Pumps, Waste Activated Sludge Pumps, and the Secondary Sedimentation Tank Sludge Collection equipment. The two main breakers and the tie breaker in Switchboard 23 are no longer supported. A complete shutdown of the switchboard will be required to replace the tie breaker.

Project C-9: Building "G" Electrical Upgrades: Building "G" was installed in the late 1970s to house the Carbon Facilities and the Tertiary Sedimentation.

Campus-Wide Electrical Upgrade Sub-Program (continued)

Tanks support facilitates. The Carbon Facilities were removed in the early 2000s. The Tertiary Sedimentation Tanks remain in-service along with miscellaneous Building "G" loads (HVAC and lighting). The major Motor Control Centers (MCCs) that supply power to these facilities are as follows:

- MA-1: Building "G" loads, and Intermediate Pump ValvesMA-2: Building "G" loads, and abandon Carbon Facilities
- MA-3, MCC G1, MCC G2, and PA-1: Building "G" loads
- PA-2 and PA-3: Building "G" loads and Tertiary Sedimentation Tanks

MCCs MA-1, MA-2, MA-3, PA-1, PA-2, and PA-3 have reached the end of their useful life and spare parts are difficult to find. It is recommended that these MCCs be upgraded to improve the electrical reliability of Intermediate Pumping Station and the Tertiary Sedimentation Tanks.

Benefits	Strategic Outcome Area
• Ensure aged or intermediate projects have not compromised electrical reliability.	• Effective Financial Stewardship
Key Milestones for FY 22	**Impact on Operations or Community**
• N/A	• Remedial efforts may require coordination with operations and/or maintenance teams at AlexRenew.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• 2011 Greeley and Hansen report "Energy Master Plan Study."	• None

Commonwealth Interceptor Pile Intrusion

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	88 feet south of Junction Box 34	Interceptor/Trunk Sewers Rehab. ☐ Alexandria Only ☒ Joint Use	40 years	$790,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$183,000	$607,000	$0	$0	$0	$0	$790,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$73,200	$242,800	$0	$0	$0	$0	$316,000
Fairfax	$0	$0	$0	$0	$0	$109,800	$364,200	$0	$0	$0	$0	$474,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- During a closed circuit television inspection of the 72-inch CI conducted in 2006, an intrusion was discovered approximately 88 feet downstream of Junction Box 34. The intrusion appears to be from the installation of a pile supporting the odorous airline that crosses the Commonwealth Interceptor in this area. This project will eliminate the intrusion.

Benefits	Strategic Outcome Area
• More than 80% of the dry weather flow treated at AlexRenew is conveyed by the CI. Although being monitored, the pipe requires rehabilitation to ensure extended, reliable performance.	• Operational Excellence
Key Milestones for FY22	**Impact on Operations or Community**
• N/A	• Decreases future O&M costs • Reduces risk
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• 2014 Report "72 Inch Commonwealth Interceptor Repair Plan"	• None

Environmental Center – 5th/6th Floor Modifications

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Environmental Center	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use (49% to Fairfax)	40 years	$2,200,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$1,000,000	$0		$0	$1,200,000	$0	$0	$0	$0	$0	$2,200,000
Financing												
AlexRenew	$0	$510,000	$0		$0	$612,000	$0	$0	$0	$0	$0	$1,122,000
Fairfax	$0	$490,000	$0		$0	$588,000	$0	$0	$0	$0	$0	$1,078,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- As currently construction, the 6th floor of the Environmental Center requires modifications in order to resume safe in-person events such as Board and public meetings and provide sufficient space for social distancing and other COVID-19 protocols
- As originally constructed, the Environmental Center was left with a customizable 5th floor. This future buildout is intended to provide full functionality for that space.

Benefits	Strategic Outcome Area
• Optimize use of existing infrastructure	• Adaptive Culture

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Results in other operational efficiencies

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• Change in project timing

Environmental Center: Lobby Upgrade

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Communications	Environmental Center Lobby	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use (Fairfax 45%)	8 years	$235,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$110,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$110,000
Financing												
AlexRenew	$0	$56,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$56,100
Fairfax	$0	$53,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$53,900
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This project will update the lobby and enhance the visitor experience
- The project includes a changing display in Environmental Center front lobby to reflect the water system in Alexandria, adding RiverRenew elements to multiple display areas, and creating a setup to display TBM footage in the lobby.
- Additional modifications beings incorporated from original plans to accommodate COVID-19 protocols

Benefits	Strategic Outcome Area
• Update displays to reflect the RiverRenew elements, enhancing community understanding of the program and AlexRenew's expanded role • Updated displays encourages return visitors	• Public Engagement & Trust

Key Milestones for FY22	Impact on Operations or Community
• Add TBM signage and model to house display • Add tunnel as addition to pipes in PYP area • Create two TBM soft sculptures • Add a video setup to display TBM footage in the lobby	• Will require coordination with RiverRenew on installation, maintenance and output of camera system.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• Compressed phases into one phase. • Change in project timing

HMI Upgrade

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering Felicia Glapion	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	10 years	$4,017,193

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$1,730,000	$1,336,425	$0	$0	$0	$0	$0	$0	$0	$0	$0	1,336,425
Financing												
AlexRenew	$692,000	$534,570	$0	$0	$0	$0	$0	$0	$0	$0	$0	$534,570
Fairfax	$1,038,000	$801,855	$0	$0	$0	$0	$0	$0	$0	$0	$0	$801,855
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To replace WinCC with Factory Talk View SE.
- Background: This is a 5-phase project to replace WinCC with Factory Talk View SE. Screens will be updated to new standards. PLC code will be rewritten to reference the new standards. Phases 1-3 are complete. Phases 4 and 5 are in progress and include detailed design/HMI Dev/PLC Programing (Phase 4) and final rollout, testing and completion (Phase 5). Project is in progress and has been impacted by the COVID-19 pandemic.

Benefits	Strategic Outcome Area
• Reduces the number of screens to provide concise graphical information • Reduces the number of ghost alarms • Eliminates stability issues inherent to WinCC • Develops a scalable control system to meet future demands • Improves fault tolerance • Develops HMI and PLC standards	• Adaptive Culture

Key Milestones for FY 22	Impact on Operations or Community
• Complete project	• Increased operational efficiencies through improved user experience • Reduced ghost alarms

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• 2016 SCADA Master Plan	• Updated for costs based on current estimates

Holland Lane Realignment

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Holland Lane	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use	N/A	$300,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$300,000	$0	$0	$0	$0	$0	$300,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$120,000	$0	$0	$0	$0	$0	$120,000
Fairfax	$0	$0	$0	$0	$0	$180,000	$0	$0	$0	$0	$0	$180,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Per developer agreement, this project accounts for the AlexRenew share for the realignment of Holland Lane.

Benefits	Strategic Outcome Area
• N/A	• Effective Financial Stewardship
Key Milestones for FY 22	**Impact on Operations or Community**
• N/A	• This project will disrupt activities on Holland Lane.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• N/A	• None

IRR: Campus Wide Projects (Joint Use)

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Paul Lamphier	WRRF	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	4 years for odor media 6 years for cranes 10 years for vehicles 10 years for NMF media 15 year for odor scrubber and piping	$3,046,824

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$500,600	$315,600	$318,756	$321,944	$325,163	$628,415	$281,699	$284,516	$287,361	$290,235	$293,137	$3,046,824
Financing												
AlexRenew	$200,240	$126,240	$127,502	$128,777	$130,065	$131,366	$112,680	$113,806	$114,944	$116,094	$117,255	$1,218,730
Fairfax	$300,360	$300,360	$189,360	$191,254	$193,166	$195,098	$169,019	$170,709	$172,417	$174,141	$175,882	$1,828,094
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with non-process facilities work at the WRRF. This includes, but is not limited to roof, concrete, HVAC, reclaimed water system, vehicles, and odor control repairs/replacement. This subprogram also includes the AlexRenew website.

Benefits	Strategic Outcome Area
• Full optimization of the Methane Gas supply generation using the Absorption Chillers • Increased brand recognition • Increased brand recognition. • Maintain AlexRenew's odor quality control • Maintain reliability and effectiveness of the steam, chiller, odor control, plant air, and HVAC systems • Maintain the availability and integrity of the cranes and buildings • More efficient and reliable vehicles for employee transportation • Reduce carbon emissions • Reduce citizen and city official complaints about website. • Use of reclaimed water allows for AlexRenew to reduce its water usage	• Operational Excellence

IRR: Campus Wide Projects (continued)

Key Milestones for FY 22	Impact on Operations or Community
• Accept delivery of new vehicle • Complete plant air system, chiller, HVAC system and crane repairs • Complete rebuilt/replace of one (1) Odor Scrubber • Complete review of valve exercising program • Complete roof and drain replacements • Pass boiler inspection Complete Plant Air System repairs • Replace front entry doors with a more reliable system for staff and public use • Start of reclaimed water system testing	• Environmental Air Quality Control • Increase availability of reclaimed water. • Increase equipment availability for process and high flow events • Increase equipment reliability for future RiverRenew Project • Lessen the carbon footprint • Maintain proper air change in Class I DIV II environments • Maintain roof integrity to prevent equipment damage. • Maintain safety for crane operators • Maintain the esthetic of the plant to blend in the surrounding community
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• SOP-X-NMF Odor Control System Carbon Replacement (by CH2M 12/30/15) • Website Reinvention Business Case (12/19/17) • GHD Site Visit report from 06/14/2018	• Updated to reflect rehabilitation timing changes.

IRR: Collection System Projects (Joint Use)

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations & Maintenance	Pumping Stations	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	4 years for pumps	$90,903

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$15,000	$15,150	$0	$0	$15,302	$15,000	$0	$0	$15,150	$15,302	$90,903
Financing												
AlexRenew	$0	$6,000	$6,060	$0	$0	$6,121	$6,000	$0	$0	$6,060	$6,121	$36,361
Fairfax	$0	$9,000	$9,090	$0	$0	$9,181	$9,000	$0	$0	$9,090	$9,181	$54,542
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with the pump stations, service chambers, and outfalls that are funded by AlexRenew and Fairfax.

Benefits	Strategic Outcome Area
• Full redundancy and reliability of pumping stations • Maintain the buildings integrity. • Secure equipment from water damage	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Increase equipment availability to process • Maintain roof integrity to prevent equipment damage • Maintain the esthetic of the plant to blend in the surrounding community

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• Addition of FY 30 funding

IRR: Campus Digital Signage

Managing Department and Champion	Project Location	Project Category	Estimated Useful Life	Lifetime Budget
Communications	WRRF and EC	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use	5 years	$280,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$140,000	$0	$0	$0	$0	$140,000	$0	$0	$0	$0		$140,000
Financing												
AlexRenew	$56,000	$0	$0	$0	$0	$56,000	$	$0	$0	$0	$0	$56,000
Fairfax	$84,000	$0	$0	$0	$0	$84,000	$0	$0	$0	$0	$0	$84,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This project will upgrade the digital signage across campus. This upgrade will enable more comprehensive and informative communications across campus to all staff, in an efficient, simultaneous, and visually appealing manner. It will include the digital signs, software, installation, programming, and training. Annual maintenance will also be required.
- The digital signs have been even more widely utilized since COVID-19 required physical separation of staff

Benefits	Strategic Outcome Area
• Allows for fast and efficient communications with AlexRenew staff. • Staff feedback indicated that the digital signs are the preferred method of communication about news and events across AlexRenew's campus. • The upgrade will allow the placement of more signs in high traffic areas. The upgrade will also allow for more dynamic and static content to the used on the signs.	• Adaptive Culture

Key Milestones for FY 22	Impact on Operations or Community
• Replacement computers ordered in FY2021 to improve secutity • Acquire, program and start up new digital signage network, with an option to add additional signage at the completion of RiverRenew.	• Installation will require minor electrical maintenance team assistance. • Will provide team with the information to communicate more effectively with each other, and to attend key events.

IRR: Centrate Pre-Treatment Facility Improvements

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building 69 (CPT Facility) Building L (Basement)	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	20 Years for Equipment	$516,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$185,000	$258,000	$0		$0	$0	$0	$0	$0	$0	$0	$258,000
Financing												
AlexRenew	$74,000	$103,200		$0	$0	$0	$0	$0	$0	$0	$0	$177,200
Fairfax	$111,000	$154,800		$0	$0	$0	$0	$0	$0	$0	$0	$265,800
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- The centrate pre-treatment facility uses the DEMON™ process to reduce the nitrogen content of the dewatering centrate prior to return to the BRBs. The facility was placed into operation in 2015 and operates well but requires capital improvements for improved performance. Improvements include replacing the existing cyclone feed pumps which are prone to frequent clogging and implementing some modifications to the centrate transfer piping to divert poor quality centrate to gravity thickener 5 or the blended sludge tank.
- The project is proposed to be procured through a Design-Bid-Build method with AlexRenew using one of their on-call contractors. Some of the work will be done by the blower vendor (Neuros) on their equipment.

Benefits	Strategic Outcome Area
• Increase reliability of the system. • Reduce downtime and maintenance needed on the pumps and process upsets caused by poor quality centrate.	• Operational Excellence

IRR: Centrate Pre-Treatment Facility Improvements (continued)

Key Milestones for FY 22	Impact on Operations or Community
• Perform study on type of pumps to use for replacement • Develop engineering concept for piping modifications for centrate diversion	• Improving capture of dirty centrate away from the CPT system would reduce the amount of manual cleaning that has to be performed on the strainers and the pumps by plant personnel. • Automating the blower operation would reduce/eliminate the need for manual cycling/exercising of the blowers and improve air flow control and process performance. • Operations and maintenance personnel should be engaged in identifying possible solutions and selecting alternatives to be implemented.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Centrate Pre-Treatment Recycle Pumps Performance Deterioration TM (CH2M, May 2016) • Summary of Centrate Pre-Treatment Blower Failure Investigation, Evaluation and Recommendations TM (CH2M, February 2017) • Email correspondence from Grace Richardson/AlexRenew on July 5, 2017 providing direction on how to proceed.	• Pump replacement and centrate piping modifications were moved to FY 2021.

IRR: Information Technology Projects

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Information Technology and River Renew (Business Owner)	Main and West Campus	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	10 years for Data Center and Network Improvements	$13,868,937

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$600,000	$1,350,000	$1,363,500	$1,377,135	$1,390,906	$1,404,815	$1,368,864	$1,382,552	$1,396,378	$1,410,342	$1,424,445	$13,868,937
Financing												
AlexRenew	$240,000	$540,000	$545,000	$550,854	$556,363	$561,926	$547,545	$553,021	$558,551	$564,137	$569,778	$5,547,575
Fairfax	$360,000	$810,000	$818,000	$826,281	$834,544	$842,889	$821,318	$829,531	$837,827	$846,205	$854,667	$8,321,362
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

This project category includes all IT related IRR needs including the Campus-Wide FOB Network Planning and Installation project.

Benefits	Strategic Outcome Area
• This will increase the available speed. • Increase scalability of system to account for an increase in the number of smart devices being used • 24/7 near real time security monitoring and incident response. • Ensure and improve compliance with federal, state and local regulatory recordkeeping directives, • Establish a classification scheme that facilitates the capture, storage and speedy retrieval of records by staff when needed to conduct day-to-day business activities, preserve historically and culturally important records as well as provide support in litigation, • Prevention of technological obsolesces • Reduce physical storage space and staff resources required to maintain current paper records, and • Support continued and on-going awareness of staff recordkeeping responsibilities through the use of training. • Up to date security patching for critical assets. • And upgrading the emergency notification systems. • Vulnerability management and monitoring of network and hosts.	• Adaptive Culture

IRR: Information Technology Projects (continued)	
Key Milestones for FY 22	**Impact on Operations or Community**
• Development of detailed roadmap and roll out plan • Pilot of VDI solution. • Security Event Monitoring and Incident Response	• Completion of the project will require some outages. • A follow-on project will be needed to place all current devices on the new system • Data is more secure • Decreased bandwidth requirements. • Information access is better controlled and managed • Operational, reputational, and legal risks are managed. • Provides secure, available, and accurate systems and data • Reduced hardware costs • Regulatory Compliance • Results in operational efficiencies
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Cybersecurity Assessment completed by AchillesShield, including assessment of vulnerabilities and hacker exploitation; and a physical security assessment. • Electronic Records Management (ERM) As-Is Observation Report Contract: 14-016 Task Order 2015-1	• Additions to program • Change in timing • Reduction in outyear costs due to new planning

IRR: Preliminary/Primary Infrastructure

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Paul Lamphier	WRRF	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	6 Years for raw sewage pump Yearly for probes and instruments 10 years for >100 Hp Motors 10 years for Large VFDs	$1,743,333

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$343,333	$80,000	$80,800	$81,608	$82.424	$83,248	$34,081	$34,422	$34,766	$35,113	$35,465	$581,927
Financing												
AlexRenew	$137,333	$32,000	$32,320	$32,643	$32,970	$32,299	$32,000	$13,632	$13,769	$14,045	$14,186	$232,771
Fairfax	$206,000	$48,000	$48,480	$48,965	$49,454	$48,000	$49,949	$20,448	$20,653	$21,068	$21,279	$349,156
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with liquid unit processes in preliminary and primary facilities. This includes, but is not limited to VFDs, settling tanks, probes, motors, pumps and instrumentation.

Benefits	Strategic Outcome Area
• Reliability of the preliminary/primary infrastructure • Improve accuracy on flow, level, pressure, etc. • Improved and advanced automation	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• Upgrade VFDs • Complete replacement or repair of process instruments • Complete rebuilt or replacement of a Raw Sewage Pump • Replacement of motors with >100 Hp • Rehabilitation of primary settling tank system.	• Decreases future O&M costs • Reduces risk • Increase equipment availability to process

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• This project complements Building A: Raw Sewage Pump Replacement	• Reduced budget in out years to align with project planning

IRR: Secondary Infrastructure

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Paul Lamphier	WRRF	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	12 years for BRB actuators 5 years for large BRB mixers 10 years for small BRB mixers 5 years for RAS pumps 10 years for VFDs 15 years for NMF actuators 6 years for BRB mix liquor pumps	$6,119,333

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$1,156,333	$1,638,000	$1,654,380	$1,670,924	$1,687,633	$1,704,509	$1,671,554	$1,688,270	$1,705,153	$1,722,204	$1,739,426	$16,882,054
Financing												
AlexRenew	$462,533	$655,200	$661,752	$668,370	$675,053	$681,804	$668,622	$675,308	$682,061	$688,882	$695,771	$6,752,822
Fairfax	$693,800	$982,800	$992,628	$1,002,554	$1,012,580	$1,022,706	$1,002,933	$1,012,962	$1,023,092	$1,033,323	$1,043,656	$10,129,232
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with liquid unit processes in secondary facilities. This includes, but is not limited to, BRB AUMA actuators, NMF actuators, BRB mixers, VFDs, probes, motors, pumps and instrumentation repair and replacement; and additional air flow monitoring in SST Influent Channel.

Benefits	Strategic Outcome Area
• Improve accuracy on flow, level, pressure, etc. • Reliable diversion and transfer of flow using NMF • Reliability and efficiency of the secondary infrastructure	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• Complete rebuilt or replacement of 4 BRB Mixers • Complete rebuilt or replacement of 6 Mixed Liquor Pumps • Complete replacement of all actuators for one (1) BRB Tank • Complete replacement or repair of process instruments • Delivery of new NMF actuators • NMF Actuators installed, tested and online • Replace 6 of the 12 RAS pumps • Robicon VFDs replaced	• Increase equipment availability to process • Increase equipment availability for high flow events

IRR: Secondary Infrastructure (continued)

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Change in funding to meet new replacement/rehabilitation schedule

IRR: Solids Infrastructure

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Paul Lamphier	WRRF	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	Yearly for probes 2 years for screen presses 12 years for heat exchanger actuators 10 years for >100 hp motors	$16,855,898

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$1,740,500	$1,635,500	$1,651,855	$1,668,374	$1,685,057	$1,701,908	$1,668,927	$1,685,616	$1,702,472	$1,719,497	$1,736,692	$16,855,898
Financing												
AlexRenew	$696,200	$654,200	$660,742	$667,349	$674,023	$680,763	$677,571	$674,246	$680,989	$687,799	$694,677	$6,742,359
Fairfax	$1,044,300	$981,300	$991,113	$1,001,024	$1,001,034	$1,021,145	$1,001,356	$1,001,370	$1,021,483	$1,031,698	$694,677	$6,401,400
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with the solids processing flow train. This includes, but is not limited to, digestors, actuators, motors, screen presses, pumps, probes and instrumentation

Benefits	Strategic Outcome Area
• Full redundancy and reliability of the solids processing equipment • Maintain AlexRenew Bio-solids Class A output • Extended equipment life associated with polymer feed • Maintain consistent solids percentage • Full optimization of the Methane Gas supply generation • Reduce Carbon Emissions • Reduced pump maintenance due to excessive ragging • Reduced pump and pipe maintenance due to excessive ragging	• Financial Stewardship

IRR: Solids Infrastructure (continued)

Key Milestones for FY 22	Impact on Operations or Community
• 2 Polymer Feed Pumps installed, tested and online • 8-10 VFDs installed, tested and online • Complete 1 screen press replacement • Complete rebuild of one (1) TCEN • Complete rebuild of one (1) DCEN • Complete rehab of one (1) digester tank • Complete replacement of all actuators for one (1) Pre-Past Heat Exchanger • Delivery of 4 new and rebuilt Seepex Pumps • Complete rebuilt of two 30HP Explosion Proof Heat Exchangers motor • Complete rehab of one (1) Thickening Tank • Complete replacement of one (1) Centrate Recycle pump • Complete initial investigatory testing to confirm if fecal regrowth is occurring in AlexRenew biosolids. • Complete replacement or repair of process instruments	• Increase equipment availability for high flow events • Increase equipment availability for solids process • Increase equipment reliability for future RiverRenew Project • Requires DMR reporting at sample point of compliance and evaluating process equipment to ensure no negative impacts to process or equipment from Pre-Pas temperatures.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Biosolids testing/sampling action plan approved October 2019 • Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Change in rehabilitation/replacement timing

IRR: Tertiary Infrastructure

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Paul Lamphier	WRRF	Improve., Rehab., Replacement ☐ Alexandria Only ☒ Joint Use	6 years for UV system parts Yearly for probes 10 years for >100 Hp motors 10 years for Inter. PS pumps 10 years for VFD replacements	$4,525,333

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$890,333	$358,000	$361,580	$365,196	$368,848	$372,536	$326,262	$329,524	$332,819	$336,148	$339,509	$3,490,422
Financing												
AlexRenew	$356,133	$143,200	$144,632	$146,078	$147,539	$149,014	$130,505	$131,810	$133,128	$134,459	$135,804	$1,396,169
Fairfax	$534,200	$214,800	$216,948	$219,117	$221,309	$223,522	$195,757	$197,715	$199,962	$201,689	$203,705	$2,094,253
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- This subprogram covers all improvement, rehabilitation and replacement projects associated with liquid unit processes in tertiary and disinfection treatment facilities. This includes, but is not limited to, UV system parts, instruments, probes, motors, pumps, VFDs replacements.

Benefits	Strategic Outcome Area
• Redundancy and reliability of the tertiary and disinfection systems • Improve accuracy on flow, level, pressure, etc. • Improved and advanced automation	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• Building G/3: Install TST Solids Meters • Building G/3: Pilot Program for New Solids Meters • Complete rebuilt or replacement of an Intermediate Pump • Complete rebuilt or replacement of equipment for a Tertiary Tank • Complete rebuilt or replacement one (1) Wash Water Pump • Installation, and testing of Robicon VFD replacements • Replace of motors with >100 Hp • Replacement or repair of process instruments • UV System Parts installed, tested and online	• Increase equipment availability to process • Increase equipment reliability for future high flow events

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4)	• Change in rehabilitation/replacement timing

IRR: Tertiary Treatment Improvements

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building G/3	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$89,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$72,000	$17,000		$0	$0	$0	$0	$0	$0	$0	$0	$17,000
Financing												
AlexRenew	$28,800	$6,800		$0	$0	$0	$0	$0	$0	$0	$0	$6,800
Fairfax	$43,200	$10,200		$0	$0	$0	$0	$0	$0	$0	$0	$10,200
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Building G/3: Automate TST Flow Control: Typical flow through each tertiary settling tank (TST) is 5 to 10 MGD, which is significantly below the design criteria of 18 MGD. Low-flow operation of the TSTs allows for a slow build-up of material on the settling plates that is flushed out during high flows or wet weather events. Intermittent operation at higher flow rates of one or two TSTs will mitigate the impact of the solids flush compared to when the flow rates to all TSTs suddenly increase, such as during wet weather. Furthermore, regular high-flow operation allows more TSTs to be offline, which would support the routine deep cleaning schedule. The project will update SCADA programming to automate the influent flow control valves and the flow split between the TSTs.
- Building G/3: Upgrade System for Sludge Recirculation: Sludge recirculation is a recognized industry practice to improve tertiary settling tank (TST) operations and reduce alum dosing. AlexRenew previously used the sludge recirculation system regularly but discontinued the practice since significant operator time was required to operate the manual valves. This project will motorize and automate 24 valves to simplify the sludge recirculation system for regular use in TST operations. It assumes 2 valves for each of the 12 pumps (i.e. 24 valves total) would be automated; the automated valves would be used to direct sludge to recirculation or wasting.
- Building G/3: Assess Filter Underdrain: The tertiary treatment filtration system includes 22 mono-media, gravity filters. The condition of the underdrains cannot be directly assessed or observed without hiring a specialty contractor to remove the media. As part of the Filter & TST Risk Assessment (2019), O&M personnel were advised to monitor surface boils since the boils can indicate damaged air headers or underdrains. If filter performance is affected or boils significantly worsen, the project will include hiring a specialty contractor to remove the media in one of the filters, inspect the underdrains and air headers, and develop a condition report that could be used to estimate the required repairs for the system. If the existing filter media is of good quality, recommendation may include re-balancing media between the filters (using existing media) while this equipment is on-site.

IRR: Tertiary Treatment Improvements (continued)

Benefits	Strategic Outcome Area
• Intermittent high-flow operation will reduce large solids flushes during wet weather events and will allow more TSTs to be offline for routine deep cleaning. • Automating the system for high-flow operation will provide improve wet weather operations and facilitate O&M activities. • Upgrading existing equipment to reduce Operator effort required and improve usability. • Sludge recirculation will decrease chemical spending (i.e. alum) and improve final effluent quality. • Assessment of equipment condition and remaining life will be used to maintain filter system and increase equipment lifetime and performance.	• Operational Excellence

Key Milestones for FY22	Impact on Operations or Community
• TBD	• Improves wet weather operations. • Assists regular maintenance activities. • Improve ease of operation; reduced O&M costs; and better final effluent quality • Assessment will be used for operational improvements that will improve solids removal and plant performance.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Risk Review of Processes and Assets, Risk Review Assessment (BOA WA2-2019-3, Task 4), Pending, draft final submitted in September 2019. • Filters and Tertiary Settling Tanks Engineering Evaluation Report (BOA WA2-2019-3), Pending, draft final submitted in September 2019.	• New project

IRR: WRRF Fire Alarm Upgrade

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Safety Alex Rigby	WRRF	Non-Process Facilities Program ☐ Alexandria Only ☒ Joint Use	15 Years	$1,550,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$250,0000	$0	$0	$0	$0	$300,000	$1,000,000	$0	$0	$0	$0	$1,300,000
Financing												
AlexRenew	$100,000	$0	$0	$0	$0	$120,000	$400,000	$0	$0	$0	$0	$520,000
Fairfax	$150,000	$0	$0	$0	$0	$180,000	$600,000	$0	$0	$0	$0	$780,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- The WRRF Fire Alarm System was scheduled to be upgraded in FY18/19, but those upgrades have been delayed. The panels remain obsolete, and parts availability is becoming more and more difficult to source out for replacement and repairs. AlexRenew has an existing NJPA contract vehicle to use for future work.

Benefits	Strategic Outcome Area
• Full redundancy and reliability of the Campus Fire Alarm System	• Adaptive Culture

Key Milestones for FY 22	Impact on Operations or Community
• Complete upgrade of the Campus Fire Alarm System	• Increase employee safety within the campus buildings and grounds

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• Johnson Controls' Memo on existing panels being obsolete.	• Delays in timing of replacements of panels based on previous years' priorities.

Main Campus Galleries Improvements

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering TBD	WRRF	WRRF Improvement Program ☐ Alexandria Only ☒ Joint Use	TBD	$1,300,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$500,000	$500,000	$300,000	$0	$0	$0	$0	$1,300,000
Financing												
AlexRenew	$0	$0	$0	$0	$200,000	$200,000	$120,000	$0	$0	$0	$0	$520,000
Fairfax	$0	$0	$0	$0	$300,000	$300,000	$180,000	$0	$0	$0	$0	$780,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

AlexRenew's walkable gallery system, some of which was constructed as early as the 1950s, houses mechanical and electrical utilities and piping. This project involves rehabilitation tasks recommended after conducting an assessment of the tunnels and utility piping, during the process of creating of a unified and comprehensive map of utilities within the tunnel system.

Benefits	Strategic Outcome Area
• This project will help better identify, quantify and maintain existing assets.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• This project will reduce future maintenance costs and renew existing assets, preventing unforeseen failure

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• None

Odor Control System Upgrade

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	WRRF	WRRF Improvement Program ☐ Alexandria Only ☒ Joint Use	TBD	$2,500,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$500,000	$0	$0	$1,000,000	$1,000,000	$0	$0	$2,500,000
Financing												
AlexRenew	$0	$0	$0	$0	$200,000	$0	$0	$400,000	$400,000	$0	$0	$1,000,000
Fairfax	$0	$0	$0	$0	$300,000	$0	$0	$600,000	$600,000	$0	$0	$1,500,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To assess the odor control system and identify capital improvement needs.
- Background: This project involves the assessment of the odor control system and identification of needs for new capital improvements to ensure AlexRenew is minimizing its effect on current and future neighbors
- Project Components:
  - Analyze entire system (confirm air loads/ventilation rates)
  - Update dispersion modeling
  - Re-balance entre system
- Procurement Method: TBD.

Benefits	Strategic Outcome Area
• This project will ensure AlexRenew's campus remains a good neighbor by minimizing the likelihood of receiving odor complaints.	• Public Engagement and Trust

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• This project will ensure AlexRenew's campus remains a good neighbor by minimizing the likelihood of receiving odor complaints.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• None

PLC Equipment and Network Upgrade

Managing Department and Champion	Project Location	Project Category	Estimated Useful Life	Lifetime Budget
Operations and Maintenance Jeff Lindsay	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	15 years	$2,965,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$718,000	235,308	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000	$2,935,,308
Financing												
AlexRenew	$287,200	$94,123	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$120,000	$1,174,123
Fairfax	$430,800	$141,185	$180,000	$180,000	$180,000	$180,000	$180,000	$180,000	$180,000	$180,000	$180,000	$1,761,185
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To replace legacy Allen Bradley PLCs with modern hardware and associated appurtenances.
- Background: The current Allen Bradley PLC5s are reaching the end of their useful lives and are no longer supported by the manufacture.
- Project Components: PLC hardware and programming

Project is in progress and has been impacted by COVID-19.

Benefits	Strategic Outcome Area
• Installing new PLC hardware will expand processing power while ensuring the control system remains operational and hardware remains supported by the manufacturer.	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• Complete project	• Will require process outages for each PLC upgrade

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• SCADA Master Plan	• Costs updated to reflect the newest estimates.

Power Distribution Monitors

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering TBD	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	10 years	$500,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$50,000	$100,000	$100,000	$0	$250,000	$0	$0	$500,000
Financing												
AlexRenew	$0	$0	$0	$0	$20,000	$40,000	$40,000	$0	$100,000	$0	$0	$200,000
Fairfax	$0	$0	$0	$0	$30,000	$60,000	$60,000	$0	$150,000	$0	$0	$300,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- The current power distribution monitors are obsolete and rely on proprietary communication technology. Replacement of existing power monitors with Ethernet connectivity and network replacement of DH+ with Ethernet will be required. The current system of power consumption monitoring is inadequate in terms of the number of power monitors and its ability to interpret data.
- Power monitor audit will begin in FY 2025 and the results will determine the number and location of additional monitors needed.

Benefits	Strategic Outcome Area
• Enhance the system so that data interpretation can be used to make operational changes. • Enhance understanding of resource consumption	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• A series of outages will be necessary to transition every device onto the new system. • Identification of cost savings opportunities in terms of power consumption

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• SCADA Master Plan	• None

Preliminary/Primary System Upgrades

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	Building A Building K Building 22	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	20 years for Raw Sewage Pump 20 Years for Coarse Screens 15 Years for Sluice Gates	$26,580,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$1,000,000	$8,249,270	$7,415,000	$3,030,000	$4,434,000	$1,802,000	$0	$0	$0	$0	$0	$24,930,270
Financing												
AlexRenew	$400,000	$3,299,708	$2,966,000	$1,212,000	$1,773,600	$720,800	$0	$0	$0	$0	$0	$9,972,108
Fairfax	$600,000	$4,949,562	$4,449,000	$1,818,000	$2,660,400	$1,081,200	$0	$0	$0	$0	$0	$14,958,162
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- The first step of this project is to perform an evaluation, alternative analysis and sub project prioritization for the entire preliminary/primary systems. As a result of this evaluation, the subprojects listed below may be completed. The evaluation may result in different subprojects.
- The primary sludge pumping system consists of twelve (12) pumps which remove sludge from the bottom of the primary settling tanks and pump it to the gravity thickeners. The primary sludge pumps need rehabilitation and/or replacement due to corrosion and age. The primary sludge pumps may not have adequate capacity should CEPT be implemented. This project also includes new variable frequency drives (VFDs) for the pumps and improvements to the ferric chloride and polymer distribution systems for improved CEPT performance. These are proposed to be procured through a Design-Bid-Build method.
- The Wet Well Sluice Gates 1 and 2 are scheduled to be rebuilt based on O&M recommended runtime hours.
- Building A: Operate Coarse Screens with New Level Sensors: Trash accumulates in processes downstream of coarse screens. Coarse screens to operate on head differential instead of on a timer, which will increase solids capture and extend the screen life. Recommendation is to install a different type of level sensors (e.g. ultrasonic; radar) downstream and upstream of the screens to monitor differential level across the screen. Controls (SCADA programming) will be modified to incorporate new sensors and set points.
- Building K: Operate Fine Screens with New level Sensors: Trash accumulates in processes downstream of fine screens. Fine screens to operate on head differential instead of on a timer, which will increase solids capture and extend the screen life. Recommendation is to install a different type of level sensors (e.g. ultrasonic; radar) downstream and upstream of the screens to monitor differential level across the screen. Controls (SCADA programming) will be modified to incorporate new sensors and set points.
- Building K: Replace Grit Cyclone Underflow Boxes: Grit underflow boxes were installed in 2001 and are nearing the end of their useful life with clear signs of corrosion. Failure of the boxes could result in grit spills and lost equipment functionality/redundancy. Recommendation is to replace corroded grit cyclone underflow boxes since these are easily replaced and will increase the overall lifespan of the entire grit system.
- Building 22: Remove Obsolete Piston Pumps: The piston pumps are no longer in-service nor needed since the existing pumps are redundant/obsolete. Recommendation is to remove the old piston pumps, especially if equipment is already mobilized in the area to replace the primary pumps. The work can then be completed for very negligible additional cost.

