RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
434.293.8858
www.rivanna.org

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

In 2002, the Central Virginia Region experienced a historical drought of record. This drought and the water supply needs of the Charlottesville/Albemarle region sparked a decade-long water supply planning process (2002-2012). The community evaluated future water needs and developed the Community Water Supply Plan, which was approved in 2012. The plan calls for several infrastructure projects and upgrades to secure the water supply for the Charlottesville/Albemarle area.

A detailed routing study for the South Fork Rivanna Reservoir (SFRR) to Ragged Mountain Reservoir (RMR) Raw Water Line, including the section between RMR and Observatory Water Treatment Plant (OBWTP), was completed between 2017 and 2021. Easement acquisition occurred concurrently with the routing study and was completed in September 2024.

Overview

The RMR to OBWTP Raw Water Line and Pump Station Project is a critical component of the SFRR to RMR pipeline and Community Water Supply Plan. Not only will this new water line and pump station integrate with the SFRR-RMR Pipeline, but it will also serve to replace rapidly aging raw water transfer infrastructure to OBWTP and help to take full advantage of capacity upgrades that were recently completed at that facility. The full capacity of OBWTP will be able to be realized once the RMR-OBWTP Pipeline and Pump Station is completed, and the Central Waterline is completed under a future, separate project.

Details

The RMR-OBWTP water line will span approximately 4 miles, between RMR and OBWTP, including a spur-piece of piping that will be installed on the Foxhaven Farm property, connecting the Ragged Mountain Raw Water Pump Station (RMRWPS) to the Southern end of the previously installed raw water line under the Birdwood Golf Course. All piping installed will be 36-inch in diameter, and the RMRWPS will have the capacity to initially transfer up to 10 million gallons per day (MGD) of raw water from RMR to OBWTP. Once the SFRR-RMR pipeline is complete and additional pumps are installed, the RMRWPS will also be capable of transferring 16 MGD from the Ragged Mountain Reservoir to the South Rivanna Water Treatment Plant (SRWTP), as well as assist with the transfer of 25 MGD of raw water from SFRR to RMR and/or OBWTP. The RMR-OBWTP raw water line and pump station project has a total project budget of $61,500,000.

Benefits and Temporary Impacts

- ***Enhanced Dependability of Our Drinking Water System***: By connecting the SFRR and the RMR, as well as the SRWTP and OBWTP, our system will be capable of providing drinking water to the urban area from multiple facilities during periods of uncertain and changing climate conditions and extended droughts or incidents which may impact our water storage or treatment facilities. The new water line will replace the 70-100+ year old water lines which currently supply water to RMR from the Sugar Hollow Reservoir, as well as from RMR to OBWTP.
- ***Tree Clearing:*** In order to install this large diameter piping, the full easement width (including all temporary and permanent easement areas, generally totaling 60 feet in width) will need to be

cleared in order to facilitate heavy equipment access. All cleared areas will be appropriately restored following construction, and temporary stabilization measures will be utilized as needed in between clearing efforts and pipe installation.

- ***Increased Water Supply***: Completion of the water line and the initial phase of the RMRWPS will allow 10 MGD of raw water to be transferred to OBWTP, helping to take advantage of capacity upgrades at that facility. Previous raw water pumping infrastructure was limited to 7 MGD or less.
- ***Road Impacts:*** The pipe alignment crosses several roadways, including Reservoir Road, Hereford Drive, and Fontaine Avenue Extended. However, in the case of Fontaine Avenue, the work will be performed at night and will be sequenced such that a minimum of one lane remains open at all times. Work on Hereford Drive will be performed while the adjacent UVA dormitories are closed, and any pipe crossings of Reservoir Road will be conducted at night. The Contractor will also be responsible for ensuring that emergency vehicles can pass at all times during the work.
- ***Better for the Environment:*** With the new, bigger water line in place we can provide more water for people, fish, and other wildlife, by rapidly filling RMR during times of high rainfall and leaving water in the rivers during dry times/droughts.
- ***Trail Impacts:*** The pipeline alignment crosses many high-traffic trails, both on the Foxhaven Farm Property, and on UVA Grounds. The Contractor is responsible for developing a plan to detour trail traffic as necessary and will be working with UVA and UVA Foundation staff to appropriately coordinate any temporary trail closures as the need arises.

