



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

**November 1, 2023**

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

**Subject: City of Richmond 2023 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 it has undertaken to address the Interim and Final Plans for its combined sewer system (CSS). This report provides demonstration 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 environment and in the vitally important James River.

The City is conducting ongoing operation and maintenance enhancements, implementing projects identified in the Interim Plan, and developing the Final Plan as required by the Consent Order and Chapter 634 (Acts of Assembly). These activities are taking place simultaneously, requiring the City to apply tremendous resources of both funding and staff. As the City advances these major projects despite ongoing workforce and logistical/supply chain challenges we are, at the same time, capturing efficiencies to ensure there is a significant and clear benefit to the environment and the James River.

**This 2023 General Assembly Report will provide updates on:**

- Interim Plan implementation
- Final Plan development
- Other ongoing CSS Clean Water projects
- Community engagement and outreach
- Costs and funding sources

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## COLOR KEY

Throughout this report, **Interim Plan** projects and processes are indicated in green, **Final Plan** projects and processes are indicated in blue, and other **CSS Operations and Maintenance** projects are indicated in orange.

## EXECUTIVE SUMMARY

The James River is the City of Richmond's  
**most valuable natural resource.**

Residents, businesses, and visitors rely upon the James River as a water supply source, an economic driver, and a recreational resource. The City has undertaken significant projects over the past 50 years to protect and preserve this resource while partnering with our stakeholders to help identify and prioritize ways to enhance the river.

The CSS projects required by the Consent Order build upon the efforts the City already has underway. However, this requires additional projects and costs, and an accelerated timeline. The City values its partnership with the General Assembly and DEQ in focusing on such improvements to the James River, and the funding and incentives necessary to implement those improvements.

As this report reflects, the City is on schedule with construction of the Interim Plan projects. The Final Plan is in development, with a focus on addressing the City's largest CSO source, the Shockoe drainage area. Thanks to the General Assembly's support, there are some significant projects under consideration as part of the Final Plan.

### **The City's immediate next steps include:**

- Completion of construction of the Interim Plan projects
- Evaluation and selection of the Final Plan solutions
- Continued implementation of other clean water projects
- Ongoing robust engagement with the Public Stakeholder Group and Richmonders at large



Construction of the Wastewater Treatment Plant's new Screening and Grit Building, which will remove harmful debris before entering the treatment facility, August 29, 2023.



Construction of Outfall 004 Interim Plan Project will reduce annual overflow events at this location by 95%, August 1, 2023.

## SECTION A: BACKGROUND

# Richmond's combined sewer system is the **largest in Virginia.**

Parts of the City's sewer system are over 150 years old and were designed as a CSS. In the CSS, the pipes were constructed to transport wastewater and stormwater, with the vast majority being stormwater. As a result, the CSS can become overwhelmed during wet weather conditions.

The City's CSS area covers 19 square miles and includes 25 combined sewer outfalls. During storm events, there can be overflows from these outfalls. Overflows are primarily stormwater but can contain small amounts of wastewater. The City has made significant strides in reducing the number and volume of these overflows as reflected in this report.

**Since 1970, the City and the Commonwealth of Virginia have invested more than \$780 million (adjusted to today's dollars) for projects to address the CSS and provide cleaner water for our community.**

Improvements to the City's CSS are complicated projects that must be carefully engineered, permitted, and implemented. To date, the City's efforts have reduced the volume of Combined Sewer Overflow (CSO) entering the James River by more than 3 billion gallons annually.

Senate Bill 1064 approved by the Virginia General Assembly in 2020 (Acts of Assembly Chapter 634) amended the City's Consent Order to require the City to undertake additional projects, identified in an Interim Plan and Final Plan to be completed by 2035. A consent order is an administrative order issued by VA DEQ with the consent of a responsible party, in this case the City. Consent orders are authorized by statute and contain specified actions that a responsible party must perform to maintain compliance with environmental requirements.

**The completion of the Interim Plan projects by 2027 will further reduce approximately 182 million gallons of CSO.** The bulk of the remaining CSO originates from the Shockoe outfall. Given the size of the drainage area (12.5 square miles) and its significant infrastructure, addressing it will be engineering and cost intensive. **The Final Plan will address additional CSO control measures and will be submitted to VADEQ by July 1, 2024.**

The City remains steadfast in its commitment to meeting the obligations established in the Consent Order. In 2022, the City Council adopted [Resolution No. 2022-R025](#) expressing its support for prioritizing improvements to the CSS.

