

MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: CIP PROJECTS REPORT

DATE: DECEMBER 12, 2023

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance, and planning projects.

For the current CIP and additional project information, please visit: <https://www.rivanna.org/wp-content/uploads/2023/06/2024-2028-CIP-FINAL-DRAFT-1.pdf>

Summary

	Project	Construction Start Date	Construction Completion Date
1	SRWTP and OBWTP Renovations	May 2020	March 2024
2	Airport Rd. Water Pump Station and Piping	December 2021	September 2024
3	MC 5kV Electrical System Upgrades	May 2022	December 2024
4	South Fork Rivanna River Crossing	May 2024	March 2026
5	Red Hill Water Treatment Plant Upgrades	April 2024	June 2025
6	Central Water Line	December 2024	December 2028
7	Scottsville WRRF Whole Plant Generator and ATS	TBD	TBD
8	MC Administration Building Renovation and Addition	September 2024	May 2027
9	RMR to OBWTP Raw Water Line and Pump Station	September 2024	December 2028
10	MC Building Upfits and Gravity Thickener Improvements	August 2024	August 2026
11	Emmet Street Water Line Betterment	October 2024	October 2026
12	MC Structural and Concrete Rehabilitation	September 2024	December 2026
13	Crozet Pump Stations Rehabilitation	January 2025	December 2026
14	Crozet WTP GAC Expansion – Phase I	April 2025	October 2026
15	Beaver Creek Dam, Pump Station and Piping	April 2026	January 2029
16	SFRR to RMR Pipeline, Intake, and Facilities	June 2025	December 2030
17	Upper Schenks Branch Interceptor, Phase II	TBD	TBD

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Airport Road Water Pump Station and Piping
3. MC 5kV Electrical System Upgrades

Design and Bidding

4. South Fork Rivanna River Crossing
5. Red Hill Water Treatment Plant Upgrades
6. Central Water Line
7. Scottsville WRRF Whole Plant Generator and ATS
8. MC Administration Building Renovation and Addition
9. RMR to OBWTP Raw Water Line and Pump Station
10. MC Building Upfits and Gravity Thickener Improvements
11. Emmet Street Water Line Betterment
12. MC Structural and Concrete Rehabilitation
13. Crozet Pump Stations Rehabilitation
14. Crozet WTP GAC Expansion – Phase I
15. Beaver Creek Dam, Pump Station, and Piping
16. SFRR to RMR Pipeline, Intake, and Facilities
17. Upper Schenks Branch Interceptor, Phase II

Planning and Studies

18. Asset Management Plan
19. MCAWRRF Biogas Upgrades
20. North Rivanna Water Treatment Plant Decommissioning

Other Significant Projects

21. Urgent and Emergency Repairs
22. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	93%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500 + \$1,329,762 = \$38,078,262
Completion:	March 2024
Budget:	\$43,000,000

Current Status: Improvements continue at the OBWTP including completion of the new Chemical Building and general site improvements. At the SRWTP, sludge pump improvements, general site

improvements and final instrumentation programming work continues.

2. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction, Inc. (ACI) (Lynchburg, VA)
Construction Start:	December 2021
Percent Complete:	75%
Base Construction Contract + Change Order to Date = Current Value:	$\$8,520,312 + \$205,908 = \$8,726,221$
Completion:	September 2024
Budget:	\$10,000,000

Current Status: Water line installation is 95% complete at the Town Center traffic circle. Water line testing and disinfection is on-going in segments. Paving of Berkmar Drive will begin following completion of the water line testing. The pump station is dried-in and the electrical and plumbing work is underway. Dominion is scheduled to run underground electric to the site before the end of the year.

3. MCAWRRF 5kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer (Hazen)
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	23%
Base Construction Contract + Change Order to Date = Current Value:	$\$5,180,000 - \$848,368 = \$4,331,632$
Completion:	December 2024
Budget:	\$5,635,000

Current Status: All major site-related work, including underground electrical ductbank, equipment pads, and curb and gutter replacements, is complete. Electrical equipment for this project has begun to arrive at the site, with the majority of the equipment scheduled to arrive this Winter.

Design and Bidding

4. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	90% Design
Construction Start:	May 2024
Completion:	March 2026
Budget:	\$7,000,000

Current Status: Easement acquisition work is on-going. A required easement on the south side of the river is on a remnant property from the VDOT Berkmar Bridge project, and we cannot finalize that easement until the property transfer back to the original property owner is complete. We had a meeting with VDOT in an effort to move this acquisition forward. Another outstanding easement is on a

Virginia Dominion Power parcel for which we completed a Phase 1 Environmental Survey because Virginia Dominion Power prefers that we purchase the small parcel instead of acquiring an easement. The final outstanding easement is with Albemarle County for an easement across the Brookhill Park property along Rio Mills Rd for which a final draft is pending.

