

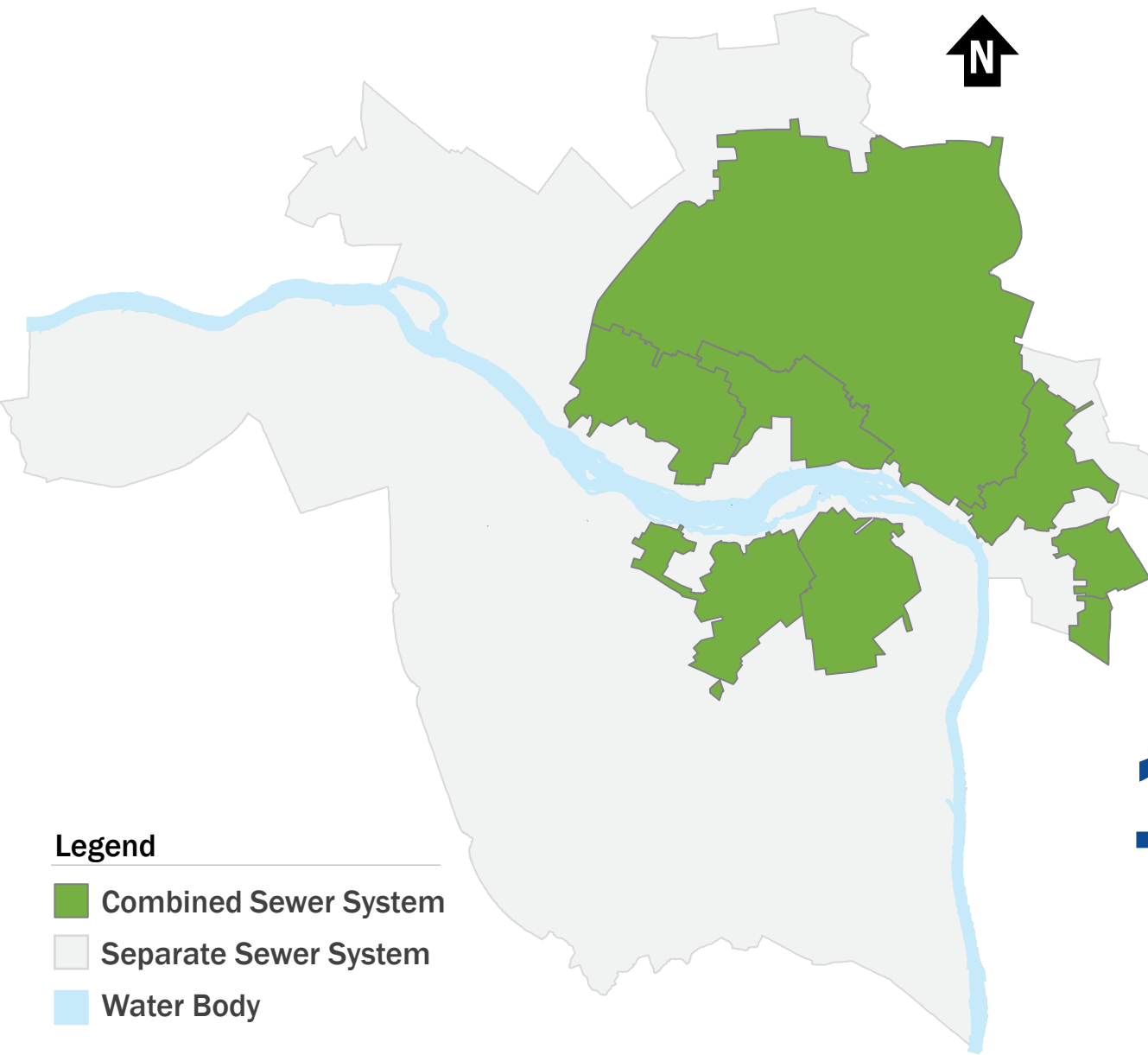


# Combined Sewer Overflow (CSO) Program Update

Government Operations Committee  
November 12, 2025



# Richmond DPU Wastewater Systems at-a-Glance



**8** wastewater  
pumping stations

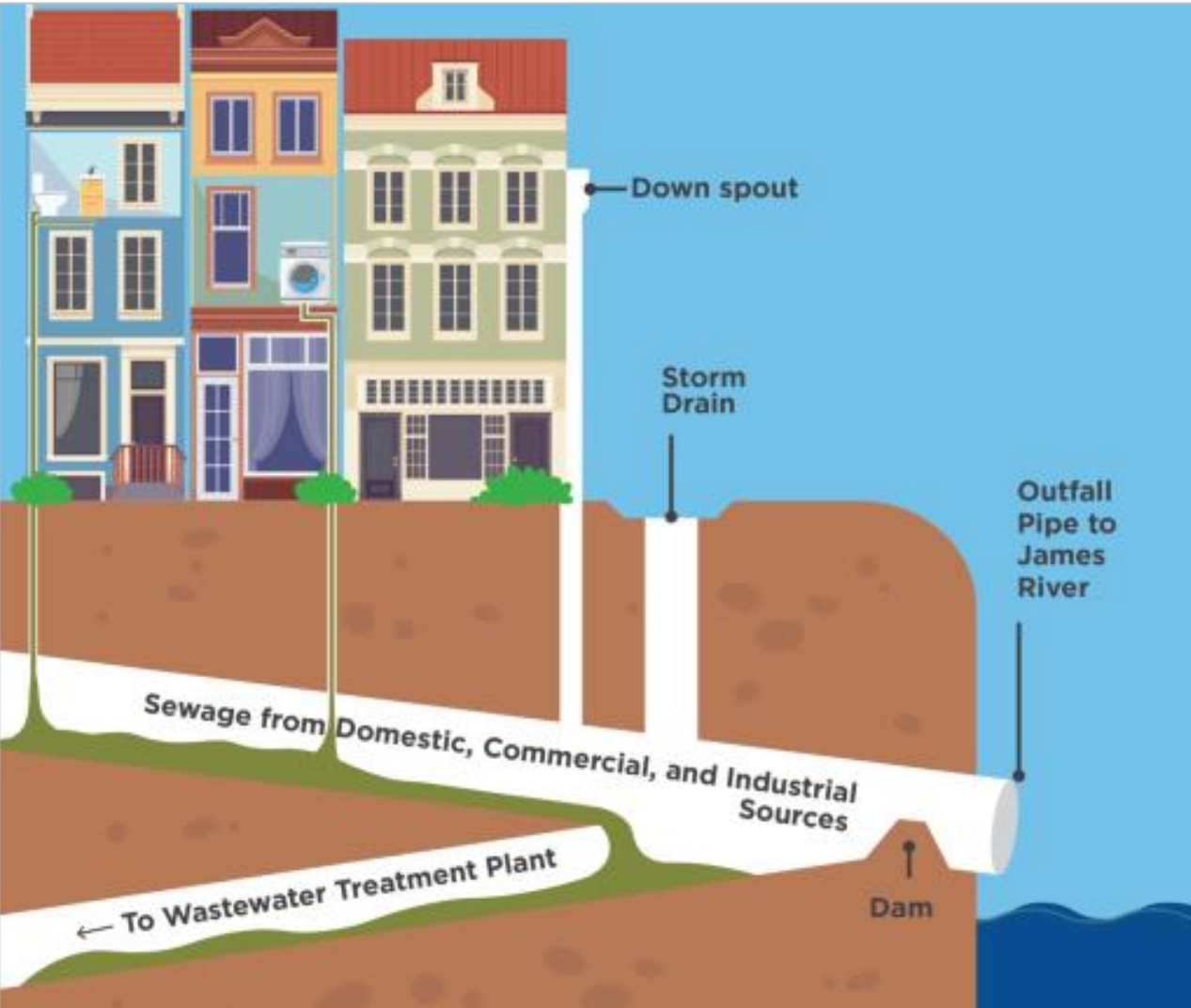
**25** combined sewer outfalls

**140** million gallons per day of  
wastewater treatment  
capacity

**1,000** miles of sewer  
interceptors and mains

# Richmond's legacy combined sewer system impacts water quality in the James


## Dry Weather Conditions



## Wet Weather Conditions



# Richmond's DPU has been working for decades to improve water quality in the James River

Phase 1 (1970 – 1988)	Phase 2 (1988 – 2002)	Phase 3 (2002 – 2020)
<b>2 Projects</b> <ul style="list-style-type: none"><li>• 50 MG Shockoe Retention Basin</li><li>• WWTP Improvements</li></ul>	<b>6 Projects</b> <ul style="list-style-type: none"><li>• 7 MG Hampton-McCloy Storage Tunnel</li><li>• New conveyance sewers</li><li>• Improvements focused on Fall of the James and Haxall Canal</li></ul>	<b>16 Projects</b> <ul style="list-style-type: none"><li>• WWTP Capacity Expansion from 75 to 140 MGD</li><li>• Gillies Creek outfall improvements along</li><li>• Various sewer separation projects</li></ul>
<b>\$420M<sup>1</sup></b>	<b>\$226M*</b>	<b>\$110M*</b>
 <b>Shockoe Retention Basin</b>	 <b>Hampton-McCloy Tunnel</b>	 <b>WWTP Expansion to 140 MGD</b>

*\*Cost of projects adjusted to 2024 dollars*



# Addressing Combined Sewage is Regulatorily Required

2005 CSO  
Special  
Order by  
Consent



2020 CSO  
Law  
(SB 1064)



Amended  
Existing Special  
Order by  
Consent



Interim Plan  
Final Plan





# Regulatory Deadlines

The 2020 CSO Law (SB1064) amended the 2005 Special Order by Consent by accelerating project implementation