Figure 1. Project Timeline

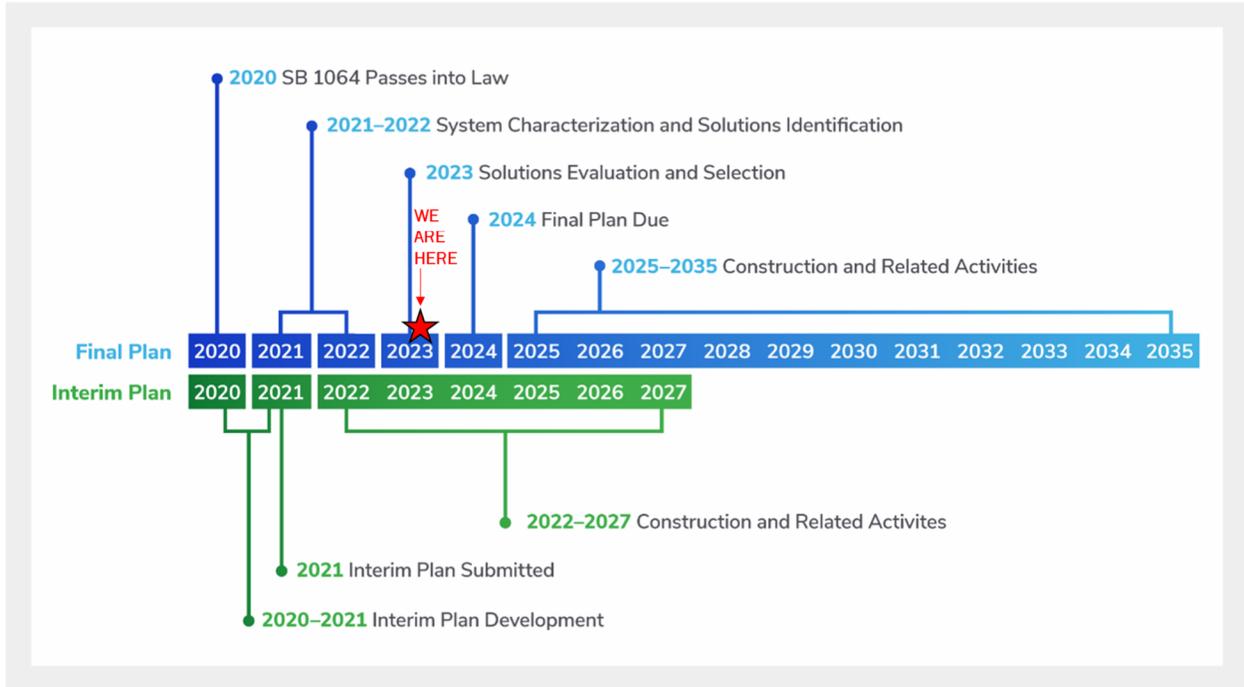
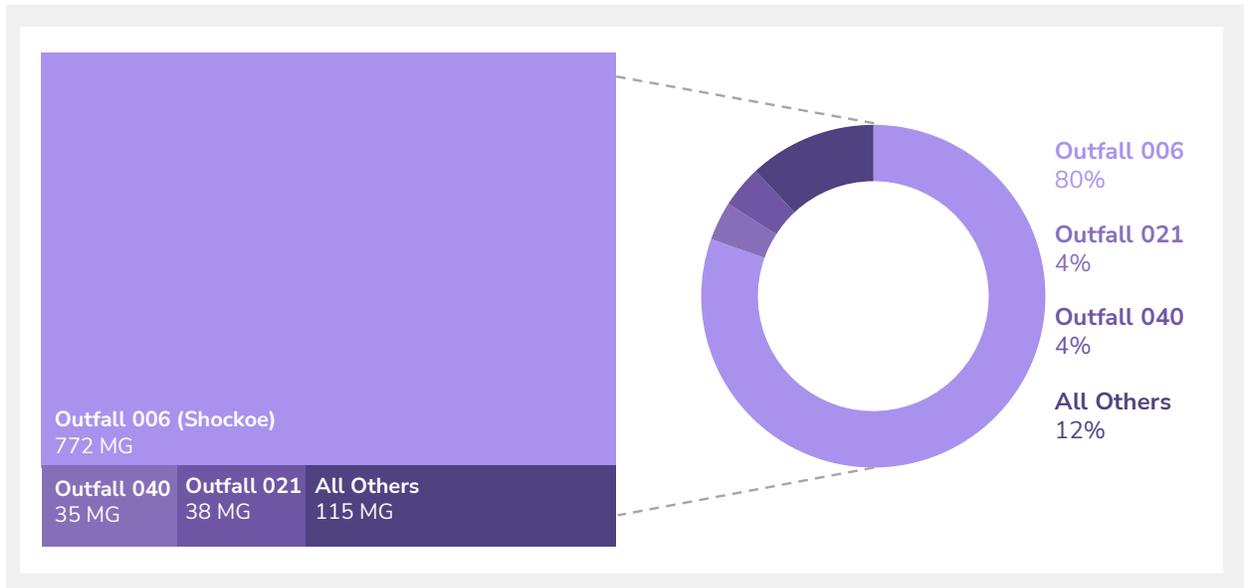
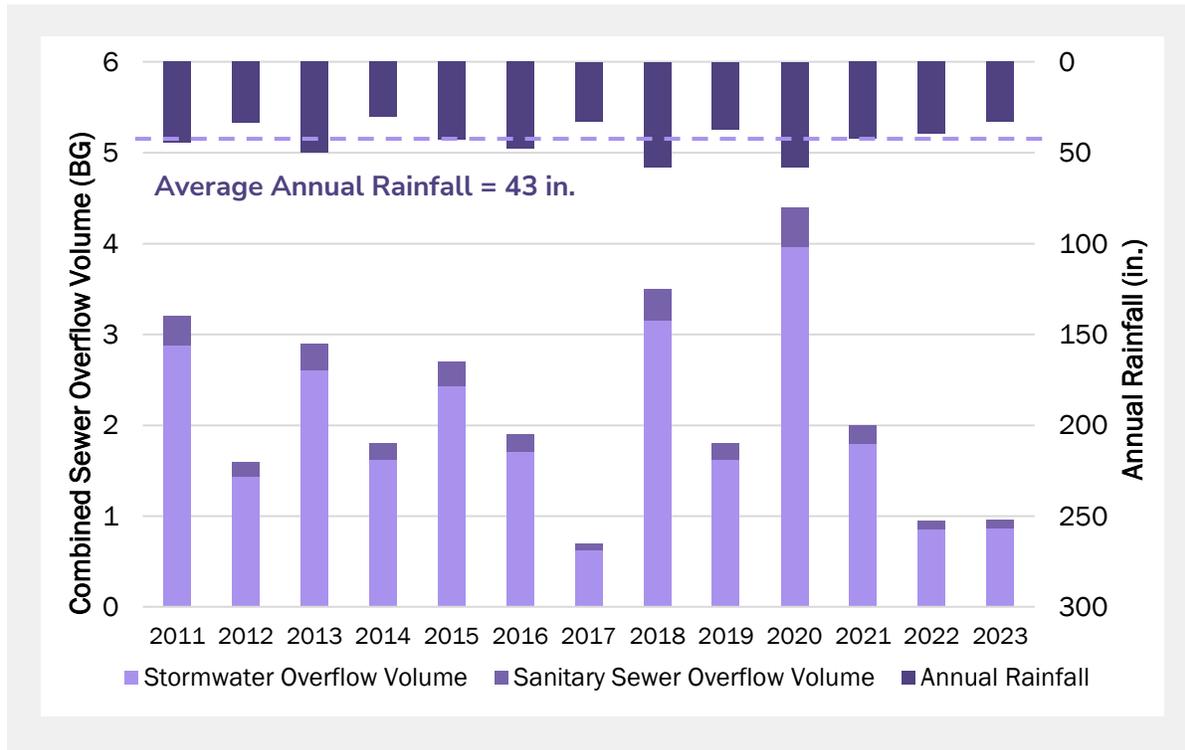


Figure 2. 2023 YTD Combined Sewer Overflow Volume



Outfall 006 in Shockoe has accounted for approximately 80% of CSO volume in 2023 and will be the focus of the Final Plan.

Figure 3. 2011–2023 YTD Combined Sewer Overflow Compared to Annual Rainfall



More than 90% of annual CSO volume is stormwater. The rainfall in the CSS (43 inches annually on average) would flow into the James River even if the City did not have a CSS.

**SECTION B: INTERIM PLAN IMPLEMENTATION STATUS**

Construction of Interim Plan Project Outfall 004 is currently in progress.

The City submitted the [Interim Plan](#) by July 1, 2021, as required. It identified 10 projects with an estimated \$33.3 million cost (in 2021 dollars). The City initiated construction and related activities by the July 1, 2022 deadline.