Preliminary/Primary System Upgrades (continued)

- Building K: Scum Concentrator Replacement: The existing primary scum handling system has experienced extended outages. However, primary scum disposal is fundamental to reduce solids loadings; to improve performance of preliminary, primary, and secondary treatment; and to reduce the risk of foaming and Nocardia growth in the secondary treatment. This project will replace the existing scum concentrator system with a new scum screening system. Scum screening, comprised of a rotary wedgewire drum screen, a dewatering press/conveyor, and ancillary equipment, has similar layout/area requirements and has successfully replaced scum concentrators at other plants.
- Building A: Install Coarse Screen Platform: There is limited access to the rake motor at the top of each coarse screen impacts maintenance. Equipment reliability is critical, because the process does not have a redundant unit, and problems due to trash/solids can become amplified in downstream processes. Furthermore, limited access increases safety risk for staff. Recommendation to install a platform for accessing the top of the screens, which will facilitate regular maintenance of the motor and drive and improve plant safety.
- Building A: Coarse Screen Replacement: Recommendation is to replace coarse screens with either in-kind (same technology) or with new technology, including a smaller bar rack (e.g. 2-inch spacing vs. 3-inch).
- Building K: Fine Screens Replacement: The fine screening system consists of four screening channels located in Building K and was placed into operation in 2001. Each screening channel has an automatically cleaned fine screen with 6 mm (1/4-inch) openings. The capacity of this system is adequate to treat the planned peak raw influent flow (116 MGD) plus 2-3 MGD of recycles (drains and stormwater) with three channels in service (one redundant channel). The existing screens (Parkson AquaGuard) have been identified as candidates for replacement because of their poor performance. The screens do not effectively remove debris from the plant flow due to the configuration/design of the screen. Undesirable rags and trash frequently pass through the screening process and cause equipment problems/clogging downstream. The project will replace the fine screening equipment with newer technology such as center-flow band screens with 6 mm perforated plate openings or other technology that provides better capture. The screenings washer/press would also be replaced.
- Building K: Grit Handling Reconfiguration: Reconfigure grit handling system to discharge directly into truck bay below and to bypass the existing conveyor system. This will remove two conveyors from the system. By keeping the abrasive grit material out of the other conveyors, it will reduce maintenance and increase equipment life on the remaining system. A material distribution system will be installed on the chutes that drop into the truck bay to avoid mounding of grit in the trailers.
- Building K: Grit Handling Install V-force Baffle: Grit has been observed downstream of the grit chambers (Pista Grits). Recommendation is to improve Pista-Grit performance with V-force baffle (by Smith & Loveless) or equivalent technology. Modifications increase the grit extraction path, thus increasing the amount of grit captured on the chamber's floor and reducing grit build-up near the inlet channel.
- Building K: Replace Grit Handling Equipment: Recommendation to replace grit cyclones/classifiers with newer technology (i.e. Huber or Vulcan). With the new system, the equipment layout can be reconfigured to eliminate the grit transfer conveyors and result in long-term O&M savings.
- Building 22: Assess Primary Weir House Observation Condition: The Primary Weir Observation House shows evidence of rusting and metal corrosion, likely due to the high humidity environment. Recommendation is to assess the corrosion of the existing Primary Weir Observation House and identify the required repairs/schedule.
- The Raw Sewage Pump Station was originally constructed in 1954. The pump station consists of six vertical, end-suction, centrifugal type pumps that pump the full influent flow of the plant. The pumps are re-built on a scheduled basis (about 1 per year). The pump station can pump the design peak flow of 116 MGD plus 2-3 MGD of internal recycles (stormwater and drains). However, the pump station is still not performing as indicated by the pump curves. Newly rebuilt pumps tend to pump 5-6 MGD more flow than older pumps.

Benefits	Strategic Outcome Area
• Enhance the system so that data interpretation can be used to make operational changes. • Enhance understanding of resource consumption	• Operational Excellence

Preliminary/Primary System Upgrades (continued)

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• A series of outages will be necessary to transition every device onto the new system. • Identification of cost savings opportunities in terms of power consumption
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
•	• None

Process Air Compressor (PAC) System Upgrades

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering Felicia Glapion	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	20 years	$20,507,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$7,758,000	$743,314	$0	$0	$0	$0	$0	$0	$0	$0	$0	$743,314
Financing												
AlexRenew	$3,103,200	$297,326	$0	$0	$0	$0	$0	$0	$0	$0	$0	$297,326
Fairfax	$4,654,800	$445,988	$0	$0	$0	$0	$0	$0	$0	$0	$0	$445,988
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To replace the existing centrifugal blowers with High Speed Turbos and to construct a new blower facility to house them.
- Background: The current Process Air Compressor (PAC) system consists of five centrifugal blowers designed to provide air to the Biological Reactor Basins (BRBs) for aeration and to the Secondary Settling Tanks (SSTs) for mixing. The blowers are near the end of their useful lives and will be replaced with turbo blowers. A new building is required to house the blowers and will be located on top of the BRBs. Aeration headers and system diffusers will also be replaced under this project.
- Project Components: New blower building, turbo blowers, air piping, valves, and electrical equipment.
  Project is under construction.

Benefits	Strategic Outcome Area
• This project will improve energy efficiency and provide operational flexibility	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• Complete construction	• Decrease future O&M costs for the blowers system. • Improved BRB operational flexibly & efficiencies (better blower turn-down) • Blower Building on top of BRB tanks will be visible to public

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• 30% Design/PER, December 2018 (HDR) • 100%Design/Bid Documents, April 2019 (HDR) • Construction NTP, July 7, 2019 (ACE, Inc.)	• Construction is expected to conclude in FY 21 with commissioning and other close-out activities during the early part of FY 22

RiverRenew Building J Facilities Relocation and Decommissioning

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering Caitlin Feehan	Building J Building G Field Labs (in K, N, and 69)	RiverRenew ☐ Alexandria Only ☒ Joint Use	20 Years for Laboratory 25 Years for Equipment	$26,054,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$4,422,000	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$100,000
Financing												
AlexRenew	$1,768,800	#74,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	#74,000
Fairfax	$2,653,200	#26,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	#26,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Project Purpose: To decommission and demolish Building J and relocate essential functions (e.g., the WRRF lab) contained therein.
- Background: The driver of this project is the RiverRenew Tunnel schedule. The rapid relocation of Building J systems and spaces is required to ensure continuous plant operations (including the lab) and to allow for the demolition of Building J and the construction of the tunnel shaft.
- Project Components: Construction of a new lab (approx. 4,000-5,000 sf) on the ground floor of Bldg. G/2 (where the existing locker rooms are currently located), reconfiguration/remodeling of the existing lockers to fit current staffing needs (approx. 70 lockers), a new training/break room located in the first floor of G/1, a new server room located in the second floor of G/2 and a corresponding electrical room, a new chilled water plant located in the basement level of Bldg. G/2, relocation of existing ductbank, a new walkway from the new laboratory in Bldg. G/2 to the people spaces in Bldg. G/1, a new control room on the first floor of Bldg. G/1, a new roof on Bldg G/2, relocation of the PBX room, relocation of the fire alarm panel/autodialer, temporary locker rooms, new egress stairwell from Bldg G/2 and demolition of Building J. The scope of this project was expanded in FY20 to include:The replacement of the roof of Building G/2; A walkway from the new laboratory in Building G/2 to the new people spaces in Building G/1; A new control room in Building G/1; Expansion of the break/training space in Building G/1; and Temporary locker room facilities.
- Procurement Method: The project was procured through a Design-Bid-Build method with AlexRenew pre-selecting and pre-purchasing critical equipment with long procurement lead times such as the chillers, the air handling units, the motor control centers (MCC) and laboratory casework.

Benefits	Strategic Outcome Area
• Relocation of the laboratory and other functions currently housed in Building J prior to start of tunnel shaft construction will minimize disruption to plant operations, increase plant personnel safety and will consolidate operator/maintenance/lab spaces in one area of the plant (Building G).	• Operational Excellence

RiverRenew Building J Facilities Relocation and Decommissioning (continued)

Key Milestones for FY 22	Impact on Operations or Community
• Complete construction • Train AlexRenew Staff • Commission	• Laboratory operations may be impacted during transition to temporary spaces and new spaces. Impact will be mitigated by sending samples for outside analysis if/when needed. • Capacity of staff to perform analysis for research and process-optimization purposes may be limited during the interim lab operation. • Existing locker rooms in Building G/2 will be closed for construction of new lab and reconfiguration of locker spaces. Personnel will have to use the locker rooms in the Environmental Center and other temporary locker room facilities.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Long Term Control Plan Update (June 2018) • Preliminary Engineering Report (Brown and Caldwell, projected for October 2018) • Buildings J and G Facility Needs Assessment (CH2M/Jacobs, May 2018) • Buildings J and G Conceptual Workplan Report (CH2M/Jacobs, July 2018) • Decommissioning of Building J Alternatives Evaluation Report (CH2M/Jacobs, October 2018) • 100% Design/Bid Submittal (CH2M/Jacobs, April 2019)	• The project has progressed in construction and is expected to conclude in FY 2022

RiverRenew Tunnel System

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering and Planning - RiverRenew Caitlin Feehan	AlexRenew and Multiple Locations in Alexandria	RiverRenew ☒ Alexandria Only ☒ Joint Use	100 years for tunnel and structures 25 years for equipment	$615,000,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$41,236,400	$161,077,699	$178,492,758	$89,020,889	$66,074,254	$5,854,175	$ 0	$ 0	$ 0	$ 0	$ 0	$500,519,775
Financing												
AlexRenew	$ 39,047,814	$149,605,968	$168,019,371	$ 81,776,015	$58,098,294	$2,940,802	$0	$ 0	$ 0	$ 0	$ 0	$460,440,451
Fairfax	$2,188,586	$11,471,731	$10,473,387	$7,244,874	$7,975,960	$2,913,373	$0	$ 0	$ 0	$ 0	$ 0	$40,079,324
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

Need: In April 2017, a Virginia law was passed that required Alexandria's four existing combined sewer outfalls be brought into compliance by July 1, 2025.

Background: In June 2018, the Virginia Department of Environmental Quality approved a Plan that complied with the new law through the design and construction of a tunnel system to capture and convey combined sewage to AlexRenew for treatment. In July 2018, the Plan was re-branded as RiverRenew.

Project Components: The RiverRenew Tunnel System includes:

- Waterfront Tunnel: 2-mile long, 12'-0" diameter segmentally lined tunnel.
- Hooffs Run Interceptor: 2,700-foot long, 6'-0" open-cut sewer.
- Four diversion chambers to direct combined sewer flows to the Waterfront Tunnel and Hooffs Run Interceptor.
- Four shafts ranging from 35-feet to 65-feet in diameter.
- Tunnel Dewatering and Wet Weather Pumping Station: 20-mgd tunnel dewatering and 130-mgd wet weather pumping station, including a new superstructure at AlexRenew.

Procurement Method: In November 2020, AlexRenew awarded a fixed-price design-build contract to Traylor-Shea Joint Venture in the amount of $454.4 million following a 2-step (RFQ/RFP) procurement process.

Benefits	Strategic Outcome Area
• When complete, the RiverRenew Tunnel System will capture and convey 130 million gallons of combined sewage for treatment at AlexRenew each year. Occurrences of combined sewer overflows will be reduced from 70 to less than 4 events each year. This will promote cleaner, healthier waterways for the community and wildlife. • Construction sites will be restored in a sustainable manner to connect the community to Alexandria's waterways.	• Watershed Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• June 2021: Construction begins at AlexRenew. • June 2021: Construction begins at Pendleton Street. • June 2021: TBM Purchase Agreement executed. • November 2021: Construction begins at Jamieson Avenue. • December 2021: Construction begins at Royal Street. • January 2022: Construction begins in African American Heritage Park. • May 2022: Construction begins at Duke Street.	• Significant construction operations within construction staging areas at AlexRenew. • Significant increase in hauling and vehicle volumes at AlexRenew. • Community impacts at all remote sites in Alexandria. • Community impacts due to hauling and delivery of materials.
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Contract 19-079 with Traylor-Shea Joint Venture	• Adjusted budget per award of design-build contract for $454.4 million

Security Services During Construction

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering TBD	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	N/A	$4,770,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$400,000	$400,000	$400,000	$400,000	$400,000	$400,000	$0	$0	$0	$0	$0	$2,000,000
Financing												
AlexRenew	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$0	$0	$0	$0	$0	$800,000
Fairfax	$240,000	$240,000	$240,000	$240,000	$240,000	$240,000	$0	$0	$0	$0	$0	$1,200,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Security services for capital projects.

Benefits

- This effort provides essential support when construction activities disrupt normal physical and procedural safeguards.

Strategic Outcome Area

- Effective Financial Stewardship

Key Milestones for FY 22

- Maintain site security in advance of major construction
- Continue to conform to appropriate COVID-19 protocols

Impact on Operations or Community

- Creates operational efficiencies so staff can focus on the construction activity rather than temporary security deficiencies.

External or Internal Adopted Plan or Recommendation

- N/A

Changes from Prior Year CIP

- Deletion FY27-FY30. This will be funded from O&M once major construction concludes.

South Carlyle Partnership

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	West Campus	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use	40 years	$600,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$300,000	$0	$0	$0	$0	$300,000	$0	$0	$0	$0	$0	$300,000
Financing												
AlexRenew	$204,000	$0	$0	$0	$0	$204,000	$0	$0	$0	$0	$0	$204,000
Fairfax	$96,000	$0	$0	$0	$0	$96,000	$0	$0	$0	$0	$0	$96,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Engineering services and inspection affiliated with CP2 construction on adjacent property.
- This ensures proper coordination and physical connections to AlexRenew infrastructure.

Benefits	Strategic Outcome Area
• Proper coordination between CP2 and AlexRenew.	• Watershed Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• Completion of work	• Decreases future O&M costs

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• None	• Change in project timing.

Stormwater System - Structural and Nonstructural BMPs

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	WRRF	WRRF Improvements ☐ Alexandria Only ☒ Joint Use	40 years	$1.865,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$783,000	$828,000	$227,000	$9,000	$9,000	$9,000	$1,865,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$313,200	$331,200	$90,800	$3,600	$3,600	$3,600	$746,000
Fairfax	$0	$0	$0	$0	$0	$469,800	$496,800	$136,200	$5,400	$5,400	$5,400	$1,119,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

The AlexRenew WRRF storm sewer system is subdivided into seven drainage areas (DAs). Stormwater runoff within the three drainage areas on the western side of the facility (DAs 1, 2, and 3) discharge directly to Hooff's Run. DAs 4 and 6 discharge to the Virginia Department of Transportation (VDOT) Municipal Separate Storm Sewer System (MS4) and to the City of Alexandria MS4, respectively. Stormwater inlets within the final two drainage areas (DAs 5 and 7) convey stormwater directly to the Potomac Yard Interceptor and the Commonwealth Interceptor, respectively. Stormwater from these drainage areas (DAs 5 and 7) are directed to the AlexRenew wastewater treatment plant headworks. Drainage areas that discharge to the interceptors are not a part of this project as additional pretreatment stormwater BMPs is not a priority. Proposed stormwater BMPs in this analysis are located within the five drainage areas which discharge to adjacent surface water bodies or to adjoining storm sewer systems (DAs 1, 2, 3, 4, and 6). 8 BMP are recommended. Ponding that was also studied in the report is not a part of this project.

Benefits	Strategic Outcome Area
• Alternative treatment facilities to support AlexRenew's sustainability initiatives and commitment to environmental stewardship.	• Watershed Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Potential to increase O&M costs to an annual cost of approximately 5% of construction costs • Results in reduction of pollutant loading of permitted stormwater conveyed.

Stormwater System - Structural and Nonstructural BMPs (continued)	
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• April 2016 URS Report "Stormwater Improvement Analysis Report"	• Escalation added to bring to FY21 dollars.

Upper Holmes Run Trunk Sewer Rehabilitation

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	West Alexandria	Interceptor/Trunk Sewers Rehab. ☐ Alexandria Only ☒ Joint Use	20-30 years	$9,229,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$40,000	$0	$837,000	$354,000	$1,860,000	$1,860,000	$279,000	$279,000	$1,860,000	$1,860,000	$9,229,000
Financing												
AlexRenew	$0	$16,000	$0	$334,800	$141,600	$744,000	$ 744,000	$111,600	$111,600	$ 744,000	$ 744,000	$ 3.691.600
Fairfax	$0	$24,000	$0	$502,200	$212,400	$1,116,000	$1,116,000	$167,400	$167,400	$1,116,000	$1,116,000	$5.537,400
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Purpose: To inspect and rehabilitate portions of the Holmes Run Trunk Sewer (HRTS).
- Background: An Interceptor System Condition Assessment was completed in June 2017. The work will be conducted in phases:
- Project Components: TBD

  Phase 1: Rehabilitate 30”/36” pipe in Reach 8 and 9 from the Reach 7 to Dowden Terrance (~ approximately 5,700 feet). (This work was previously included in the CIP for FY2016, to address capacity limitations, but work has not yet begun; re-inspection is necessary.) Design is scheduled for FY24-25. Construction is scheduled for FY26-27.

  Phase 2: Surface aggregate visible defects are present throughout many pipe segments in Reaches 4 & 5. The proposed rehabilitation extents span over 3,000 linear feet, beginning with manhole 5514 at the Fairfax County sewer connection in Cameron Run Regional Park, through manhole 4243 downstream of the original County sewer connection at Cameron Station. Pipe diameters range from 48” to 72”.
- Procurement Method: TBD

Benefits	Strategic Outcome Area
• Minor Repairs and maintenance activities to maximize asset life	• Effective Financial Stewardship

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• Improve reliability and longevity of the HRTS. • Traffic and parking impacts possible due to pipe cleaning/inspection and/or pipe repair/rehab activities • Presence/storage of contractor equipment possible in City neighborhoods.

Upper Holmes Run Trunk Sewer Rehabilitation (continued)	
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• Last inspection of reach 8 & 9 was in 2009, per the 2017 Greeley and Hansen report, "Holmes Run Trunk Inceptor System Condition Assessment." • Last inspection of reaches 4 & 5 were in 2016.	• None

WRRF: HVAC Automation System Upgrade

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering	WRRF	Non-Process Facilities ☐ Alexandria Only ☒ Joint Use	N/A	$1,000,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$0	$500,000	$500,000	$0	$0	$0	$1,000,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$0	$200,000	$200,000	$0	$0	$0	$400,000
Fairfax	$0	$0	$0	$0	$0	$0	$300,000	$300,000	$0	$0	$0	$600,000
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- The project goal is to upgrade the WRRF HVAC system computer software and field devices. A study will be performed to evaluate all the HVAC and recommend improvements for efficiency.

Benefits	Strategic Outcome Area
• Full redundancy and reliability of the HVAC System	• Effective Financial Stewardship
Key Milestones for FY 22	**Impact on Operations or Community**
• N/A	• Increase equipment availability to process
External or Internal Adopted Plan or Recommendation	**Changes from Prior Year CIP**
• N/A	• Project delayed one year.

WRRF: Truck Scale Rehabilitation

Managing Department and Champion	Project Location	Program and Project Category	Estimated Useful Life	Lifetime Budget
Engineering Steve Hill	WRRF Campus	WRRF Improvement Program ☐ Alexandria Only ☒ Joint Use	10 Years	$86,000

Expenditure	Prior Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	10 Yr. Total
Total	$0	$0	$0	$0	$0	$86,000	$0	$0	$0	$0	$0	$86,000
Financing												
AlexRenew	$0	$0	$0	$0	$0	$34,400	$0	$0	$0	$0	$0	$34,400
Fairfax	$0	$0	$0	$0	$0	$51,600	$0	$0	$0	$0	$0	$51,600
VRLF	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Grant	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Line of Credit	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Description and Justification

- Purpose: To rehabilitate the Truck Scale.
- Background: The truck scale is utilized to authenticate the weight of biosolids transferred from the WRRF, and the information is used in the Annual Biosolids report. The Mettler Toledo 7560SD scale was last replaced, and software upgraded, in August 2016, for $81,000. PO 24292.
- Components: TBD
- Procuemtn method: TBD

Benefits	Strategic Outcome Area
• Periodic rehabilitation of the truck scale provides reliable recordation of outgoing biosolid weights for regulatory reporting.	• Operational Excellence

Key Milestones for FY 22	Impact on Operations or Community
• N/A	• If an upgraded product of the same manufacturer is used, installation and calibration may be as short as 3 days. This allows it to be accomplished on a long weekend, during which no biosolids are being hauled. Longer duration installation will require use of alternate methods to weigh the outgoing truckloads, and/or storage of biosolids until they can be weighed.

External or Internal Adopted Plan or Recommendation	Changes from Prior Year CIP
• N/A	• None

Indenture and Financial Policy Compliance

The schedule below demonstrates AlexRenew's financial profile according to the current and proposed budget, as measured by its two major financial metrics – cash reserves and debt service coverage. As it relates to liquidity, AlexRenew's Indenture requires it to maintain at least 60 days cash on hand in the Operating Fund and an additional 60 days cash on hand in the General Reserve sub-fund, for a total cash reserve requirement of at least 120 days of operating expenses. As it relates to debt service coverage, AlexRenew's Indenture requires that net revenues cover annual debt service payments by 1.1x while the Financial Policies require a more stringent 1.5x. In both cases, the proposed budget forecasts compliance with these policies and indicate a healthy financial profile.

Indenture and Financial Policy Compliance	Adopted FY2021	Proposed FY2022
Cash Reserve Requirement		
Operating Fund		
60 Days Current Year Budgeted Expenses	4,666,355	4,666,355
Projected Ending Balance	4,666,355	4,666,355
Excess (Deficiency)	-	-
General Reserve sub-Fund		
60 Days Current Year Budgeted Expenses	4,666,355	4,666,355
Projected Ending Balance	4,666,355	4,666,355
Excess (Deficiency)	-	-
Total Cash Reserve Requirement - 120 Days	**9,332,710**	**9,332,710**
Debt Service Coverage (DSC) Requirement		
Wastewater Treatment Charges	$ 39,492,000	$ 47,814,540
Fairfax County Operating Expense Charge	11,272,272	10,785,305
Interest Income	115,000	115,000
Gross Revenue Available for Debt Service:	$ 50,879,272	$ 58,714,845
Operating Expenses	$ (28,386,991)	$ (28,386,991)
Net Revenues Available for Debt Service	$ 21,992,281	$ 29,827,854
Total Annual Debt Service	$ 13,820,704	$ 13,919,620
All-in Debt Service Coverage	1.60x	2.15x
Financial Policy Target	1.50x	1.50x
Indenture Target	1.10x	1.10x

Appendix A – Financial Policies

Alexandria Sanitation Authority
Financial Policies
Adopted August 17, 2010

The Alexandria Sanitation Authority (ASA or Authority) is a special purpose governmental unit created by the City Council of Alexandria, Virginia (City Council) in 1952 for the purpose of constructing, operating and maintaining a wastewater treatment system (System) for the City of Alexandria, Virginia (City). ASA is governed and administered by a Board of Directors (Board) with five members who serve staggered terms and are appointed by the City Council. The General Manager oversees ASA's operations and plans for the construction, maintenance, repair and financing of the System. ASA operates as an enterprise fund, has no taxing power and receives no financial assistance from the City.

ASA recognizes that one of the keys to sound financial management is the development of a formal financial policy. This view is confirmed by bond rating agencies, investors and the Government Finance Officers Association. Establishing formal financial policies is also a common practice among comparable water and wastewater authorities throughout the Commonwealth and the United States.

The financial policy is designed to help protect ASA's financial resources by:

1. Promoting sound financial management;
2. Guiding ASA and its managers in policy and debt issuance decisions;
3. Establishing appropriate levels of operating cash reserves;
4. Developing a system to efficiently finance necessary capital improvements;
5. Ensuring the legal and prudent use of ASA's debt issuance authority;
6. Providing a framework for ASA to achieve a strong credit rating, and
7. Maintaining reasonable and well justified levels of rates and fees in accordance with the financial policy.

In general, these financial policies are more restrictive and require higher standards than the legal requirements contained in the Master Indenture of Trust (Bond Indenture), which is the agreement between ASA and debt holders. These financial policies will be reviewed periodically and updated as appropriate.

The following are the financial policies that will guide ASA's financial management, capital planning and debt financing.

1. **Debt Service Coverage**
    a. For FY2011 through and including FY2013, ASA will adopt budgets that it projects will enable ASA to maintain annual debt service coverage (Coverage) of 1.40 times Net Revenues, as defined in the Bond Indenture, on all senior and parity debt. Beginning in FY2014 and thereafter, ASA will maintain Coverage of at least 1.50 times on all senior and parity debt.

2. **Reserves**
    a. An important metric of ASA's financial flexibility is its liquidity as measured by available cash and reserves. These reserve policies identify amounts available for known risks and obligations and set minimum funding goals that may be used in emergency or other unexpected situations as they arise. The reserves represent an earmarking for budgetary and financial

policy purposes. These reserves are in addition to existing legal reserves required by the Master Indenture of Trust (Bond Indenture) and any funds earmarked for capital improvements.

b. ASA will maintain a balance equal to at least 120 days of the current years budgeted amount for operating and maintenance expenses. As required by the Bond Indenture, one sixth of the current year's budgeted amount for operating expenses (60 days) will be held in the Operating Fund. The remainder of the reserves will be held in the General Reserve Fund, a subfund of the General Fund. In the event the General Reserve Fund is used to provide funding for unanticipated expenses or otherwise drops below the policy level, the General Manager will submit a plan in writing to the Board that will restore the General Reserve Fund to the policy level over a period not to exceed four years.

c. All other funds will be funded as required by the Bond Indenture, with a summary as follows:

i. Senior Debt Service Fund: An amount that will cause the balance on deposit to be sufficient to pay the principal and interest on the respective payment dates.

ii. Improvement, Renewal and Replacement Fund (IRR): An amount equal to the Alexandria portion (40%) of the annual calculation of the required contribution to the IRR Fund.

iii. General Fund: Any remaining amounts after the required deposits.

iv. Debt Service Reserve Fund: For senior debt, an amount equal to the Debt Service Reserve Fund Requirement as defined in the Bond Indenture. There is no Debt Service Reserve Fund Requirement for ASA's parity debt.

d. When necessary and prudent, ASA may create additional accounts within the General Fund for specific purposes. These accounts could include accounts for capital projects, risk management and revenue stabilization, among others.

3. Budgetary Principles

a. Annual Operating Budget Proposals

i. Per Section 9.3 of the Bond Indenture, ASA is required to adopt a budget for the System for the ensuing fiscal year before the beginning of each fiscal year. The annual budget is required to be prepared in such a manner as to show in reasonable detail the estimated revenues, operating expenses, IRR amounts, debt service amounts, other costs and expenses and the amount of Net Revenues available to meet the Revenue Covenant per the Bond Indenture.

ii. In conjunction with the budget requirements in the Bond Indenture, the Board will strive to adopt an operating budget that:

1. Is structurally balanced whereby current budgetary revenues are sufficient to meet current budgetary expenses (those that are ongoing in nature);

2. Has fees and user charges at levels intended to support the direct and indirect cost of the activity;

3. Sets fees and user charges with the intent to provide the lowest reasonable fees and user charges over time, not necessarily the lowest fees and user charges right now.

4. Is at a level necessary to ensure the adequate maintenance and operations of the wastewater system;

5. Includes amounts necessary to maintain the required reserve balances as defined in these policies;

6. Enables ASA to meet the debt service coverage policy defined herein; and

7. Funds at least 15 percent of its capital improvement program in cash.

iii. Capital Improvement Program (CIP)

1. Each year ASA will adopt a ten-year CIP that identifies projects to be undertaken over next ten years to meet projected needs for infrastructure renewal, expansion, and replacing old or new facilities.

2. The term of any debt financing will not exceed the aggregate useful lives of the related projects.

3. The CIP will identify anticipated capital improvement costs and associated operating costs.

b. Long-Range Financial Forecast

i. Beginning with the planning for the FY2012 budget and in each fiscal year thereafter, the General Manager will submit to the Board at least a three year financial forecast of anticipated revenues and expenses.

4. Debt Management

a. ASA may issue long-term debt per the guidelines in this financial policy. Long-term borrowing will not be used to finance current operations. Long-term debt will be structured such that the term of financial obligations will not exceed the aggregate expected useful lives of the assets financed.

b. Short-term borrowing may be utilized for the temporary funding of operational cash flow deficits or interim construction requirements.

c. Permitted Debt by Type: ASA may issue the debt instruments described below. The most appropriate instrument for a proposed sale of debt shall Be determined by financing needs and expected market conditions at the time of sale.

i. Lease Financing – ASA may use lease financing for equipment if (i) it can be demonstrated that this is the most cost effective or appropriate way to secure financing, or (ii) on projects that do not warrant entry into the bond market.

ii. Bond Anticipation Notes (BANs) - which include Commercial Paper, are typically an interim means of financing and, by their very nature, expose ASA to interest rate risk upon renewal. BANS may be used to (i) to finance projects until such time as the project or projects can be incorporated into a long-term bond sale, (ii) during times of high interest rates and when the expectation is that interest rates will stabilize in the future or trending downward, (iii) when market conditions are such that a BAN may be more readily received in the market than long-term debt, or (iv) on an interim basis during the construction period for a project until such time as the project is placed into service.

iii. Long-Term Revenue Bonds - ASA may issue long-term revenue bonds to fund capital projects. These bonds may be issued by ASA in a number of ways, including, but not limited to, those listed below.

ASA will evaluate multiple methods for issuing long-term revenue bonds and use the method that is most advantageous to ASA.

1. ASA may issue the bonds through a public sale under its own name in the capital markets.
2. ASA may issue the bonds through a private placement under its own name.
3. ASA may issue the bonds to the Virginia Resources Authority (VRA) under one of VRA's loan programs.

iv. Revenue Anticipation Notes (RANs) - may be issued to meet ASA's operational cash flow needs.

v. Lines of Credit - may be considered as an alternative to other short-term borrowing options.

d. Guidelines on Debt Issuance

i. Bond Indenture – ASA will abide by the covenants contained in the Bond Indenture. ASA considers these covenants to be minimum requirements, and generally expects to exceed the requirements of each covenant.

ii. Authorization – Prior to the issuance of debt, the Board will pass a resolution authorizing the financing arrangements and setting appropriate limits and parameters for the anticipated financing in accordance with applicable laws.

iii. Lowest Cost Financing – ASA intends to pursue the lowest cost of financing within the parameters of these financial policies, the Bond Indenture and ASA's enabling legislation.

iv. Method of Issuance – Prior to each debt issuance, ASA will evaluate the available methods of issuance and pursue the method of issuance that is most advantageous to ASA, whether a stand-alone issue by ASA or use of a third party financing approach such as Revolving Fund Loans or pooled borrowing programs available through the Virginia Resources Authority (VRA). Some considerations for evaluating the method of issuance, particularly when determining whether to issue debt through VRA or under ASA's name, include:

1. Financing Cost. This analysis should evaluate the overall cost of the financing, including borrowing rates, upfront fees (such as the cost of obtaining a credit rating), whether a Debt Service Reserve Fund is required, ongoing costs and any other costs of the financing.
2. Permitted Uses of Funds. Some project costs are not eligible to be funded through certain financing programs. For example, land purchase costs are not eligible to be funded through the Department of Environmental Quality's Revolving Loan Fund program that ASA has used in the past.
3. Structural Flexibility. When selecting a financing program, ASA will consider the flexibility of debt features available under each program. For example, ASA will consider how flexible repayment features, call provisions, and borrowing terms are under each program.

v. Project Costs Prior to Debt Issue – If project costs are incurred prior to the issuance of debt, the Board will pass a resolution documenting its intent to be reimbursed from bond proceeds as appropriate.

vi. Variable Rate Debt (VRD) – VRD carries inherent interest rate risk.

Such securities historically have interest rates lower than long-term fixed rate securities and offer the potential for lower debt service costs over the term of the bond issue. ASA will consider using VRD when it: (i) Improves matching of assets and liabilities, (ii) potentially lowers debt service costs, (iii) adds flexibility to ASA's capital structure, or (iv) diversifies ASA's investor base.

1. Debt service on VRD will be budgeted at a conservative rate based on historical fluctuations in interest activity and current market assumptions. Before issuing VRD, ASA will determine how potential spikes in the debt service will be funded and consider the impact of various interest rate scenarios on its financial position and on various debt ratios.

2. ASA will not issue VRD in excess of 20 percent of its total debt portfolio. This limitation does not apply to other VRD which ASA has endeavored to offset with an operating investment portfolio intended to act as an economic hedge to interest rate fluctuations associated with the VRD. This limitation also excludes any VRD that may be hedged through an appropriate derivative agreement, if such technique is approved by the ASA Board.

e. Method of Sale

i. ASA will select a method of sale (competitive, negotiated, or private placement) it believes is the most appropriate in light of financial, market, transaction-specific and ASA-related conditions.

f. Term of Debt

i. ASA will not issue debt with a term or final maturity longer than the aggregate useful lives of the projects being financed. ASA does not expect to issue debt with a final maturity more than 40 years from the date of issuance. Factors to be considered when determining the final maturity of debt include: the average life of the assets being financed, relative level of interest rates, and the year-to-year differential in interest rates.

g. Debt Structure

i. Interest Rate Structure – ASA may use both variable and fixed rate debt in accordance with limitations set forth in this policy.

ii. Maturity Structure – ASA's long-term debt may include serial and term bonds. Other maturity structures may also be considered when demonstrated to be advantageous to ASA.

iii. Coupon Structure – Fixed rate debt may include par, discount, premium and capital appreciation bonds.

iv. Redemption Features – In order to preserve flexibility and refinancing opportunities, ASA debt shall generally be issued with call provisions. ASA may consider call provisions that are shorter than traditional and/or non-callable debt when warranted by market conditions and opportunities. For each transaction, various call option scenarios will be evaluated so that the most beneficial can be utilized.

v. Credit Enhancement – ASA may use bond insurance and/or line and letters of credit for credit enhancement when it is economically advantageous to do so.

vi. Debt Service Reserve Fund – ASA will fund a Debt Service Reserve Fund (DSRF) if required by the Bond Indenture.

vii. Capitalized Interest – By definition, capitalization of interest increases the amount of debt that is issued. ASA will capitalize interest for a period not longer than 12 months after the project being financed is expected to be placed in service.

viii. Refinancing of Debt – ASA will refinance debt from time to time to achieve debt service savings as market opportunities arise. Since federal regulations limit a tax-exempt issue to one advance refunding (a refinancing more than 90 days prior to a bond's call date), ASA will ensure that the advance refunding results in a significant present value savings. A proposed refinancing must achieve a minimum cumulative, net present value savings of 3 percent of the amount refinanced. An exception to this minimum refinancing savings policy will be if the refinancing is being done for debt restructuring purposes and the Board determines that it is in the best interests of ASA to complete the refinancing without achieving the refinancing savings policy. In addition, ASA will consider the efficiency of a proposed refinancing transaction. The efficiency evaluation will consider the value realized by ASA when exercising its option to redeem its bonds early calculated under a variety of different interest rate environments, versus the savings garnered. In general, ASA will consider refinancing bonds when the aggregate efficiency is equal to or greater than 70 percent.

ix. In any refinancing transaction, ASA maintains a bias to not extend maturities.

h. Escrow Structuring

i. ASA will utilize the least costly securities available in structuring refinancing escrows. Unless state and local government securities (SLGS) are used, a certificate will be provided by a third party agent stating that the securities were procured through an arms-length, competitive bid process (in the case of open market securities), and that the price paid for the securities was reasonable within federal guidelines.

ii. Under no circumstances will an underwriter, agent or financial advisor or ASA affiliates or affiliated accounts of an underwriter or financial advisor to ASA sell escrow securities to ASA from its own account.

i. Hiring of Professionals – All members of the financial advisory team including underwriter, financial advisor, bond counsel, and other professionals will be selected in a manner consistent with ASA's procurement policy for professional services.

i. Underwriter Selection

1. Senior Manager Selection – ASA will select a senior manager for any proposed negotiated sale. The selection criteria will include but not be limited to the following:

a. The firm's ability and experience in managing transactions similar to that contemplated by ASA.

b. Prior knowledge and experience with ASA.

c. The firm's ability and willingness to risk capital and demonstration of the firm's capital availability and underwriting of unsold balances.

d. Quality and experience of personnel assigned to ASA's engagement.

e. Financing plan presented.

f. Cost including underwriting fees and anticipated pricing.

2. Co-Manager Selection – Co-manager may be selected on the same bases as the senior manager with the exception of underwriting fees, which are determined by the senior manager. In addition to their qualifications, co-managers appointed to specific transactions will be a function of transaction size and the necessity to ensure maximum distribution of ASA's bonds.

3. Underwriter's Counsel – In any negotiated sale of ASA debt in which legal counsel is required to represent the underwriter, the appointment will be made by the Senior Manager with final approval from ASA.

4. Underwriter's Discount – ASA will evaluate the proposed underwriter's discount against comparable issues in the market. If there are multiple underwriters in the transaction, ASA will determine the allocation of underwriting liability and management fees. The allocation of fees will be determined prior to the sale date. A cap on management fees, expenses and underwriter's counsel fee will be established and communicated to all parties by ASA. The senior manager shall submit an itemized list of expenses.

5. Evaluation of Underwriter Performance – ASA will evaluate each bond sale after completion to assess the following: costs of issuance including underwriters' compensation, pricing of the bonds in terms of the overall interest cost and on a maturity-by-maturity basis, and the distribution of bonds.