5. Red Hill Water Treatment Plant Upgrades

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2022
Project Status:	Bidding
Construction Start:	April 2024
Completion:	June 2025
Budget:	\$800,000

Current Status: Efforts are underway to encourage additional bidders, as there appeared to be limited interest in this small project. The bid acceptance date has been extended to December 21, 2023. This project received 50% grant funding from Albemarle County.

6. Central Water Line

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	65% Design
Construction Start:	December 2024
Completion:	December 2028
Budget:	\$41,000,000

Current Status: Design of 90% construction documents and easement acquisitions are underway. Soil borings are complete and utility test pits along the alignment are on-going and will be completed soon.

7. Scottsville WRRF Whole Plant Generator and ATS

Design Engineer:	Wiley Wilson
Project Start:	December 2021
Project Status:	100% Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$520,000

Current Status: A recent update from VDEM indicated that the grant approval and funding process may continue until Summer 2024. As a result, the overall project schedule is uncertain. The electrical design alterations have been completed and revised easement documents are being generated.

8. Moore's Creek Administration Building Renovation and Addition

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	60% Design
Construction Start:	September 2024

Completion: May 2027
Budget: \$20,000,000

Current Status: The 60% design review and Value Engineering analysis have been completed. The design team is completing 90% documents while incorporating elements selected from the VE effort as well as educational components of the facility.

9. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer: Kimley-Horn
Project Start: August 2018
Project Status: 84% Design
Construction Start: September 2024
Completion: December 2028
Budget: \$44,000,000

Current Status: Design of the pump station is 75% complete. Waterline design has reached 90% completion between the Ragged Mountain Reservoir and Fontaine Avenue, and 50% design completion between Fontaine Avenue and OBWTP.

10. MCAWRRF Building Upfits and Gravity Thickener Improvements

Design Engineer: Short Elliot Hendrickson (SEH)
Project Start: March 2023
Project Status: 5% Design
Construction Start: August 2024
Completion: August 2026
Budget: \$5,000,000

Current Status: Design of the construction plans and specifications is underway.

11. Emmet Street Water Line Betterment

Design Engineer: Whitman, Requardt & Associates (WRA)
Project Start: September 2021
Project Status: Ivy Corridor Public Realm – Complete
Contemplative Commons – Complete
Emmet Streetscape –70% Design
Hydraulic/29 – Preliminary Design
Completion: 2024 - 2026, Phase I
Budget: \$2,900,000

Current Status: WRA has completed 70% design drawings for the water main. Permitting efforts are underway. RWSA is coordinating with the City for construction of a 24-30” water main in Emmet Street from Ivy Road to Arlington Boulevard as part of the City’s Emmet Streetscape Phase I project. A Betterment Agreement and costs are under review by the City.

An analysis of possible water main alignments along the Emmet Street Corridor was completed for the section between Morton Drive and Hydraulic Road. The report detailing this analysis is expected to be finalized by the end of 2023.

12. MCAWRRF Structural and Concrete Rehabilitation

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	April 2023
Project Status:	Preliminary Engineering
Construction Start:	September 2024
Completion:	December 2026
Budget:	\$13,550,000

Current Status: A Preliminary Engineering Report associated with interim digester repairs has been completed.

13. Crozet Pump Stations Rehabilitation

Design Engineer:	Wiley Wilson
Project Start:	July 2023
Project Status:	40% Design
Construction Start:	January 2025
Completion:	December 2026
Budget:	\$10,350,000

Current Status: Development of 60% design documents continues.

14. Crozet GAC Expansion – Phase I

Design Engineer:	SEH
Project Start:	July 2023
Project Status:	Preliminary Engineering
Construction Start:	April 2025
Completion:	October 2026
Budget:	\$6,550,000

Current Status: Preliminary engineering evaluations and coordination with regulatory authorities are underway.

15. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	5% Design
Construction Start:	April 2026
Completion:	January 2029
Budget:	\$43,000,000

Current Status: Design work is underway by Hazen for the new raw water pump station, intake, raw water main, and hypolimnetic oxygenation system, and by Schnabel Engineering for final design of the dam spillway upgrades, temporary detour, and spillway bridge.

16. SFRR to RMR Pipeline, Intake, and Facilities

Design Engineer:	Kimley Horn/SEH
Project Start:	July 2023
Project Status:	8% Design
Construction Start:	June 2025
Completion:	December 2030
Budget:	\$79,700,000

Current Status: Boundary survey of the of the watermain alignment in VDOT right-of-way is underway. A geotechnical investigation along the watermain alignment will be completed this Fall/Winter. The project will require closure of the public boat ramp at the site once construction begins. Modifications to the Ragged Mtn Reservoir intake tower and perimeter grading will be also included in this overall project. A short section of the 36” raw water main will be constructed with the Victorian Heights housing development on Woodburn Road. Construction of that section of main is expected to begin this winter.

17. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	CHA Consulting
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$4,725,000

Current Status: The design team has provided additional information to assist the County with easement acquisition considerations.