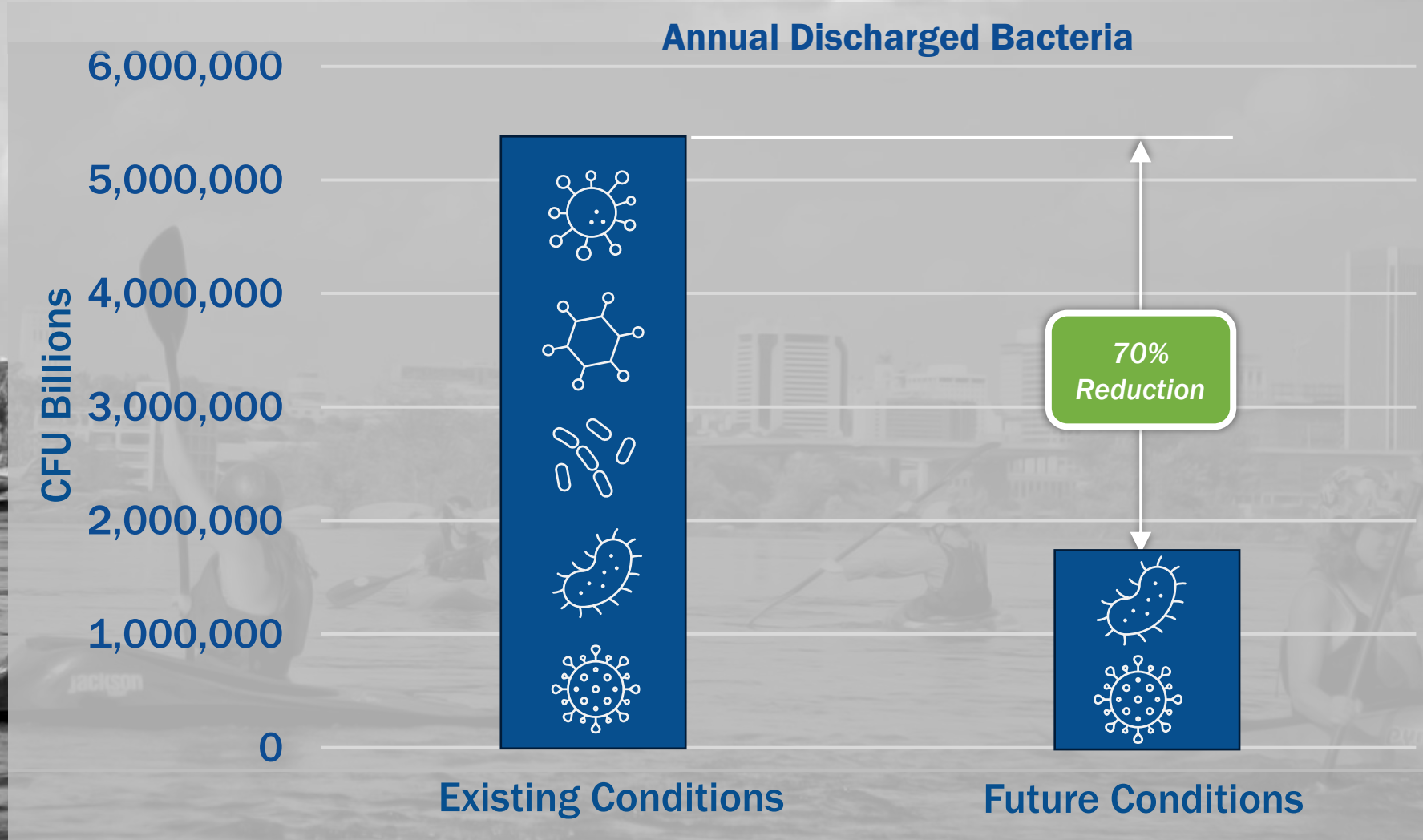
	Plan Due Date	Initiate Construction and related activities	Complete Construction
Interim Plan	✓ July 1, 2021	✓ July 1, 2022	July 1, 2027
Final Plan	✓ July 1, 2024	✓ July 1, 2025	July 1, 2035

Substantial value engineering was performed to select cost-effective strategies which save the City over \$500M.