The projects will be completed on or before the July 1, 2027 completion deadline and will reduce approximately 182 million gallons of the remaining 1.9 billion gallons of annual CSO from overflowing into the James River. Additional overflow is being addressed in the Final Plan.

Interim Plan Due Date	Initiate Construction and Related Activities	Complete Construction and Related Activities
 July 1, 2021	 July 1, 2022	 July 1, 2027

The 10 projects feature the utilization of a new real-time decision support system (RT-DSS) that will be informed by real-time system monitoring data. This system will provide the City with the ability to adjust operations during wet weather events based on current and expected system operating conditions. These adjustments will optimize the use of the existing infrastructure and facilities. This means that the City can redirect the combined sewer flows to available storage areas and shut off discharges from certain areas to better control where and when the discharges occur.

**Interim Plan Project: Outfall 004**

- Relocate the Regulator
- Send additional flow to the downstream sewer
- Utilize in-line storage

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**Overview**

**5.1 MG** overflow volume reduction

**48** fewer annual overflow events

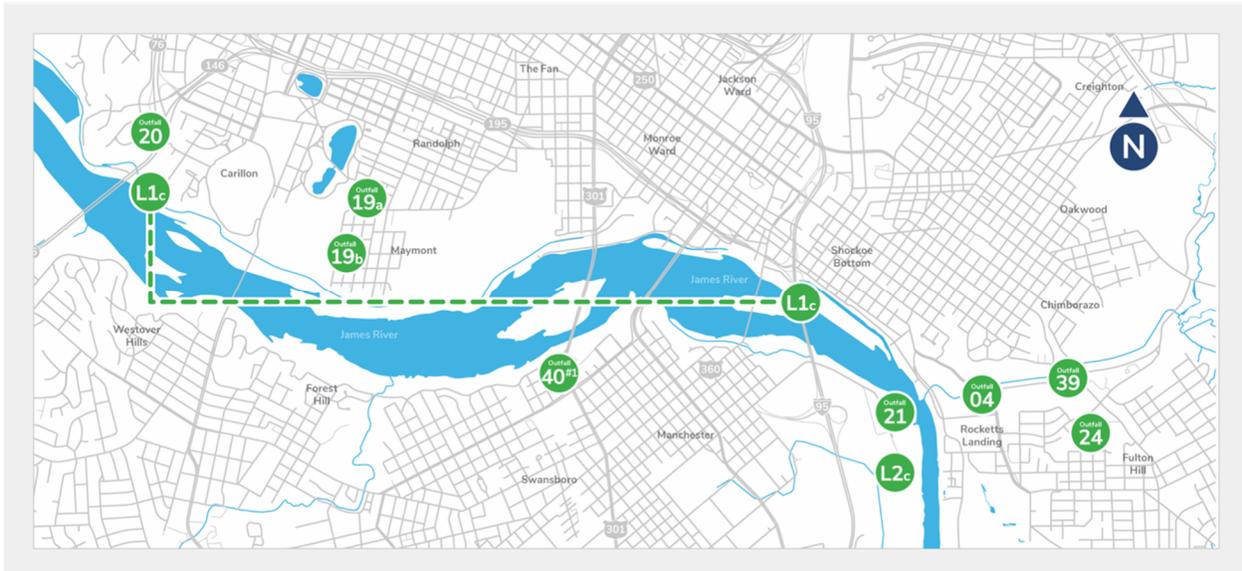
**\$17.4M** Bid Price

**In Construction**



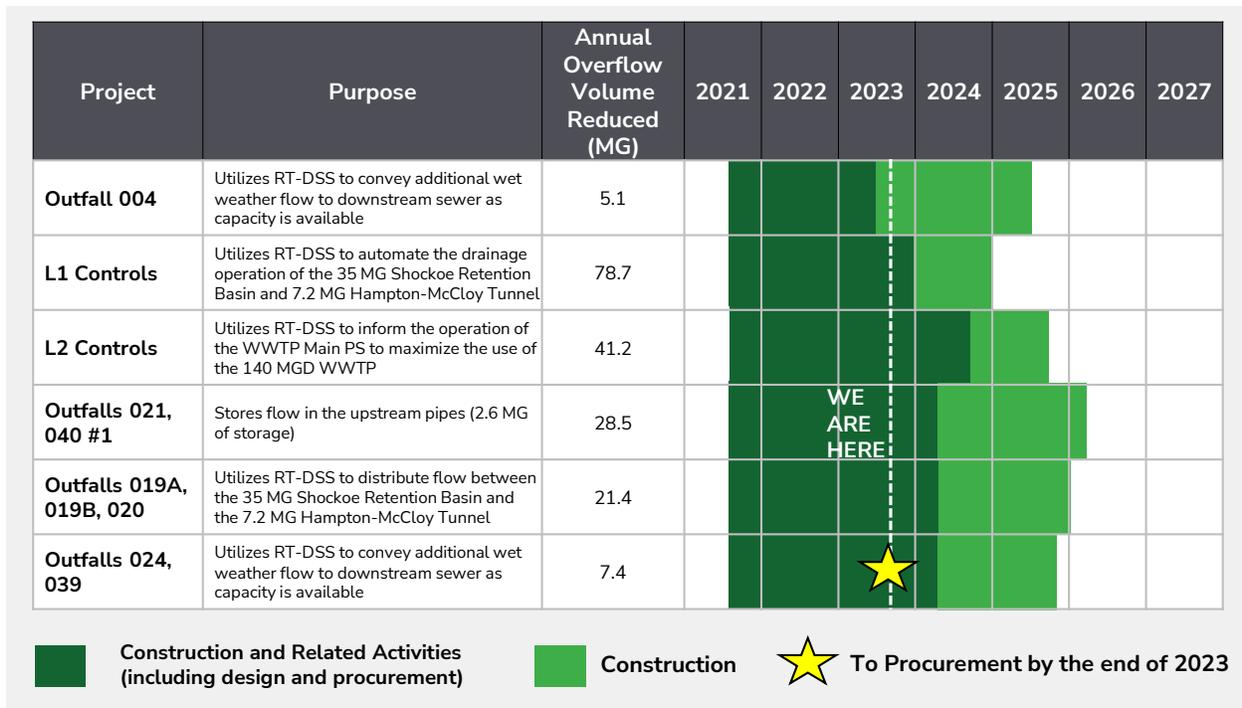
Outfall 004 Interim Plan Project (currently under construction).

Figure 4. Interim Plan Project Locations



This map illustrates the locations of the 10 Interim Plan projects.

Figure 5. Interim Plan Project Implementation Schedule



This chart provides a summary of the implementation schedule for all Interim Plan projects.