6. Syndicate Policies – For each negotiated transaction, ASA will establish syndicate policies that will describe the priority of orders and designation policies governing the upcoming sale. ASA shall require the senior manager to:

a. Fairly allocate bonds to other managers and the selling group.

b. Comply with the Municipal Securities Rulemaking Board's (MRSB) regulations governing the priority of orders and allocations.

c. Within 10 working days after the sale date, submit to ASA a detail of orders, allocations and other relevant information pertaining to ASA's sale.

ii. Consultants

1. Financial Advisor – ASA will select a financial advisor to assist in its debt issuance and debt administration processes. Selection of the ASA's financial advisor will be based on, but not limited to, the following criteria:

a. Experience in providing consulting services to entities similar to ASA.

b. Knowledge and experience in structuring and analyzing bond issues.

c. Experience and reputation of assigned personnel.

d. Fees and expenses.

2. Bond Counsel – ASA will include a written opinion by legal counsel affirming that ASA is authorized to issue the proposed debt, that ASA has met all legal requirements necessary for issuance, and a determination of the proposed debt's federal income tax status. The approving opinion and other documents relating to the issuance of debt will be prepared by counsel with extensive experience in public finance and tax issues. The Bond Counsel will be selected by ASA.

3. Conflicts of Interest – ASA requires that its consultants and advisors provide objective advice and analysis, maintain the confidentiality of ASA financial plans, and be free from any conflict of interest that has not been fully disclosed to, and waived by, ASA. In no case will ASA's financial advisor be permitted to underwrite any portion of ASA's bond issues, whether sold competitively or negotiated.

4. Disclosure by Financing Team Members – All financing team members will be required to provide full and complete disclosure, relative to agreements with other financing team members and outside parties. The extent of disclosure may vary depending on the nature of the transaction. However, in general terms, no agreements will be permitted which could compromise the firm's ability to provide independent advice which is solely in ASA's best interests or which could reasonably be perceived as a conflict of interest.

j. Communication and Disclosure

i. Continuing Disclosure – ASA recognizes that accurate and complete disclosure is imperative. ASA will comply with all state and federal disclosure obligations and will meet its disclosure requirements in a timely and thorough manner.

k. Arbitrage Compliance

i. ASA will maintain a system of record keeping and reporting in order to comply with the Arbitrage Rebate Compliance Requirements of the Internal Revenue Code of 1986, as amended.

5. Derivatives

a. Derivatives such as interest rate swaps and options are financial tools that can help ASA meet important financial objectives, however they introduce multiple risks which must be understood and managed. Properly used, these instruments may increase ASA's financial flexibility, provide opportunities for interest rate savings or enhanced investment yields, and help ASA manage its balance sheet through matching of assets and liabilities.

b. ASA will not enter into any financial derivative or swap until the following have occurred:

i. The Board has adopted a comprehensive derivatives/swaps policy outlining the following related to the use of derivatives/swaps:

1. Approach and Objectives
    a. Specific objectives for utilizing swaps
    b. Prohibited swap features
2. Legal Authority
3. Permitted Instruments
4. Procedure for Submission and Execution

5. Swap Analysis and Participant Requirements
    a. Swap risks
    b. Counterparty risk assessment
    c. Benefit expectation
6. Legal and Contractual Requirements
    a. Legal terms of swaps
    b. Notional amount
    c. Final maturity
    d. Termination provisions
    e. Collateral
7. Ongoing Management
8. Ongoing Reporting Requirements
9. Acceptable Collateral

ii. The Board has approved the execution of the specific financial derivative or swap transaction.

Appendix A – Definitions

Bond Anticipation Note (BANs): Notes which are paid from the proceeds of the issuance of long-term bonds. Typically issued for capital projects.

Call Provisions: The terms of the bond giving the issuer the right to redeem all or a portion of a bond prior to its stated date of maturity at a specific price, usually at or above par.

Capital Improvement Program (CIP): Plan for major non-recurring facility, infrastructure, or acquisition expenditures that expand or improve the system and/or community assets. Projects included in the CIP include physical descriptions, implementation schedules, year of expenditure cost and funding source estimates, and an indication of priorities and community benefits.

Capitalized Interest: A portion of the proceeds of a bond issue which is set aside to pay interest on the same bond issue for a specific period of time. Interest is commonly capitalized for the construction period of the project.

Commercial Paper: Short-term, unsecured promissory notes issued by corporations to finance receivables for a maturity specified by the purchaser that ranges from three days to 270 days. Notes are generally sold at a discount, and carry credit ratings issued by an NRSRO.

Competitive Sale: A sale/auction of securities by an issuer in which underwriters or syndicates of underwriters submit sealed bids to purchase the securities. Contrast to a negotiated sale.

Continuing Disclosure: The principle that accurate and complete information material to the transaction which potential investors would be likely to consider material in making investment decisions with respect to the securities be made available on an ongoing basis.

Credit Enhancement: Credit support purchased by the issuer to raise the credit rating of a debt issue. The most common credit enhancements consist of bond insurance, direct or standby letters of credit, and lines of credit.

Debt Service Reserve Fund: The fund in which moneys are placed which may be used to pay debt service if pledged revenues are insufficient to satisfy the debt service requirements.

Derivatives: A financial product whose value is derived from some underlying asset value.

Designation Policies: Outline how an investor's order is filled when a maturity is oversubscribed when there is an underwriting syndicate. The senior managing underwriter and issuer decide how the bonds will be allocated among the syndicate. There are three primary classifications of orders which form the designation policy: Group Net Orders; Net Designated orders and Member orders.

Escrow: A fund established to hold moneys pledged and to be used to pay debt service on an outstanding issue.

Expenses: Compensates senior managers for out-of-pocket expenses including:

underwriters counsel; DTC charges, travel, syndicate expenses, dealer fees, overtime expenses, communication expenses, computer time and postage.

Letters of Credit: A bank credit facility wherein the bank agrees to lend a specified amount of funds for a limited term.

LIBOR: The London InterBank Offered Rate is the rate on U.S. dollar denominated deposits with maturities from 1 day to 12 months transacted between banks in London. LIBOR is the benchmark swap floating index in the taxable or corporate swap market.

Liquidity: The ability of ease with which an asset can be converted into cash without a substantial loss of value.

Management Fee: The fixed percentage of the gross spread which is paid to the managing underwriter for the structuring phase of a transaction.

Maturity: The date upon which the principal or stated value of an investment becomes due and payable.

Members: Underwriters in a syndicate other than the senior underwriter.

Nationally Recognized Statistical Rating Organization (NRSRO): A credit rating agency which issues credit ratings that the U.S. Securities and Exchange Commission (*the "SEC")* permits other financial firms to use for certain regulatory purposes. Examples include Moody's Investor Service, Standard & Poor's and Fitch Ratings.

Negotiated Sale: A method of sale in which the issuer chooses an underwriter to negotiate terms pursuant to which such underwriter will purchase and market the bonds.

Original Issue Discount: The amount by which the original par amount of an issue exceeds its public offering price at the time it is originally offered to an investor.

Portfolio: Collection of securities held by an investor.

Present Value: The current value of a future cash flow.

Private Placement: The original placement of an issue with one or more investors versus being publicly offered or sold.

Revenue Bonds: Bonds secured by a specific revenue pledge of rates, rents or fees.

Securities and Exchange Commission ("SEC")*:* Agency created by Congress to protect investors in securities transactions by administering securities legislation.

Selling Groups: The group of securities dealers who participate in an offering not as underwriters but rather who receive securities less the selling concession from the managing underwriter for distribution at the public offering price.

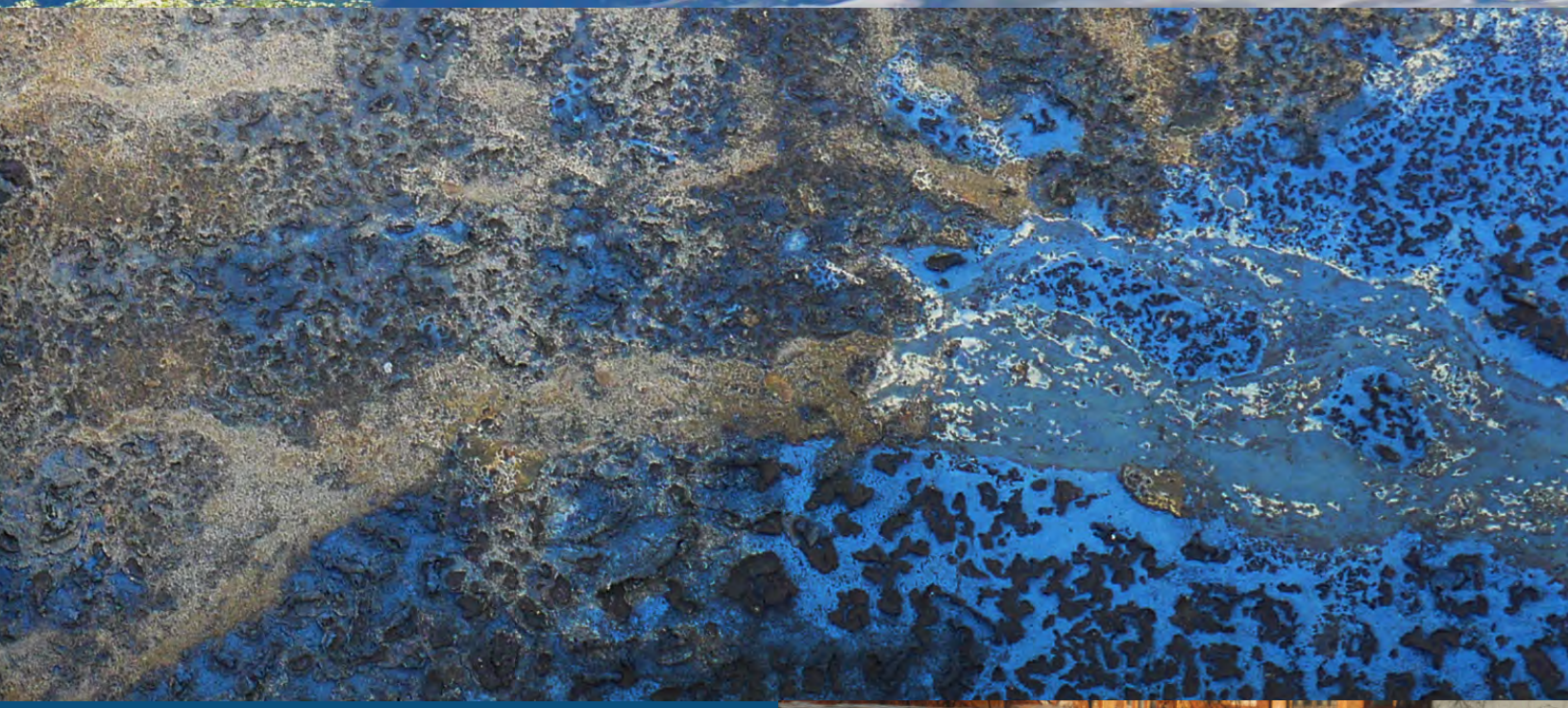
SIFMA: The Securities Industry and Financial Markets Association is a high grade market index of 7-day variable rate demand notes that is produced by Municipal Market Data.

SIFMA is the benchmark swap floating index in the tax-exempt swap market.

Syndicate Policies: The contractual obligations placed on the underwriting group relating to distribution, price limitations and market transactions.

Underwriter: A dealer that purchases new issues of municipal securities from the Issuer and resells them to investors.

Underwriter's Discount: The difference between the price at which bonds are bought by the Underwriter from the Issuer and the price at which they are offered to investors, representing the compensation earned by the Underwriter for placing the bonds with investors.



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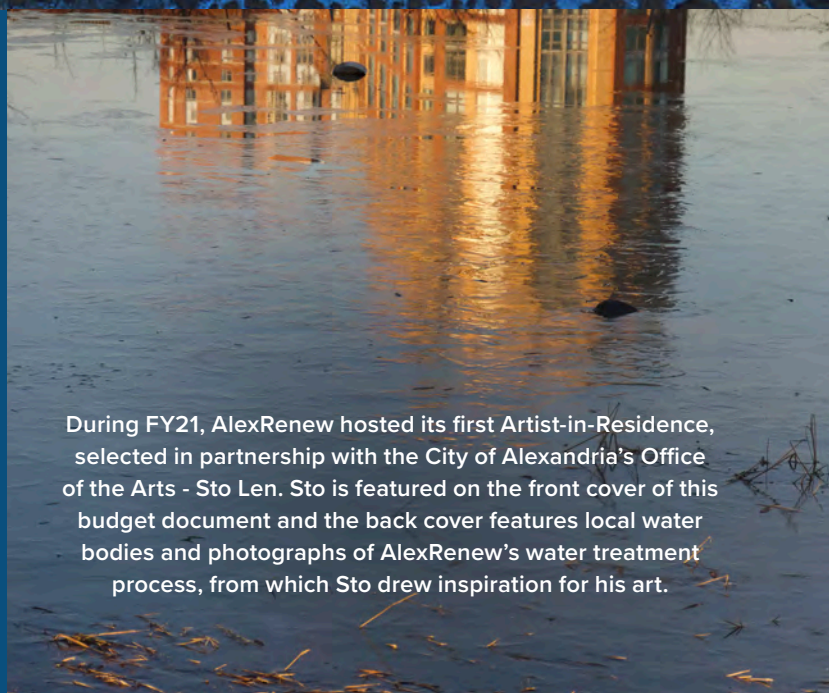


During FY21, AlexRenew hosted its first Artist-in-Residence, selected in partnership with the City of Alexandria's Office of the Arts - Sto Len. Sto is featured on the front cover of this budget document and the back cover features local water bodies and photographs of AlexRenew's water treatment process, from which Sto drew inspiration for his art.

RESOLUTION OF INTENT
TO ADOPT AND CHANGE CERTAIN RATES, FEES AND CHARGES

BE IT RESOLVED, that the City of Alexandria, Virginia Sanitation Authority d/b/a Alexandria Renew Enterprises, Inc., hereby signifies its intent to change certain rates, fees and charges to become effective **July 1, 2021** and hereby sets the date of **Saturday, May 22, at 9:30 a.m**. for a public hearing to receive comment regarding same. Due to Covid-19 pandemic emergency, the May 22 public hearing will be held electronically pursuant to Virginia Code Section 2.2.3708.2(A)(3), the Continuity of Government ordinance adopted by the City Council on June 20, 2020 and/or Section 4.0.00(g) in HB29 and HB30 to undertake essential business.

BE IT FURTHER RESOLVED, that the Chief Executive Officer is hereby directed to have published in a newspaper having general circulation in the City of Alexandria, for two consecutive weeks, notice of the proposed change in the schedule of rates, fees and charges and the day and time of the public hearing.

The proposed rates, fees and charges are:

Description	Meter Size	Current Effective July 1, 2020	Proposed Effective July 1, 2021	Proposed Effective July 1, 2022
		Per 1,000 Gallons	Per 1,000 Gallons	Per 1,000 Gallons
Individually Metered Residential Service - Wastewater Treatment Charge	All Meters	$8.13	$8.69	$9.26
Commercial Service - Wastewater Treatment Charge	All Meters	$8.13	$8.69	$9.26

Description	Meter Size	Current Effective July 1, 2020	Proposed Effective July 1, 2021	Proposed Effective July 1, 2022
Residential Base Charge	All Meters	$11.54	$12.34	$13.14
Commercial Base Charge	5/8”	$34.63	$37.02	$39.42
	¾”	$34.63	$37.02	$39.42
	1”	$86.59	$92.55	$98.55
	1-1/2”	$173.17	$185.10	$197.10
	2”	$277.08	$296.16	$315.36
	3”	$519.52	$555.30	$591.30
	4”	$865.87	$925.50	$985.50
	6”	$1,731.74	$1,851.00	$1,971.00
	8”	$2,770.79	$2,961.60	$3,153.60
Minimum Deposit Based on Meter Size		$0.00	$0.00	$0.00
Residential Customer Activation Fee		$15.00	$15.00	$15.00

The new rates and charges shall be effective on July 1, 2021 and shall remain in effect thereafter until further revised. Any rates, fees or charges not revised herein shall remain in effect until further revised.

CEO Board Report March 2021

Dear Members of the Board of Alexandria Renew Enterprises,

At the March 16th Board of Directors meeting and at the March 25th Finance and Audit Committee meeting, Board members reviewed the FY2022 Draft Operating and Capital Budget and FY22 and FY23 Wastewater Rate Adjustment Recommendation. The Draft Budget and Draft Rate Adjustment Recommendation reflect the increased investment as the RiverRenew planned program construction activities.

Questions around the impact of the Hooffs Run Interceptor work in relation to the graves in African American Heritage Park were raised during the Board meeting. Attachment 1 illustrates the current Commonwealth Interceptor location and the proposed path for the Hooffs Run Interceptor.

City staff continue work on the Waterfront Flood Mitigation program. After continued review of options, solutions still include the construction and operation of pumping stations to assist with minimizing flooding impacts in the lower end of Old Town. City staff have reached out to AlexRenew for pump station design assistance given our experience and expertise. AlexRenew will work with the city during the design process, as is precedent with developer led sewer infrastructure like the Potomac Yard Pump Station. The City will require operations and maintenance of these pump stations after their completion, targeted for 2027-2028 timeframe; the City may contract with AlexRenew to provide these paid services. City staff's presentation of the proposed updates to the Waterfront Flood mitigation program is included as Attachment 2 for information.

The Commonwealth of Virginia is still operating under a State of Emergency due to the COVID 19 pandemic. In March, there were no new positive cases of COVID 19 reported by AlexRenew employees. AlexRenew employees continue to volunteer with the Alexandria Health Department to support Phase 1a and 1b COVID 19 vaccine distribution in the City. AlexRenew employees are preparing to receive vaccinations during Phase 1c.

Operational Excellence

Precipitation for March at the Reagan National Airport was 3.54 inches of rain, which is slightly above the Washington, D.C. historical average precipitation of 3.48 inches for the month. There were no overflows in the collection system or at the plant during the month.

Biosolids production for March was 1,908 wet tons, all of which was beneficially used through land application in the Virginia counties of Essex, Fauquier, Goochland, King George, Gloucester, Caroline and Spotsylvania. The biosolids were land applied as Class B biosolids.

AlexRenew met all Virginia Pollutant Discharge Elimination System (VPDES) effluent parameters for March 2021.

Treatment	Daily Average Flow MGD	Carbonaceous Biochemical Oxygen Demand (Monthly Average) mg/L	Total Suspended Solids (Monthly Average) mg/L	Ammonia (as N) (Monthly Average) mg/L	Dissolved Oxygen (Minimum) mg/L	Total Nitrogen [1] (Annual Average) mg/L	Total Nitrogen LOAD (YTD) lb	Total Phosphorus (Monthly Average) mg/L	Total Phosphorus LOAD (YTD) lb
Permit	54.0	5.0	6.0	Seasonal [2]	6.0	3.0	493,381	0.18	29,603
Reported	40.2	<QL	3.1	0.59	9.0	2.6	98,199	0.10	2,713

NOTES

1. Total Nitrogen expressed as year-to-date average.
2. Ammonia has seasonal limits: **February - March: 6.9 mg/L**

Public Engagement and Trust

AlexRenew and partner Urban Alliance were recognized by the National Association of Clean Water Agencies (NACWA) for the high-school internship program that that helps students in the City of Alexandria gain hands-on experiences in water careers. AlexRenew was one of only two water resource recovery facilities (WRRF) in the nation to receive the Workforce Development Award as part of NACWA's annual National Environmental Achievement Awards program.

Customer Service

Customer Service received 1,329 calls in March with 57% opting for self-service. Average call answer time was 29 seconds. Call Center staff also answered 195 emails.

Social Media and Website

70 percent of people who engaged with us on Facebook during March were from the City of Alexandria; the majority (66 percent) were women and 33 percent were men. We had 4,224 organic engagements on Facebook, a big increase over February. We currently have 3,467 Facebook followers. AlexRenew had 544 organic engagements on Twitter, 5 on LinkedIn, and 14 on Instagram. (We have not been cultivating content for Instagram recently and are discussing ways to reinvent our account.) We have a total of 3,344 followers on Twitter, 2,329 on LinkedIn, and 197 Instagram followers. Our website had 7,631 sessions and 12,667 page views during March. We had 59 visitors click through to our website from social media. The RiverRenew website had 732 visitors and 1,918 page views.

Watershed Stewardship

As part of the City of Alexandria's *Flood Action Alexandria* program, the City's contractor, Doetsch Environmental, has mobilized to the pocket park adjacent to the Marriott Residence Inn on Duke Street, adjacent to combined sewer outfalls (CSO) 003 and 004, to clean approximately 1,500-feet of the Hooffs Run culvert. The culvert cleaning is scheduled to last until summer 2021. AlexRenew has coordinated with the City to ensure that the cleaning will not affect RiverRenew construction activities. Photos of the cleaning are included at the end of this report.

See attached RiverRenew Dashboard for further updates.

Adaptive Culture

From September 20, 2020, we have logged 82,916.75 hours without a lost time accident.
Thank you for your ongoing dedicated service to AlexRenew.

Regards,

Karen Pallansch
Chief Executive Officer

Photos of the Hooffs Run Culvert Cleaning

Photo 1: Doestch Environmental Cleaning Equipment Mobilization

Photo 2: Jetting Equipment for Culvert Cleaning

RiverRenew Board of Directors Dashboard

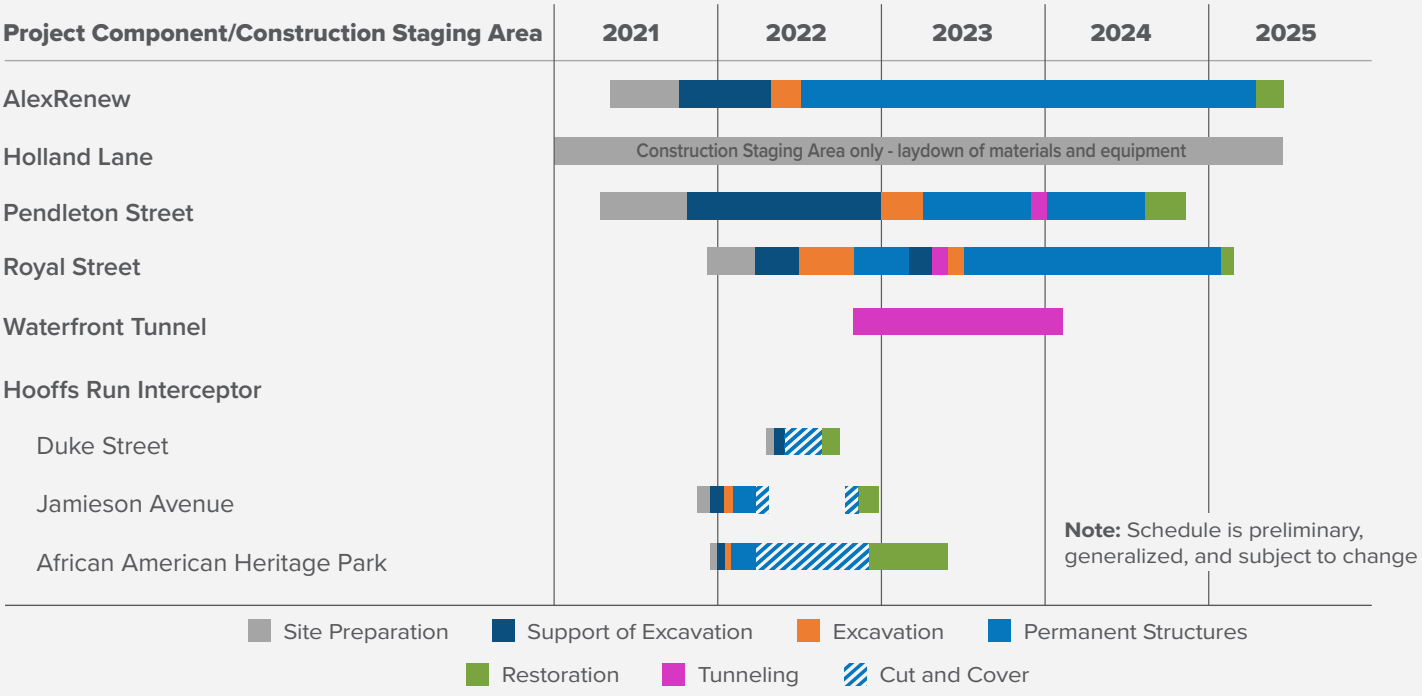
MONTH ENDING: MARCH 31, 2021

RiverRenew is a program owned and implemented by AlexRenew, Alexandria's wastewater treatment provider.

RiverRenew Overview

To improve the waterways that connect us, AlexRenew is implementing RiverRenew to prevent 130 million gallons of combined sewage from polluting Alexandria's local rivers and streams each year. Three out of four RiverRenew projects were largely completed at AlexRenew's Water Resource Recovery Facility (WRRF) in 2020. The remaining project includes the construction of a new tunnel to connect AlexRenew's WRRF to the four existing combined sewer outfalls in Alexandria.

RiverRenew Tunnel Project Schedule



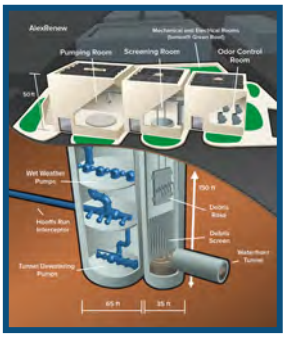
THREE-MONTH LOOK AHEAD			
Date:	Activity:	Date:	Activity:
April 15	Stakeholder Advisory Group Meeting No. 2	May 2021	Mobilization to AlexRenew Construction Staging Areas
April 19	City Council/AlexRenew Board CSO Workgroup Meeting No. 11	Through May 2021	Ongoing Permitting and Design
April 21	Rate Adjustments Outreach Begins	June 17	Stakeholder Advisory Group Meeting No. 3
April 2021	Holland Lane Lot Setup Begins	June 24	Duke Street Community Listening Session
April 2021	Field Surveys and Utility Locating	July 15	Pendleton Street Community Listening Session
May 20	AlexRenew Community Listening Session	July 22	Royal Street Community Listening Session
May 22	Rate Adjustments Public Hearing		

SUMMARY OF MAJOR DELAYS	
Date:	Activity:

RiverRenew Tunnel Project Snapshot

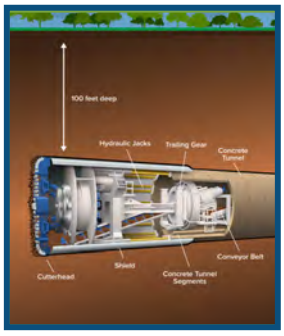
The Tunnel Project includes the following major components: a two-mile-long, 12-foot-wide, 100-foot-deep tunnel; a six-foot-wide sanitary sewer interceptor; diversion facilities to capture combined sewer discharges; and two pumping stations.

Hooffs Run Interceptor



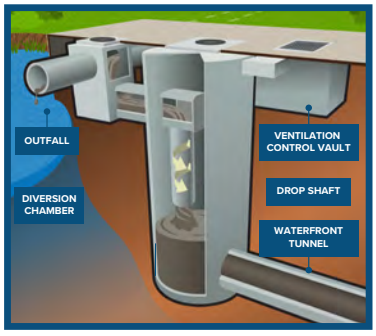
Pumping Station

Click here to take a 3D tour of RiverRenew's future pumping station.



Waterfront Tunnel

Click here to watch an animated video about RiverRenew and learn how the Waterfront Tunnel will be constructed.



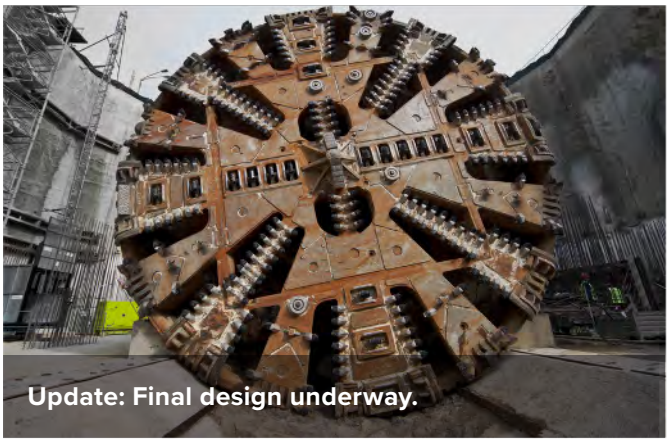
Diversion Facility

Click here for an introduction to diversion facilities from two RiverRenew engineers.

Status of RiverRenew Tunnel Project Components

Design Construction

Waterfront Tunnel



Update: Final design underway.

2%

0%

Pendleton Street Diversion Facility

Update: Final design underway.

0%

0%

Royal Street Diversion Facility

Update: Final design underway.

3%

0%

Hooffs Run Interceptor

Update: Final design underway.

11%

0%

Pumping Station

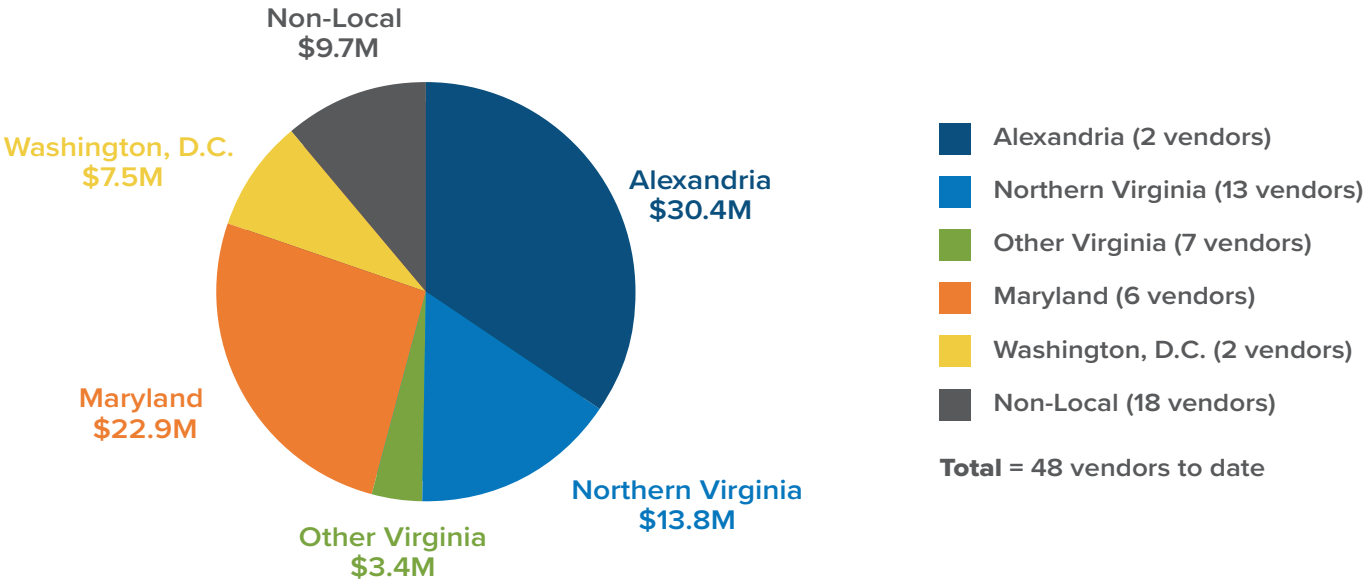
Update: Finishing out the Building J Facilities Relocation and Decommissioning Project in preparation for Tunnel Project construction. Final design underway.

14%

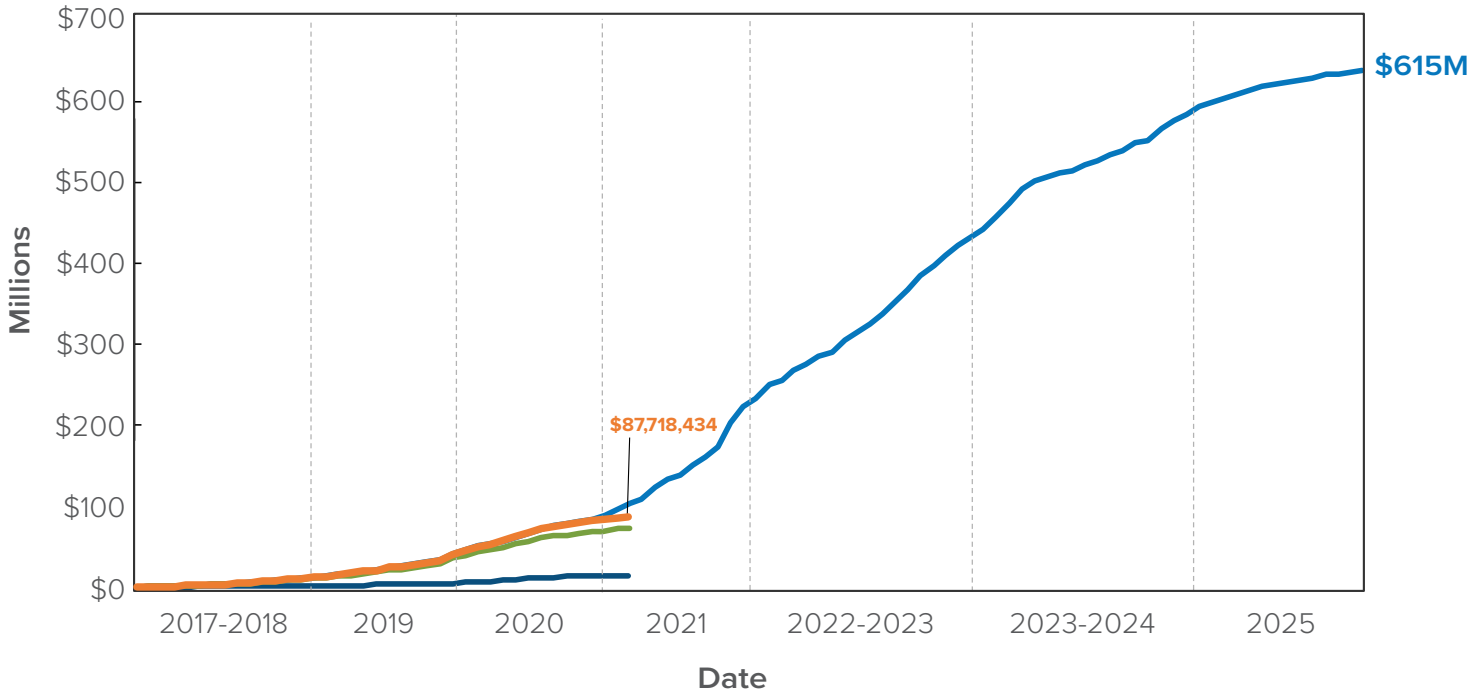
0%

RiverRenew Program Costs to Date

RiverRenew Spend to Date by Locality



RiverRenew Cash Flow Analysis



Current Planned Projection:

- Total Program Spend to Date
- Anticipated Projection Based on Tunnel Project Award
- Total Fairfax County Spend to Date
- Total AlexRenew Spend to Date

RiverRenew Community Outreach

Education

Education initiatives are intended to engage audiences of all ages and help them learn more about RiverRenew and its technical components.

Highlights:

• An at-home craft worksheet and accompanying video encouraging viewers to learn about TBMs by creating their own Cloe

Council-Board Workgroup

The Council-Board Workgroup comprises two members from AlexRenew's Board of Directors and two members from the Alexandria City Council.

Next Meeting:

• April 19, 2021: 5:00 p.m. - 7:00 p.m.

Community Meetings

Community meetings are presentations given to various stakeholder groups, including the SAG, and community listening sessions. These presentations can be delivered in person or virtually.

Looking Ahead:

• Right of Entry Open House: April 7, 2021

• 2021-2022 SAG Meeting No. 2: April 15, 2021

Public Inquiries

The RiverRenew team is committed to keeping the community informed every step of the way, dedicating their time to addressing all **public inquiries** about the project.

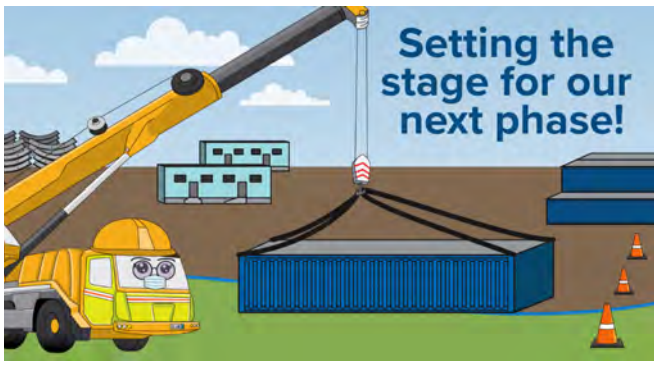
Digital Programming

Digital programming keeps the community connected to RiverRenew with regular program updates on RiverRenew.com, featured content on AlexRenew's social media pages during "Tunnel Takeover Tuesdays," and distribution of *The River Renewer*, a quarterly newsletter promoting updates and milestones to more than 500 contacts.

