



## 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: MARCH 26, 2024**

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

	<b>Project</b>	<b>Construction Start Date</b>	<b>Construction Completion Date</b>
1	SRWTP and OBWTP Renovations	May 2020	July 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	December 2024	December 2026
5	Red Hill Water Treatment Plant Upgrades	September 2024	March 2026
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	April 2025	December 2027
9	RMR to OBWTP Raw Water Line and Pump Station	September 2024	December 2028
10	MC Building Upfits and Gravity Thickener Improvements	October 2024	December 2026
11	Emmet Street Water Line Betterment	October 2024	October 2026
12	MC Structural and Concrete Rehabilitation	February 2025	May 2027
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
18	North Rivanna Water Treatment Plant Decommissioning	September 2025	March 2027

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
- 18. North Rivanna Water Treatment Plant Decommissioning

Planning and Studies

- 19. Asset Management Plan
- 20. MCAWRRF Biogas Upgrades

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:	97%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500 + \$1,329,762 = \$38,078,262
Completion:	July 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 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:	90%
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 and disinfection are complete and final tie-ins to the existing system are in progress. Paving and curb restoration along Berkmar Drive are proceeding but are weather dependent. Fiber has been installed and Dominion is currently setting the transformer so pump station startup and testing can begin once the electricity is in service.

## **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:	33%
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 sitework including underground electrical ductbank, equipment pads, and curb and gutter replacements, is complete. Equipment continues to arrive and electrical work has resumed starting with low-voltage motor control center replacements. The new 5kV switchgear and enclosure is anticipated onsite later this month.

## **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:	December 2024
Completion:	December 2026
Budget:	\$7,300,000

Current Status: Easement acquisition work is on-going. We have been coordinating with VDOT for a required easement on the south side of the river which is on a remnant property from the VDOT

Berkmar Bridge project. VDOT was not able to complete the property transfer back to the original property owner so they will issue RWSA a Land Use Permit for the water line work. However, another small temporary easement will be required on an adjacent property owner to access the VDOT property. A purchase agreement package was sent to VEPCO last month for purchase of a small parcel along Rio Mills Rd since they preferred to sell the property to us rather than grant an easement. The final outstanding easement is with Albemarle County across the Brookhill Park property along Rio Mills Rd and this easement will be presented to the Albemarle County Board of Supervisors in April 2024 and a public hearing will be held in May 2024.

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

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2022
Project Status:	Bidding
Construction Start:	September 2024
Completion:	March 2026
Budget:	\$2,000,000

Current Status: Modifications to the current design are being costed by the contractor in anticipation for contract award in April. This is being done to ensure all operational needs are met while incorporating cost savings measures where feasible. This project received partial grant funding from Albemarle County.

**6. Central Water Line**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	80% Design
Construction Start:	December 2024
Completion:	December 2028
Budget:	\$47,000,000

Current Status: Completion of 90% construction documents was achieved in February. A workshop was held in mid-March to discuss the documents. The acquisition process for two easements has been initiated with our real estate consultant and RWSA will negotiate the third easement with UVA along Hereford Drive. Railroad permits were submitted last month. A contractor’s information will be held on April 11 for multiple RWSA water line projects.

**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: An 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.

**8. 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: The educational exhibit overall concept approach has been completed. Partial re-design of the layout and revised concept elevations is underway with anticipated completion by the end of April.

**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: 90% Design  
Construction Start: September 2024  
Completion: December 2028  
Budget: \$46,000,000

Current Status: Design documents are being advanced to the bid-ready level. Staff met with UVA to discuss the final remaining easement, as well as the design plans for the portion of the project on UVA property. An informational meeting with contractors has been scheduled for April 11, that will also include the Central Waterline, South Fork Rivanna River Crossing and South Fork to Ragged Mountain projects.

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

Design Engineer: Short Elliot Hendrickson (SEH)  
Project Start: March 2023  
Project Status: 5% Design  
Construction Start: October 2024  
Completion: December 2026  
Budget: \$7,500,000

Current Status: Design 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% construction documents for the water main. Permitting efforts are underway. RWSA is coordinating with City Utilities 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 City Utilities.

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 was completed in December 2023.

**12. MCAWRRF Structural and Concrete Rehabilitation**

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

Current Status: Design documents are progressing for digester and structural rehabilitation and repair elements towards a 90% deliverable by the end of March.

**13. Crozet Pump Stations Rehabilitation**

Design Engineer: Wiley | Wilson  
Project Start: July 2023  
Project Status: 60% Design  
Construction Start: January 2025  
Completion: December 2026  
Budget: \$10,350,000

Current Status: 60% design documents have been completed and a review workshop was held in January. A value engineering workshop will be completed this month as design progresses to 90% completion.

**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: A Preliminary Engineering Report is underway for subsequent VDH submission and review.

### **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:	15% Design
Construction Start:	April 2026
Completion:	January 2029
Budget:	\$47,000,000

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. Site survey work for the pump station will be completed this month.

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

Design Engineer:	Kimley Horn/SEH
Project Start:	July 2023
Project Status:	15% Design
Construction Start:	June 2025
Completion:	December 2030
Budget:	\$80,000,000

Current Status: The Design Engineer has submitted 50% plans for the pipeline project. Modifications to the Ragged Mtn Reservoir intake tower and perimeter clearing to allow for the 12-foot pool raise will be included in this overall project. A short section of the 36" raw water main is being constructed with the Victorian Heights housing development on Woodburn Road and will be completed this month. Geotechnical borings for the new intake at SFRR will begin this month. This will require temporary closure of the existing boat ramp at SRWTP.

### **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.

### **18. North Rivanna Water Treatment Plant Decommissioning**

Design Engineer:	SEH
Project Start:	July 2019
Project Status:	5% Design
Construction Start:	September 2025
Completion:	March 2027

Budget: \$2,425,000

Current Status: Design is underway for decommissioning of the North Rivanna Water Treatment Plant. Staff are pursuing funding and administrative assistance for removal of the North Fork Rivanna low head dam from the U.S. Fish and Wildlife Service (USFWS) through their Partners for Fish and Wildlife Program. River survey work requested by USFWS was completed in February.

## **Planning and Studies**

### **19. Asset Management Plan**

Design Engineer: GHD, Inc.  
Project Start: July 2018  
Project Status: AMP Implementation – 80% 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. A audit of our Cityworks configuration is also being performed to review its overall effectiveness and areas for future improvements.

### **20. 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.

## **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
2024-01	Rivanna Wastewater Pumping Station Flood	TBD



2024-03	MCAWRRF Secondary Clarifier #4 Equipment Failure	TBD
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- 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 in March 2024.
- Rivanna WWPS Flood: As discussed in the January and February Board of Directors Meeting and in this month’s board packet, the Rivanna Wastewater Pump Station experienced a significant flooding event on the evening of January 9<sup>th</sup>, 2024, that has rendered the facility inoperable. Installation of a 53 MGD bypass system has been completed, and the bypass has been setup to run automatically, with the capability to notify staff of potential issues as well. In addition, staff continues investigation into the root cause of the event on the dry well side of the facility and has also begun analyzing procurement needs for long-lead equipment items.
- 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.

## 22. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	70% (WA9), 30% (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. Work began during the week of January 29<sup>th</sup>, with the majority of the device installation complete at this time. WA10 will include installation of card access on the exterior doors of the finished water pump station and 795 tank buildings in Scottsville, as part of the recent transfer in ownership of these facilities to RWSA. Materials have been procured for this work, and conduit work has been completed. 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.