**SECTION C: FINAL PLAN DEVELOPMENT STATUS**

The Final Plan will identify projects to **meet or exceed** the performance goals established in the Consent Order.

The required Final Plan deadlines are provided below:

Final Plan Due Date	Initiate Construction and Related Activities	Complete Construction and Related Activities
○ July 1, 2024	○ July 1, 2025	○ July 1, 2035

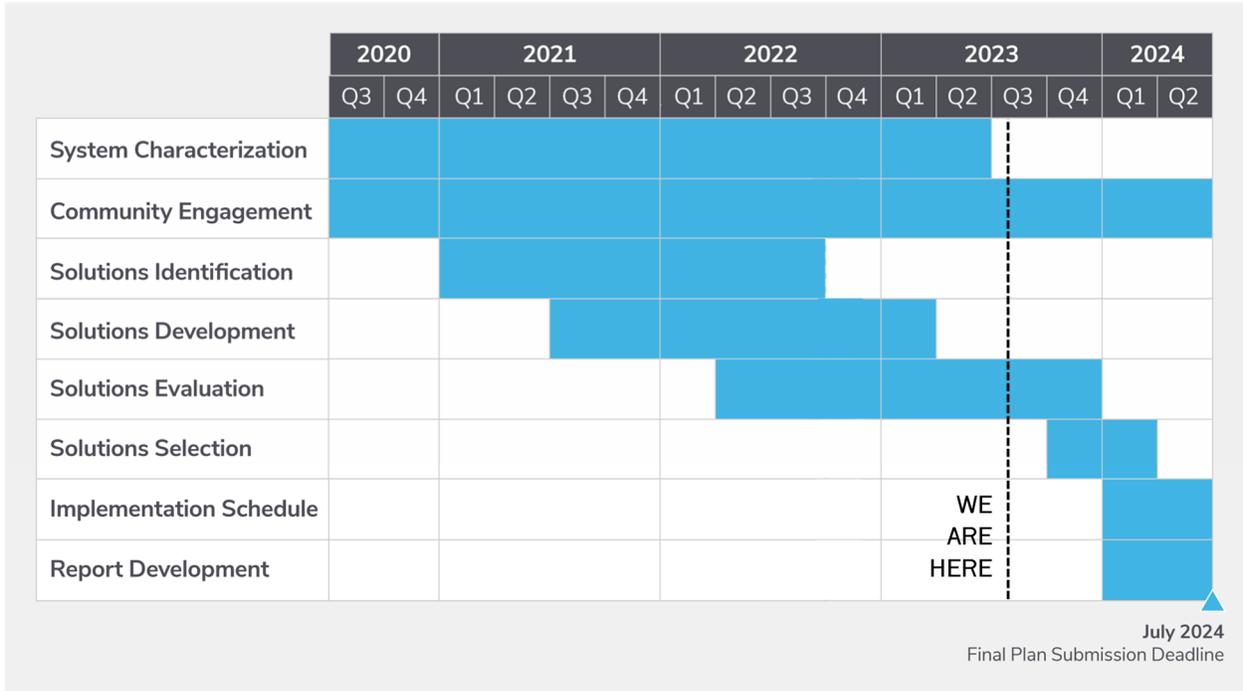
Since the passage of SB 1064, the City’s technical experts have been developing a cost-effective plan to be submitted on or before July 1, 2024. The Final Plan will identify solutions and provide an implementation schedule. Solutions currently under consideration include large-diameter conveyance tunnels, storage facilities, and high-rate wet weather treatment facilities.

**Figure 6. High-Rate Disinfection Facility Example**



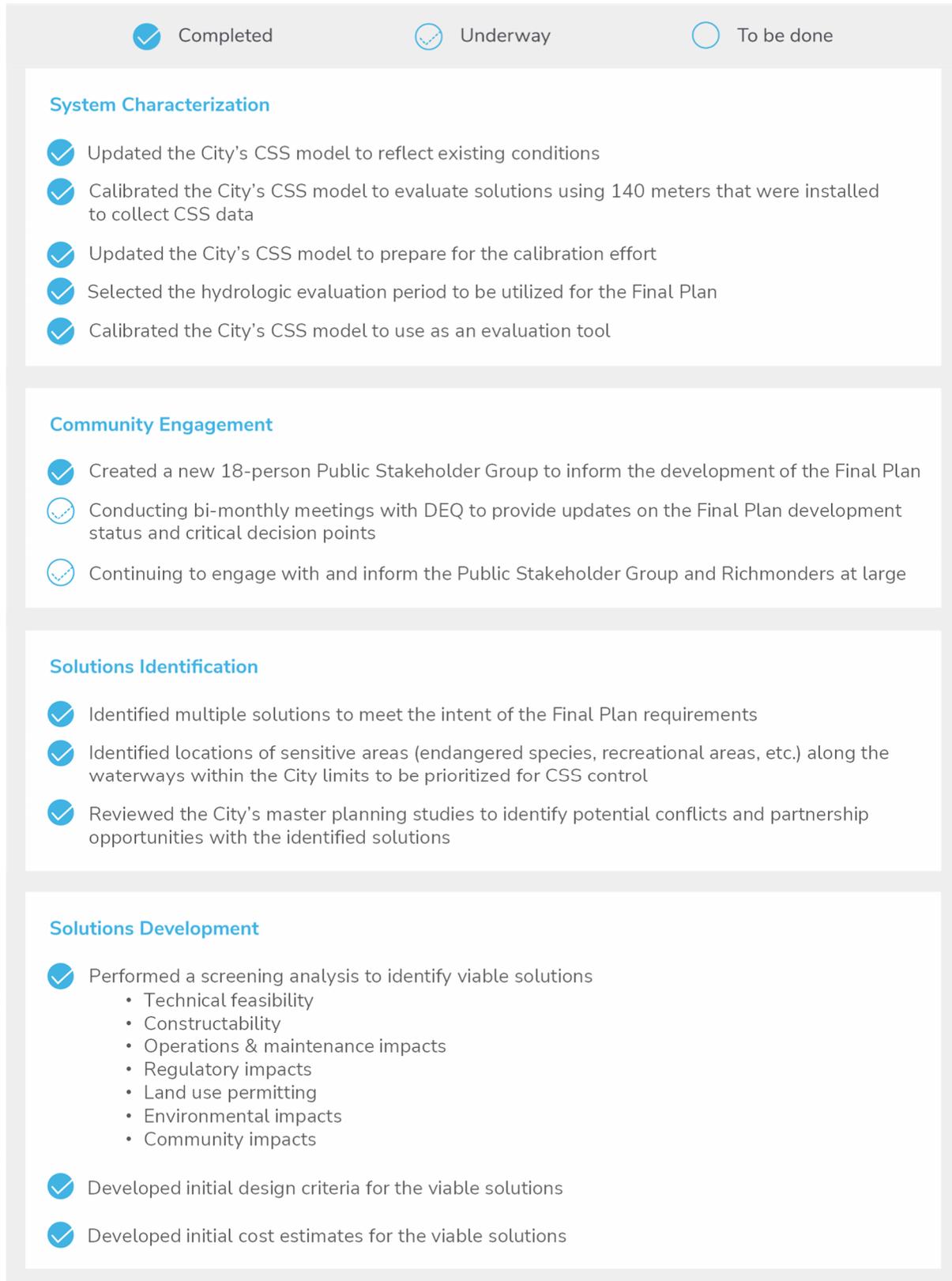
The Final Plan may potentially include a high-rate disinfection facility, similar to the facility shown here, which removes bacteria before it is discharged into the receiving waters.