Frequently Asked Questions (FAQs)

- Q: How was the route for this project determined?
  - A: A detailed routing study was completed between 2017 and 2021. Easements were procured concurrently with all property owners along the pipeline alignment, and property was purchased for the pump station site.
- Q: How many trees will need to be removed?
  - A: All trees within the temporary and permanent easement areas will need to be removed, in order for the full easement width (generally 60') to be available for the Contractor to use, and for RWSA to be able to properly maintain the pipe after installation. All impacted property will be restored at the conclusion work, and if there are any gaps between tree clearing and pipe installation, temporary stabilization measures will be utilized by the Contractor.
- Q: How will traffic be impacted by this work?
  - A: Traffic impacts will generally be limited to nighttime. The only anticipated daytime traffic impacts will be in Hereford Drive on UVA Grounds during the Summer of 2025, but the adjacent UVA dormitories will be closed during this period, and appropriate detours will be established. The pipe crossing of Fontaine Avenue Extended adjacent to the Research Park will be conducted at night, and sequenced such that a minimum of one lane remains open at all times. The pipe crossing of the US-29 Expressway will be conducted via a trenchless crossing under the highway, and traffic will not be impacted.

- Q: How will popular trails be impacted by this work?
    - The pipe alignment will cross trails both on the Foxhaven Farm Property and UVA Grounds. Temporary closures and/or detours will be required during construction in these two areas. RWSA staff is coordinating with UVA and UVA Foundation staff, and notification of any closures/detours will be provided well in advance. At the conclusion of the work, all trails will be restored to pre-existing conditions, and in the case of trails on UVA Grounds, RWSA will be working with UVA to restore ground conditions such that additional trails may be installed in the future.