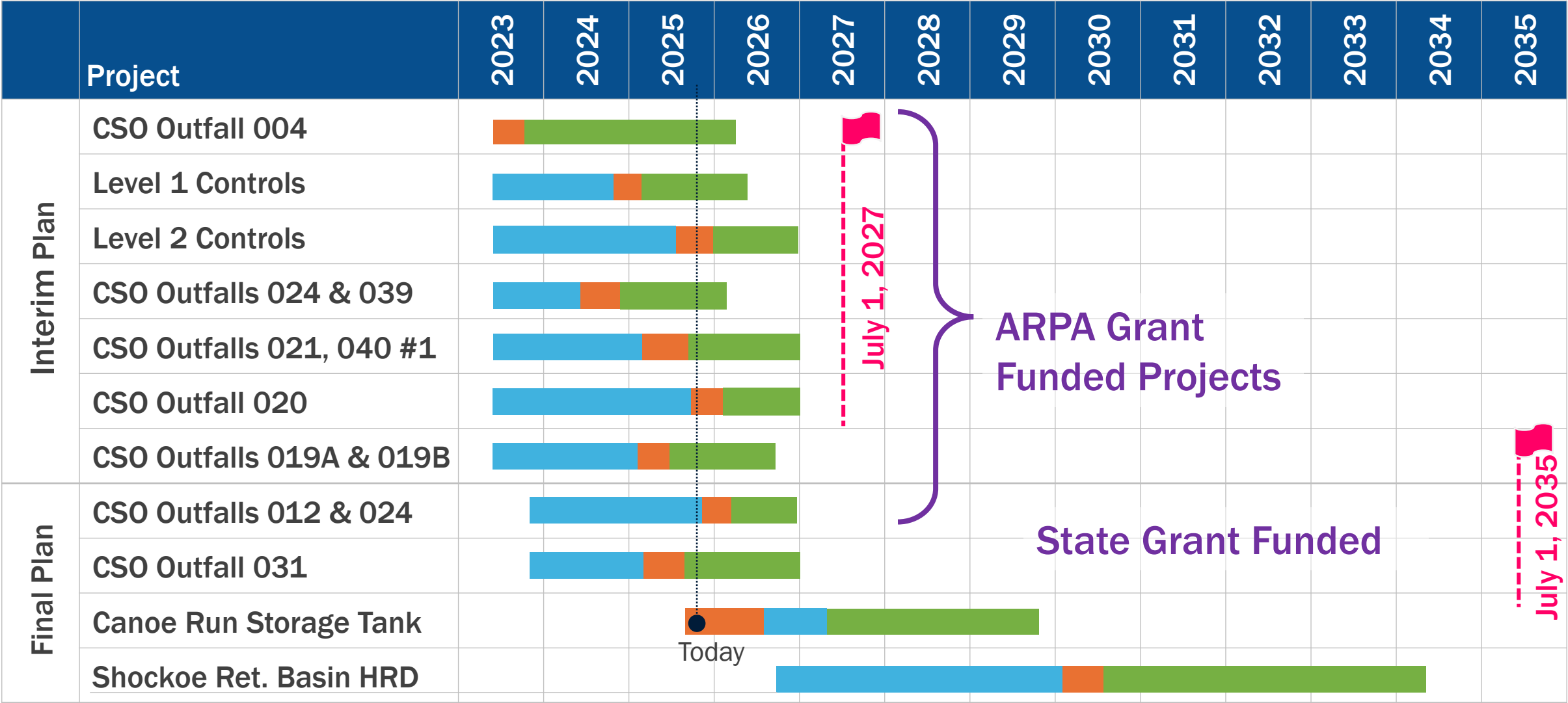
# Interim & Final Plan Goal

Reduce bacteria load to the James River from Richmond's combined sewer system by 70%



*Note: A colony-forming unit (CFU) is a unit of measure for bacteria in water*

# Interim and Final Plan Project Schedules





# Interim and Final Plan Project Locations


A map of the James River area in the Denver metropolitan area, showing project locations. The map includes major roads like I-25, I-76, I-70, I-95, and US-360, as well as local streets like S Meadow St, N 31st St, and E Broad St. The James River is shown in blue. Project locations are marked with green and orange circular icons. A legend in the bottom left corner identifies the icons: green circles for Interim Plan Projects (10) and orange circles for Final Plan Projects (4). A north arrow is in the top right corner.

**Legend**

- Interim Plan Projects (10)
- Final Plan Projects (4)

The diagram illustrates three strategies for managing Combined Sewer Overflows (CSOs) using a vertical flow of three rounded rectangular boxes. Each box contains an icon on the left and text on the right. The first box features a database cylinder icon and the text 'Storage' followed by 'Optimization of existing facilities and new tanks that capture CSO volume'. The second box features a circular arrow icon with a water drop and the text 'Treatment' followed by 'Disinfect CSO before it is discharged to receiving water bodies'. The third box features two opposing arrows icon and the text 'Separation' followed by 'Replace the CSS with separate sanitary and stormwater sewer systems'.

- Storage**  
Optimization of existing facilities and new tanks that capture CSO volume
- Treatment**  
Disinfect CSO before it is discharged to receiving water bodies
- Separation**  
Replace the CSS with separate sanitary and stormwater sewer systems



**Treatment**  
Disinfect CSO before it is discharged to receiving water bodies



Separation  
Replace the CSS with  
separate sanitary and  
stormwater sewer  
systems



**Legend**

- Interim Plan Projects (10)
- Final Plan Projects (4)