**Figure 7. Final Plan Development Timeline**



This chart provides a summary of the Final Plan development schedule.

**Figure 8. Final Plan Development Status**



### Solutions Evaluation

- Conducted a preliminary level of control analysis to better understand the relationship between the estimated program cost and performance
- Developing project scoring criteria in coordination with the Public Stakeholder Group
- Utilizing the City's calibrated model for the following:
  - Evaluate the performance of the solutions
  - Update the level of control analysis
  - Perform a climate change sensitivity analysis for the solutions
- Conducting water quality modeling to evaluate the water quality improvements

### Solutions Selection

- Comparing the solutions to the remaining Special Order projects
- Selecting the projects to be implemented in the Final Plan

### Implementation Schedule

- Conducting a financial capability and affordability assessment to evaluate the City's options for financing the Final Plan projects
- Developing an implementation schedule for the selected projects
- Develop an Operation and Maintenance Plan for the selected projects
- Develop a Post Construction Monitoring Plan for the selected projects

### Report Development

- Developing the Final Plan to be submitted

## SECTION D: OTHER ONGOING CSS CLEAN WATER PROJECTS

In addition to the Interim and Final Plans, the City is implementing several other projects not required by the Consent Order to improve water quality.

**Shockoe Facility Projects:** Several projects are being completed in or around the Shockoe Facilities to improve the performance of the system.

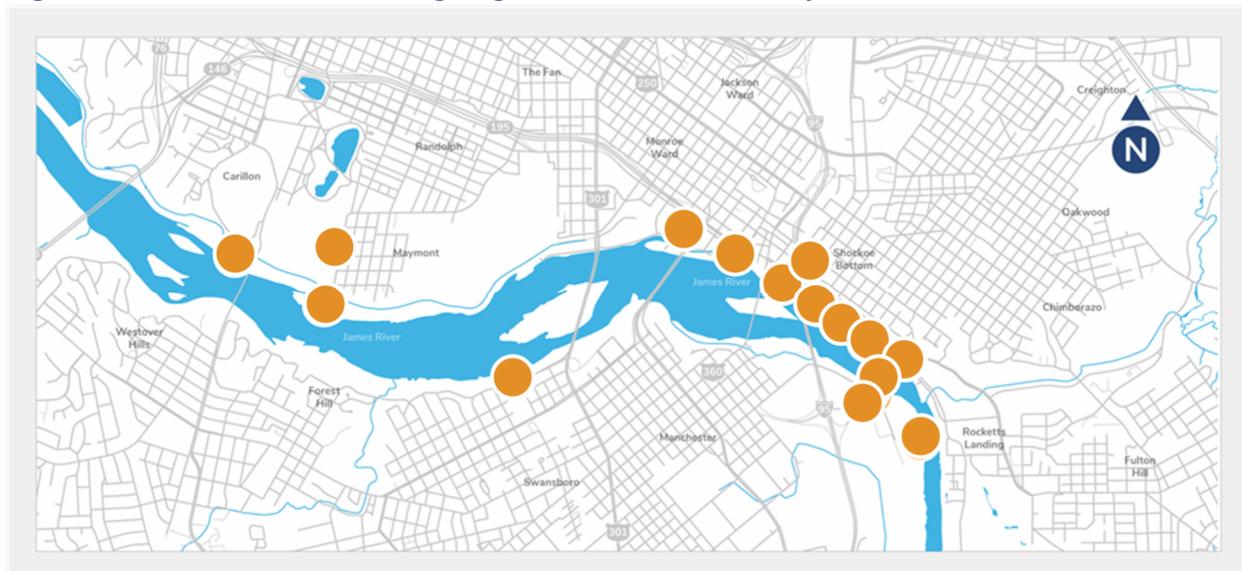
### **Wastewater Treatment Plant (WWTP) Improvements:**

With the recent upgrades in 2021, the WWTP is now capable of treating up to 140 million gallons per day (MGD) in wet weather. The performance of the City's WWTP is critical to the performance of the CSS. The City is in the process of conducting significant upgrades to improve WWTP operations and the reliability of the 140 MGD treatment during wet weather.

**1.6 billion gallons  
has been treated at  
the new Wet Weather  
Disinfection Facility  
to date**

**Regulator and Outfall Improvements:** The City's CSS contains 25 outfalls and 40 regulator structures. Operations and maintenance (O&M) activities and capital improvement projects are ongoing to maintain and improve the functionality of these facilities.

**Figure 9. Locations of Other Ongoing CSS Clean Water Projects**



This map shows the locations of the ongoing CSS projects, which are outside the scope of the Interim and Final Plans.

**Figure 10. Implementation Status for the Other Ongoing CSS Clean Water Projects**

Project	Estimated Cost (in today's dollars)	Purpose	Estimated Completion Date
Shockoe 96-Inch Sewer and Twin 66-Inch Siphon Cleanings	\$3M	Cleaning critical interceptors to reinstate the conveyance capacity of the sewers	Spring 2024
WWTP Screening and Grit Facility	\$40M	Installation of a new Screening and Grit Facility	Summer 2024
Regulator Improvements	\$2M	Upgrading equipment in seven regulator structures	Spring 2025
Shockoe Retention Basin and Hampton-McCloy Tunnel Cleaning	\$5M	Cleaning critical storage facilities to reinstate the storage capacity	Summer 2025
Shockoe Retention Basin Roof Repairs	\$2M	Rehabilitation of the Shockoe Retention Basin roof	Spring 2026
Shockoe Screening and Crest Gate Improvements	\$28M	Upgrade the screening equipment in the Shockoe West Diversion Structure and replace the two crest gates (86-ft and 54-ft long)	Fall 2026
Outfall 006 Regulator Improvements	\$1M	Upgrade Outfall 006 to prevent tidal intrusion from the James River into the CSS	Fall 2026
Hampton Pump Station (PS) Improvements	\$1M	Upgrade the electrical and control system at the PS	Fall 2026
Dock Street PS Improvements	\$1M	Upgrade the electrical and control system at the PS	Fall 2026
WWTP Main PS Improvements	\$63M	Rehabilitation of the existing WWTP Main Pump Station	Fall 2027

The purpose, estimated cost and completion date for these projects are summarized above.

