



## 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:** JULY 23, 2024

This memorandum reports on the status of the following major 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

	<b>Project</b>	<b>Construction Start Date</b>	<b>Construction Completion Date</b>
1	MC 5kV Electrical System Upgrades	May 2022	December 2024
2	Rivanna Pump Station Restoration	July 2024	January 2025
3	Red Hill Water Treatment Plant Upgrades	September 2024	March 2026
4	RMR to OBWTP Raw Water Line and Pump Station	January 2025	June 2029
5	MC Building Upfits and Gravity Thickener Improvements	February 2025	December 2026
6	MC Structural and Concrete Rehabilitation	February 2025	May 2027
7	Crozet Pump Stations Rehabilitation	April 2025	December 2026
8	South Fork Rivanna River Crossing	April 2025	January 2027
9	MC Administration Building Renovation and Addition	April 2025	December 2027
10	Central Water Line	May 2025	March 2029
11	Crozet WTP GAC Expansion – Phase I	August 2025	March 2027
12	RMR Pool Raise	October 2025	September 2026
13	SFRR to RMR Pipeline, Intake, and Facilities	March 2026	December 2030
14	Beaver Creek Dam, Pump Station, and Piping	May 2026	January 2030
15	Upper Schenks Branch Interceptor, Phase II	TBD	TBD
16	MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades	June 2025	September 2026

Under Construction

- 1. MC 5kV Electrical System Upgrades
- 2. Rivanna Pump Station Restoration
- 3. Red Hill Water Treatment Plant Upgrades

Design and Bidding

- 4. RMR to OBWTP Raw Water Line and Pump Station
- 5. MC Building Upfits and Gravity Thickener Improvements
- 6. MC Structural and Concrete Rehabilitation
- 7. Crozet Pump Stations Rehabilitation
- 8. South Fork Rivanna River Crossing
- 9. MC Administration Building Renovation and Addition
- 10. Central Water Line
- 11. Crozet WTP GAC Expansion – Phase I
- 12. RMR Pool Raise
- 13. SFRR to RMR Pipeline, Intake, and Facilities
- 14. Beaver Creek Dam, Pump Station, and Piping
- 15. Upper Schenks Branch Interceptor, Phase II
- 16. MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades

Planning and Studies

- 17. MCAWRRF Biogas Upgrades
- 18. Flood Protection Resiliency Study

Other Significant Projects

- 19. Urgent and Emergency Repairs
- 20. Security Enhancements

**Under Construction**

**1. MCAWRRF 5kV Electrical System Upgrades**

Design Engineer:	Hazen and Sawyer (Hazen)
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	62%
Base Construction Contract +	
Change Order to Date = Current Value:	\$5,180,000 - \$800,127 = \$4,379,873
Completion:	December 2024
Budget:	\$5,635,000

Current Status: The third (of 5) motor control center replacement is underway. The Contractor is wiring the new switchgear facility and beginning the commissioning process. 5kV cable replacement will start soon. The Contractor continues to remedy the situation associated with the damaged primary clarifiers, caused by improper wiring of a new Motor Control Center.

**2. Rivanna Pump Station Restoration**

Design Engineer:	Hazen/SEH
Construction Contractor:	MEB
Construction Start:	July 2024
Project Status:	Design & Material Acquisition
Completion:	January 2025
Budget:	\$21,750,000

Current Status: June workshops to decide on resiliency of components to be replaced/repaired as well as modifications and improvements to the pump stations have been completed. Two workshops were held in July to review and make modifications to the station controls and programming. A term contract is being finalized with MEB General Contractors to utilize their services throughout the station re-construction. Completion dates referenced in this section reflect when we anticipate the pump station will be taken off bypass (January 2025) and when the full restoration will be completed (June 2025).

**3. Red Hill Water Treatment Plant Upgrades**

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction (Lynchburg)
Construction Start:	September 2024
Percent Complete:	Awarded, 0%
Base Construction Contract + Change Order to Date = Current Value:	\$1,742,375
Completion:	March 2026
Budget:	\$2,050,000

Current Status: Construction contract documents are being reviewed for processing. Conformed documents are being generated for resubmission and approval by the County based on changes made during negotiations post-bid. This project received partial grant funding from Albemarle County.

**Design and Bidding**

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

Design Engineer:	Kimley-Horn
Project Start:	August 2018
Project Status:	99% Design
Construction Start:	January 2025
Completion:	June 2029
Budget:	\$46,000,000

Current Status: Final design continues in preparation for bidding next month. Staff continue to work with UVA on the final easement.

**5. MCAWRRF Building Upfits and Gravity Thickener Improvements**

Design Engineer: Short Elliot Hendrickson (SEH)  
Project Start: March 2023  
Project Status: 60% Design  
Construction Start: February 2025  
Completion: December 2026  
Budget: \$7,500,000

Current Status: A Value Engineering workshop was completed. 90% design documents are anticipated in August.

**6. MCAWRRF Structural and Concrete Rehabilitation**

Design Engineer: Hazen and Sawyer (Hazen)  
Project Start: April 2023  
Project Status: 80% Design  
Construction Start: February 2025  
Completion: May 2027  
Budget: \$11,300,000

Current Status: 90% design documents will be completed in July.

**7. Crozet Pump Stations Rehabilitation**

Design Engineer: Wiley | Wilson  
Project Start: July 2023  
Project Status: 90% Design  
Construction Start: April 2025  
Completion: December 2026  
Budget: \$10,350,000

Current Status: Wiley | Wilson incorporated accepted recommendations from the value engineering workshop into the 90% design documents. A 90% design workshop was held with staff in July.