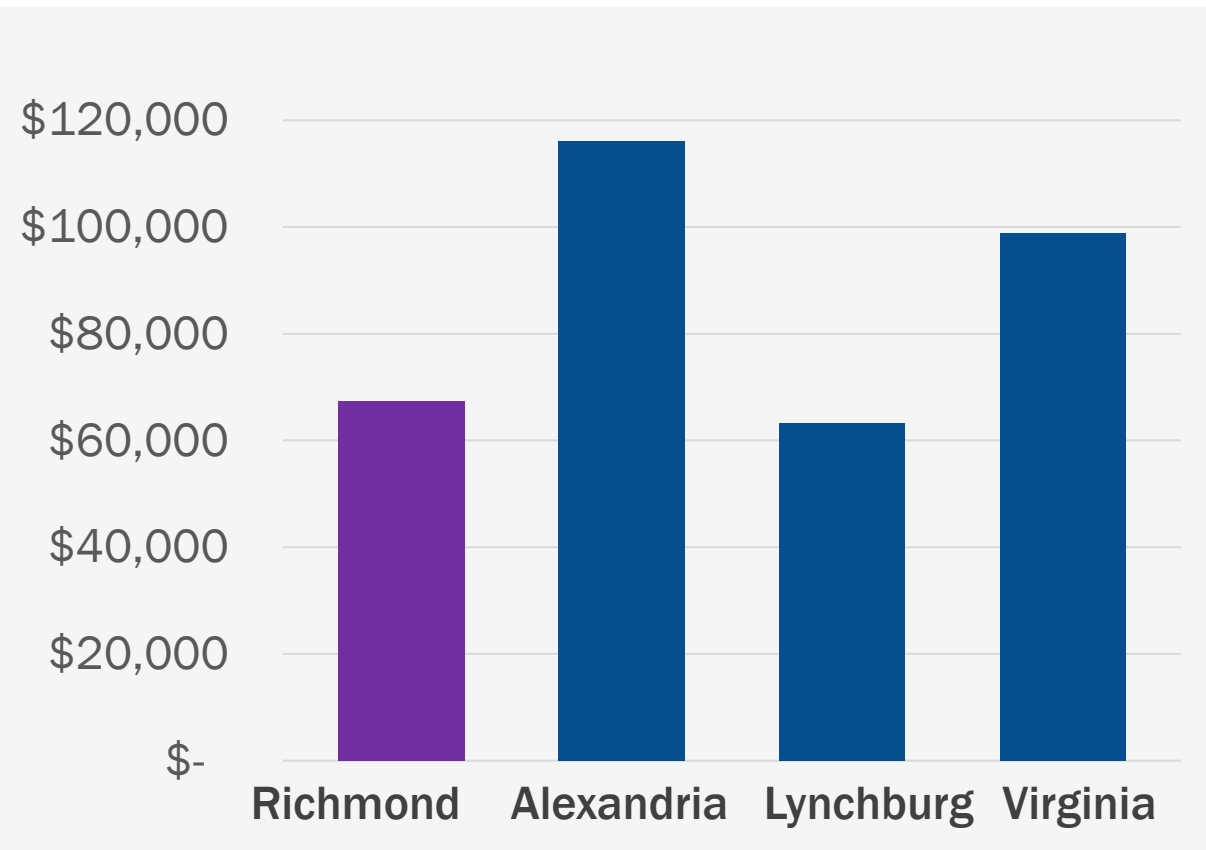


## Final Plan Projects (4)

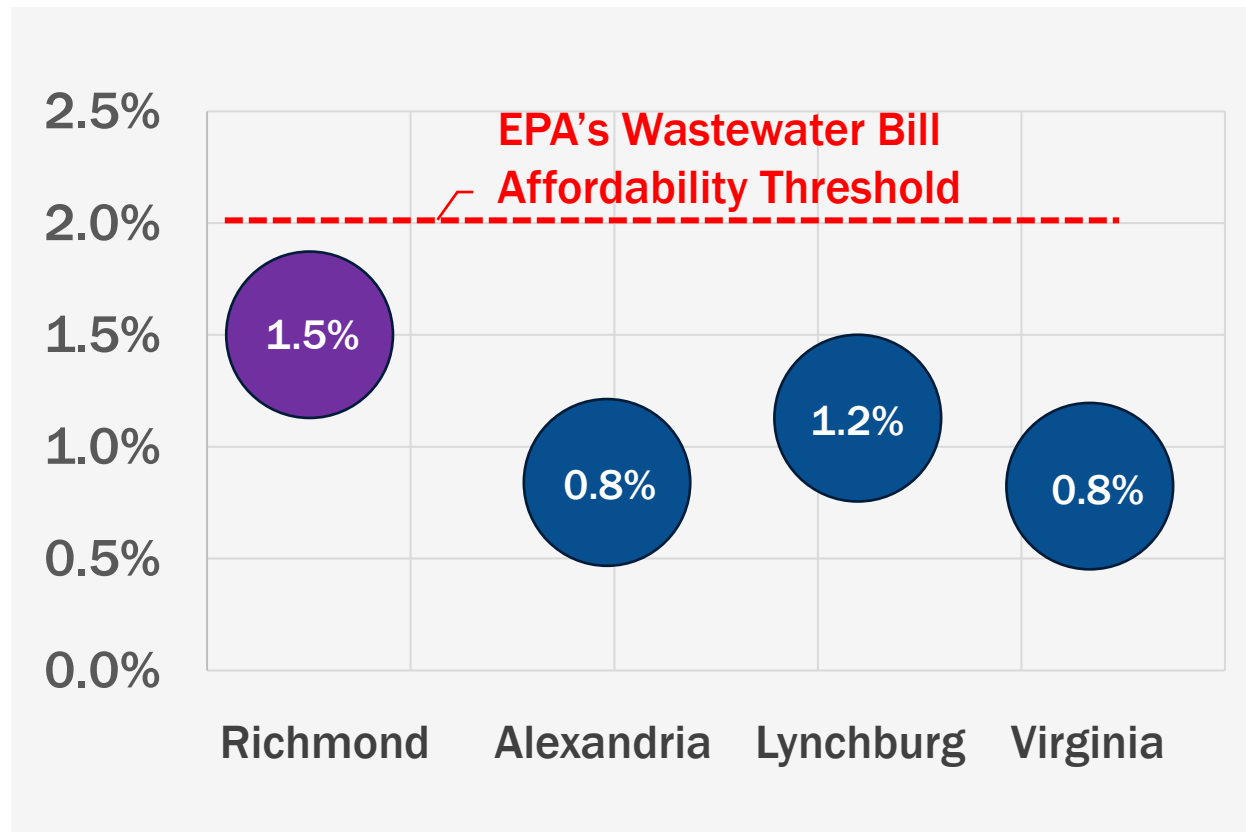
# The City's Current Financial Capability

Richmond's Wastewater rates are already among the highest in the Commonwealth due to significant past investments in CSO Control

Median Household Income (MHI)



Annual Wastewater Bill Percentage of MHI



*\*Richmond's annual wastewater bill based on an average usage of 7ccf/month*



# Next Steps in 2026



Continue to advance Interim Plan projects through construction



Final Plan: Advance construction of CSO-031 storage tank and CSO-024 partial separation



Final Plan: Complete detailed design of CSO-012 Storage Tank and advance to construction



Final Plan: Award a Fixed-Price Design-Build contract for the Canoe Run Park Storage Tank project – second largest Final Plan project



Final Plan: Procure design services for the Shockoe Retention Basin high-rate disinfection project – the largest Final Plan project

# General Assembly Annual Report



From the desk of Scott Morris, Director  
City of Richmond Department of Public Utilities  
730 East Broad Street, 6<sup>th</sup> Floor, Richmond, VA 23219

November 1, 2025

The Honorable Michael Rolband, Director  
Virginia Department of Environmental Quality (VADEQ)  
1111 East Main Street, Suite 1400, Richmond, VA 23219

**Subject: City of Richmond 2025 Combined Sewer System General Assembly Report**

Dear Director Rolband:

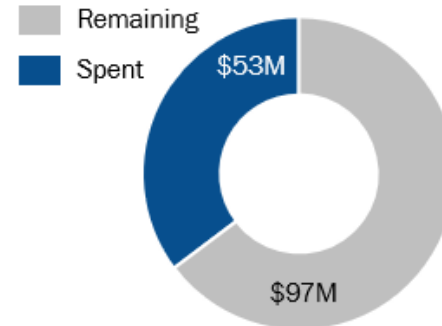
In accordance with the State Water Control Board Enforcement Action Amendment to the Special Order by Consent (Consent Order), and the Acts of Assembly Chapter 634, the City of Richmond (City) is pleased to submit this report on the efforts undertaken to address the combined sewer system (CSS) Interim and Final Plans. This report demonstrates that the City will meet its regulatory obligations, and in doing so, will provide central Virginia with cost-effective engineered solutions that will further protect and enhance the vitally important James River and the environment.