## SECTION E: COMMUNITY ENGAGEMENT AND OUTREACH

The City continues to expand its engagement with stakeholders and residents.



Camp DPU participants visit the Shockoe Retention Basin, 35 MG storage facility, Summer 2023.

Throughout the process of addressing its CSS, the City has educated, informed, and sought the input and feedback of stakeholders and the public. This outreach builds off years of communications and campaigns undertaken by the City prior to the General Assembly's approval of SB 1064. DPU's Citizen's Academy programming and facility tours supplement the City's very active social media outreach. DPU continues close collaboration with DEQ and since 2020, the City has expanded its efforts to increase stakeholder involvement in the development of the Interim and Final Plans.

## Final Plan Public Stakeholder Group (Founded 2022)

In 2022, the City formed a new Public Stakeholder Group (PSG) to assist in the development of the Final Plan. This 18-person group includes two members from each of the City's nine Council districts. As ratepayers who deserve the highest-quality service, the residents of the City are critical stakeholders in the development of the Final Plan. The members were selected based on recommendations from City Council members, their liaisons, and neighborhood associations.

**The PSG continues to meet with the City's Project Team on a bi-monthly basis throughout the development of the Final Plan and will:**

- Review and monitor the development of the Final Plan
- Provide input and insight from their communities
- Share progress with their communities



PSG members tour the Gillies Creek CSO Outfalls on August 31, 2023.

Nine meetings have been held to date with the Public Stakeholder Group:

**Meeting #1** (Hybrid on Thursday, May 5, 2022)

- Introductions
- Background on the Department of Public Utilities
- Introduction to the CSS
- Introduction to SB 1064, its requirements, and the Final Plan's purpose
- Overview of the PSG's role in the development of the Final Plan

**Meeting #2** (Fully Virtual on Thursday, July 28, 2022)

- Communally creating ground rules for the PSG
- Overview of the City's CSS
- Review of the Final Plan's purpose
- Overview of the Final Plan's requirements

**Meeting #3** (In-Person Facilities Tour on Tuesday, September 20, 2022)

- Site visit to the City's Wastewater Treatment Plant
- Tour of Shockoe Retention Basin

**Meeting #4** (Fully Virtual on Thursday, September 29, 2022)

- Review of the City's CSS
- Overview of methods and technologies for CSS control
- Solutions in other CSS communities (Cook County and the District of Columbia)
- Overview of how solutions will be evaluated

**Meeting #5** (Fully Virtual on Thursday, February 23, 2023)

- Review of green infrastructure solutions and their usefulness in bacteria removal
- Identification of potential solutions in the Gillies Creek, North Side and Hampton-McCloy sewersheds

**Meeting #6** (Fully Virtual on Thursday, April 27, 2023)

- Identification of potential solutions in the Southside, Manchester, and Shockoe sewersheds

**Meeting #7** (Fully Virtual on Thursday, June 29, 2023)

- Review of potential solutions
- Discussion of key evaluation items

**Meeting #8** (Fully Virtual on Thursday, August 24, 2023)

- Review of Final Plan regulatory requirements
- Review of the performance, cost, and cost-effectiveness metrics for each potential solution

**Meeting #9** (Fully Virtual on Thursday, October 19, 2023)

- Review of the qualitative scores for each potential solution
- Review of the ranking for each potential solution based on performance, cost and qualitative metrics

**RVAH2O Technical Stakeholder Group (Founded 2014)**

The Public Stakeholder Group complements the pre-existing RVAH2O Technical Stakeholder Group. RVAH2O consists of dozens of representatives from the community, including environmental groups and other stakeholders. This group was formed in the fall of 2014. While the primary focus of RVAH2O is involvement in the City’s implementation of its integrated permit, the group has also provided feedback on the Interim and Final Plans. The Interim Plan projects, for instance, were reviewed with RVAH2O throughout their development. During this group’s biannual meetings, they continue to be provided with progress reports on project implementation and continue to offer valuable feedback and insights.



The RVAH2O Technical Stakeholder Group consists of government, community, nonprofit, and private sector partners.

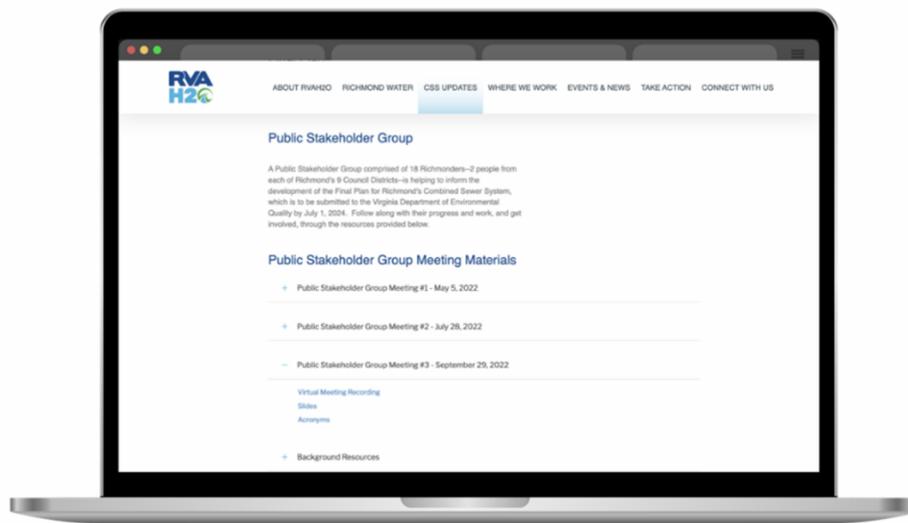
## Coordinating with DEQ

Throughout the development of the Interim Plan, the City met with DEQ monthly to include the agency in decision-making and allow for full involvement and inclusion in the process. During the Final Plan's development, the City is continuing to meet with DEQ. These ongoing bimonthly meetings allow DEQ to track the progress and the process of the Final Plan's development and provide the City with the opportunity to obtain important feedback from the agency, such as the Final Plan's purpose, modeling criteria, and solutions.