Highlights:

• A video snapshot of backfill operations at Building J

• A program update and social post highlighting upcoming staging activity at the Holland Lane Lot



Community Events

Participating in or co-sponsoring **community events** strengthens AlexRenew's relationship with its water and community partners.

Community Days

Community days feature project-specific events to celebrate construction progress on the Tunnel Project and engage the community along the way.

Monthly Construction Spotlight

New Building G Stair Tower Nearing Completion

AlexRenew is nearing completion on the Building J Facilities Relocation and Demolition Project, an essential step toward making space for the RiverRenew Tunnel Project. As part of the final work associated with Building J, AlexRenew's construction partners demolished the existing structure and are installing a new stair tower. The stair tower will be the new access point for Building G facilities.

Final work on the Building J project involves the construction of a permanent stair tower on the south side of Building G. The new 51-foot-tall staircase replaces an existing staircase that had to be demolished alongside Building J to prepare AlexRenew's campus for Tunnel Project construction. Over 18,000 gallons of concrete and 24,000 pounds of reinforcing steel were used to assemble the staircase.

Catch up on the Building J Facilities Relocation and Decommissioning project at RiverRenew.com/Building-J.

Investing in Healthier Waterways for Alexandria

To learn more, visit www.RiverRenew.com

ALEXANDRIA renew ENTERPRISES® | RiverRenew™

RiverRenew is a program owned and implemented by AlexRenew, Alexandria's wastewater treatment provider.

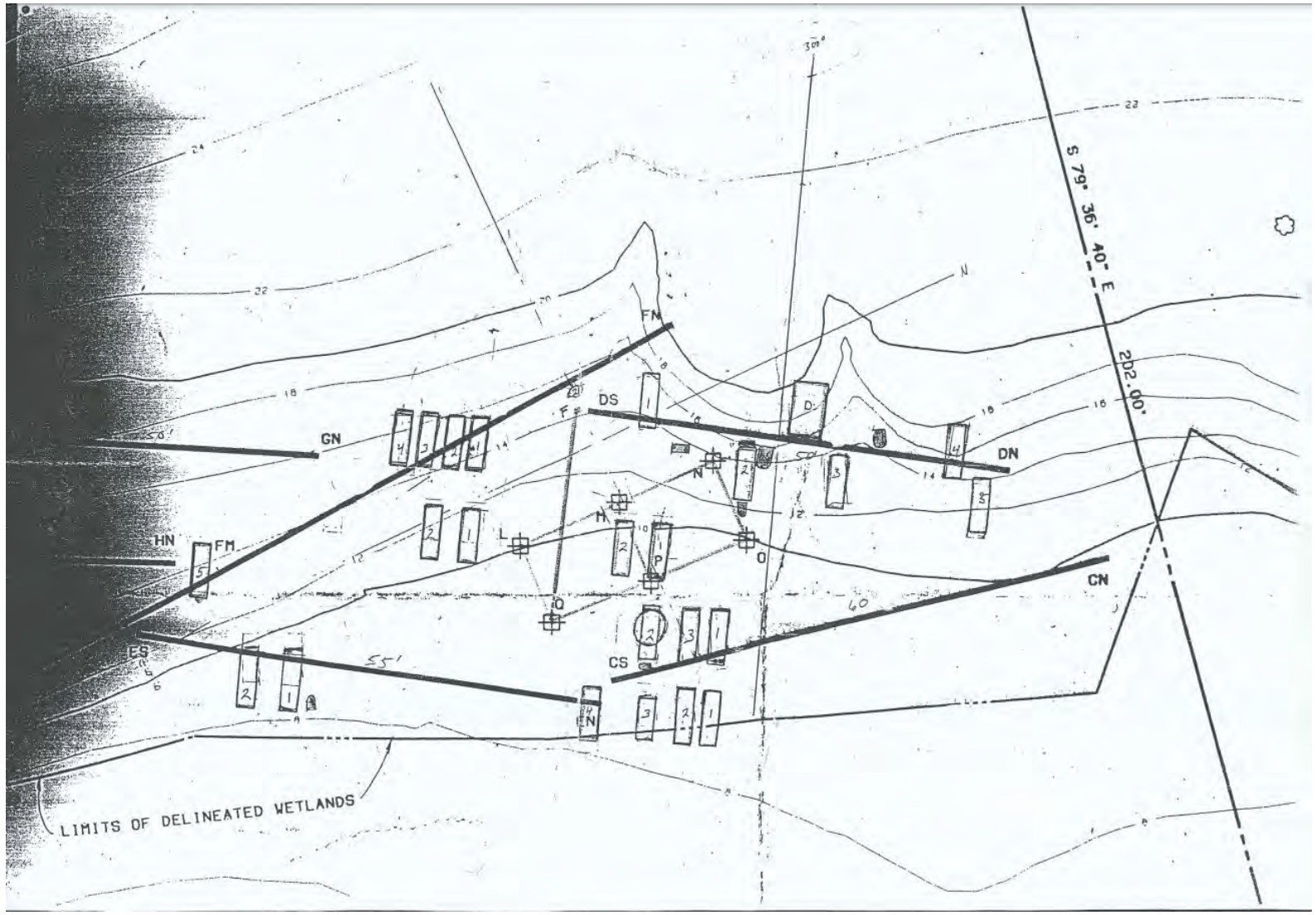
1992 Archeological Survey of Baptist Cemetery Graves

THE AFRICAN AMERICAN HERITAGE PARK,
ALEXANDRIA, VIRGINIA

ADRIAN D. ANDERSON

ALLAN WESTOVER
PRINCIPAL INVESTIGATOR

TELLUS CONSULTANTS
MINNEAPOLIS, MINNESOTA
1992



Existing Commonwealth Interceptor Route between Duke Street and AlexRenew

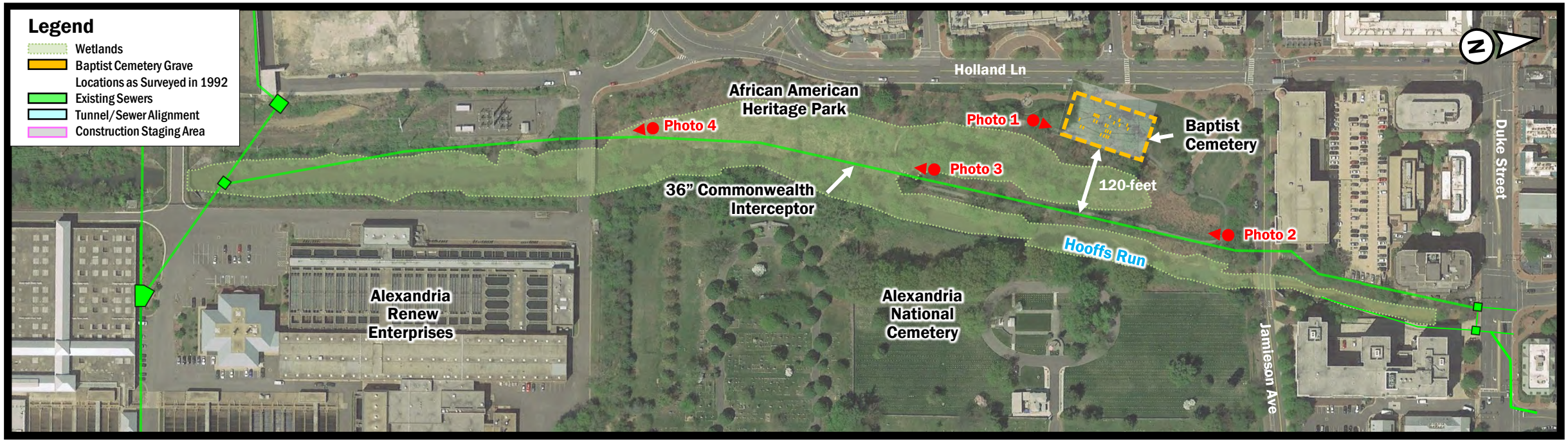


Photo 1. Baptist Cemetery Headstones

Photo 2. Asphalt Path Along Hooffs Run

Photo 3. End of Asphalt Path Along Hooffs Run

Photo 4. AlexRenew North Bridge

Proposed Hooffs Run Interceptor Route between Duke Street and AlexRenew

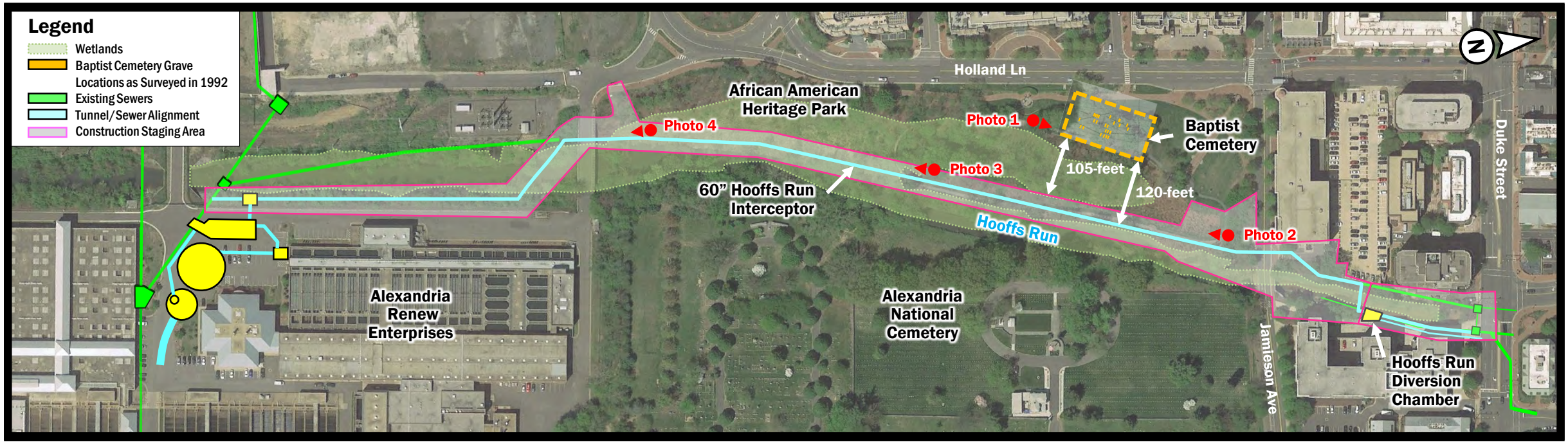


Photo 1. Baptist Cemetery Headstones

Photo 2. Asphalt Path Along Hooffs Run

Photo 3. End of Asphalt Path Along Hooffs Run

Photo 4. AlexRenew North Bridge

Waterfront Commission

Flood Mitigation Subcommittee Presentation

April 5, 2021

Terry Suehr, PE, PMP, DBIA
Department of Project Implementation, Director

Matthew Landes, PLA, ISA
Department of Project Implementation, Division Chief / Waterfront Program Manager

Meeting Objectives

- ✓ Area of focus and Scope of discussion
- ✓ Baseline Project Cost vs Current CIP Funding
- ✓ Review project priorities
- ✓ Share potential alternatives under consideration based on current best practices in Resiliency Planning and Low Impact Development
- ✓ Discuss resiliency approach and alternative concepts
- ✓ Provide confidence that stormwater and climate change models are informing design to account for changing storms and climate resiliency
- ✓ Highlight next steps and anticipated timeline

Flood Characterization along the Waterfront

OVERTOPPING
of Bulkhead

Requires repair and raising of bulkhead or other physical flood barrier(s).

BACKFLOW
of River Outfalls

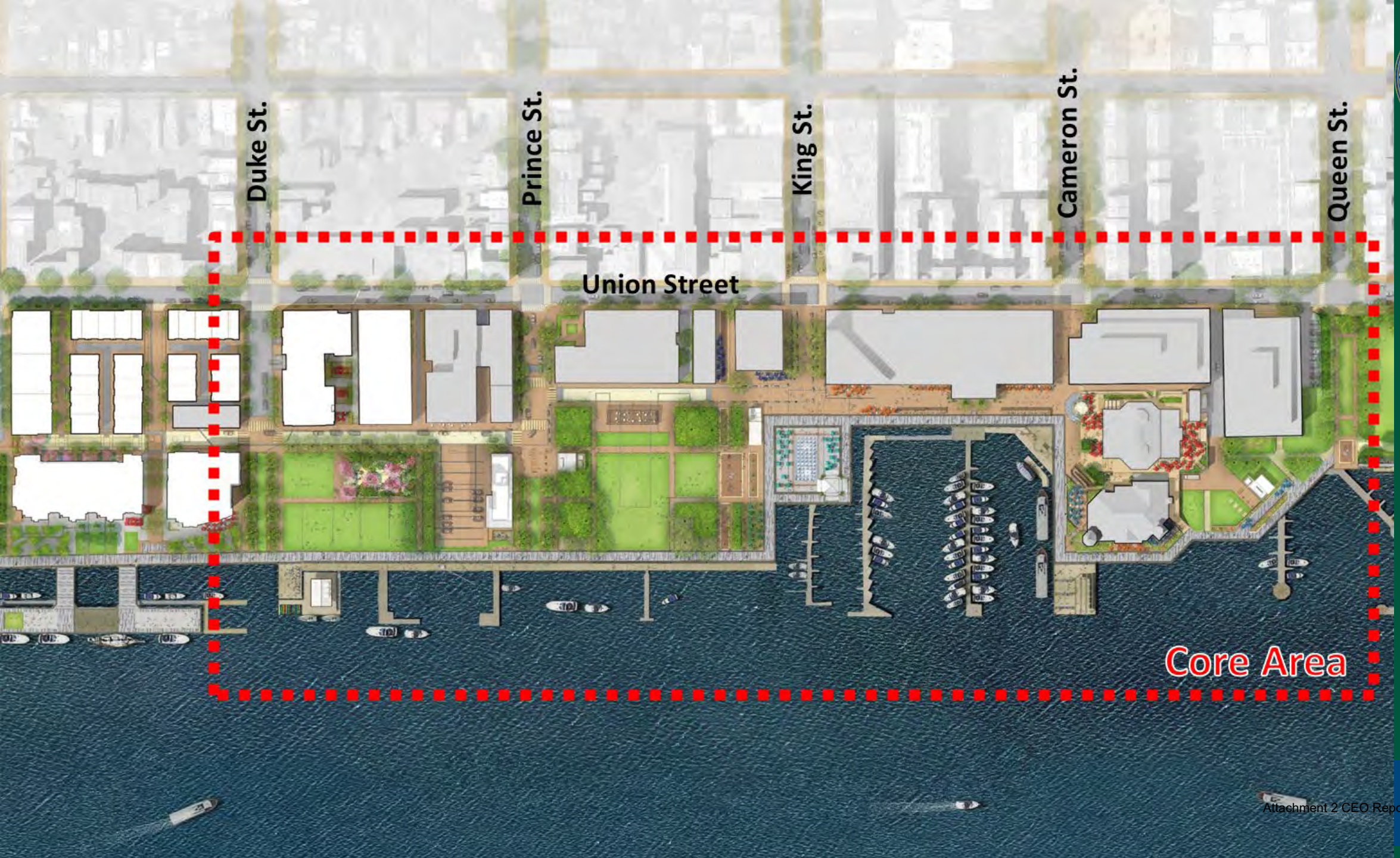
Requires backflow prevention on underground storm sewer system.

INUNDATION
of Storm Sewers

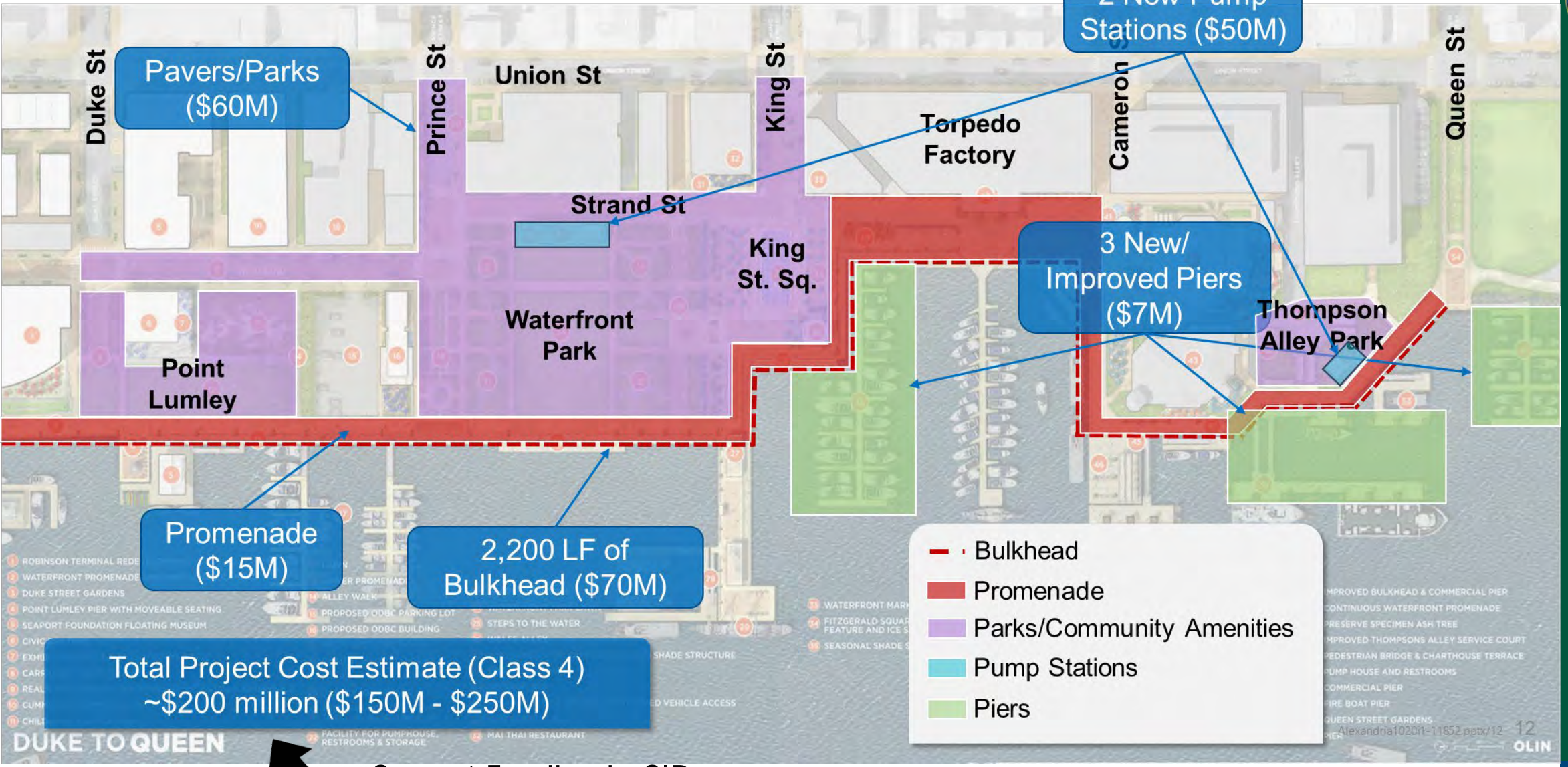
Requires larger storm sewer pipes, underground storage, and pumping.

Schematic Design Endorsed by Waterfront Commission

SOURCE: September 24, 2019 Alexandria Waterfront Bulkhead Technical Design Manual (Olin, Moffatt & Nichol, Stantec).


Duke St.
Prince St.
King St.
Cameron St.
Queen St.
Union Street
Core Area

// Baseline Project



Current Funding in CIP

$102M

Limitations of the Baseline Project

- Concepts developed a decade ago and rely 100% on “grey” infrastructure
- Best practices in resiliency have changed
  - View water as an asset rather than a liability
  - Concentrate on recovering quickly from (rather than preventing) extreme conditions/events
- Climate change impacts better defined
  - Storm intensity, frequency, and precipitation volume are increasing.
  - Models predict 1-2 feet of sea level rise in the Chesapeake Bay by 2050.[1]
- Approach is costly and exceeds current City funding

[1] Chesapeake Stormwater Network, *Review of Recent Research on Climate Projections for the Chesapeake Bay Watershed*, October 20, 2020.

Flood Mitigation – Opportunity to consider

- Changing realities of storm intensity and frequency
- Dynamic regulatory environment
  - Approach to permitting
  - Approach to mitigation and related cost-escalation
- Many communities re-evaluating their approach to shoreline management and flood mitigation
- Consider philosophy of flood resilience

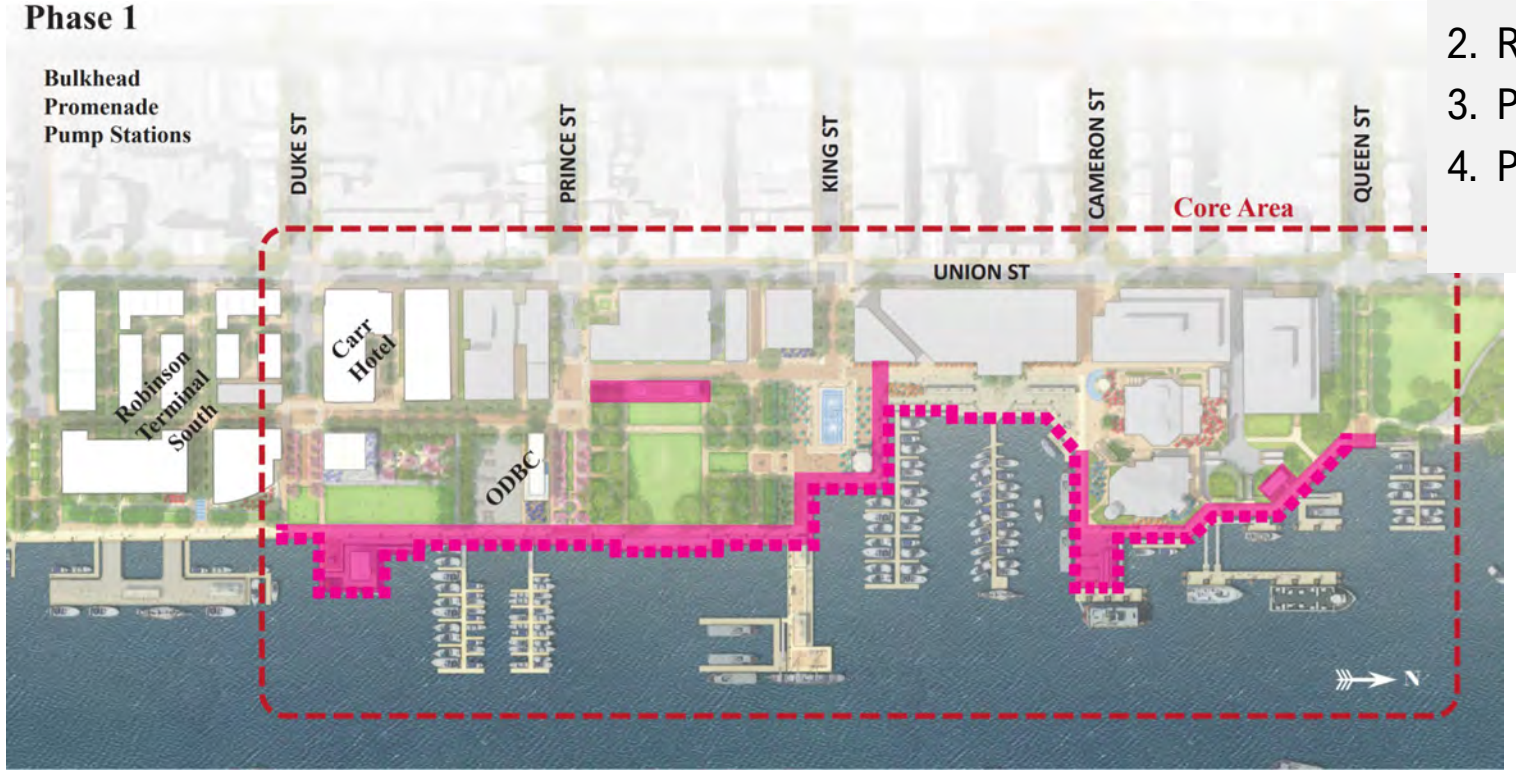
Flood Resilience

- New way of thinking about flood disaster mitigation.
- Embracing the philosophy that we should learn to live with floods and to manage flood risk and not seek to avoid it.
- Resilient flood risk strategies aim at reducing flood risk through:
  - Protection
  - Prevention
  - Preparedness / Quick Recovery

Phasing Plan and Budget adopted by Council (2015)

Reflects community priorities:

1. Flood mitigation
2. Riverfront promenade
3. Plaza at the foot of King Street
4. Park improvements



Option A
Flood Mitigation & Promenade Priority

Recommended approach for optimizing the Baseline Project included three parallel tracks.

PROJECT PHASING

Could the Baseline Project be implemented over a longer time-period, and restrict the first phase to <$102M?

VALUE ENGINEERING

How might we value engineer the “big ticket” items (bulkhead, pump stations, and parks)?

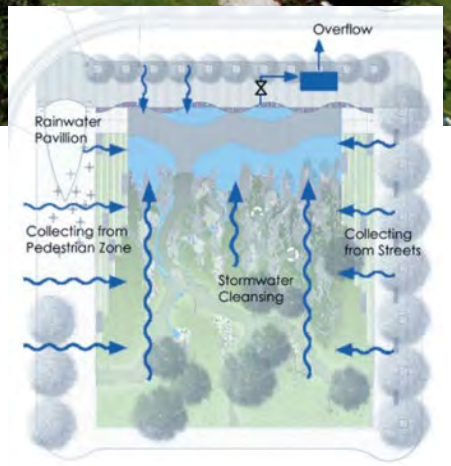
ALTERNATIVE/ GREEN SOLUTIONS

How might green infrastructure offset the need for a new bulkhead and pump stations?

Innovative and Green Solutions

- Integrate Water into the Waterfront: Rainwater Pavilion & Cloudburst Park

Long-term resilience



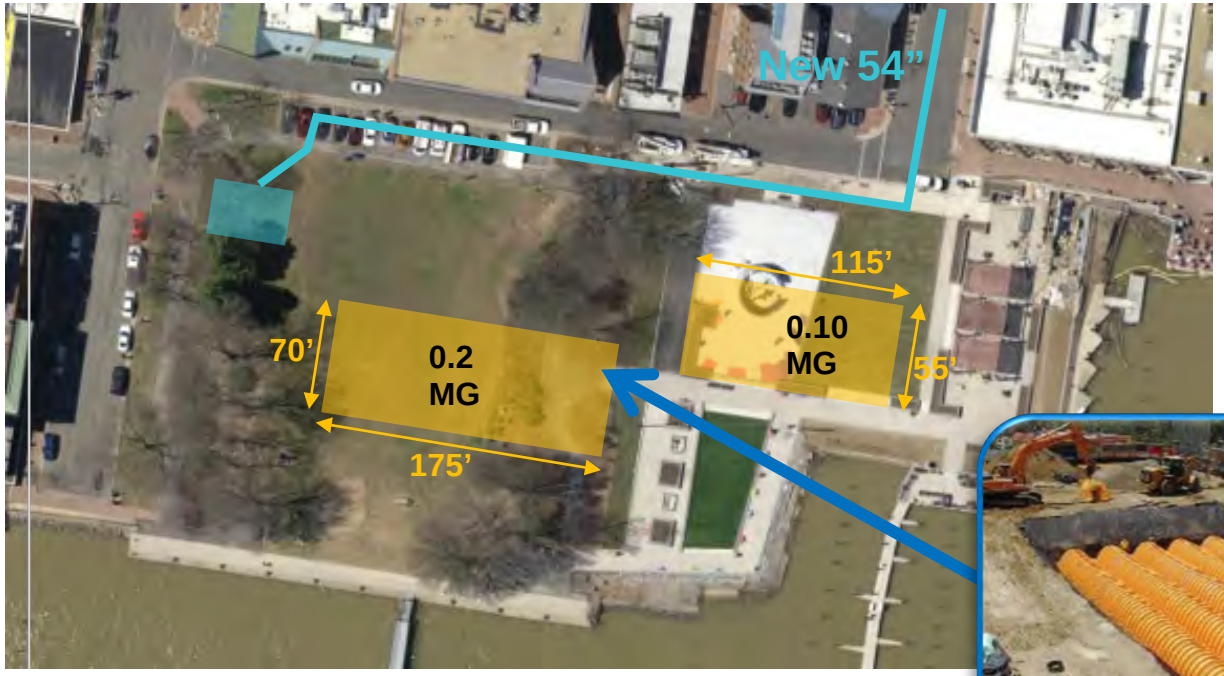
Flood management while improving quality of life

Stormwater Management – Underground Storage

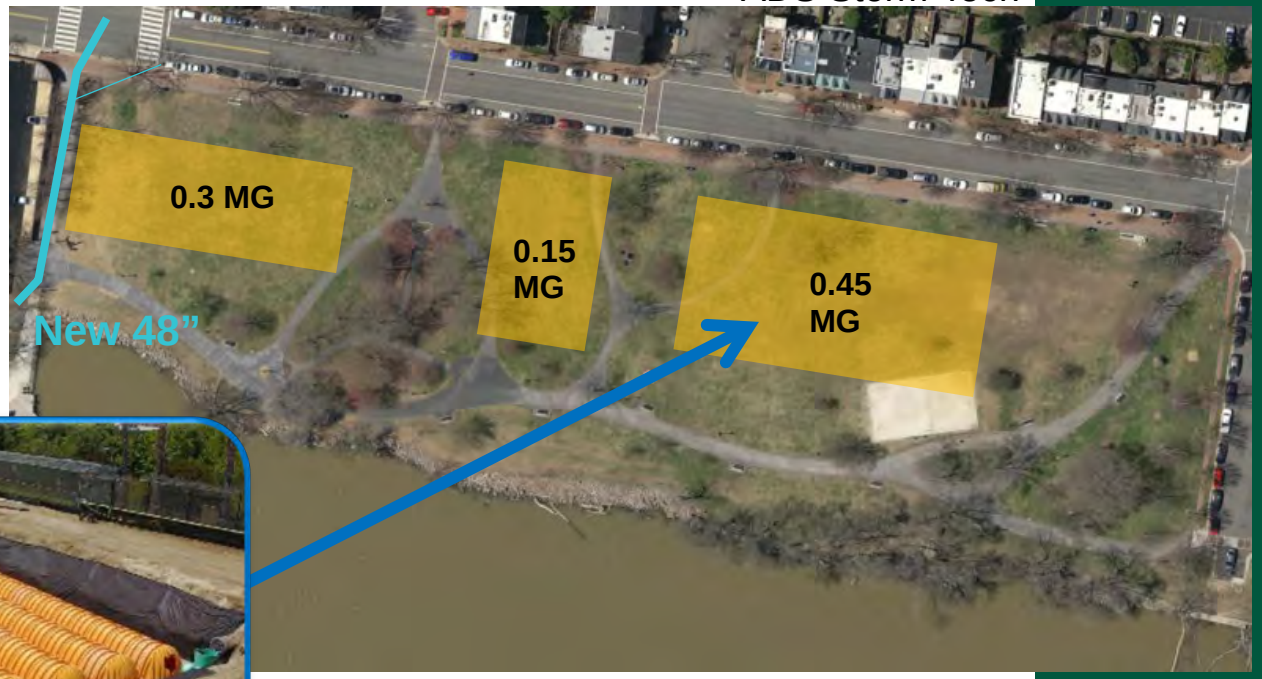
Maximum storage volume of the ADS Storm-Tech DC 780 Chambers. Volume includes stone storage that is required above and below chamber with an assumed 40% porosity.

ADS Storm-Tech

Waterfront Park



Founders Park



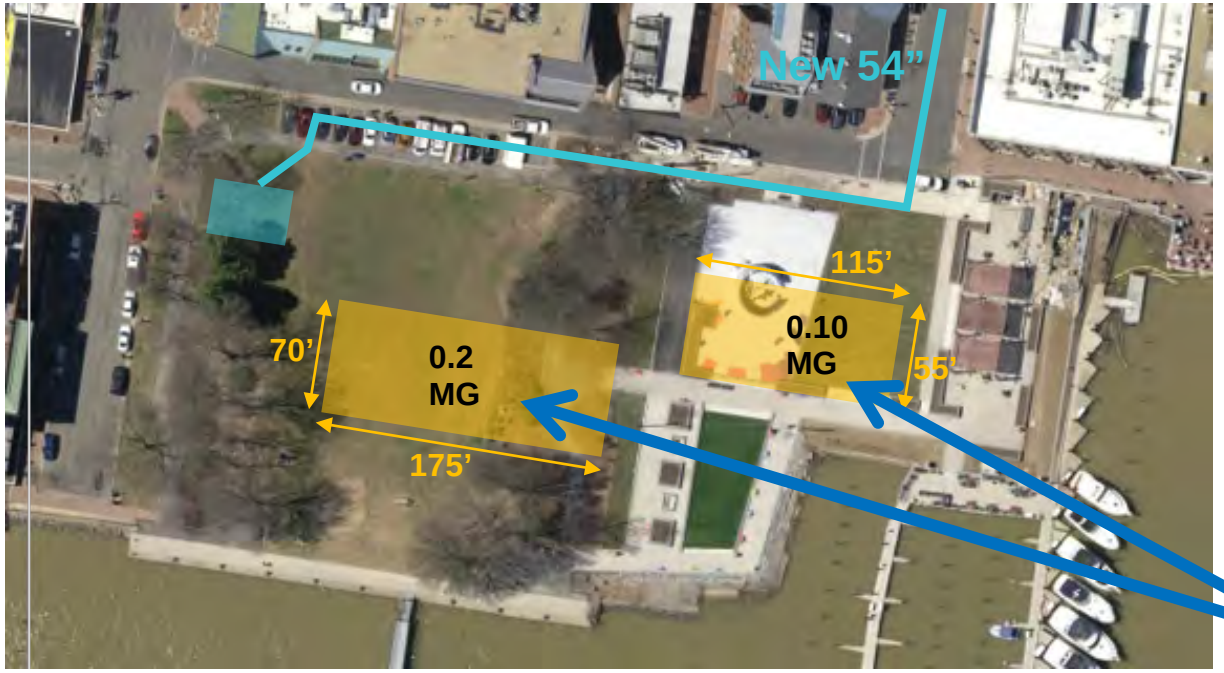
Underground Storage at Waterfront Park can achieve 0.3 MG of stormwater storage

Underground Storage at Founders Park can achieve 0.9 MG of stormwater storage

Stormwater Management – Underground Storage

Maximum storage volume of the ADS Storm-Tech DC 780 Chambers. Volume includes stone storage that is required above and below chamber with an assumed 40% porosity.