The City is conducting ongoing operation and maintenance (O&M) activities, implementing projects identified in the Interim Plan, and moving forward with implementation of the projects identified in the approved Final Plan, as required by the Consent Order and Chapter 634 (2020 Acts of Assembly). The concurrent nature of these activities requires a significant amount of City resources. Despite ongoing workforce and logistical/supply chain challenges the City continues to advance these major projects to improve and protect the James River.

**This 2025 General Assembly Report provides updates on:**

- Interim Plan implementation
- Final Plan implementation
- Other ongoing CSS Capital Improvement and O&M Clean Water projects
- Community engagement and outreach
- Costs and funding sources

## ARPA Grants: \$150M



All 10 Interim Plan Projects

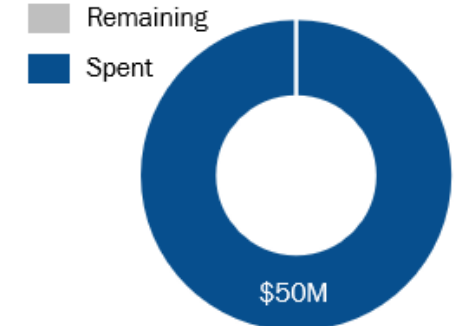
### Final Plan Projects

3. Gillies Creek #1 - Storage Facility
4. Hilton Street #1 - CSO-024 Separation

### Other CSS Projects

5. Shockoe Retention Basin Roof Repairs
7. Outfall 006 Regulator Improvements
8. Hampton PS Improvements
9. Dock Street PS Improvements
10. CSO-005 Regulator Replacement
12. CSO-024 Partial CSS Separation
13. WWTP Main PS Improvements

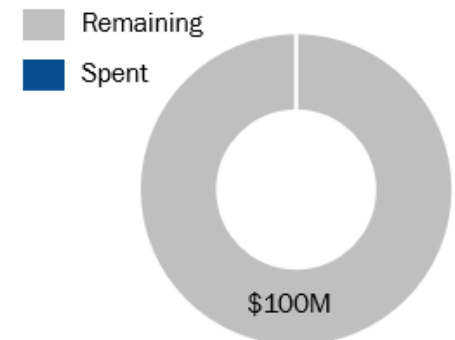
## ARPA City Match: \$50M



### Other CSS Projects

1. WWTP Screening and Grit Facility
- Chimborazo Phase 1 Improvements
14. WWTP Dewatering and Thickening Improvements
- Almond Creek Interceptor