**The City has met regularly with DEQ 27 times to discuss the Interim and Final Plan**

## Online Engagement

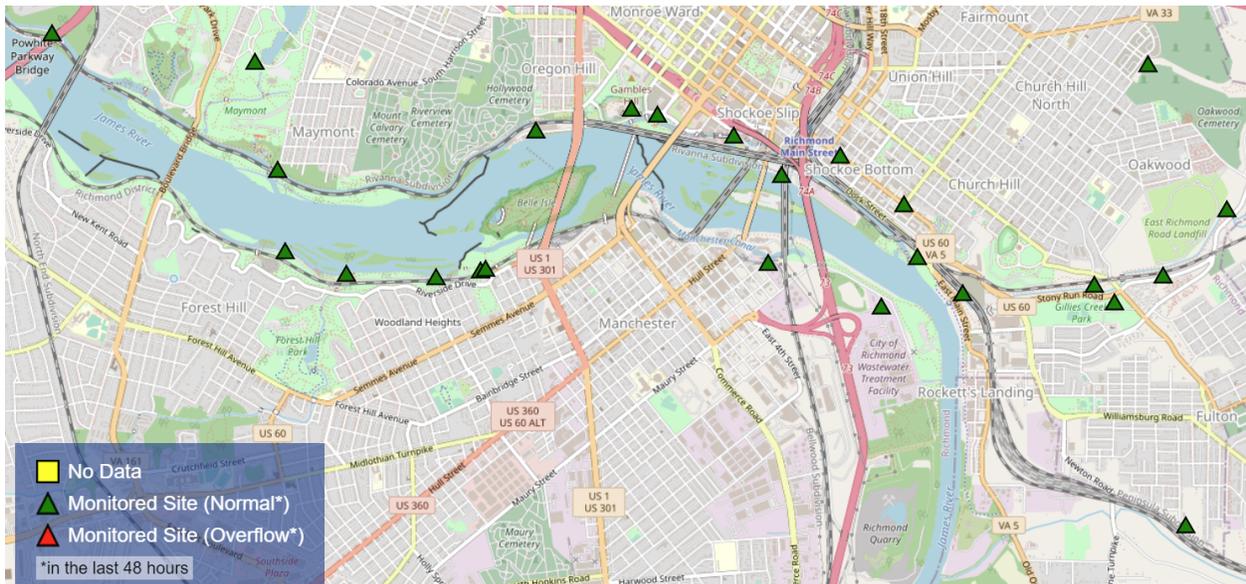
The Department of Public Utilities has worked diligently to continually enhance its digital presence. Background information on the CSS, resources, reports, and presentations are all maintained on the [RVAH2O.org](https://RVAH2O.org) website. This includes the latest information on the City's CSS and improvements made to date, Consent Order requirements, the Interim Plan, the Final Plan's development, and content created and shared with the PSG. PSG meeting slides, resources, and recordings are made available on the website for the PSG members and the public alike. Similarly, RVAH2O meeting slides and recordings are also posted to the site. The website is also home to other resources including an explanatory [Story Map](#) that helps newcomers understand the CSS.



The RVAH2O.org website offers information regarding the ongoing improvement of the City's CSS.

Additionally, a [real-time notification map provides](#) the public with access to monitor recent overflow activity at the CSS outfalls. This map, shown in Figure 11, offers transparency to Richmonders and other James River users and allows the public to stay informed of overflow activity throughout the City. Though users are empowered to visit the map directly at their discretion, reminders are often shared on the RVAH2O social media channels during and after rain events.

**Figure 11. A Screenshot of the City’s Publicly Available, Real-Time CSO Notification Map**



Real-time notification map that allows the public to monitor recent CSO activity in the City.

The award-winning RVAH2O social media accounts – [Twitter \(X\)](#), [Instagram](#), and [Facebook](#) – serve as additional avenues for two-way communication between City residents and DPU. These active accounts provide updates on ongoing efforts, operations, and maintenance activities, and the Interim and Final Plans alongside basic, general CSS education. DPU has found that sharing online through these platforms keeps followers engaged and the audience growing, speaking to the efficacy of consistent, transparent, and clear information.



RVAH2O Instagram Post (8/22/23) showing historical construction photo of the SRB



RVAH2O Instagram Post (8/22/23) updating the public on the construction progress for the Outfall 004 Interim Plan Projects

## **Chesapeake Bay Commission and the Wet Weather Partnership**

The Chesapeake Bay Commission, which serves to advance and coordinate policy and action to restore the Chesapeake Bay watershed, will be hosting their next quarterly meeting in the City of Richmond later this month (November 9<sup>th</sup> and November 10<sup>th</sup>). The City will be updating the Commission on our efforts to improve future water quality in the James River.

The Wet Weather Partnership, which “[promotes] cooperation among federal, state, and local governments in the regulatory development process and [works] with key national stakeholders”, will host its annual Workshop focused on CSS control, planning, policy, and funding in the City of Richmond (April 24<sup>th</sup> – April 26<sup>th</sup> 2024). The City will be showcasing the innovative CSS improvements to improve water quality in the James River.

**The City is looking forward to hosting both of these gatherings in Richmond in the months ahead. DPU is excited to share our dedicated progress with the Chesapeake Bay Commission and the 2024 Wet Weather Partnership Conference.**

## SECTION F: COSTS AND FUNDING SOURCES

### Other CSS Clean Water Project Projects

As detailed in Section D, other projects (excluding the Interim and Final Plan projects) to maintain and improve the performance of the existing CSS will be costly for ratepayers. Since 2020, the City has invested \$40 million in these projects and is projected to spend an additional \$140 million over the next four years. This is an important context to understand the City's requests and spending demands for the Interim and Final Plan projects.

### Interim and Final Plan Spending

**The current Interim and Final Plan cost estimate is expected to range between \$700 million and \$1.3 billion (escalated to the mid-point of construction in 2033), depending on which projects are selected to be implemented in the Final Plan.**

This range will be updated as the City's Final Plan is further developed and completed (in 2024). The total spending to date for the Interim and Final Plans is approximately \$15 million.

The City greatly appreciates the General Assembly's American Rescue Plan Act (ARPA) fund appropriations of \$50 million in 2021 and \$100 million in 2022. The City is working closely with DEQ staff to fulfill the administrative requirements to execute these grant agreements in accordance with state and federal guidelines.