Waterfront Park



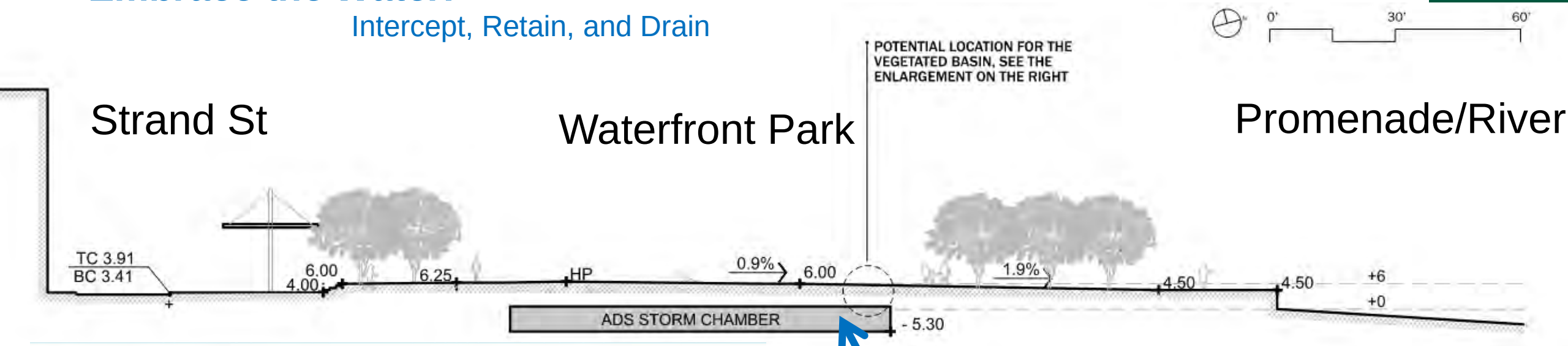
Underground Storage at Waterfront Park can achieve 0.3 MG of stormwater storage

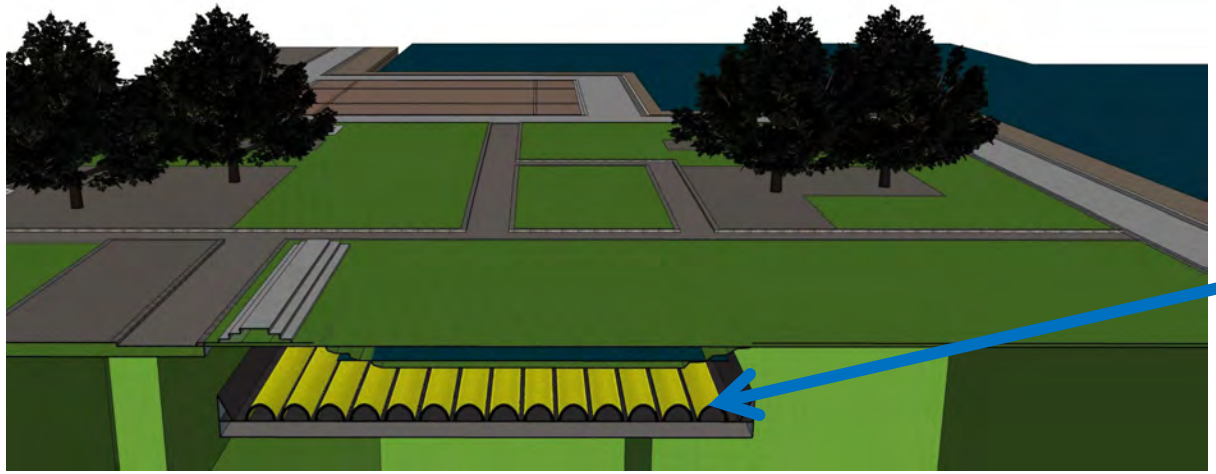
- Reduces pump sizes at Southern Pump Station
- Underground Storage at Founders Park can achieve 0.3 MG of stormwater storage
- No change anticipated to existing site programming

Stormwater Management – Underground Storage

Embrace the Water!

Intercept, Retain, and Drain





Stormwater Management – Underground Storage

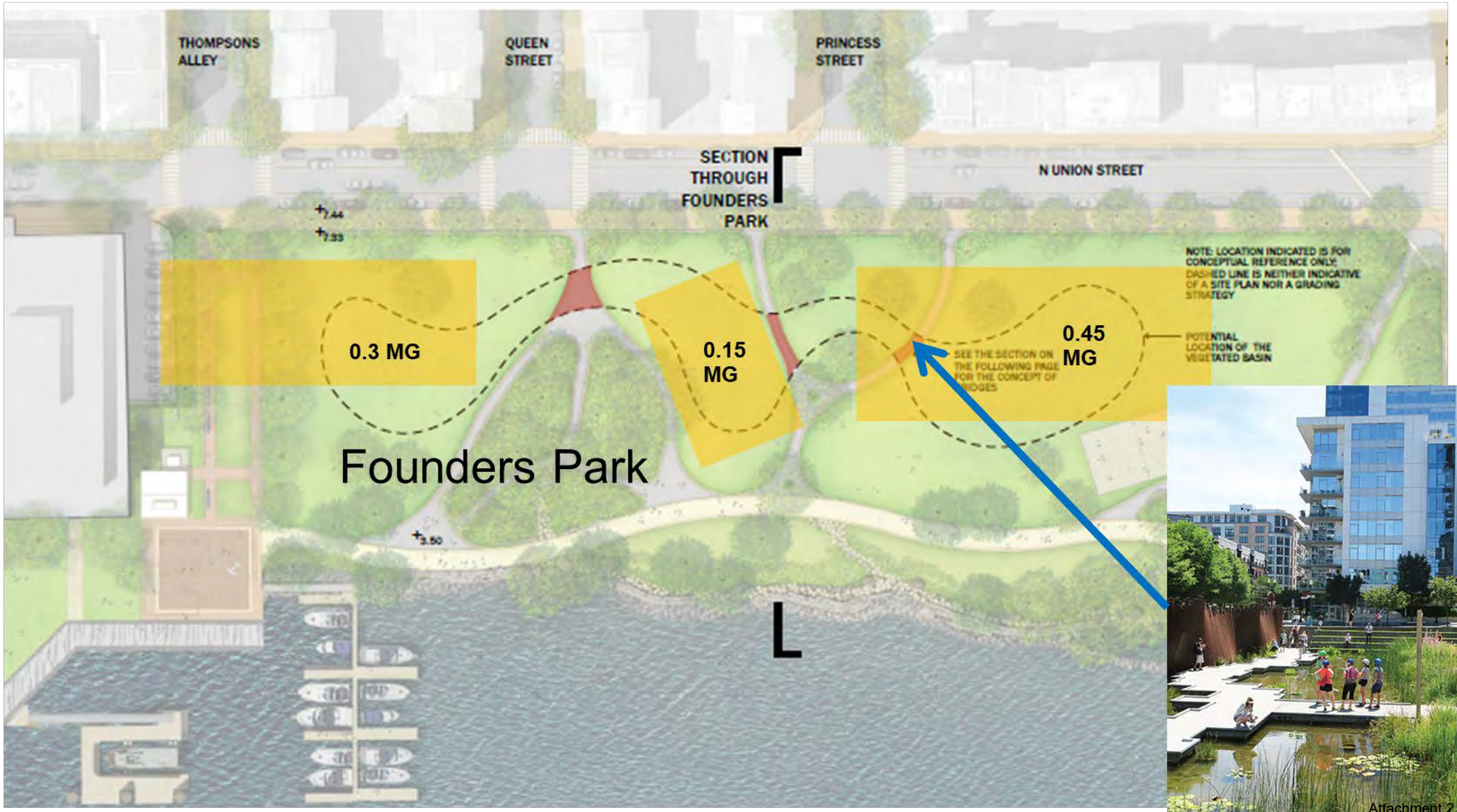
Maximum storage volume of the ADS Storm-Tech DC 780 Chambers. Volume includes stone storage that is required above and below chamber with an assumed 40% porosity.

- Reduces pump sizes at Northern Pump Station
- Underground Storage at Founders Park can achieve 0.9 MG of stormwater storage
- No change required to existing site programming

ADS Storm-Tech

Founders Park

Stormwater Management – Integrate water as amenity



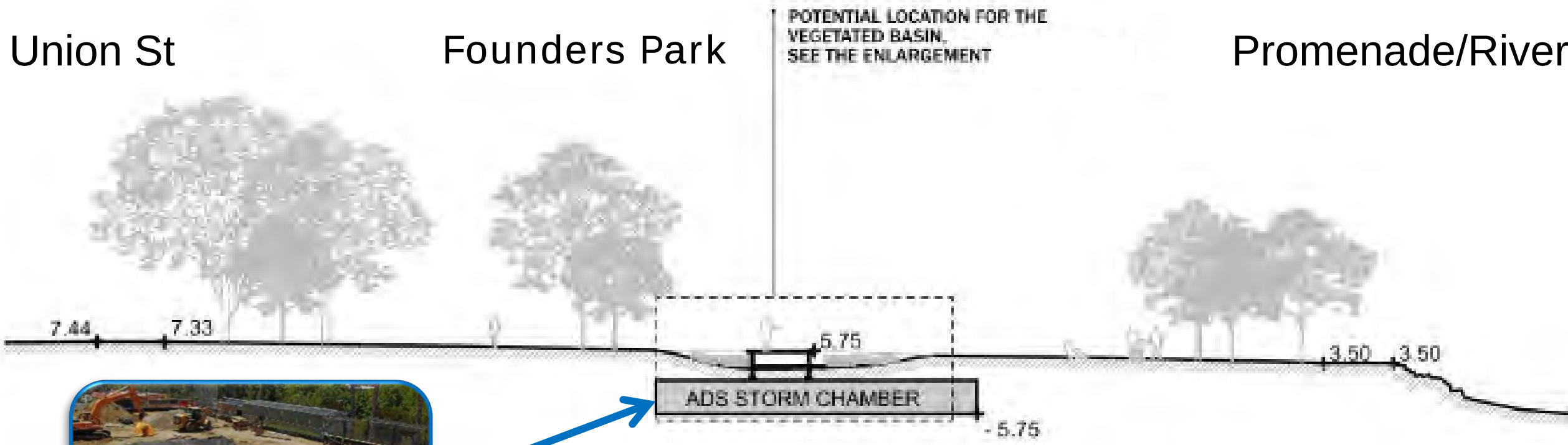
DESIGN VARIANT - STORMWATER PARK INFRASTRUCTURE REVEALED

Stormwater Management – Integrate water as amenity

Union St

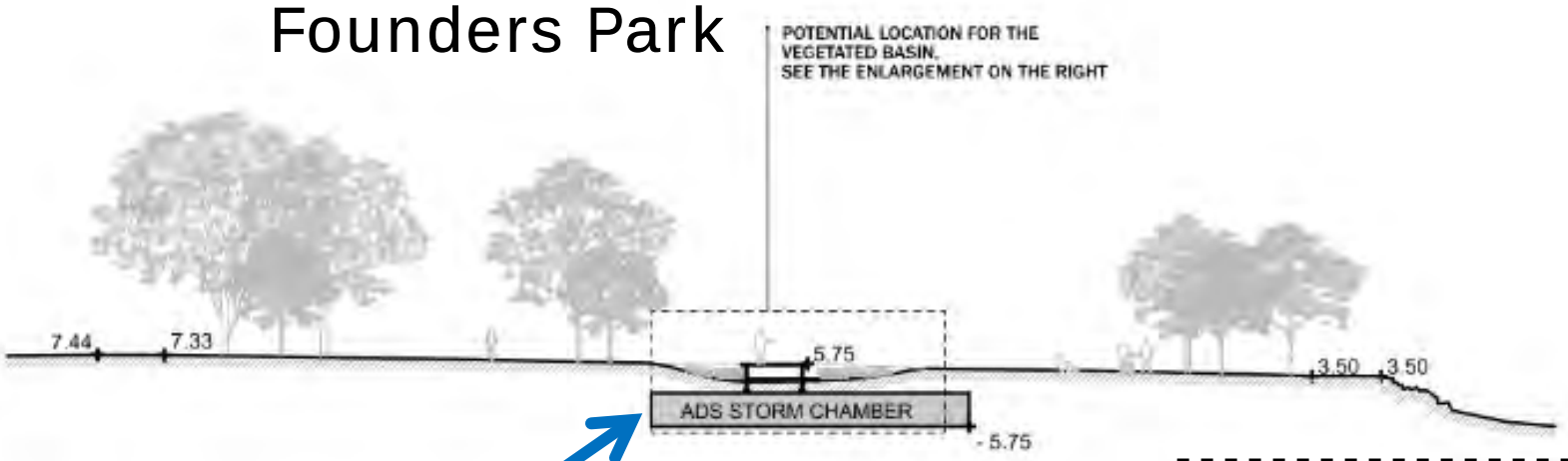
Founders Park

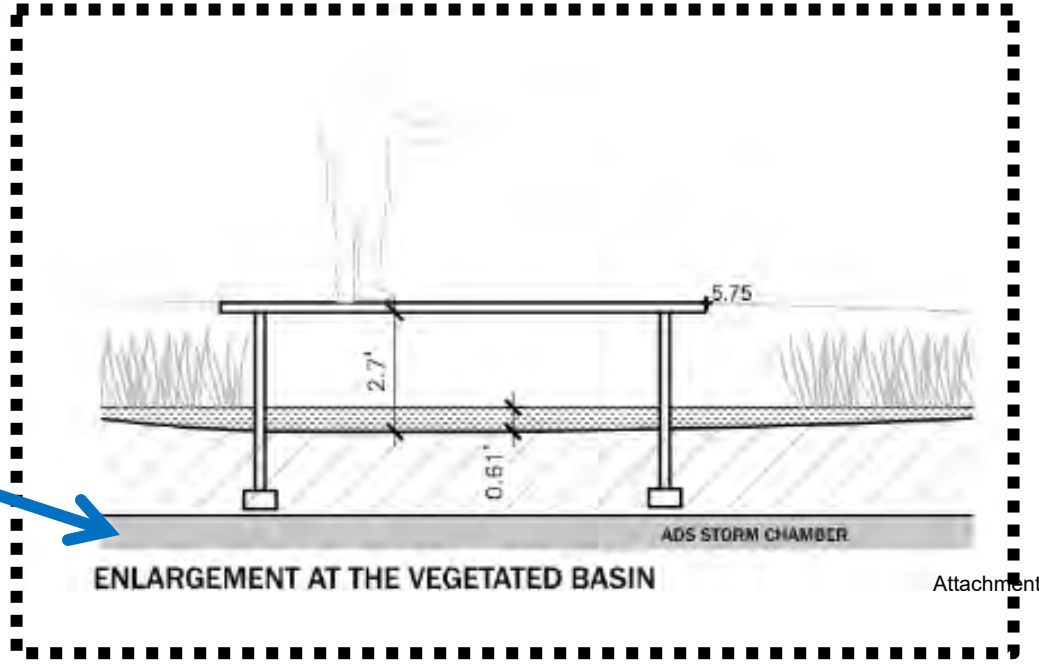
Promenade/River



Stormwater Management – Integrate water as amenity

Founders Park





Stormwater Management – Integrate water as amenity

Maximize surface storage

- Reduced turf maintenance
- Reduced open space

Reduced surface storage –

- Reduced turf maintenance
- Maintains more open space

Reduced surface storage –

- Reduced turf maintenance
- Maintains more open space

Stormwater Management – Reduce PS Sizes

- Underground Storage Chambers at Parks

AND

- Stormwater Sewer System Modifications (raised pipes)

= Reduced Pump Station Size

Storm Scenario	Waterfront Park Pump Station #1		Thompsons Alley Pump Station #2	
	Baseline Design	Current Revision	Baseline Design	Current Revision
10-year 2-hour	206 cfs	100 cfs	128 cfs	4 cfs

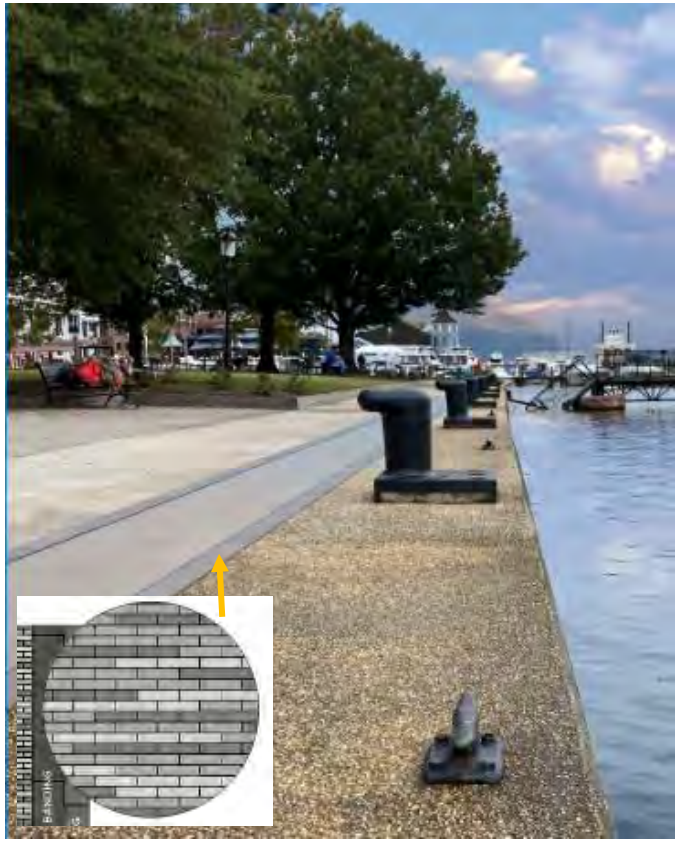
= Reduced Costs AND greater resiliency for the future

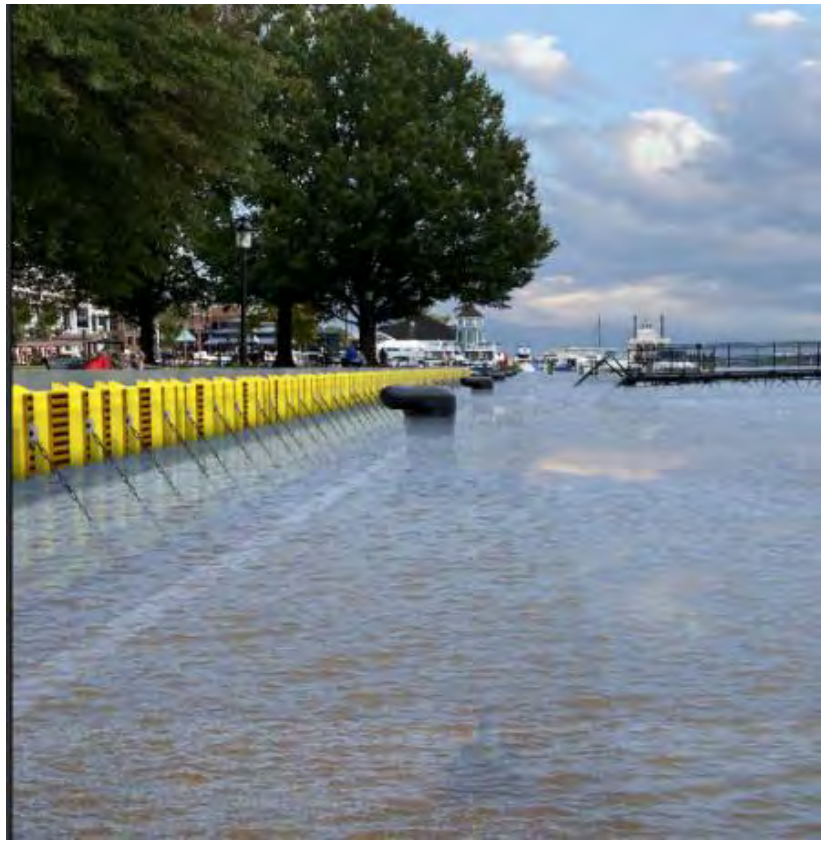
Flood Barriers

New promenade for continuous walking and passive deployment

Flood Barriers

- Bulkhead Repair/Replacement
- Deployable Flood Barriers
- Ha-ha Wall & Grading





- Hinged barriers (Floodbreak FreeView Flood Barrier)
- Self-deploying Barrier
- Embed in promenade and finish with pavers
- Integrated into landscape as public amenity

// Seawall Barrier

Name	Deployment	Application	Benefits	Issues/Barriers
Seawall Barrier	Passive	Shoreline	• Maintain waterfront views 24/7 • Structural support posts can span > 10-ft apart • **Material cost is $4M for entire length of bulkhead**	• Does not eliminate the need for pump stations • Regularly clean exposed surfaces including glass

Attachment 2 CEO Report

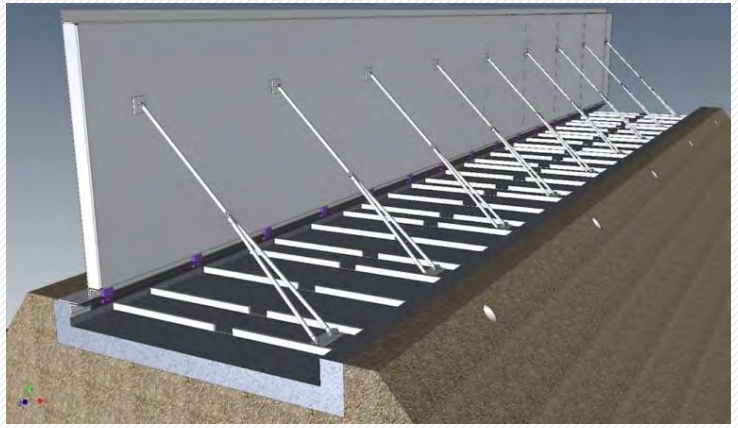
Photos courtesy of Fenex

// Flood Gate

Name	Deployment	Application	Benefits	Issues/Barriers
Flood Gate *FloodBreak FreeView Flood Barrier*	Passive	Shoreline	• No height or length limitation • HS-25, HS-20 and **pedestrian rated** • Embed in promenade and sidewalk • Edge-to-edge seal available • Adapt to sloped areas	• Excavation required for new foundation or tie-in to bulkhead • **To activate gate:** Intake valve requires drilling through bulkhead. Drainpipe with SD connection could double the price.

To install product along the entire bulkhead, material cost is $5M with a 3.5-ft self-deploying wall.

Photos curtesy of FloodBreak
http://floodbreak.com/products/freeview-flood-barriers/



// Flood Gate

Name	Deployment	Application	Benefits	Issues/Barriers
Flood Gate *FloodBreak Gate*	Passive	Building/ Segments	• Customized height and length • Invisible when not needed • Customized 18-28” gate depth to work around conflicts • **Product cost of each gate is < $250k**	• **Tie in needs to be watertight** • Soil conditions and flood loads dictate foundation and excavation • **Connection to storm drain is required to activate gate**

Attachment 2 CEO Report

// Flood Barrier

Name	Deployment	Application	Benefits	Issues/Barriers
Flood Barrier *Bottom hinged flood barrier*	Active or **Passive**	Building or **Shoreline**	• Invisible when not needed • Rises with flood-waters and is self-closing when high waters recede • Built into permanent flood wall, walkway or building entrance • Hidden storage basin depth is 24” + **structural footing**	• Requires connection to flood water supply via 4” drainpipe or drilling through bulkhead for intake valve. • Shipping only available up to 50’ increments

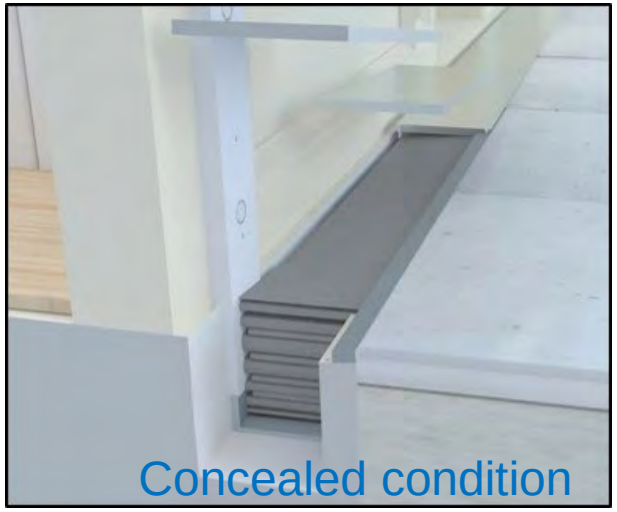
Opportunity may exist to integrate into existing walkway and promenade behind the bulkhead. Material cost is $12-14M across entire bulkhead.

Source: https://www.psfloodbarriers.com/product/bottom-hinge-flood-barrier/

Attachment 2 CEO Report

Flood Barriers – Building Floodproofing

Concealed Deployable Options



Concealed condition

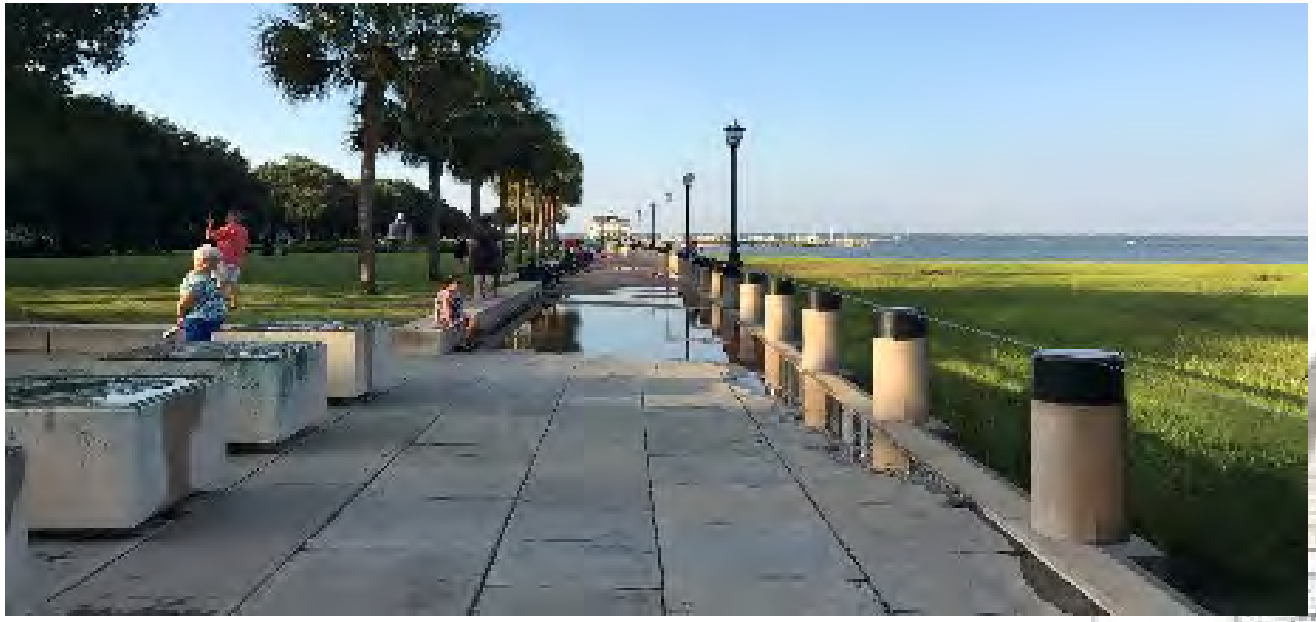
Attachment 2 CEO Report

Deployed condition

Alternative Flood Barriers

Flood Barriers

- Bulkhead Repair/Replacement
- Flood Proof Glass

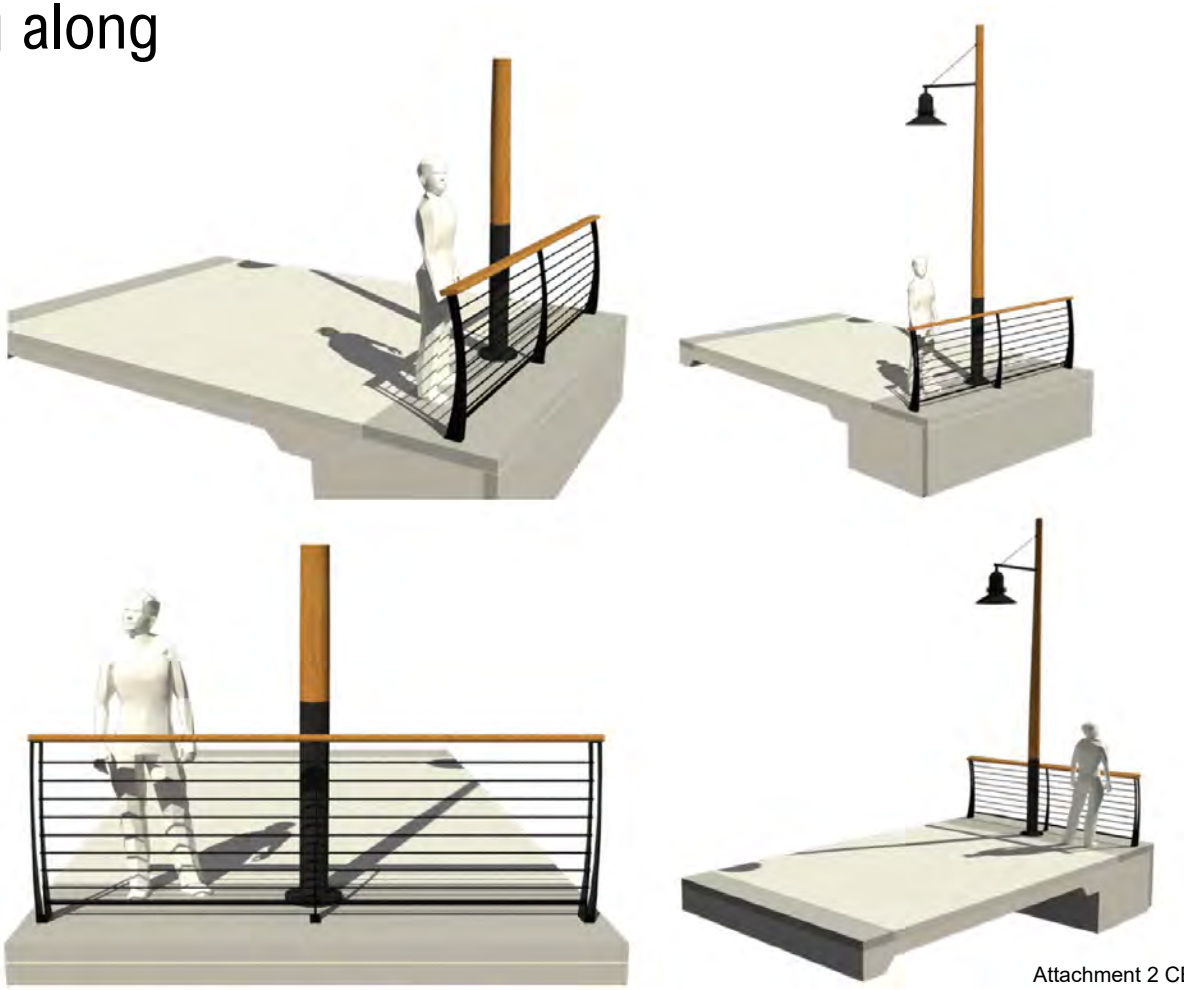


Flood-proof glass integrated with the handrail and lighting proposed along promenade.

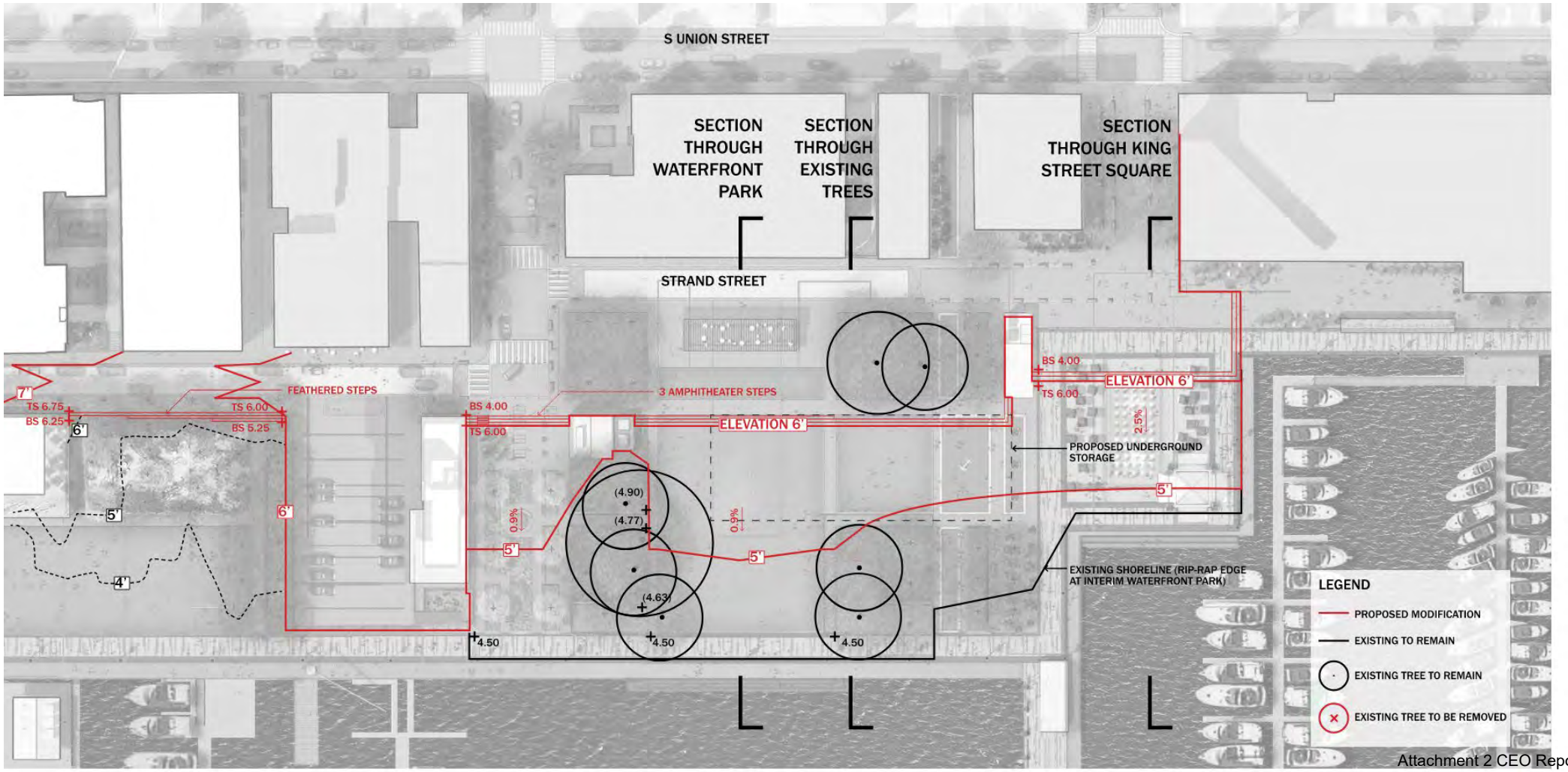
Attachment 2 CEO Report

Alternative Flood Barriers

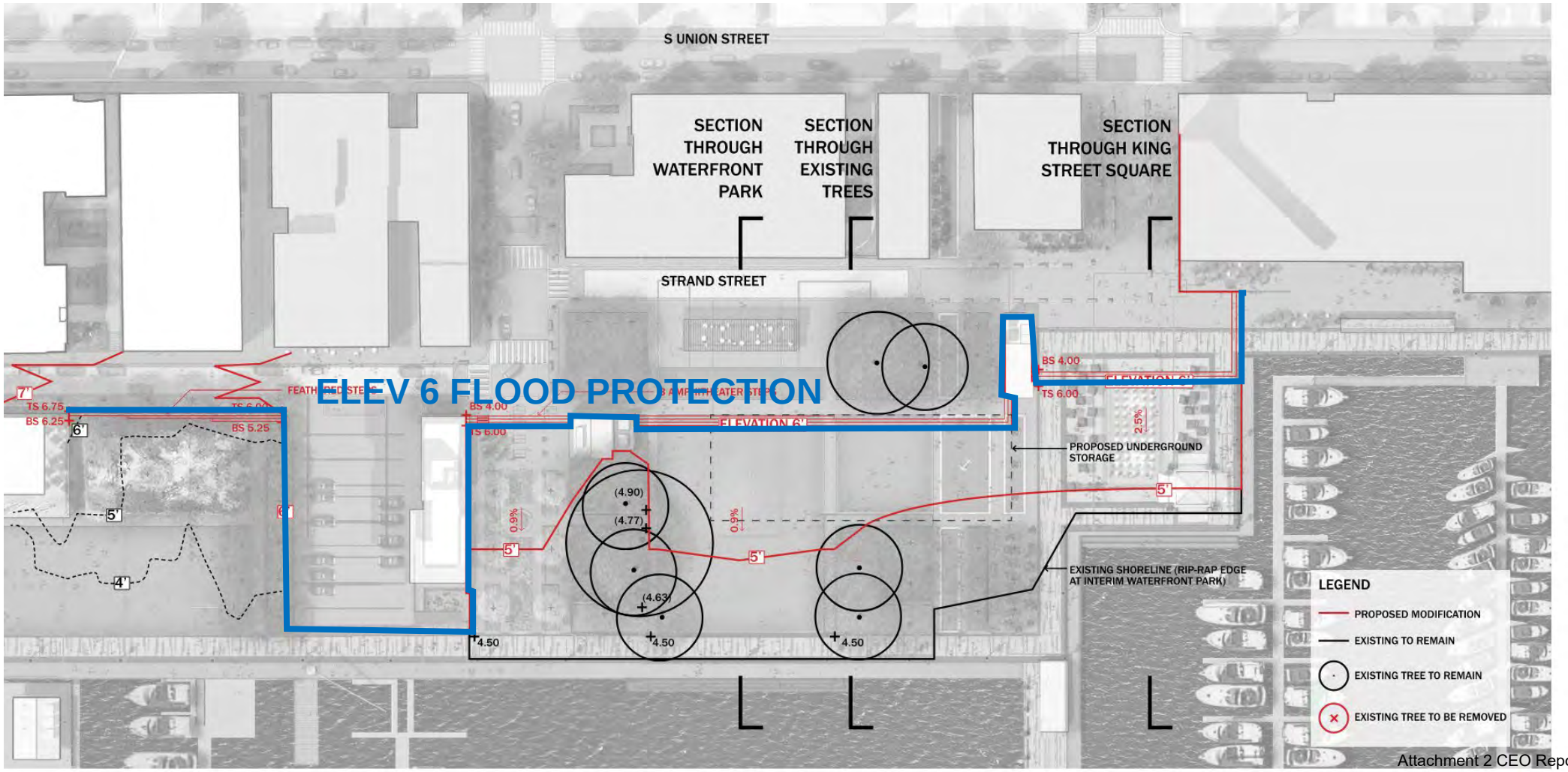
- Floodproof glass (Fenex Glass Flood Wall)
- Integrate with handrails and lighting along promenade
- Flood fence



Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)



Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)



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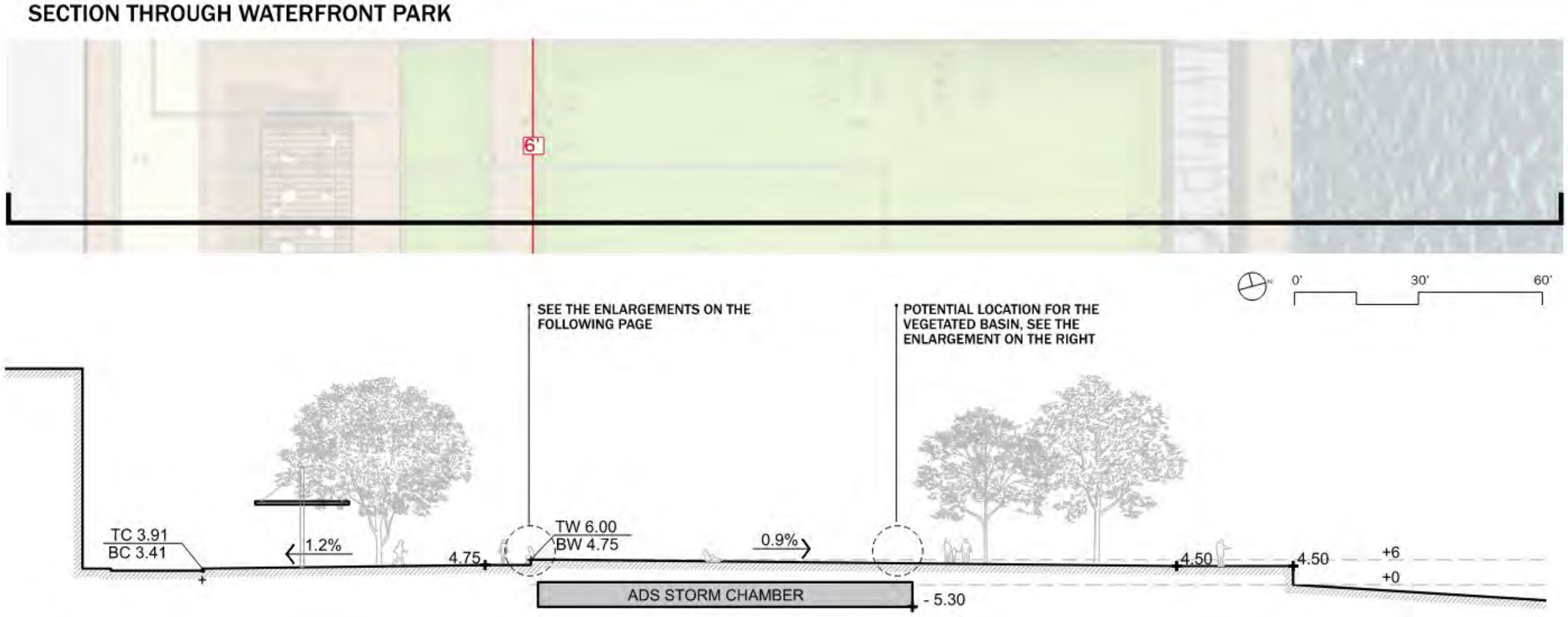
Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)



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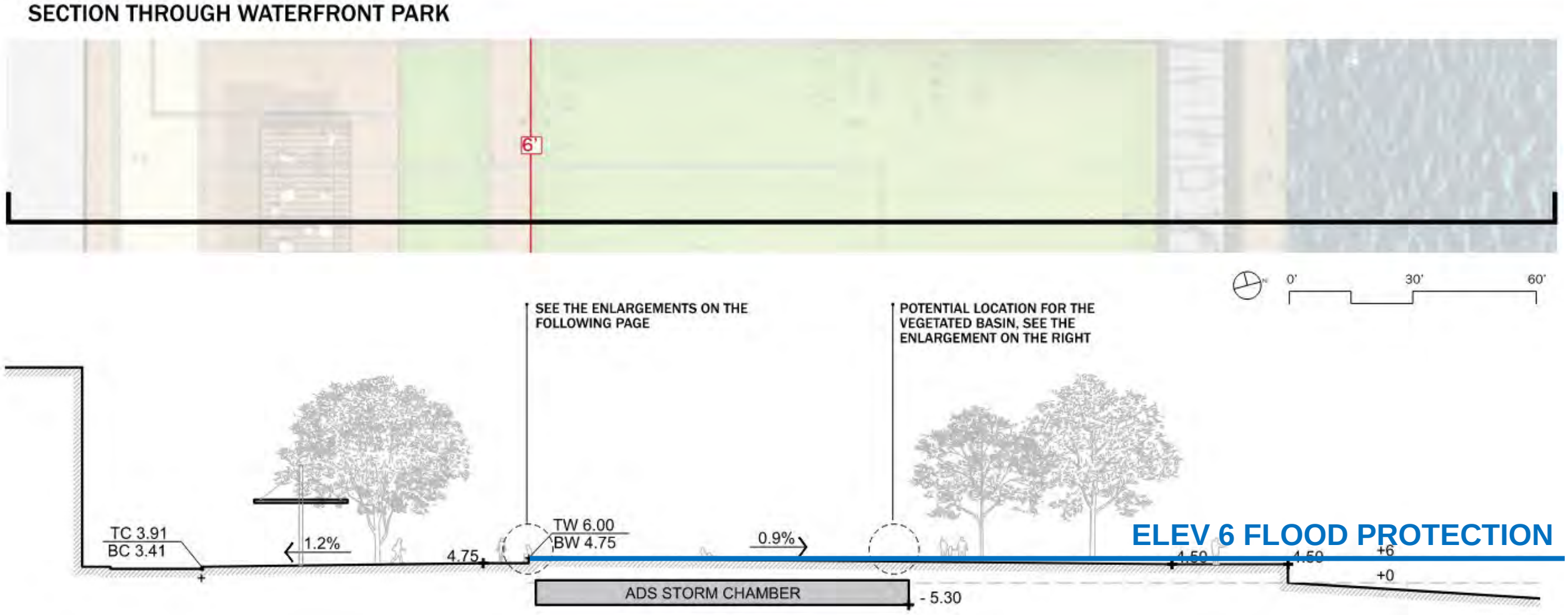
Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)



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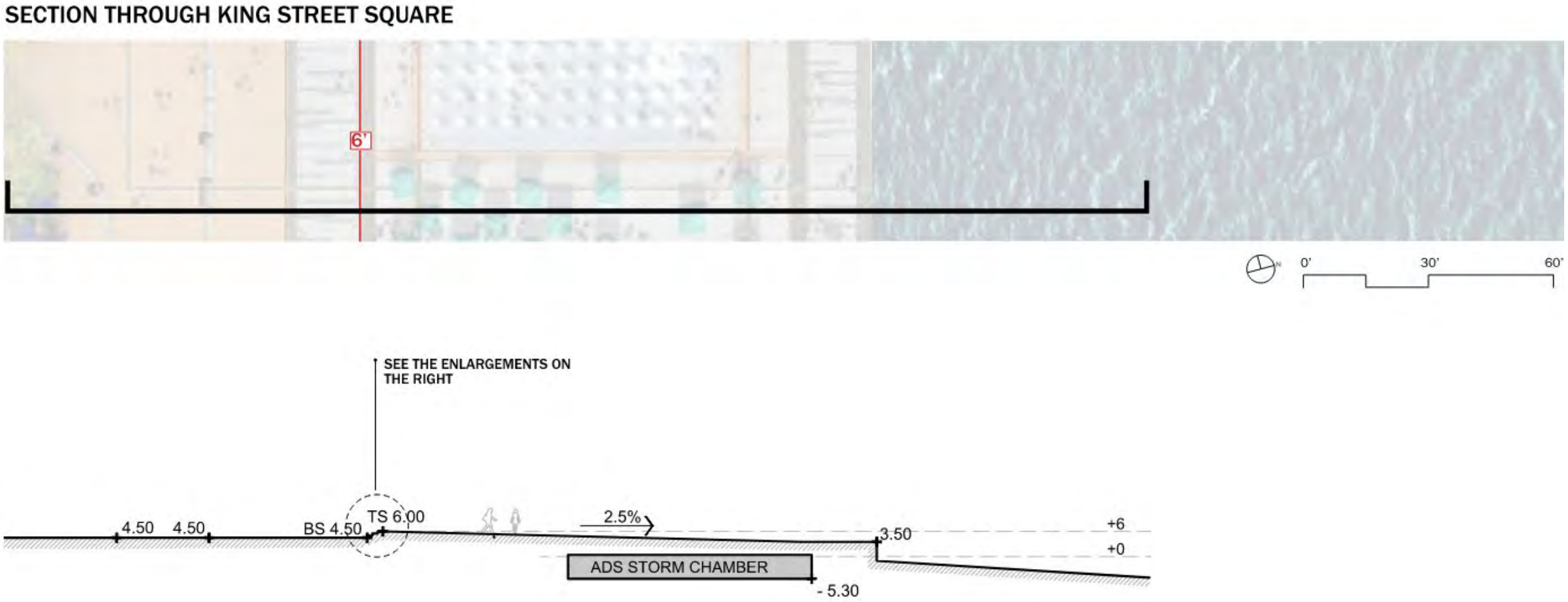
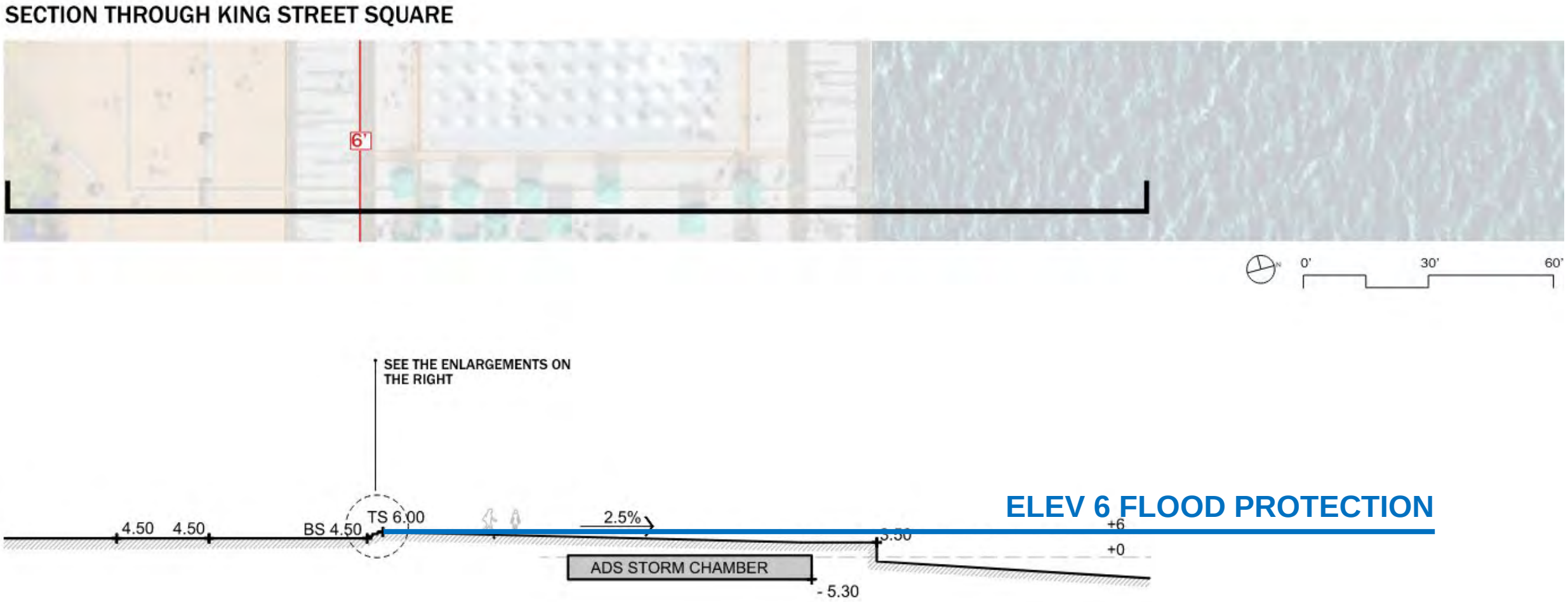
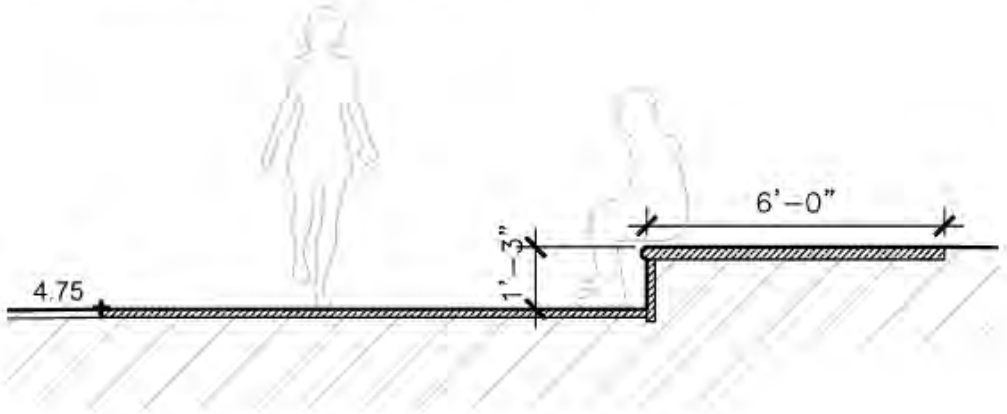


Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)

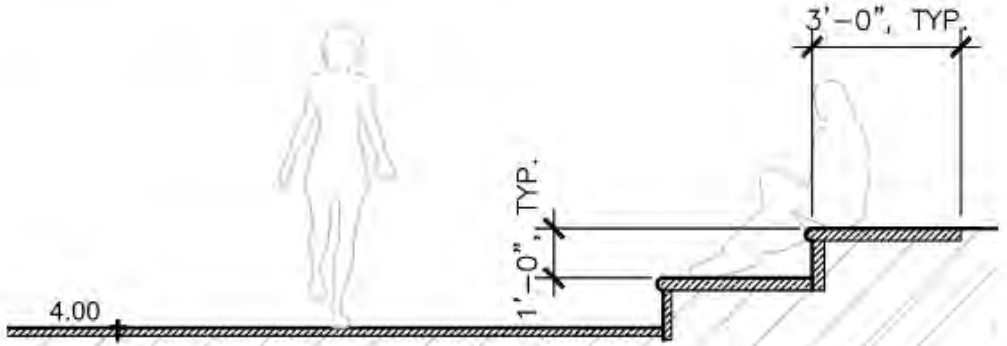


Flood Barriers – Option 1 Inland Flood Protection (Revise King Street Square Shoreline)

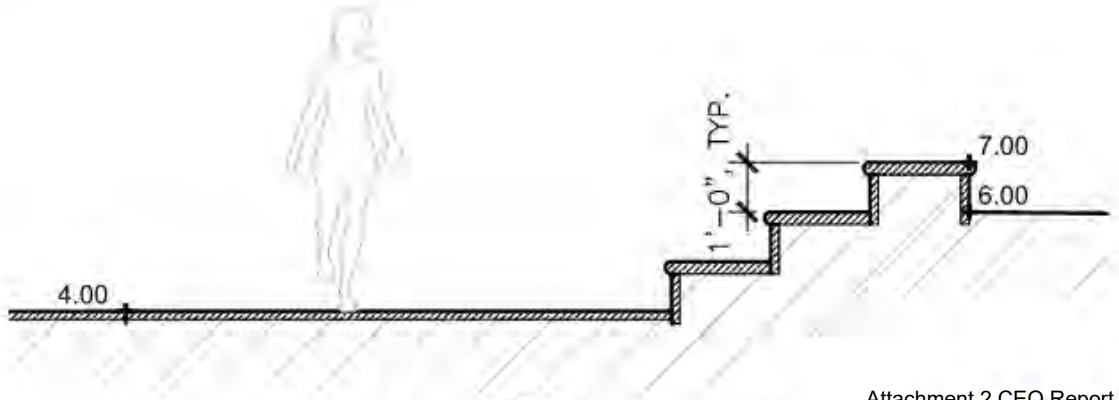
ENLARGEMENT AT THE SEAT WALL



VARIATION 1-A | AMPHITHEATER STEPS



VARIATION 1-B | AMPHITHEATER STEPS WITH ADDITIONAL FLOOD PROTECTION



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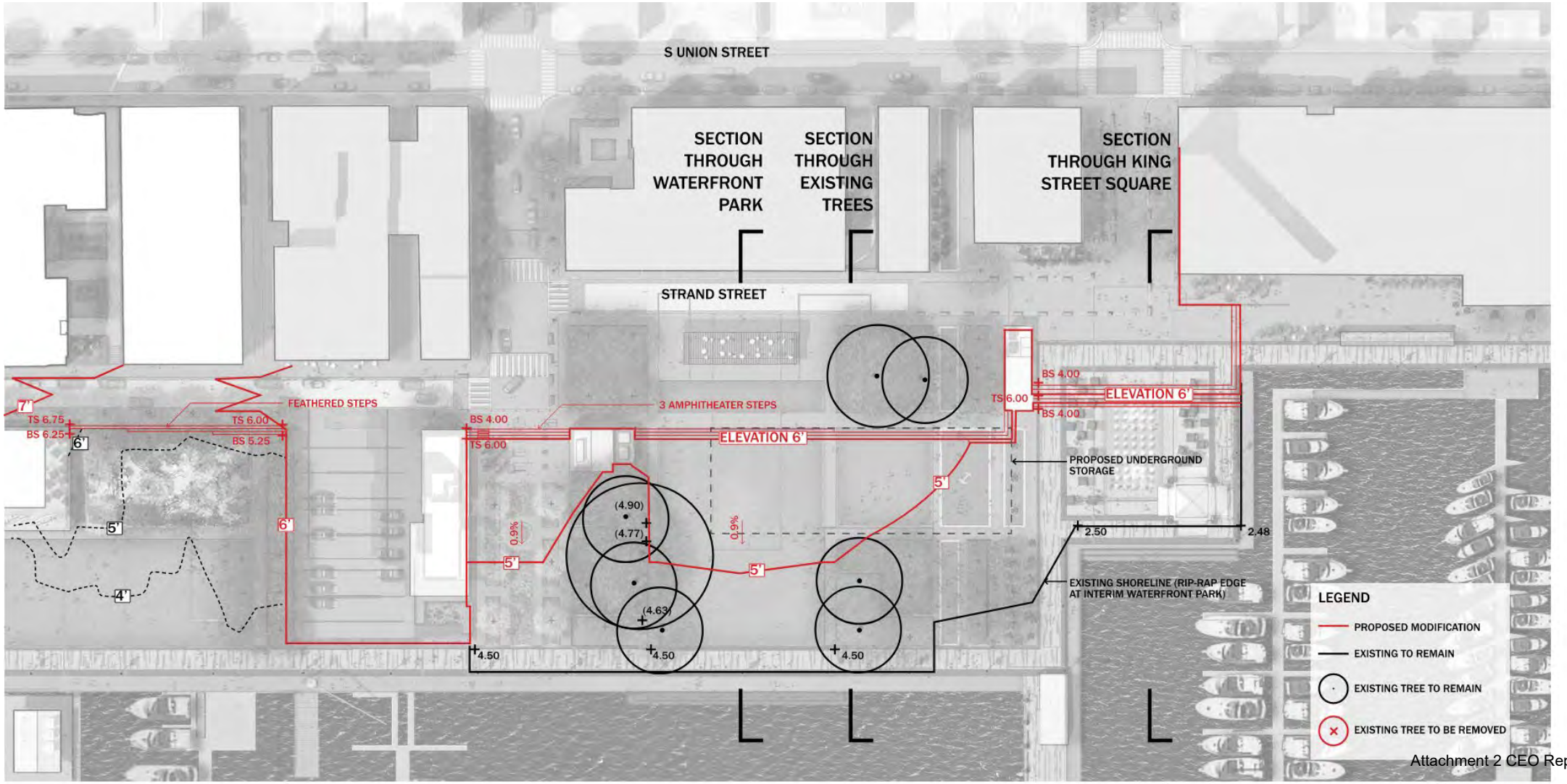
Flood Barriers – Option 2 Inland Flood Protection (Retain King Street Square Shoreline)



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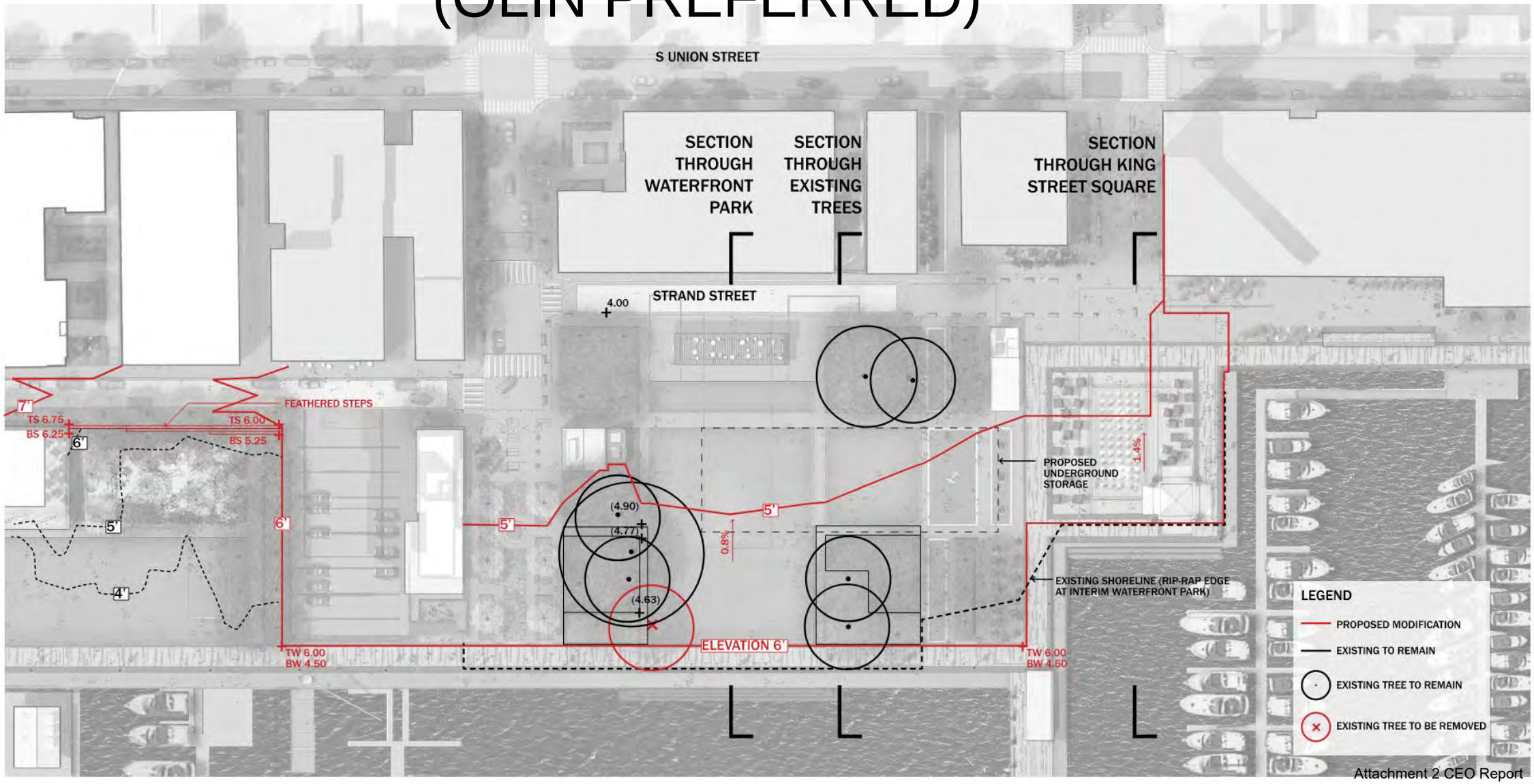
Flood Barriers – Option 3 Flood Protection at Promenade (OLIN PREFERRED)



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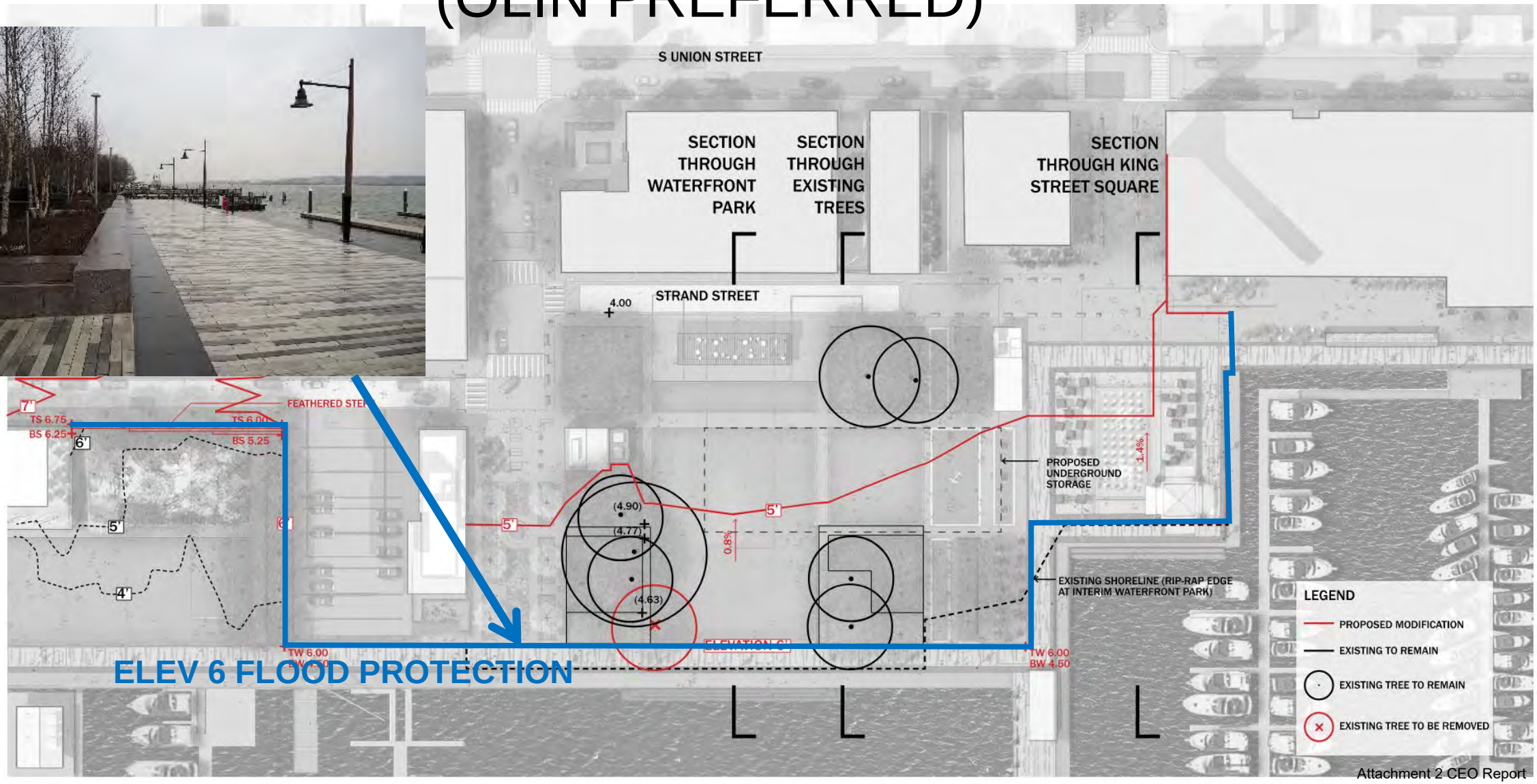
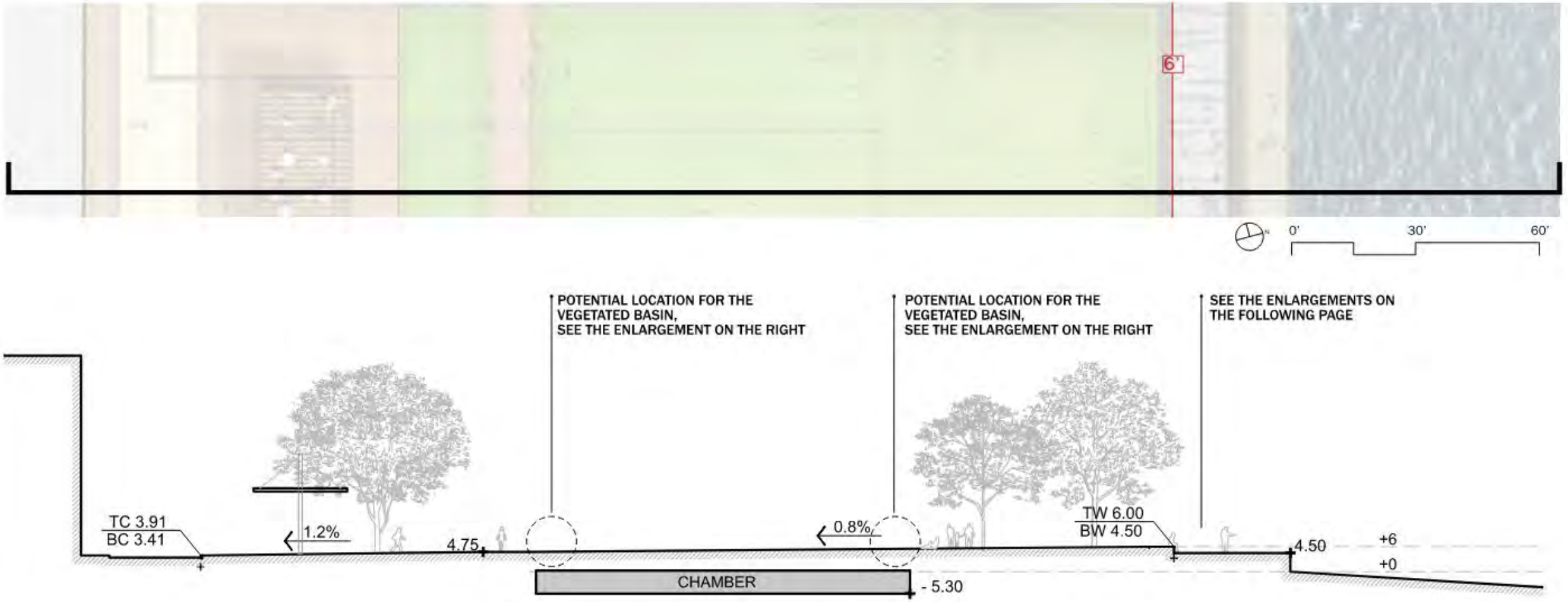


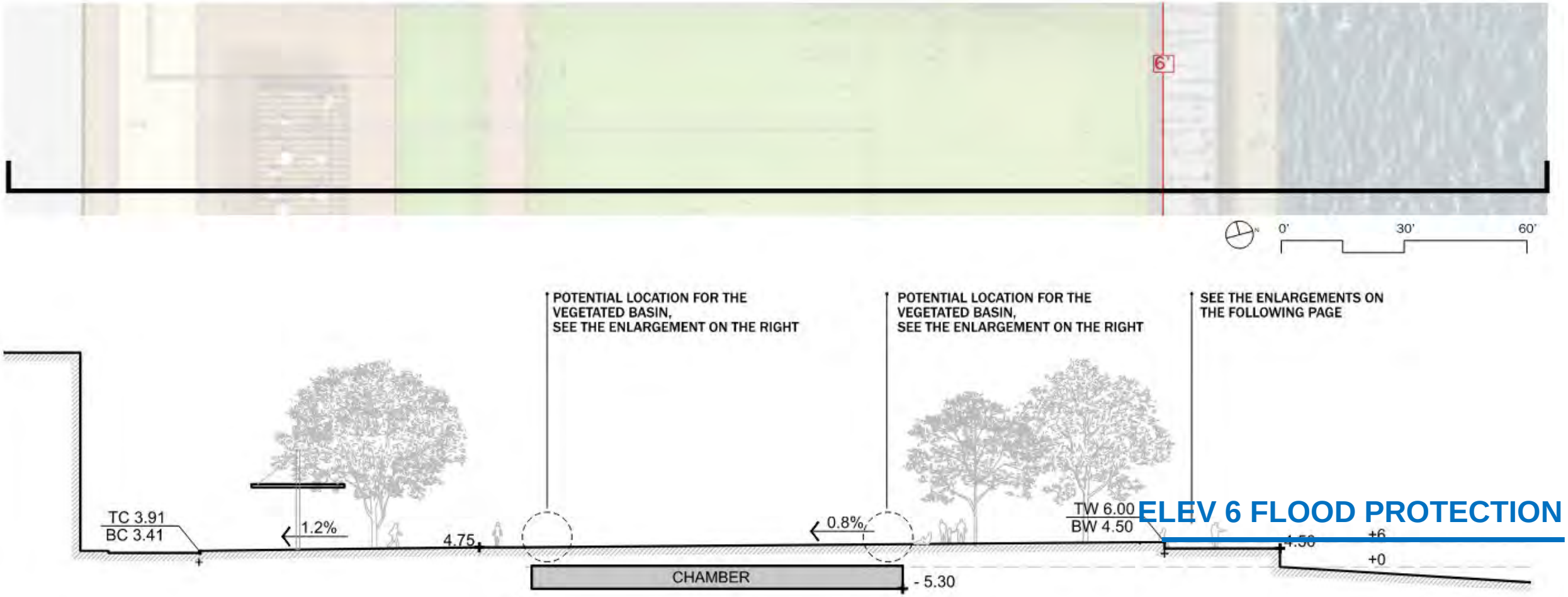
Flood Barriers – Option 3 Flood Protection at Promenade

SECTION THROUGH WATERFRONT PARK



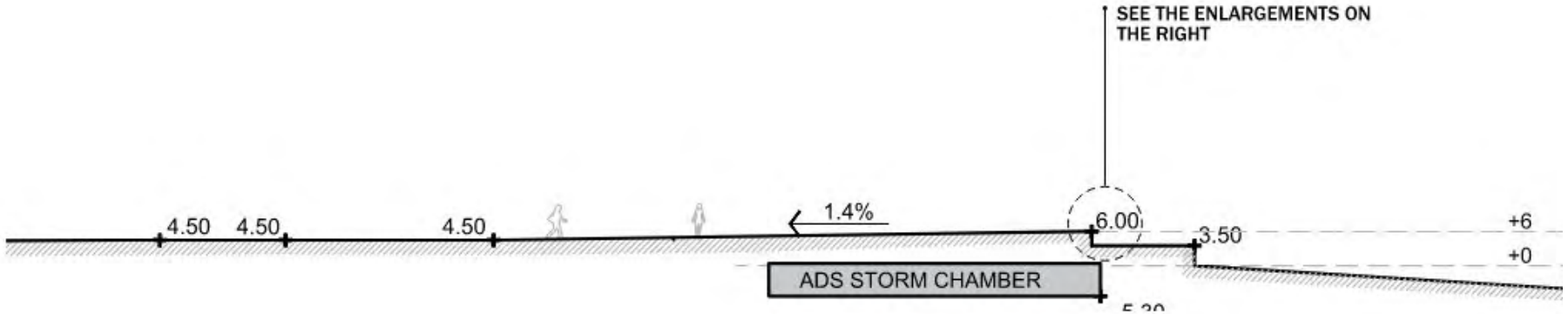
Flood Barriers – Option 3 Flood Protection at Promenade