## General Assembly Grants

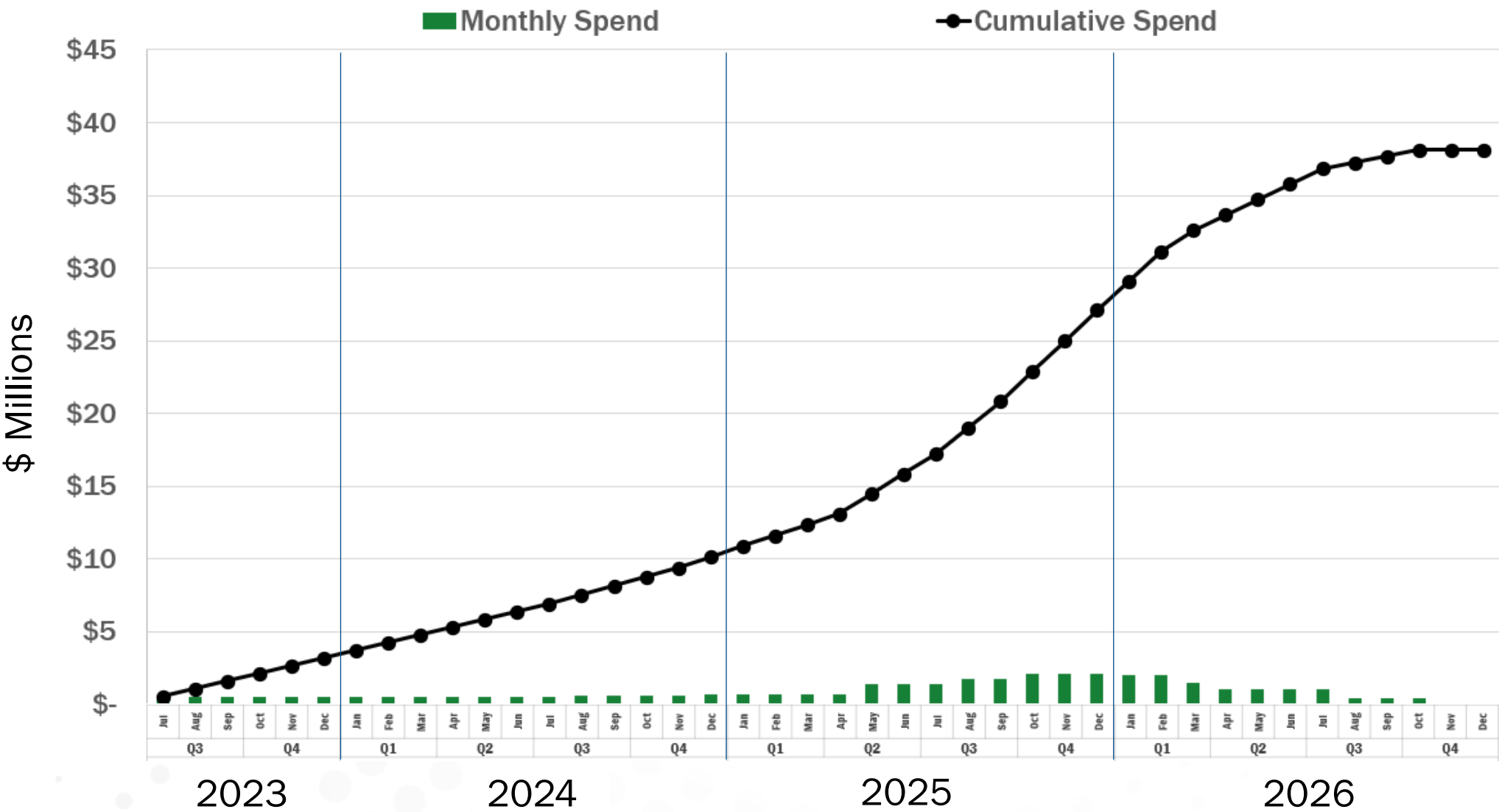


### Final Plan Projects

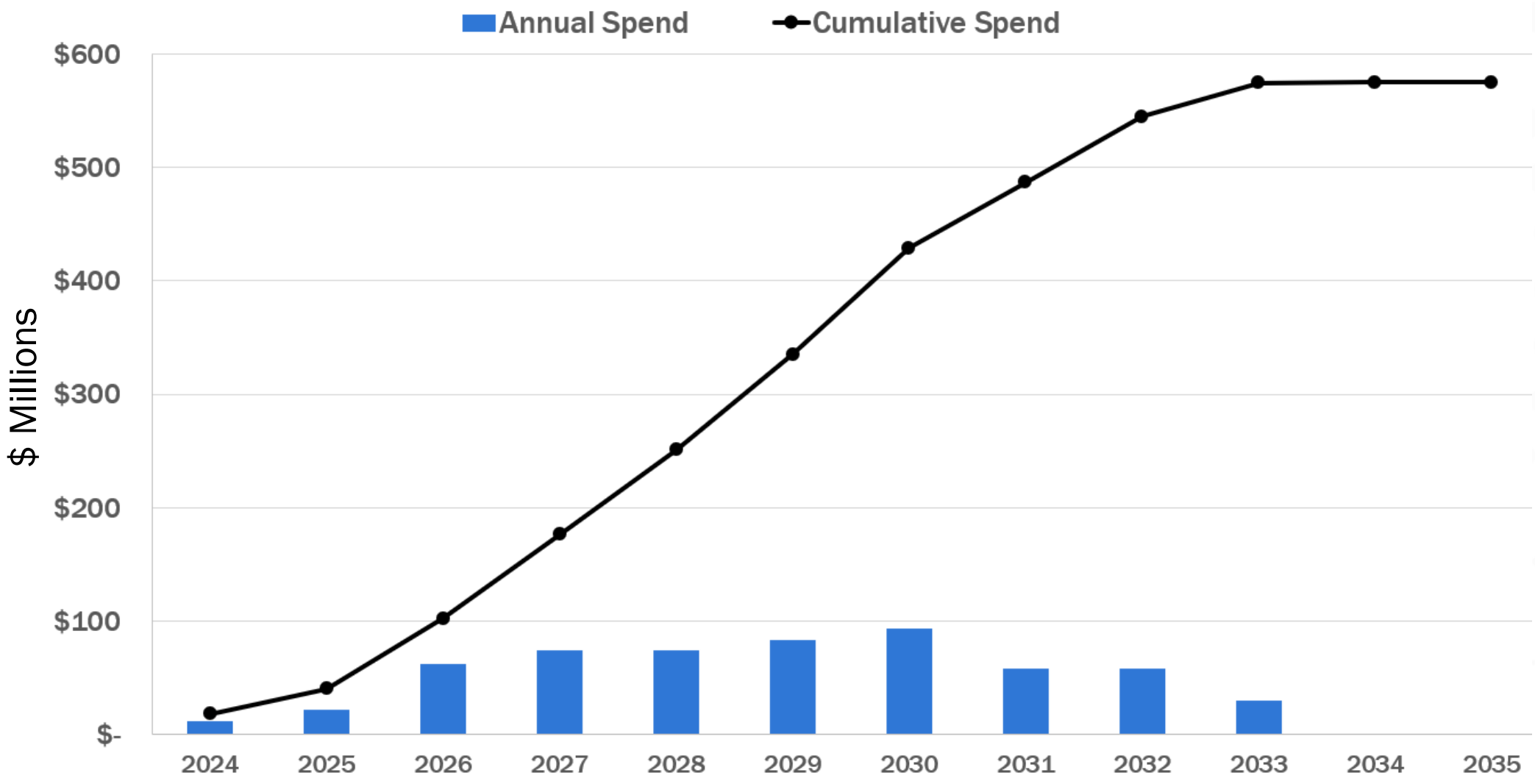
1. Shockoe #1 - HRD Facility
2. Southside #1 - Storage Facility