The City will use \$150 million in City funds to meet the 2026 Federal ARPA deadline:

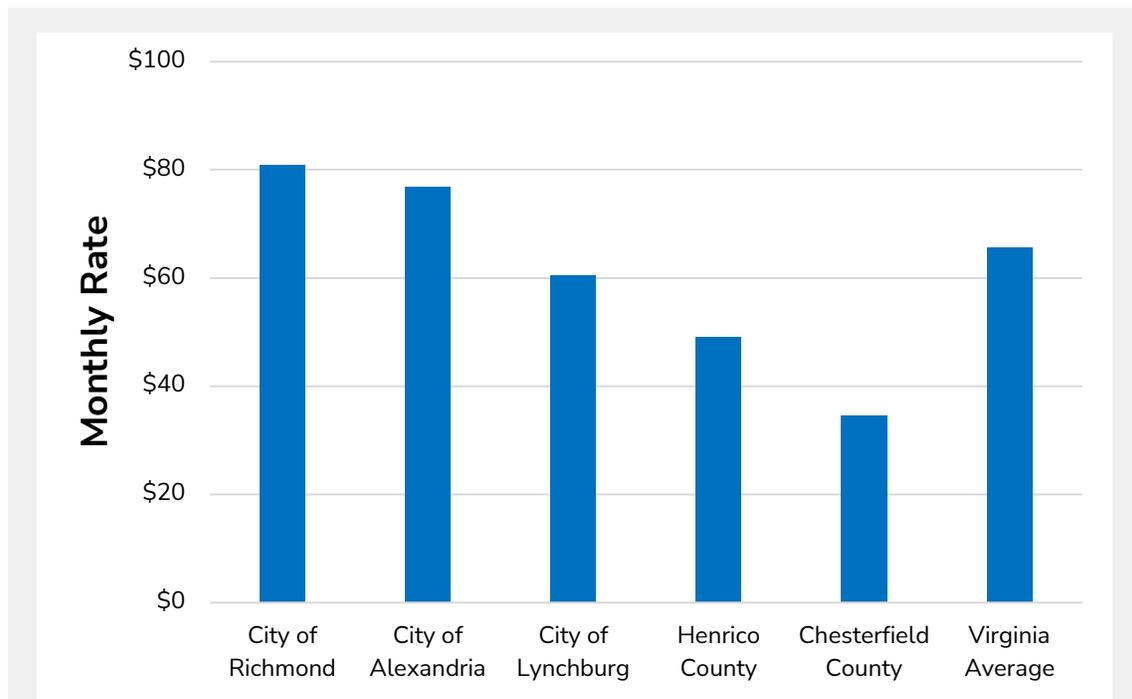
- The 2021 \$50 million ARPA appropriation match
- The 2022 \$100 million ARPA appropriation match

While this ARPA funding will cover most of the Interim Plan projects and other beneficial CSS improvements, the Federal deadline of December 2026 to complete ARPA project reimbursements precludes this funding source from being of any benefit toward our Final Plan program funding.

In addition to saddling the City’s ratepayers with this additional \$150 million for Interim and Final Plan projects, the City will still need hundreds of million dollars in State or Federal grant funding between now and 2030 in order to advance these major Final Plan infrastructure projects from design to construction.

**The City’s ratepayers already pay higher rates than neighboring counties and other comparable CSS communities in the Commonwealth, as shown in Figure 12.**

**Figure 12. Utility Rate Comparison**



Comparison of monthly wastewater rates based on approximately 5,200 gallons of monthly water usage

The City was disappointed that \$100 million was removed from the 2023 Special Session I Budget. The needs in the short term for funding in the caboose and biennium budgets are important to comply with regulatory timeframes as provided for in the Consent Order and the Actions of Assembly Chapter 634.

**Consent Order Reporting Requirements**

The Consent Order requires the City to submit this progress report and to provide certain financial information. The City applied the following level and sources of funding to the CSS over the past five fiscal years.

**Figure 13. CSS Funding – Last Five Years**

Source	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	5-Year Totals
Virginia Revolving Loan Fund	\$0	\$0	\$886,551	\$3,867,832	\$12,669,050	\$17,423,433
Grant Receipts	\$10,008,717	\$10,351,801	\$0	\$1,271,149	\$983,193	\$22,614,860
Wastewater Revenue Bonds/Operating Cash	\$4,224,198	\$8,878,249	\$2,999,262	\$8,291,953	\$3,814,193	\$14,018,230
<b>Total CSS Expenditures</b>	<b>\$14,232,915</b>	<b>\$1,473,552</b>	<b>\$3,885,813</b>	<b>\$13,430,934</b>	<b>\$17,466,436</b>	<b>\$54,056,522</b>

The City will need financial grant funding support of approximately \$400 million (to be updated once the Final Plan is complete in July 2024) over the next five years to avoid having to request extensions to the July 1, 2035, Final Plan construction completion timeline.

**As required by the Consent Order, the City requests significant recurring grant appropriations in the General Assembly’s future budget appropriation bills sufficient to stay on schedule, while avoiding unfavorable financial consequences.**

The needs in the short term for funding in the caboose and biennium budgets are essential. As a result the City is requesting funding as follows:

- FY 2024 caboose budget: \$100,000,000
- FY 2025: \$100,000,000
- FY 2026: \$100,000,000

**Other Funding Sources**

In addition to state grant funds, the City identified and is evaluating the potential use of the following federal and state funding programs (including loan forgiveness options) as it continues to develop the Final Plan:

- Clean Water State Revolving Loan Fund (CWSRLF)
- Water Infrastructure Finance and Innovation Act (WIFIA) loans
- Justice40 Initiative
- Build Resilient Infrastructure and Communities - Grants

The City of Richmond Department of Public Utilities appreciates the opportunity to provide this update on the vital work underway and the partnership that DEQ has demonstrated in this process. Should you have any questions or comments, please contact me directly at 804.646.5205 or [april.bingham@rva.gov](mailto:april.bingham@rva.gov).

Sincerely,



April N. Bingham, Director

**Copy:**

Levar M. Stoney, Mayor, City of Richmond

Lincoln Saunders, Chief Administrative Officer, City of Richmond

Michael J. Jones, Council President and City Councilmember, 9<sup>th</sup> Voter District

Reva M. Trammell, City Councilmember, 8<sup>th</sup> Voter District

Cynthia I. Newbille, City Councilmember, 7<sup>th</sup> Voter District

Ellen F. Robertson, City Councilmember, 6<sup>th</sup> Voter District

Stephanie A. Lynch, City Councilmember, 5<sup>th</sup> Voter District

Kristen M. Nye, Council Vice President and City Councilmember, 4<sup>th</sup> Voter District

Ann-Frances Lambert, City Councilmember, 3<sup>rd</sup> Voter District

Katherine Jordan, City Councilmember, 2<sup>nd</sup> Voter District

Andreas D. Addison, City Councilmember, 1<sup>st</sup> Voter District

Robert C. Steidel, Deputy Chief Administrative Officer, Operations, City of Richmond

Emily Messer, Assistant City Attorney, City of Richmond

Scott Morris, Director of Water, Virginia DEQ

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Jerome Brooks, Director, Piedmont Regional Office, Virginia DEQ

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Meghan Mayfield, Director of Water Permitting, Virginia DEQ