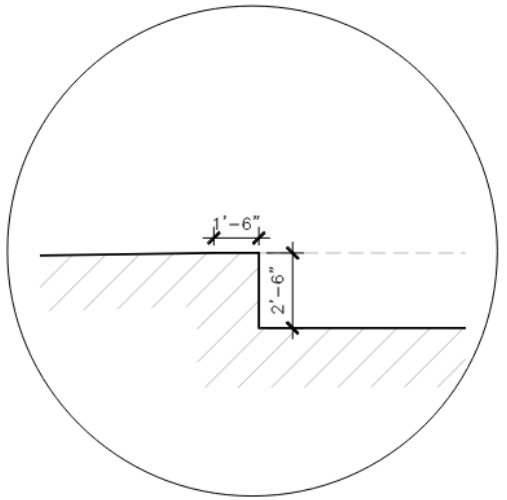
SECTION THROUGH WATERFRONT PARK



Flood Barriers – Option 3 Flood Protection at Promenade

SECTION THROUGH KING STREET SQUARE





ENLARGEMENT AT KING STREET SQUARE

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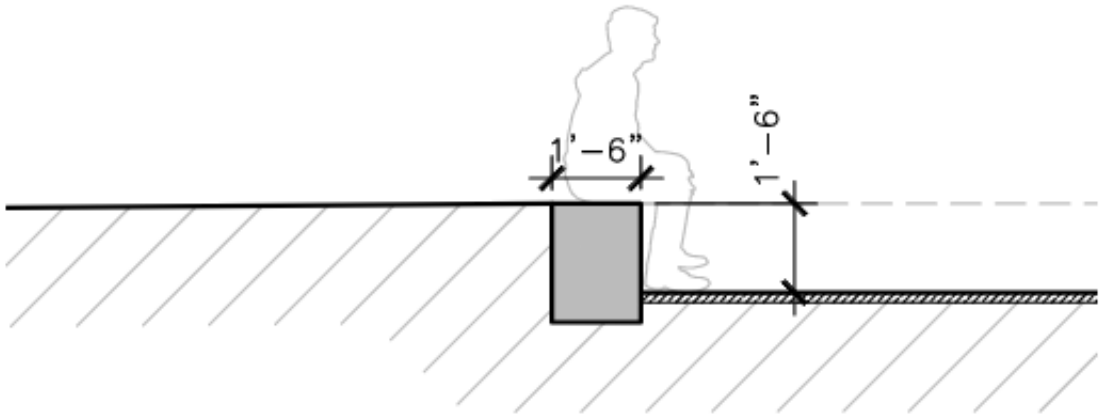
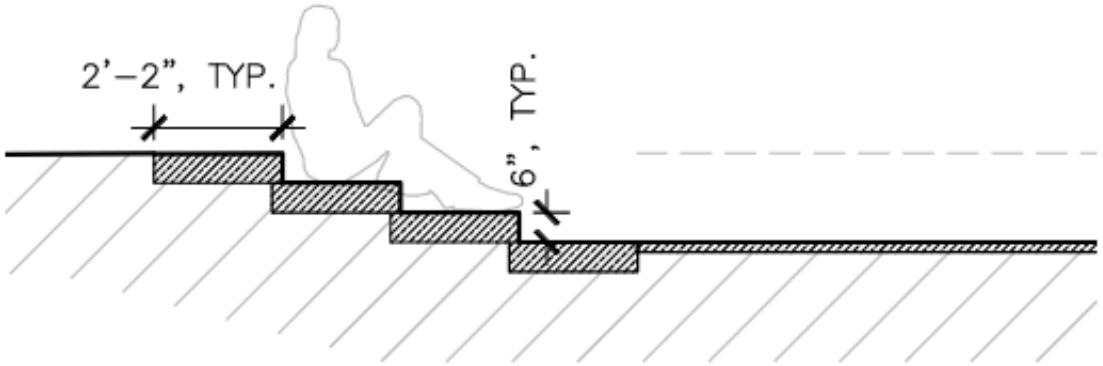
Flood Barriers – Option 3 Flood Protection at Promenade (OLIN PREFERRED)

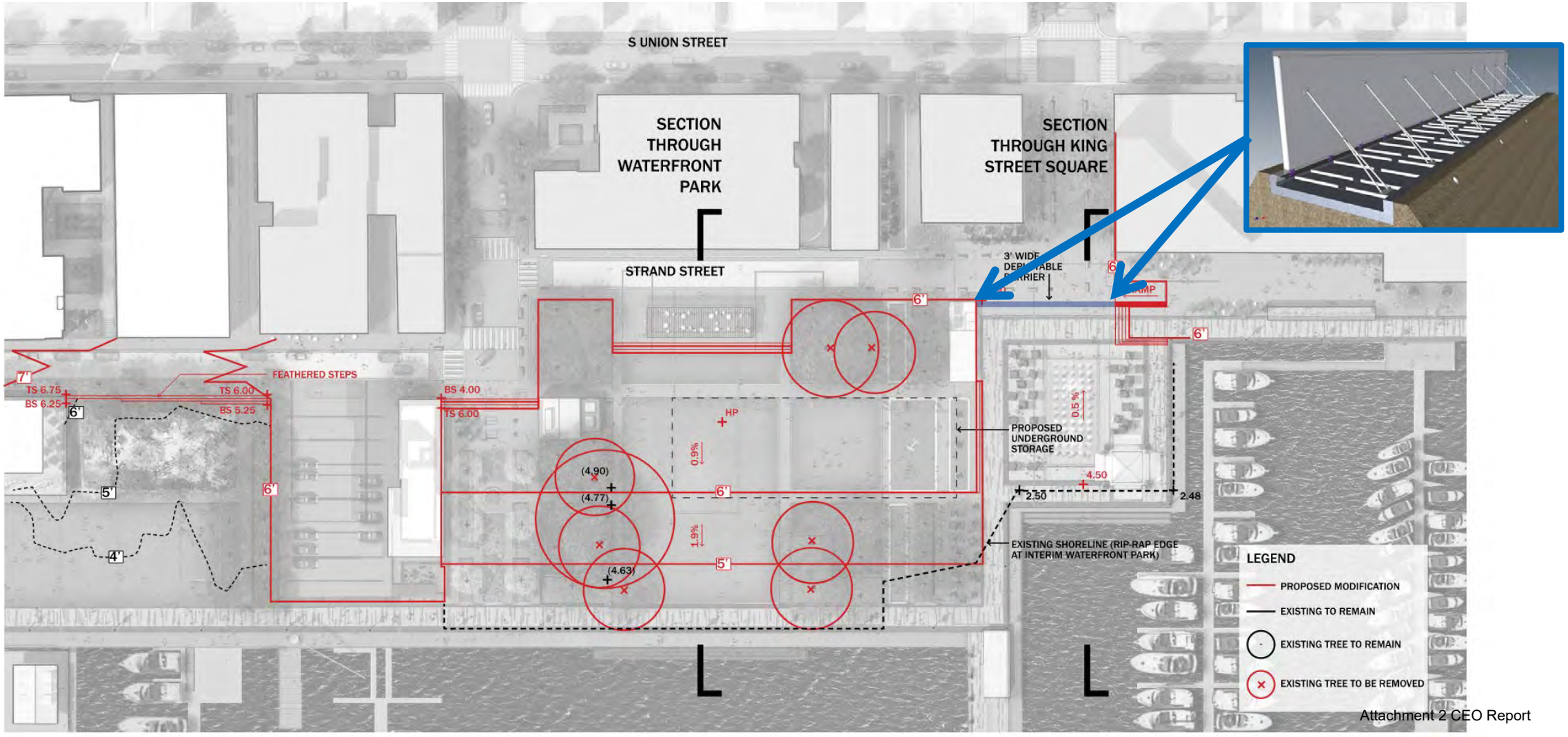
ENLARGEMENT AT THE SEAT WALL



VARIATION 3-A | STEPS



Flood Barriers – Option 5 Inland Flood Protection (Deployable at King Street Square)



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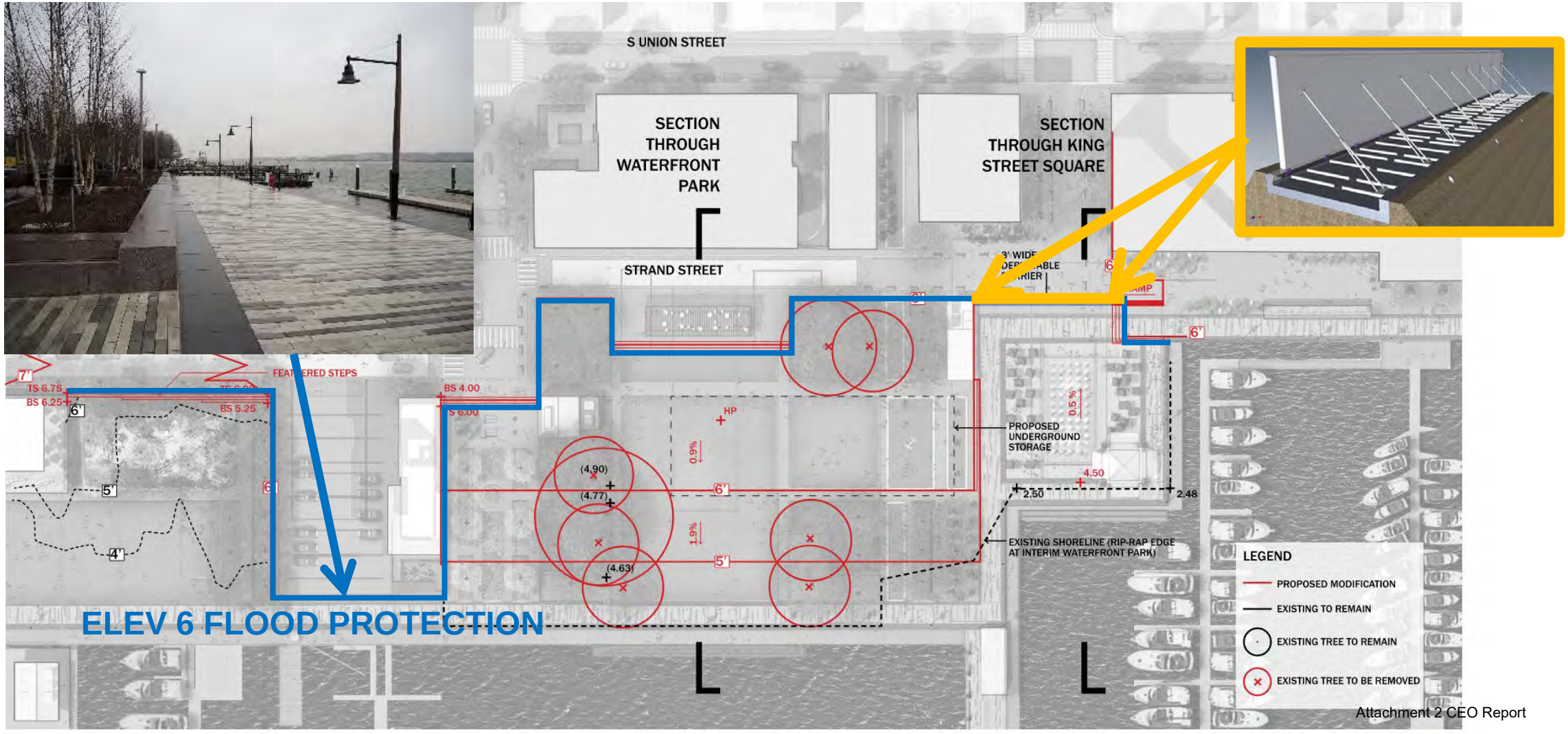
Flood Barriers – Option 5 Inland Flood Protection (Deployable at King Street Square)



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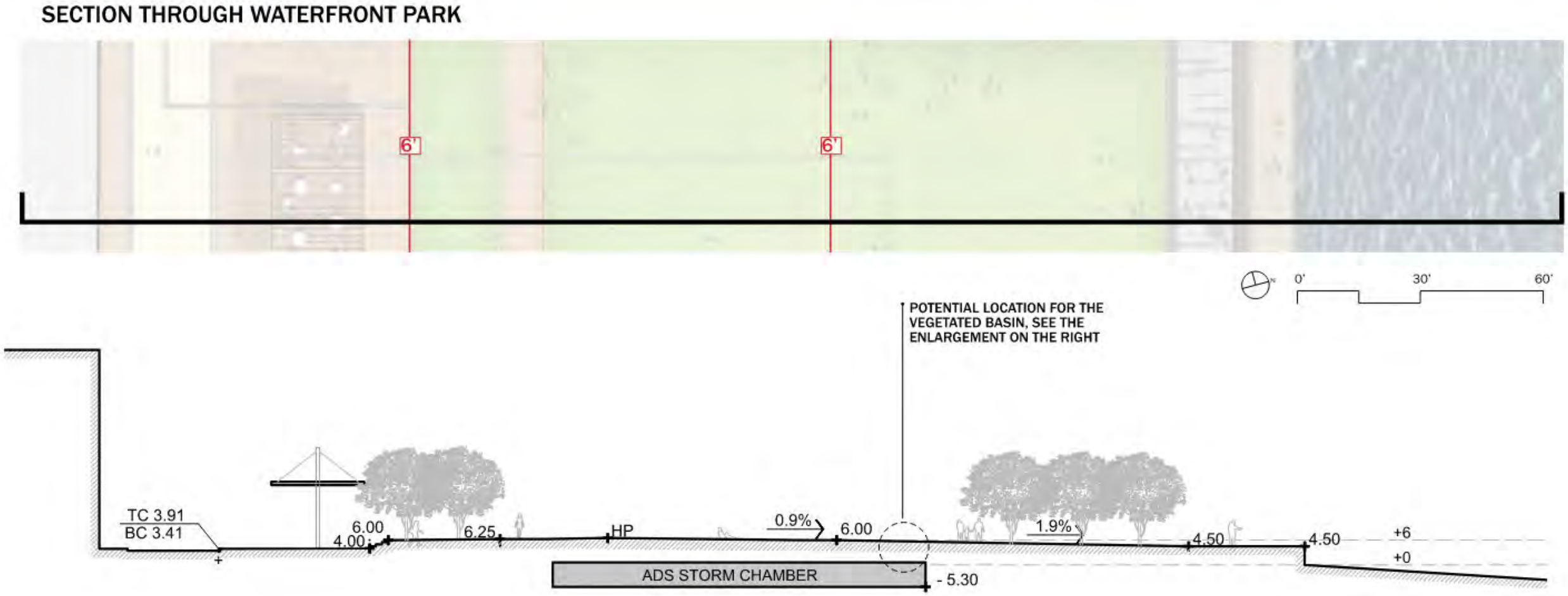
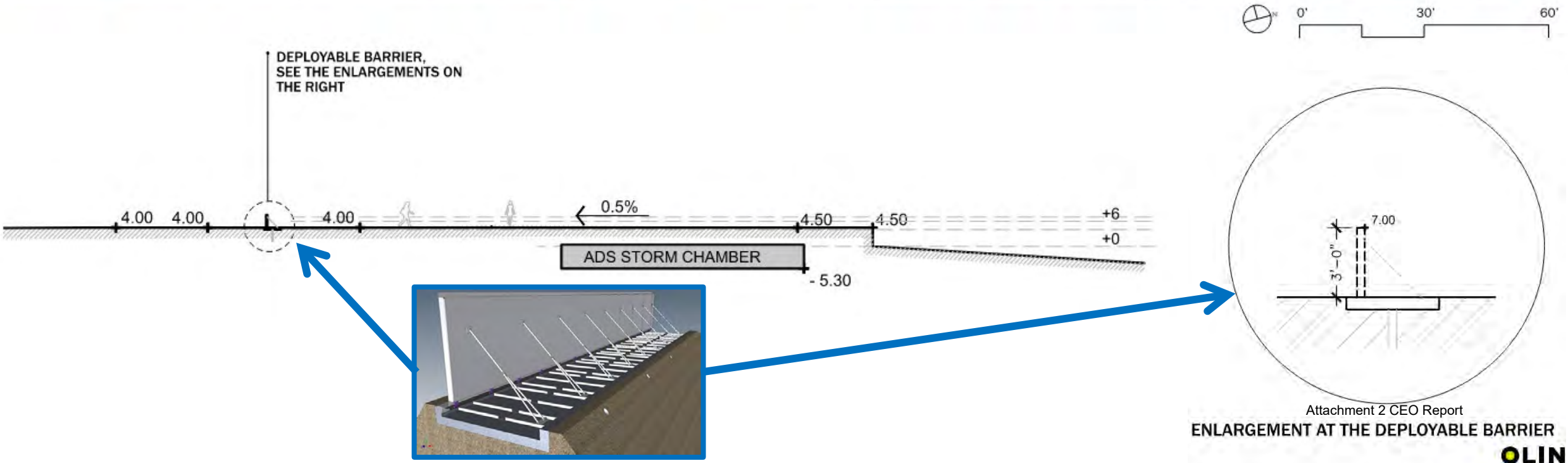
Flood Barriers – Option 5 Inland Flood Protection (Deployable at King Street Square)



Flood Barriers – Option 5 Inland Flood Protection (Deployable at King Street Square)

SECTION THROUGH KING STREET SQUARE



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ENLARGEMENT AT THE DEPLOYABLE BARRIER

OLIN

Potential Integrated Solutions

Hinged Barrier

Ha-Ha Wall

Floodproof Glass

ALL REQUIRE ADDITIONAL ANALYISIS AND SITE INVESTIGATIONS

WITH FEEDBACK AND ADDITIONAL INFORMATION, TEAM WILL INTEGRATE ELEMENTS FROM ALL THREE TRACKS:

PROJECT PHASING

Could the Baseline Project be implemented over a longer time-period, and restrict the first phase to <$102M?

VALUE ENGINEERING

How might we value engineer the "big ticket" items (bulkhead, pump stations, and parks)?

ALTERNATIVE/ GREEN SOLUTIONS

How might green infrastructure offset the need for a new bulkhead and pump stations?

ALL REQUIRE ADDITIONAL ANALYISIS AND SITE INVESTIGATIONS

SUBCOMMITTEE FEEDBACK REQUESTED:

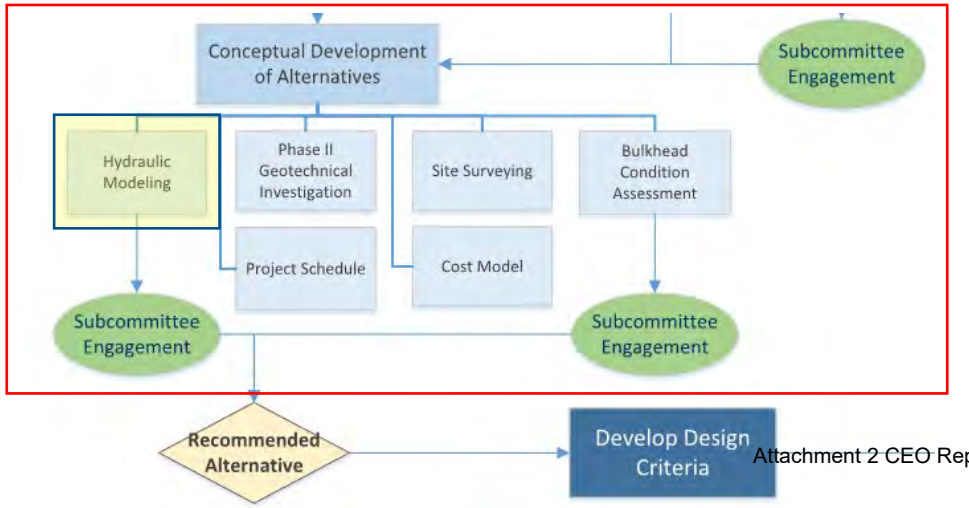
- Requesting Subcommittee feedback on alternatives concepts and approaches to:
  - **Stormwater management - Low Impact Development Strategies:**
    - Pervious pavement in public ROW/parking lane
    - Underground storage – Waterfront Park / Founders Park
    - Stormwater feature as Public Amenity – Founders Park
  - **Alternative flood protection strategies:**
    - Flood barriers:
      - Deployable products and technologies
        - Flood gates
        - Flood fence
        - Building flood proofing measures
      - Fixed Features (do not require activation/deployment)
        - Flood Glass Guardrail
        - Landscape site walls – amenity as infrastructure
  - **May provide feedback now, at next Subcommittee meeting, or via email to: Matthew Landes via email**: Matthew.Landes@AlexandriaVA.gov

Conceptual Development of Alternatives

Hydraulic Modeling

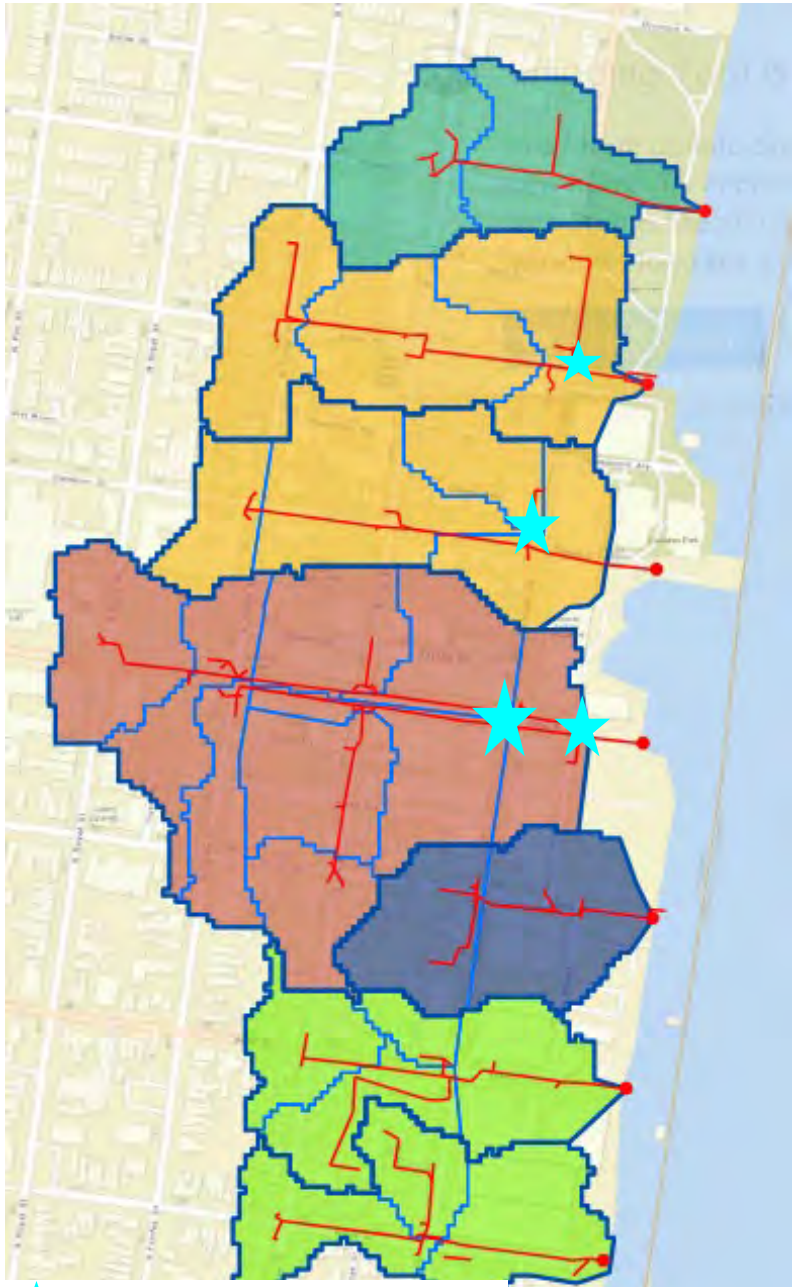
Hydraulic Modeling – Objectives and Outcomes

- XPSWMM Hydraulic Model
- **Confirm capacity** of core area existing storm sewer system
- **Identify ponding areas**, depth, and duration
- **Confirm** Project Baseline impact on mitigating flooding
  - Stantec Stormwater Management Plan Alternative 3B
- **Evaluate** flooding mitigation impact of modifications to project baseline
  - Underground Storage
  - Reduced Pump Station Sizes
  - Installation of flap valves at outfalls



Hydraulic Review
Existing Condition in Old Town

- Three Sources of Flooding:
  - Tidal back-up
  - Overtopping of existing bulkhead
  - **Rainfall**
- Existing storm-sewer infrastructure is ***significantly*** **undersized**
- Installing backflow prevention at each outfall would eliminate tidal back-up, but would not improve wet-weather induced flooding
- Low points (El. < 3-ft NAVD88) along bulkhead are most vulnerable for overtopping



Design Storms and Impact on Flooding

Design	Design Storm	Storm Duration	Area of Analysis	Method of Evaluation
Baseline	10-year return Peak intensity is 9 in/hr	5-min	Core Area	MS Excel
Current		5-min*	Entire contributing catchment areas to each of the five outfalls designed within Core Area	XPSWM Model
		2-hour		
		24-hour		

- Dynamic and realistic storm durations
- Understand changes in flooding across entire catchment areas
- Assess the need to coordinate with City's ongoing storm capacity assessment and analysis.

*Used to validate the Stantec storm sewer design including sizing of pump stations

Design Storm Selection and Impact on Flooding

Design	Design Storm	Storm Duration	Area of Analysis	Method of Evaluation
Baseline	10-year, 9 in/hr	5-min	Core Area	MS Excel
Current		5-min*	Entire contributing catchment areas to each of the five outfalls designed within Core Area	XPSWMM Model
		2-hour		
		24-hour		

Selected

- Dynamic and **realistic** storm durations
- Understand changes in flooding across **entire** catchment areas

WILL CONTINUE TO MONTIOR BEST PRACTICES/CLIMATE PROJECTIONS

*Used to validate the Stantec storm sewer design including sizing of pump stations

Project Baseline Calculations

	Rainfall Intensity (inches / hour)	
Recurrence Interval (year)	City IDF Curve	NOAA Atlas 14 IDF Curve
1	4.60	4.28
2	6.20	5.12
5	8.10	6.10
10	9.00	6.80
25	10.80	7.72
50	12.50	8.39
100	13.80	9.05
500	-	10.50
1000	-	11.20

IDF = Intensity-Duration-Frequency

- Baseline Design Storm:
  - 10-year return period
  - Rainfall intensity: 9 in/hr
  - Event duration: 5 minutes
- Core Area

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New Hydraulic Model Parameters

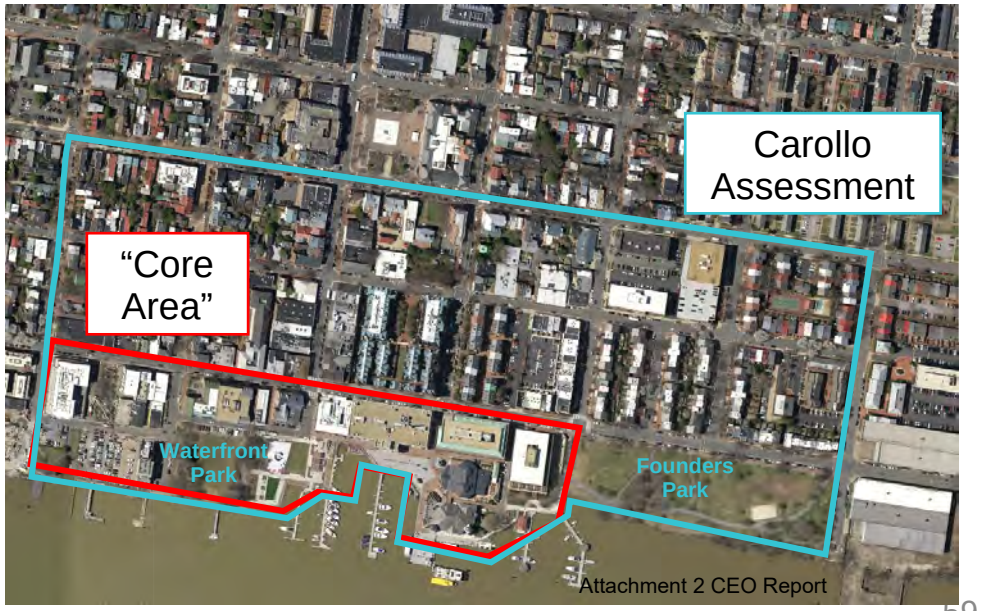
	Rainfall Intensity (inches / hour)	
Recurrence Interval (year)	**City IDF Curve**	**NOAA Atlas 14 IDF Curve**
1	4.60	4.28
2	6.20	5.12
5	8.10	6.10
10	9.00	6.80
25	10.80	7.72
50	12.50	8.39
100	13.80	9.05
500	-	10.50
1000	-	11.20

IDF = Intensity-Duration-Frequency

No Change to Storm Recurrence & Rainfall Intensity

- Baseline Design Storm:
  - 10-year return period
  - Rainfall intensity: 9 in/hr
  - Event duration: **2 hours**
- **Extended** Area

Longer duration & **Larger** area



Existing Stormwater Sewer System Capacity & Ponding Areas

10-year Storm, 9 in/hr. Intensity, 2-hr Duration, High Tide (3.6 ft.)

Existing

- Overwhelmed system due to **tidal back-up** and **stormwater runoff insufficient capacity**
- Water cannot evacuate Core Area until tide lowers

Up to 1-ft flooding along Union St

Up to 3-ft flooding at King St & Strand Intersection

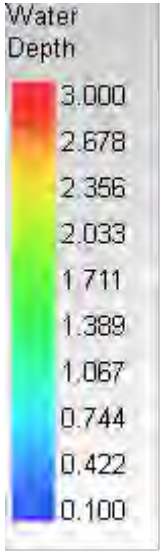
Up to 1.5-ft flooding at Prince St behind bulkhead

Project Baseline Stormwater Sewer System Capacity & Ponding Areas

10-year Storm, 9 in/hr. Intensity, 2-hr Duration*, High Tide (3.6 ft.)

Existing

Baseline



- Up to 8-inches of overland flooding
- Water will run across surface until it reaches an available inlet
- Subsides < 1hr

Tidal induced flooding at high tide

*5-min duration eliminates flooding within Core Area

Model Verification against Historical Data – Year 2018

Model Comparisons:

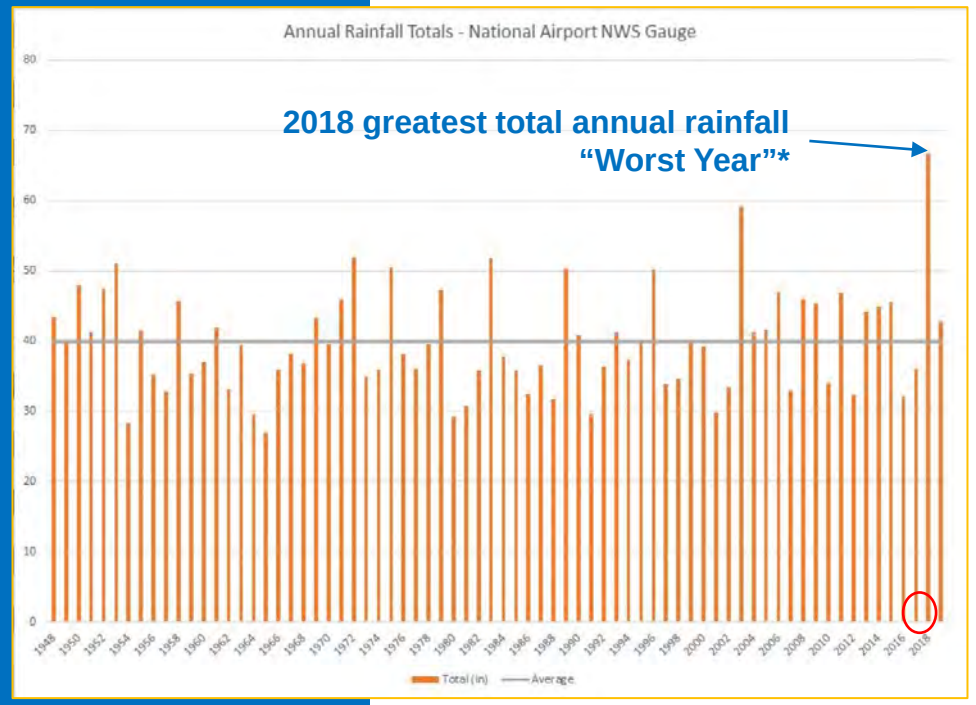
- Existing, Baseline & Proposed Design Conditions Model:
  - Model-built Storm Return Period: **10-yr storm (COA IDF)**
  - Model-built Storm Intensity: **9 in/hr.** [Peak 5-min period: **2.21 in/hr.**]
  - Model-built Storm Duration: **2 hours**

- 2018: "**Worst Year**" based on total annual rainfall for period 1948-2019
  - Storm Return Period in 2018: up to **50-yr storm**
  - Storm Intensity in 2018: up to approx. **2.75 in/hr**.
  - Storm Duration in 2018: **1 hour** (actual duration)

- 2013: "Typical Year" based on total annual rainfall for period 1948-2018
  - Storm Return Period in 2013: **1 – 5 yr. storm (NOAA)**
  - Max. Storm Intensity in 2013: **1.2 in/hr**.
  - Storm Duration in 2013: **Actual Duration** (rainfall data)

- Greatest Historical Storm Intensity (1948 – 2018): **3.29 in/hr**. July 22, 1969

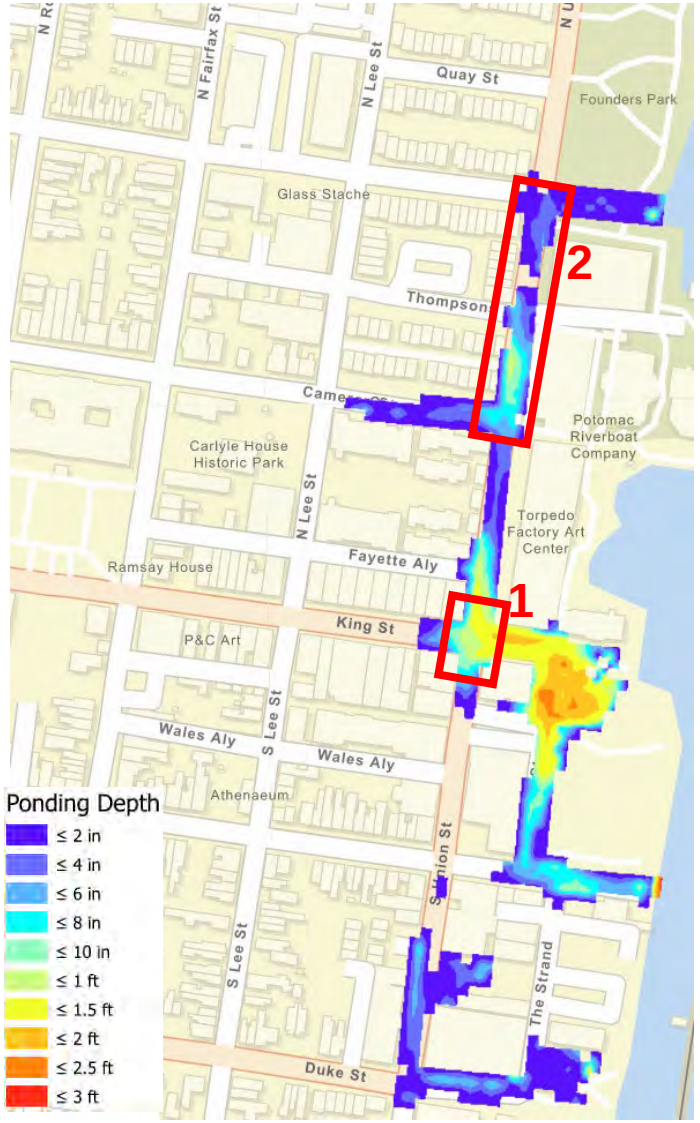
- Year 2100 Climate Change SimCLIM Model Projected Storm Intensity : **7.84 in/hr.** (5-min. duration)



*Year 2018 "Worst Year" **66.2 inches** total annual rainfall compared to **39.8 inches** annual average

Existing Condition and Frequency of Flooding for the 2-hour storm duration

Intersection	Return Interval	Annual Probability of Occurrence	Max Depth of Ponding	Duration of Total Ponding
1 King & Union	1-year	100%	1 – 1.5’	1:48
	2	50%	1 – 1.5’	1:50
	5	20%	1.5 – 2’	1:54
	10	10%	1.5 – 2’	1:56
	2018 Storm	N/A	1 - 1.5'	~ 1 hr.
2 Union b/w Cameron & Queen	1-year	100%	0.5 – 1’	0:56
	2	50%	1 – 1.5’	1:00
	5	20%	1 – 1.5’	1:08
	10	10%	1 – 1.5’	1:18
	2018 Storm	N/A	0.5 - 1'	~ 1hr.