# General Assembly Annual Report – Interim Plan Estimated Spending



# General Assembly Annual Report – Final Plan Estimated Spending



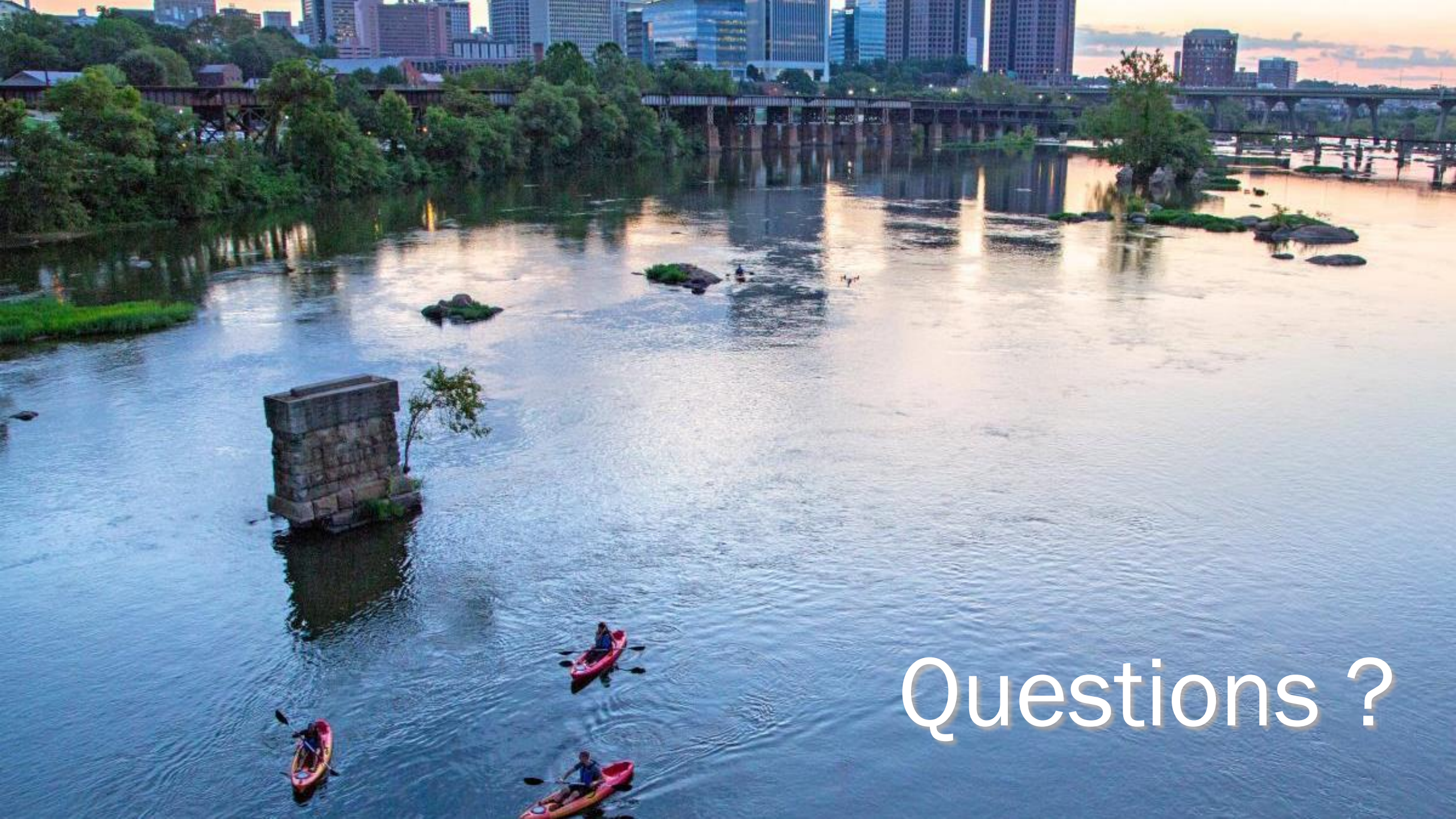


# State Funding Needed to Meet State Mandate

Funding timeline for General Assembly Sessions FY2025 through FY2030

Fiscal Year	Requested Amount	Appropriated Amount to Date	Purpose (Funds Set Aside)
FY 2025/2026	–	\$100M	Design & Construction of Canoe Run Park Storage Tank
FY 2027	\$100M	–	Design/Construction of Shockoe HRD Facility
FY 2028	\$100M	–	Design/Construction of Shockoe HRD Facility
FY2029	\$100M	–	Design/Construction of Shockoe HRD Facility
FY2030	\$100M	–	Design/Construction of Shockoe HRD Facility
TOTAL	\$400M	\$100M	





Questions ?



# Audit Updates

Total Open: (17) Total Closed: (28 )

Audit #	Audit Report Name	High Open	High Closed	Medium Open	Medium Closed	Low Open	Low Closed
2021-08	Wholesale Water Contracts	0	0	0	1	0	0
2022-12	Continuous Auditing	0	0	0	1	0	0
2023-02	DPU Contract Compliance	0	1	1	3	0	3
2023-09	DPU Billing and Collections	0	1	1	4	0	1
2025-03	Citywide Warehousing & Inventory Management: DPU Main Warehouse (Phase 1)	0	4	1	3	1	4
2025-05	Citywide Warehousing & Inventory Management: DPU Wastewater Treatment Plant Warehouse (Phase 2)	5	1	5	1	3	0
Total		5	7	8	13	4	8