**8. South Fork Rivanna River Crossing**

Design Engineer: Michael Baker International (Baker)  
Project Start: November 2020  
Project Status: 99% Design  
Construction Start: April 2025  
Completion: January 2027  
Budget: \$7,300,000

Current Status: All easements have been acquired, and the Water Protection permit was resubmitted to the County for approval. The VDOT Land Use permit was submitted in May.

**9. Moore's Creek Administration Building Renovation and Addition**

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	60% Design
Construction Start:	April 2025
Completion:	December 2027
Budget:	\$20,000,000

Current Status: A revised concept design to incorporate the expanded ~1,500 sq ft exhibit space has been completed. A design kickoff for the exhibit space was completed in July while efforts continue to bring the revised project to 60% design.

**10. Central Water Line**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	90% Design
Construction Start:	May 2025
Completion:	March 2029
Budget:	\$47,000,000

Current Status: The acquisition process for two private easements has been initiated with our real estate consultant. RWSA is negotiating the third easement with UVA along Hereford Drive. Railroad permits were submitted in February 2024 and draft Agreements from both railroads have been received and are being reviewed. Additional design work associated with a partial reroute of the water line in the East High Street area is necessary as there was not enough subsurface space to install this large 24" water pipe in the intended E. High St. location. Redesign efforts are in process and public outreach efforts to the impacted neighborhoods (Woolen Mills, Martha Jefferson, Belmont-Carlton, and Little High) are in progress.

**11. Crozet GAC Expansion – Phase I**

Design Engineer:	SEH
Project Start:	July 2023
Project Status:	30% Design
Construction Start:	August 2025
Completion:	March 2027
Budget:	\$6,550,000

Current Status: Final PER has been completed and submitted to VDH for review. Detailed design began with a 30% submittal in July. \$6.24 M in grant funds from VDH have been awarded for this project.

**12. RMR Pool Raise**

Design Engineer:	Schnabel
Project Start:	April 2024

Project Status:	15% Design
Construction Start:	October 2025
Completion:	September 2026
Budget:	\$5,000,000

Current Status: This project will include clearing around the reservoir and minor modifications to the intake tower as necessary to allow an increase in the normal pool elevation from 671' to 683'. Geotechnical investigations are underway.

### **13. SFRR to RMR Pipeline, Intake, and Facilities**

Design Engineer:	Kimley Horn/SEH
Project Start:	July 2023
Project Status:	35% Design
Construction Start:	March 2026
Completion:	December 2030
Budget:	\$79,000,000

Current Status: The Design Engineer continues to work on both the new reservoir intake and the pipe between SFRR and RMR. A design workshop for the new intake and raw water pump station at SFRR was held this month. Installation of a nutrient analyzer at SFRR has been completed and was successfully started up. This is the last step of the water quality study, and a final report is anticipated by September.

### **14. 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:	40% Design
Construction Start:	May 2026
Completion:	January 2030
Budget:	\$47,100,000

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. Geological, survey, and other field investigative work for the dam design are underway. Documents are being developed for acquisition or lease of property for the Pump Station from the County.

### **15. 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.

## **16. MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades**

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	June 2023
Project Status:	50% Design
Construction Start:	June 2025
Completion:	September 2026
Budget:	\$3,600,000

Current Status: The 50% design submittal was received this month and is under review by staff. As a result of the preliminary design process, additional improvements to the current septage receiving equipment and billing software are being added to the project and an additional evaluation of flood resiliency efforts is warranted. A separate Board memo is included this month for this additional design work.

## **Planning and Studies**

### **17. 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 biogas.

### **18. Flood Protection Resiliency Study**

Design Engineer:	TBD
Project Start:	August 2024
Project Status:	Preliminary Engineering/Study
Completion:	July 2025
Budget:	\$278,500

Current Status: This project will identify individualized flood mitigation measures of six facilities to increase their resiliency from a 1% flooding event to a 0.2% flooding event. Facilities include: Mechums River Raw Water PS, Glenmore WW PS, Moores Creek AWRRF, Scottsville WWRRF, Crozet FET, and Crozet WW PS #2. This project received \$198,930 in grant funding from FEMA and VDEM.

## Other Significant Projects

### 19. 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
2024-03	MCAWRRF Secondary Clarifier #4 Equipment Failure	\$150,000

- 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 seven (7) sites, all along the South Rivanna Waterline. Three replacements have been completed at this time.
- MCAWRRF Secondary Clarifier #4 Equipment Failure: On Sunday Evening, March 3<sup>rd</sup>, RWSA Wastewater Department staff identified that Secondary Clarifier #4 at MCAWRRF appeared to have a significant mechanical malfunction. Upon further review by staff, the rotating arm of the clarifier mechanism caught the stationary arm, wrapping it around the center of the clarifier. Staff mobilized MEB General Contractors under its On-Call Maintenance Construction Services Contract with Faulconer, and the clarifier was back up and operational with just one stationary arm on Friday, March 8<sup>th</sup>. Staff are waiting on the necessary parts to complete repairs to the clarifier arms, but in the meantime, the clarifier is operational should it be needed for wet weather events. The remaining repairs will be completed by the RWSA Maintenance Department.

### 20. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	85% (WA9), 85% (WA10)
Based Construction Contract +	
Change Orders to Date = Current Value:	\$718,428 (WA1) + \$834,742 (WA2-10)
Completion:	June 2024 (WA9), August 2024 (WA10)
Budget:	\$2,810,000

Current Status: WA9 will include installation of card access on all exterior doors at the South Rivanna WTP. WA10 will include installation of card access on the exterior doors of the finished water pump station and “795” tank buildings in Scottsville. Device installation is complete here as well, with only startup and programming remaining. Design of MCAWRRF entrance modifications with Hazen & Sawyer 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 have submitted appropriate permitting documents to Albemarle County.