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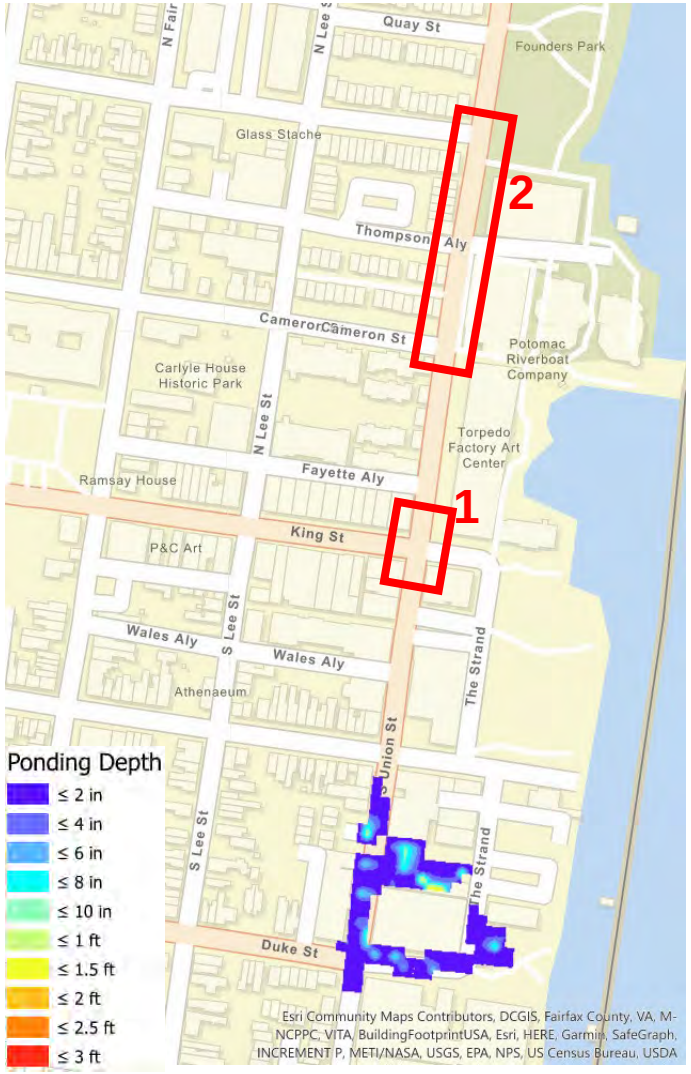
Proposed Sewer Improvements with Underground Storage and Frequency of Flooding for the 2-hour storm duration

Intersection	Return Interval	Annual Probability of Occurrence	Max Depth of Ponding	Duration of Total Ponding
1 King & Union	1-year	100%	1 – 1.5’	1:48
	2	50%	1 – 1.5’	1:50
	5	20%	1.5 – 2’	1:54
	10	10%	1.5 – 2’	1:56
	2018 Storm	N/A	None	--
2 Union b/w Cameron & Queen	1-year	100%	0.5 – 1’	0:56
	2	50%	1 – 1.5’	1:00
	5	20%	1 – 1.5’	1:08
	10	10%	1 – 1.5’	1:18
	2018 Storm	N/A	None	--



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Conclusions

- Low Impact Development should be included where viable; however, will not significantly reduce the need for other mitigation strategies.
  - Streetscape solutions may be limited by available corridor space and historical considerations.
- **Underground storage has potential to greatly reduce the need for large pump stations**.
  - **Impact is tripled if we can retrofit additional storage under Founder's Park.**
  - Above-ground rainwater features provide additional capacity but sacrifice green space.
- **Alternative approaches to Flood Barriers and Flood Protection may save up-front costs and allow for phasing, resilience, and greater cost-benefit**

Next Steps / Schedule

- Immediate Next steps:
  - Additional community engagement
  - Next subcommittee meeting: June 7th - Virtual
  - Geotechnical testing and structural analysis
  - Refinement of alternatives based on:
    - Modeling
    - Cost-benefit analysis
    - Engineering studies
    - Community feedback
    - Integration of Phasing, Value Engineering, and Alternatives

- Anticipated Project Timeline*:
  - Additional Investigations and Modeling / Cost-Benefit Analysis - 24 – 36 weeks to complete
  - Alternatives/Public Input –
    - Scope of work aligned to priorities
  - PDB RFQ development: present – Mid-2022
    - Cost-Benefit Analysis
    - Criteria development to qualify PDB
    - Industry outreach
    - Updates to Council and Waterfront Commission
  - PDB procurement: Late 2022
  - PDB phase 1 (design): Late 2022-2023
  - Negotiate GMP: Late 2023-2024
  - PDB phase 2 (construction): Early-mid 2024
  - Site Construction: mid-2024 through mid 2027

*Schedule subject to change to accommodate community feedback and civic engagement and/or changes to CIP funding schedule

SUBCOMMITTEE FEEDBACK REQUESTED:

- Requesting Subcommittee feedback on alternatives concepts and approaches to:
  - **Stormwater management - Low Impact Development Strategies:**
    - Pervious pavement in public ROW/parking lane
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  - **Alternative flood protection strategies:**
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        - Building flood proofing measures
      - Fixed Features (do not require activation/deployment)
        - Flood Glass Guardrail
        - Landscape site walls – amenity as infrastructure
  - **May provide feedback now, at next Subcommittee meeting, or via email to: Matthew Landes via email**: Matthew.Landes@AlexandriaVA.gov

Monthly Financial Report

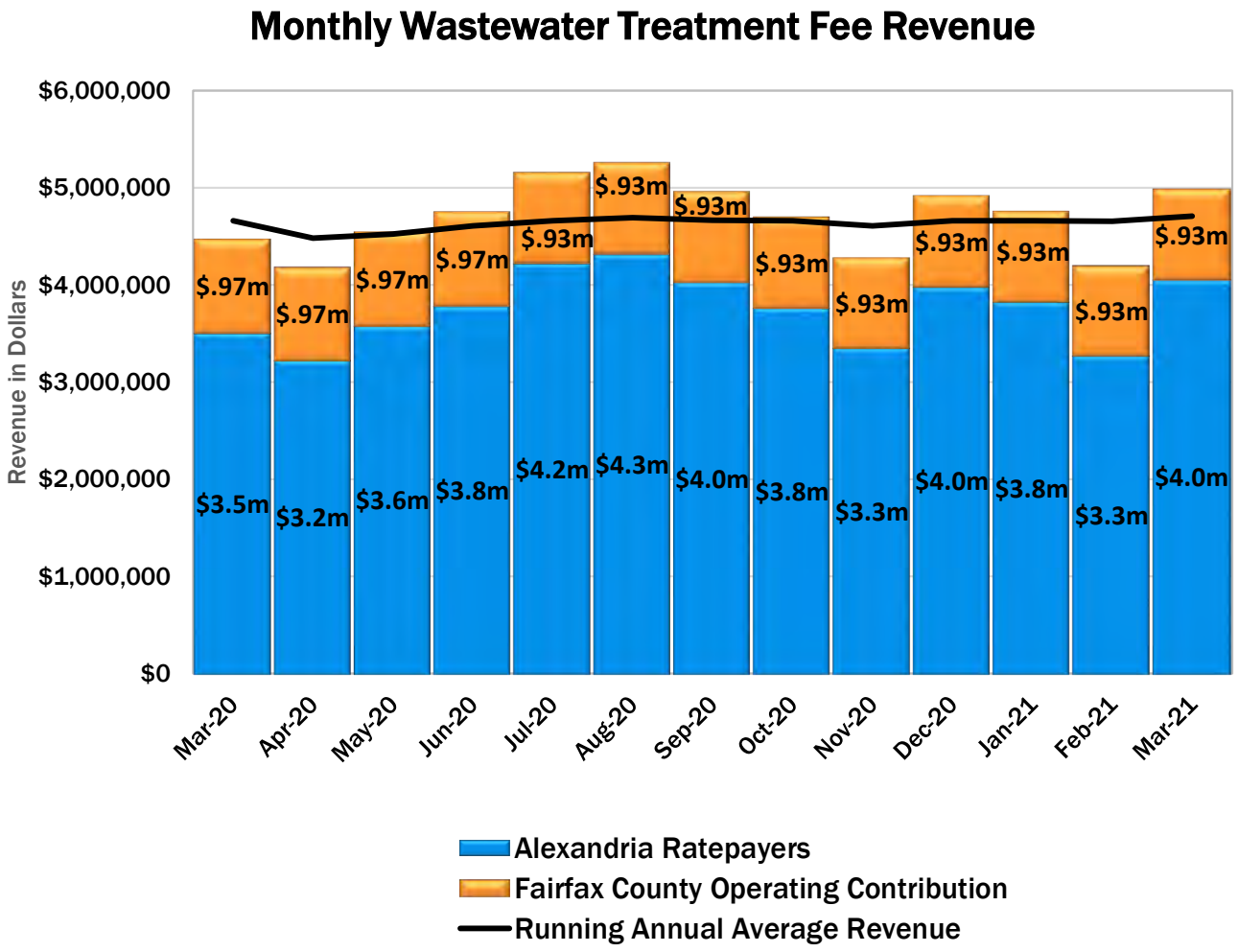
Month: March 2021

Overview

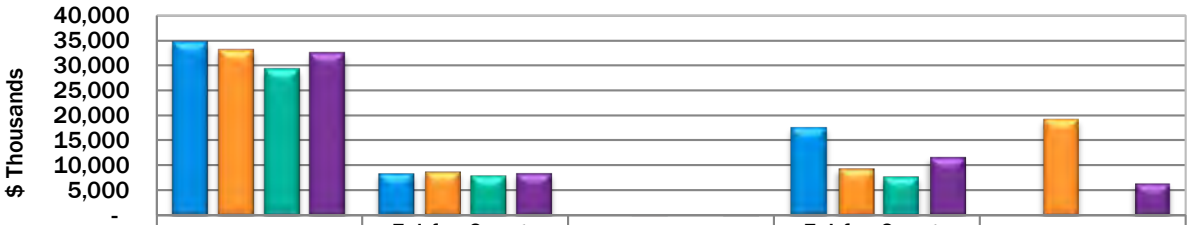
Monthly performance of AlexRenew's annual approved budget is reviewed and evaluated against actual to planned spend rates, historical trends, appropriate benchmarks and internal financial policies, to ensure overall organizational financial stability.

Revenues

- FY21 operating revenues total $43.2 million through the end of March with approximately $34.7 million in Wastewater Treatment Charge revenue and $8.4 million collected from Fairfax County. Wastewater Treatment Charge revenue is approximately $1.6 million (4.76%) more compared to the same time period in FY20, and $5.1 million (17%) above the Fiscal 2021 YTD budget. Data indicates a slight increase month-over-month in customer revenue in March 2021. Finance staff will continue to monitor the trend in coming months.
- Revenue performance is primarily driven by billed flows that may be impacted by seasonality and by the Virginia American Water meter reading process, which can vary month-to-month.
- The Fairfax County operating expense charge and IR&R contribution YTD are on budget respectively. Fairfax County capital outlay contributions are also in-line with capital expenditures.

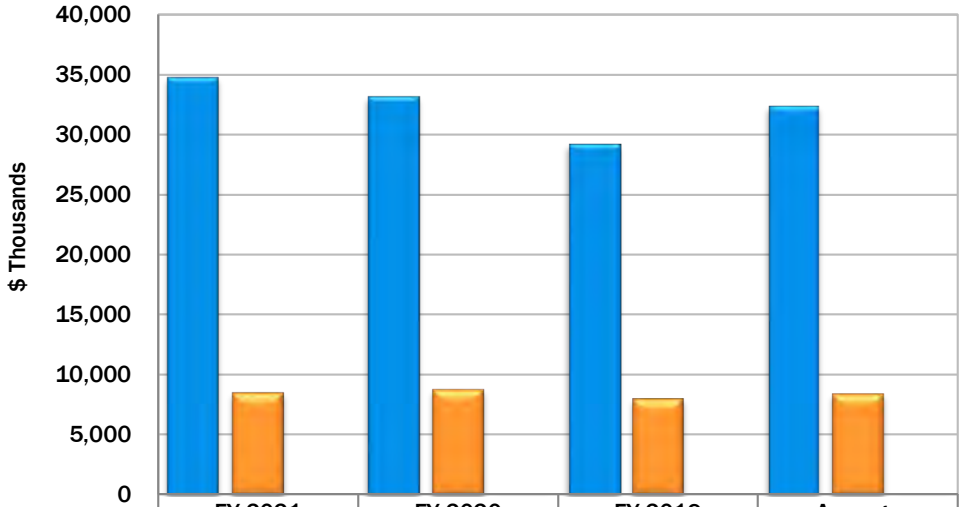


Annual Revenue and Capital Contributions
3 Year Comparison



	Wastewater Treatment Fees	Fairfax County Wastewater Fees	Miscellaneous	Fairfax County Capital and IR&R Fees	Grant Revenues
FY 2021	34,759,290	8,454,204	-	17,619,309	-
FY 2020	33,179,707	8,740,234	37,540	9,419,495	19,251,078
FY 2019	29,199,359	7,968,240	-	7,725,332	-
Average	32,379,452	8,387,560	12,513	11,588,045	6,417,026

Annual Operating Fund Revenues
3 Year Comparison



	FY 2021	FY 2020	FY 2019	Average
Wastewater Treatment Fees	34,759,290	33,179,707	29,199,359	32,379,452
Fairfax County Wastewater Fees	8,454,204	8,740,234	7,968,240	8,387,560
Miscellaneous	0	37,540	0	12,513

Expenses

FY21 operating and maintenance expenses are approximately 10% or $2.08 million under the year-to-date budget, representing a spend rate of 67.7%. An overall decrease in Operations and Maintenance and General Administrative costs accounts primarily for this variance.

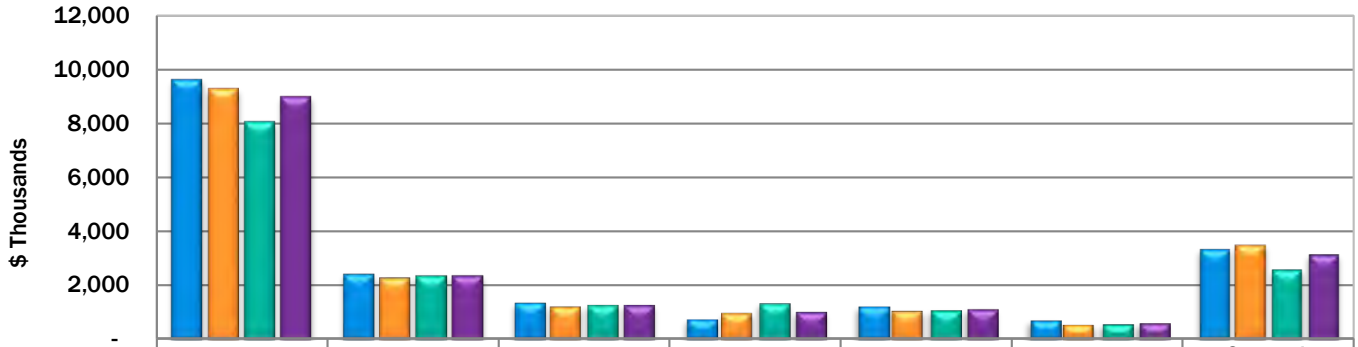
Capital outlay expenses are $43.43 million year-to-date, representing a spend rate of 71.4%.

At nine (9) months into the fiscal year, the overall spend rate is 73.1% of the total budget.

Expenses By Fund

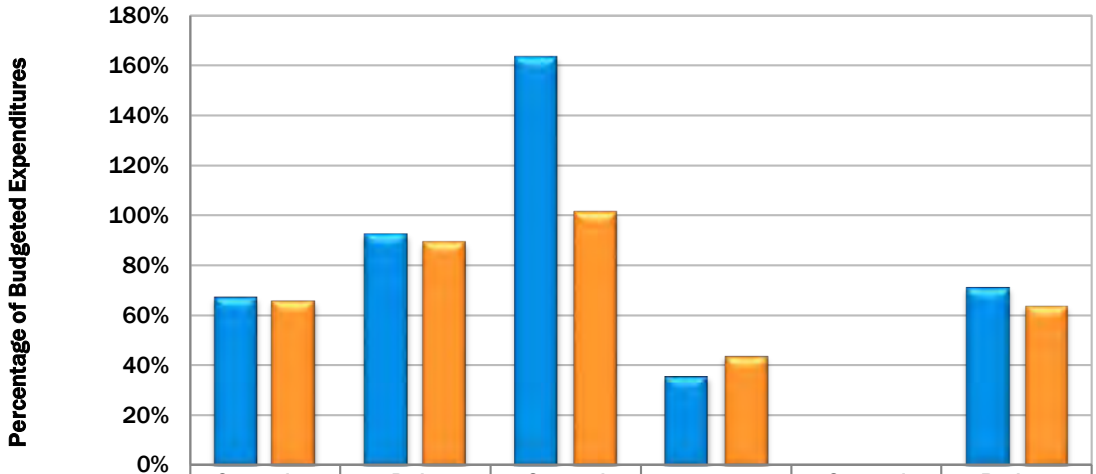
ACTUAL VS. BUDGET Through March 2021					SPEND RATE		
($ Millions)	FY 2021	FYTD 2021	3 YR AVG	FYTD 2021	FY 2021	3 YR AVG	Variance FY21
Expenses (By Fund)	BUDGET	ACTUAL	ACTUAL	BUDGET	% of Budget	% of Budget	to 3 YR AVG
Operating Fund	$ 28.39	$ 19.21	$ 18.60	$ 21.29	67.7%	65.9%	1.8%
Debt Service	14.12	13.12	12.99	10.59	92.9%	89.4%	3.5%
General Fund*	2.28	3.73	4.13	1.71	163.5%	101.4%	62.1%
Joint IR&R	5.63	2.03	2.28	4.22	36.1%	44.0%	-7.9%
General Fund IR&R	0.25	-	-	0.19	0.0%	0.0%	0.0%
Project Fund	60.86	43.43	27.64	45.65	71.4%	63.8%	7.5%
Total	$ 111.53	$ 81.52	$ 65.65	$ 83.65	73.1%	68.7%	4.4%

Annual Operating Expenses 3 Year Comparison



	Personnel Services	Utilities	Chemicals	Operation Maintenance	Arlington Sewage Disposal	Sludge Disposal	General, Administrative, Customer Service and Other
FY2021	9,623,650	2,448,588	1,368,638	767,453	1,243,487	725,293	3,354,936
FY2020	9,284,703	2,312,504	1,239,574	1,002,618	1,088,961	562,287	3,515,388
FY2019	8,074,766	2,396,720	1,300,597	1,346,885	1,102,179	591,720	2,606,361
Average	8,994,373	2,385,937	1,302,937	1,038,985	1,144,876	626,433	3,158,895

Expenditure Budget Comparison By Fund
FY 21 vs. 3 Year Average



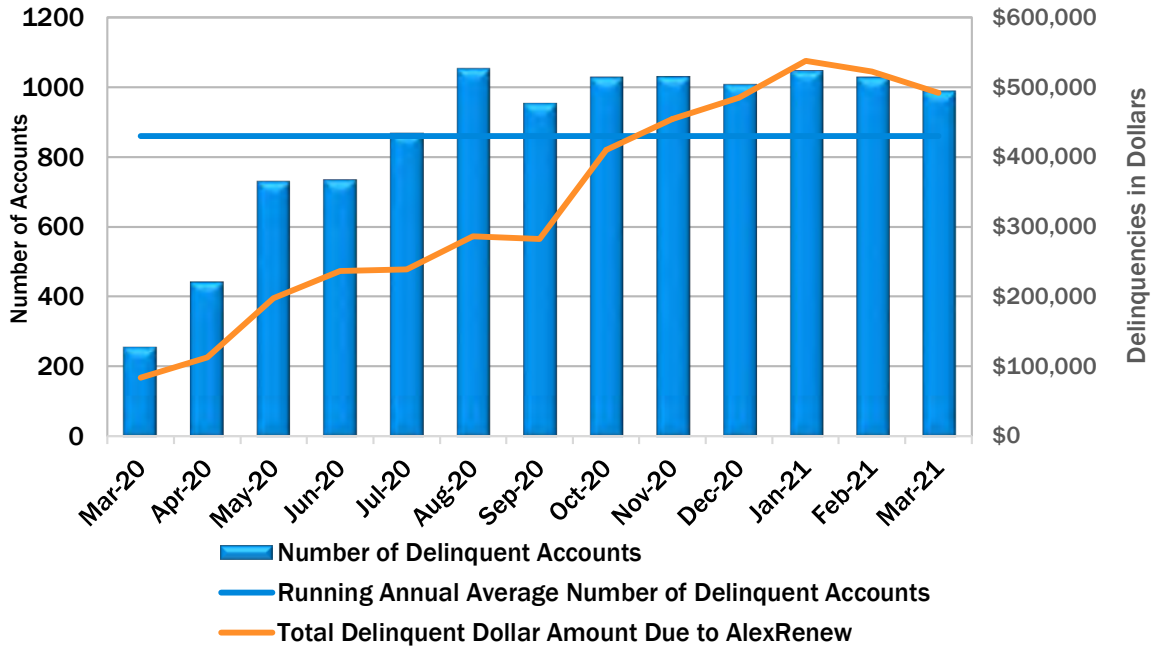
	Operating Fund	Debt Service	General Fund*	Joint IR&R	General Fund IR&R	Project Fund
FY 2021 % of Budget	67.7%	92.9%	163.5%	36.1%	0.0%	71.4%
3 YR AVG % of Budget	65.9%	89.4%	101.4%	44.0%	0.0%	63.8%

* Increase in General Fund expenditures due to Alexandria-only RiverRenew easement payments

Delinquencies

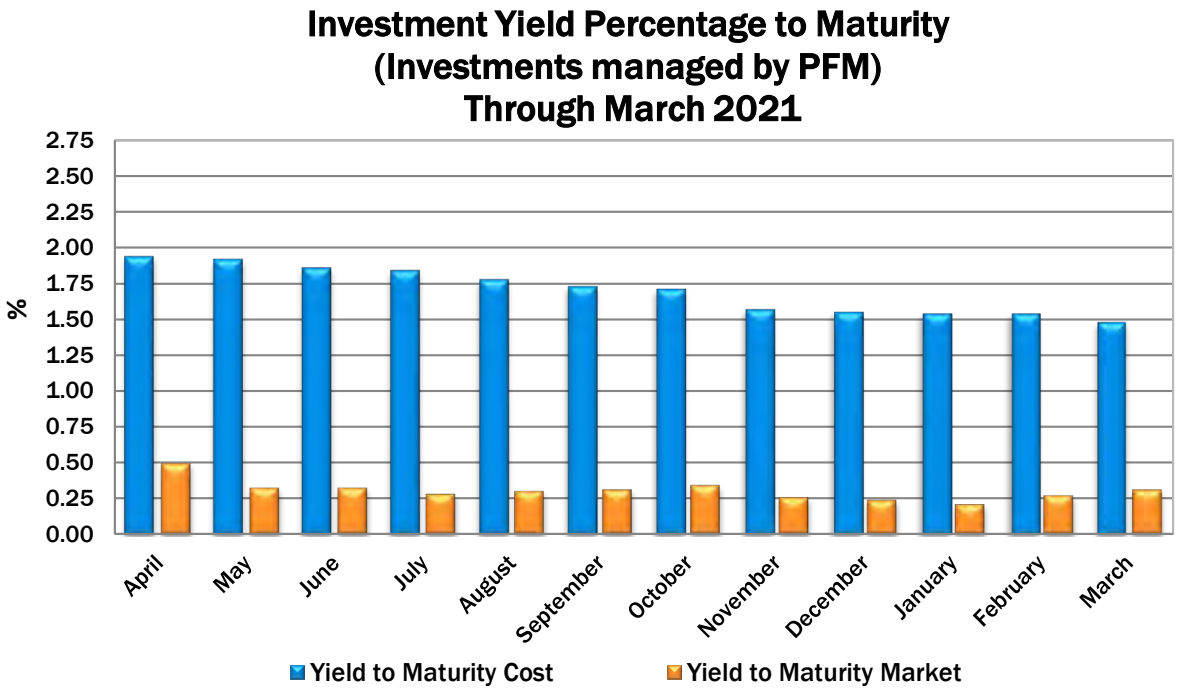
The number of accounts that are delinquent by more than 60 days decreased month-over-month, from 1,029 accounts in February to 989 in March. The total dollar amount owed to AlexRenew from these accounts decreased to $491,812. As with all delinquent customers, AlexRenew's customer service professionals continue to help customers bring accounts current, initiate a payment plan and/or evaluate eligibility for relief funding.

Active Accounts 60+ Days Delinquent



Investments

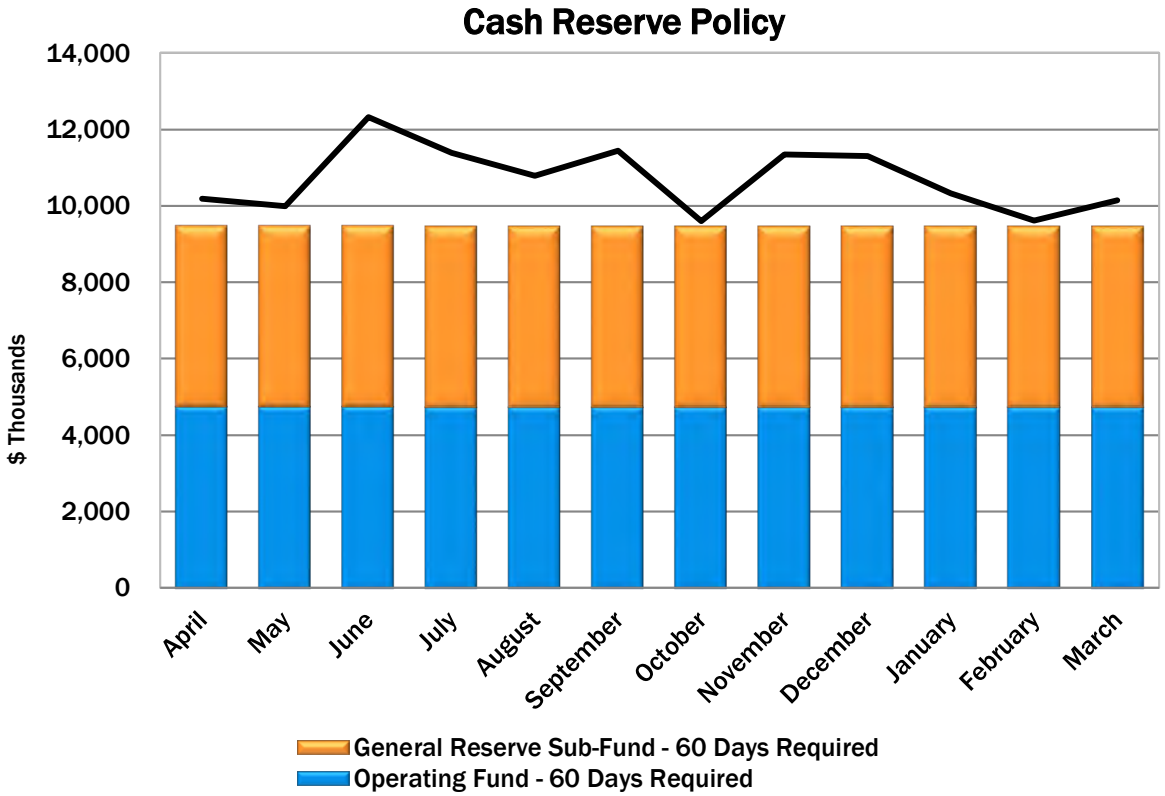
PFM Investment Advisors manages approximately $21 million of AlexRenew's $28.0 million investment portfolio. The following graph demonstrates current earnings on investments of approximately 1.48%; a level significantly higher than general bank deposit earnings rates.



Cash Reserves

The Indenture requires that we maintain a balance on deposit in our Operating Fund equal to not less than 60 days of budgeted operating expenses. AlexRenew's Financial Policy requires a balance on deposit in our General Reserve Sub-Fund also equal to not less than 60 days of budgeted operating expenses. In total, these combined compliance conditions require AlexRenew to maintain at least 120 days' cash on hand, and for FY21 this equals a minimum of $9,462,334. The chart and graph below demonstrate that AlexRenew currently exceeds this requirement.

Board Policy 120 Days Cash Reserves	Actual	Percentage of Goal
As of March, 2021		
Total Operating Cash	$ 2,844,438	
Total Certificates of Deposit (Cash Equivalent)	$ 2,859,705	
CARE ACT COVID19 Funding Balance	$ (289,072)	
Total Operating Cash	$ 5,415,071	
Total General Reserve Sub-Fund Cash	4,731,167	
Total Operating and General Reserve Sub-Fund Cash	10,146,238	107%

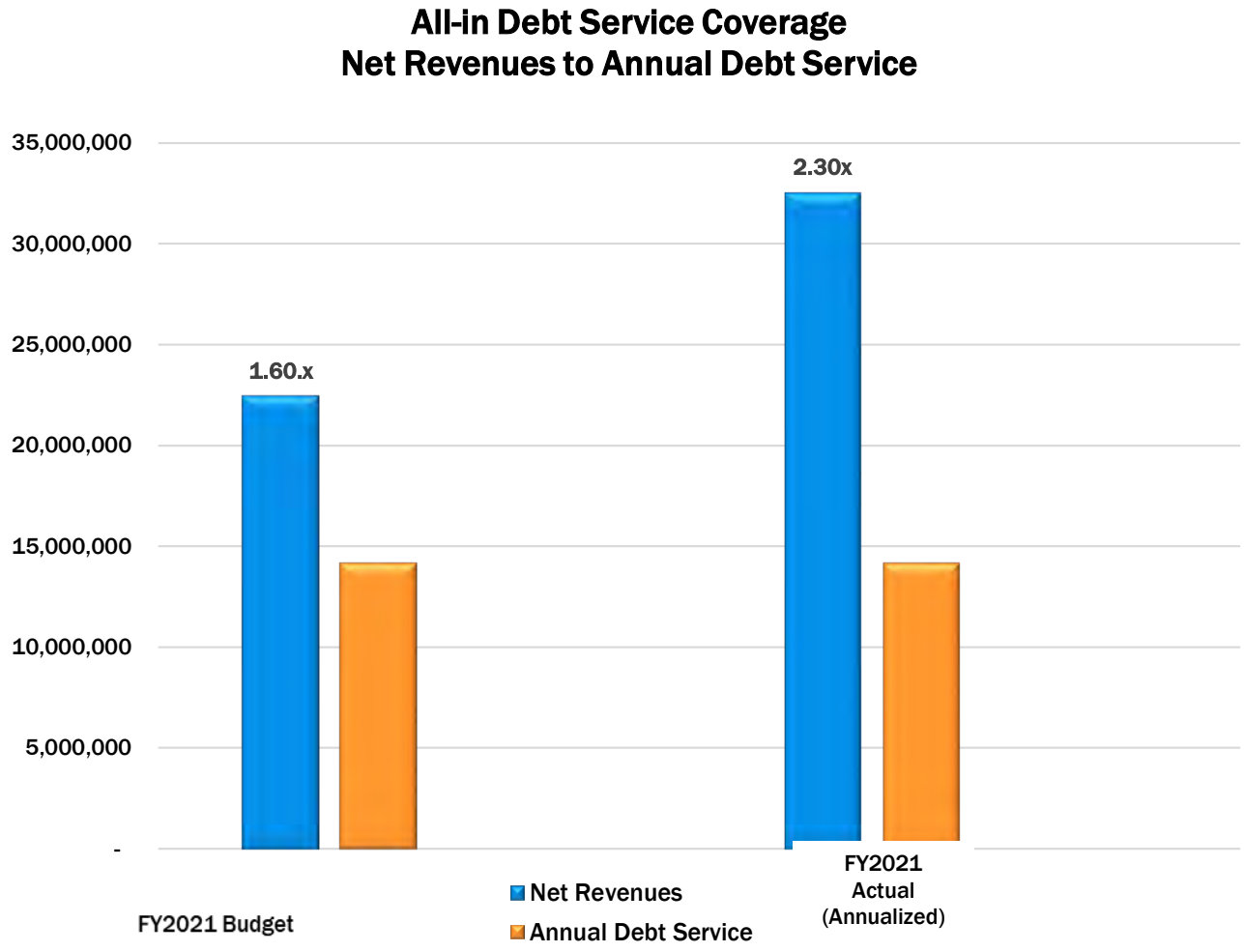


Debt Service Coverage

The Indenture also requires AlexRenew to maintain minimum debt service coverage such that Revenues less Operating Expenses or Net Revenues (each term as defined in the Indenture) is at least 1.10x the parity debt service due in any fiscal year. Compliance with our Board-approved financial policies requires AlexRenew to maintain a higher minimum debt service coverage of at least 1.50x applying the same criteria as defined above.

In both cases, AlexRenew currently exceeds its compliance standard as indicated in the graph below. The 1.6x designated in the graph below represents projected coverage for FY21 based on actual results to date. Note the anticipated coverage of 2.30x based on original FY21 budget expectations. As a result, AlexRenew is currently trending ahead of budgeted projections and minimum coverage policy.

Financial Policy Compliance - All-In Debt Service Coverage	FY 2021 Actual	FY 2021 Budget
Gross Revenues Available for Debt Service Coverage:		
Wastewater Treatment Charges - Alexandria Ratepayers	46,345,721	39,492,000
Fairfax County Operating Expense Charge	11,272,272	11,272,272
Reimbursement from other systems	-	-
Investment Income	506,492	115,000
Less Restricted Investment Income	-	-
Total	58,124,485	50,879,272
LESS Operating Expenses	(25,619,437)	(28,386,991)
Net Revenues [a]	32,505,048	22,492,281
Annual Debt Service [b]	14,123,976	14,123,976
Calculated All-In Debt Coverage [a/b]	2.30x	1.60x
Financial Policy Target	≥1.50x	≥1.50x


All-in Debt Service Coverage
Net Revenues to Annual Debt Service
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
-
1.60.x
2.30x
FY2021 Budget
FY2021 Actual (Annualized)
Net Revenues
Annual Debt Service

Glossary:

Revenue Fund

All revenue receipts of Alexandria Renew are deposited in the Revenue Fund.

The Operating Fund

The Operating Fund accounts for the administration and maintenance of the wastewater treatment system. By Board policy, the Operating Fund shall maintain 120 days of cash in reserve as established by Board Policy.

Parity Debt Service Fund

The Parity Debt Fund shall have deposited in it one-twelfth (1/12th) of the annual required debt payment due within the budget year. Deposits are restricted funds for use to make semiannual payments in accordance with the Alexandria Renew Trust Agreements.

Joint Improvement, Renewal & Replacement (IRR) Fund

The IR&R Fund receives deposits directly from Fairfax County (60% of IR&R budget) and from AlexRenew customer revenue (40% of IR&R budget) for asset renewal of joint use facilities. The contribution to the IRR Fund is 0.7% of the total amount of capital expenditures made subsequent to October 1, 1997, for the joint portion of the system, as set forth by the service agreement with Fairfax County.

Project Fund

The Project Fund records the cost of each joint use capital project included in the Alexandria Renew Capital Improvement Plans (CIP).

The plans for current and future capital projects, both joint and City only, is summarized in a Ten-Year CIP. City use only CIP are accounted for within the General Fund.

General Fund

The General Fund serves as reserve fund to be used for any lawful purpose of the Authority. Deposits to the General Fund are made from the Revenue Fund after all other fund expenditures and requirements have been satisfied. Alexandria Renew principally uses the General Fund to finance specific capital improvements and to provide sufficient reserves in accordance with policy.