Planning and Studies

18. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	AMP Implementation – 70% Complete
Completion:	AMP Implementation – 2024
Budget:	\$1,180,000

Current Status: Work continues to fully implement the Asset Management program across all applicable Authority facilities with refinement of a linear asset Excel model and planning associated with performing condition assessments on critical RWSA assets.

19. MCAWRRF Biogas Upgrades

Design Engineer:	SEH
Project Start:	October 2021
Project Status:	Preliminary Engineering/Study (99%)
Completion:	December 2024
Budget:	\$2,145,000

Current Status: This project now includes the Methane Sphere Rehabilitation, in addition to possible Cogeneration Upgrades. RWSA and City staff continue to discuss all available options to reuse the biogas, with further investigation and analysis ongoing. City and RWSA staff toured the biogas facility owned by Roanoke Gas at the Western Virginia Water Authority's wastewater treatment facility last month as part of this overall investigation.

20. North Rivanna Water Treatment Plant Decommissioning

Design Engineer:	SEH
Project Start:	July 2019
Project Status:	Work Authorization Development
Completion:	March 2027
Budget:	\$2,425,000

Current Status: SEH is preparing a scope of work for design of the plant decommissioning. Staff are also pursuing funding and administrative assistance for removal of the North Fork Rivanna low head dam from the U.S. Fish and Wildlife Service through their Partners for Fish and Wildlife Program.

Other Significant Projects

21. Urgent and Emergency Repairs

Staff are currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2023-01	Finished Water System ARV Repairs	\$150,000
2022-03	RVI Erosion	\$35,000
2023-12	Stillhouse Waterline Leak @ Terrell Road West	\$40,000
2023-13	NRWTP Non-Potable Waterline Leak	\$5,000

- **RWSA Finished Water ARV Repairs:** RWSA Engineering staff recently met with Maintenance staff to identify a list of Air Release Valves (ARVs) that need to be repaired, replaced, or abandoned. Several of these locations will require assistance from RWSA On-Call Maintenance Contractors, due to the complexity of the sites (proximity to roadways, depth, etc.). The initial round will include six (6) sites, all along the South Rivanna Waterline, and will be completed starting as early as this Winter. The Contractor is currently working on acquiring applicable VDOT permits for the work and plans to complete the first site along Woodburn Road as weather allows.

- RVI Erosion: RWSA's Rivanna Interceptor (RVI) traverses a large river bottom in the Still Meadow Community. As this river bottom is down slope of a large development, excess drainage has caused a small washout area over the interceptor. Staff investigated the area with its On-Call Maintenance Contractor, Faulconer Construction, and rip-rap armament was recommended in the area to protect the sewer line. Work was completed during the week of November 27th.
- Stillhouse Waterline Leak @ Terrell Road West: On Monday, November 20th, at approximately 7 AM, RWSA was notified of an apparent water leak along Terrell Road West, which is located just off of Georgetown Road in Albemarle County. RWSA and ACSA crews promptly mobilized to the site and determined that the leak was from RWSA's 12" Stillhouse Waterline. Although the leak was small in nature and not actively impacting RWSA's operations, crews began repair efforts later in the morning, and had the leak repaired and main back in service around 11 PM that evening. Site restoration was completed at approximately 3 AM on Tuesday, November 21st. Paving of the impacted roadway was completed on Tuesday, November 28th.
- NRWTP Non-Potable Waterline Leak: On Friday, November 24th, RWSA Operations staff identified a water leak on a 4" non-potable waterline at the North Rivanna WTP. The leak was able to be safely isolated without an impact to treatment processes, and the leak was repaired by RWSA Maintenance staff during the week of November 27th.

22. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	90% (WA6), 99% (WA7), 5% (WA9)
Based Construction Contract +	
Change Orders to Date = Current Value:	\$718,428 (WA1) + \$814,420 (WA2-9)
Completion:	December 2023 (WA6), November 2023 (WA7), June 2024 (WA9)
Budget:	\$2,810,000

Current Status: WA6 includes card access installation at RWSA's remote sites, including all dams and pump stations. Conduit work and device installation has been completed at nearly all sites, with programming and testing work ongoing. WA7, which includes a pilot of a program that will test electronic padlocks at several RWSA facilities, has begun. These electronic padlocks have the potential to add an extra layer of security to unmanned facilities such as tanks, dams, and other facilities. If the pilot is successful, wide scale implementation of this technology is possible. The locks have been distributed to staff for use as of the week of November 27th. WA9 will include installation of card access on all exterior doors at the South Rivanna WTP. This work was recently authorized, and materials are being procured. Design of MCAWRRF entrance modifications with Hazen & Sawyer also continues, with discussions with Dominion Energy also ongoing, as relocation of existing electrical infrastructure will be required. This relocation process will need to be finalized prior to the project proceeding to the bidding phase. Relocation of existing electrical infrastructure will require coordination with the adjacent landowner, as the infrastructure must be completely relocated from the entrance area. As these discussions are ongoing, staff has submitted appropriate permitting documents with Albemarle County.