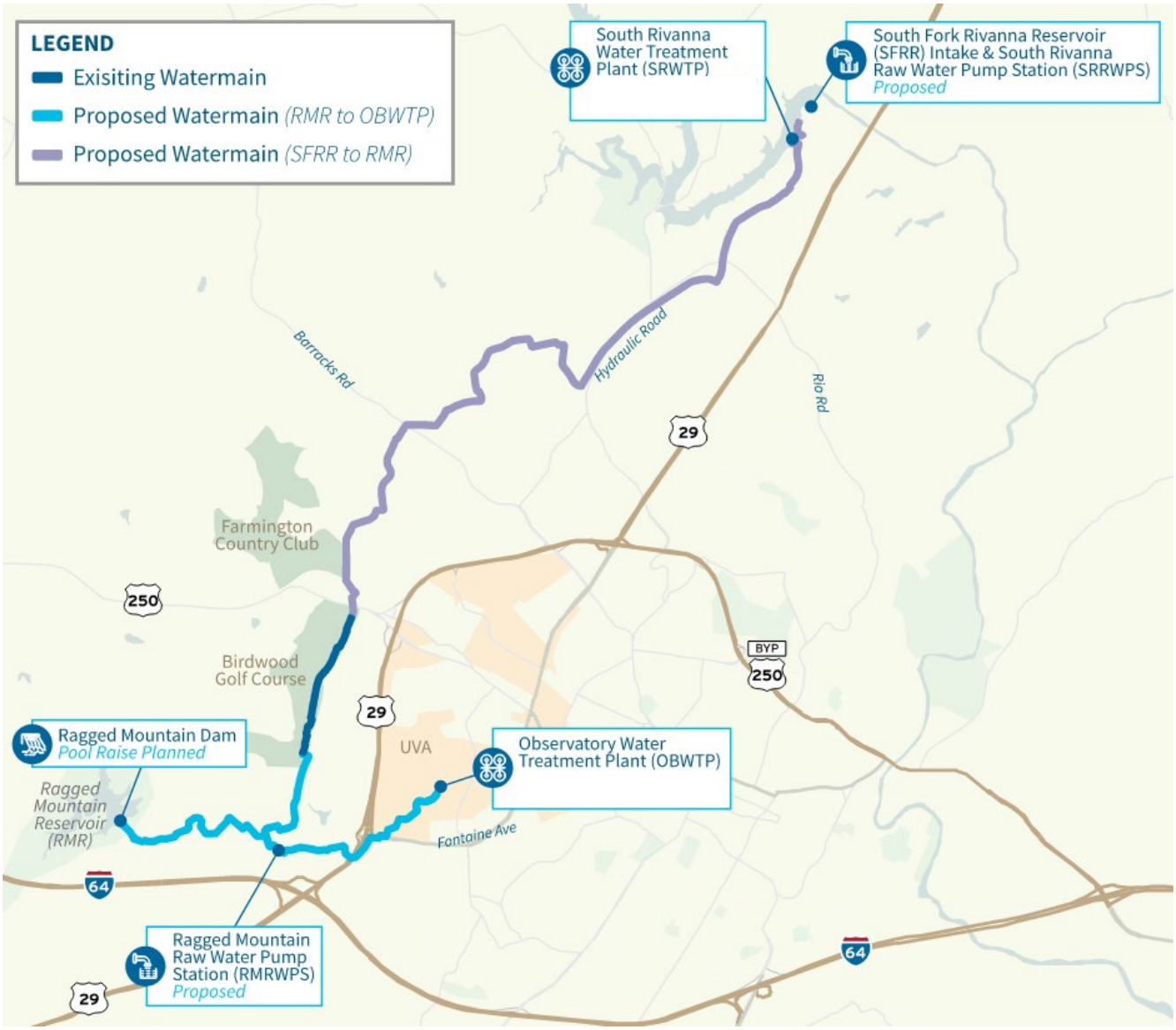
Schedule

Phase 1 - Route Determination - Complete
Phase 2 - Easement Acquisition - Complete
Phase 3 – Design & Construction

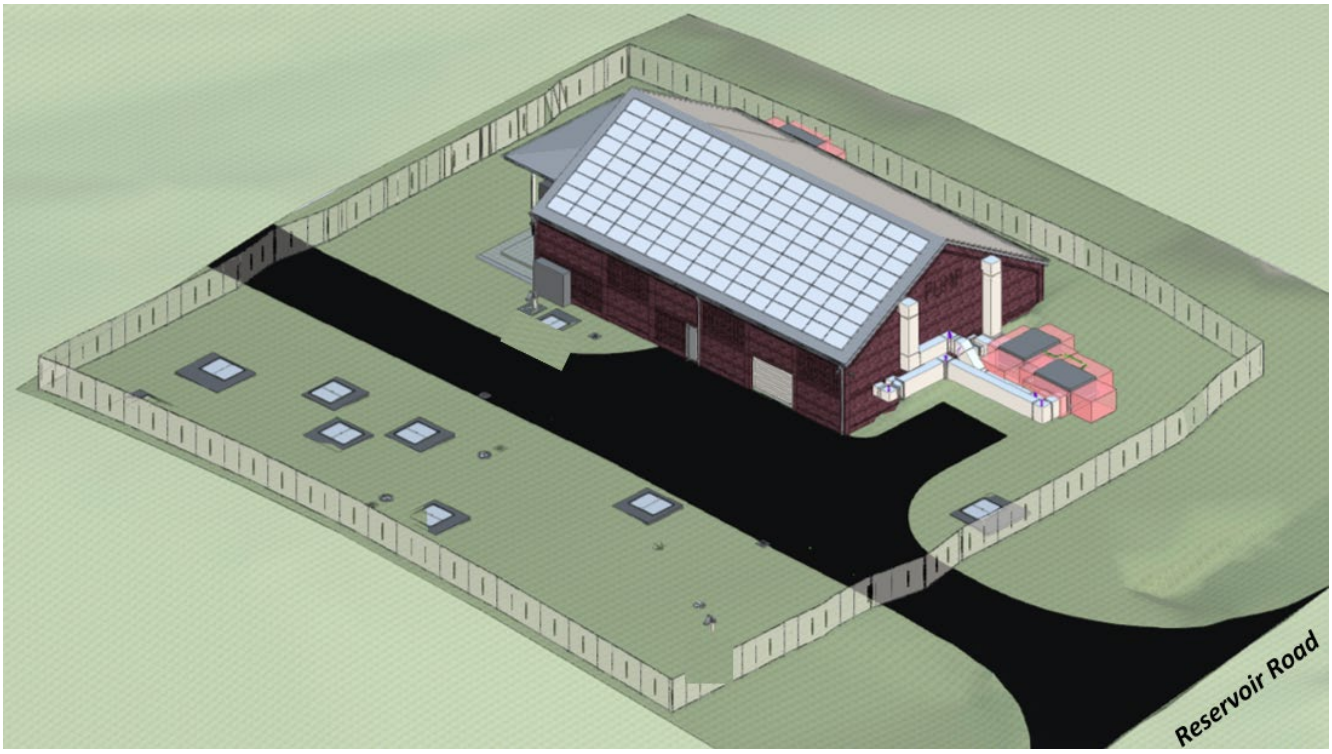
- Bidding has been completed and the Project has been awarded to Thalle Construction Company, Inc. from Hillsborough, NC. Construction is currently planned to be completed between February 2025 and June 2029.

January 2025 Update

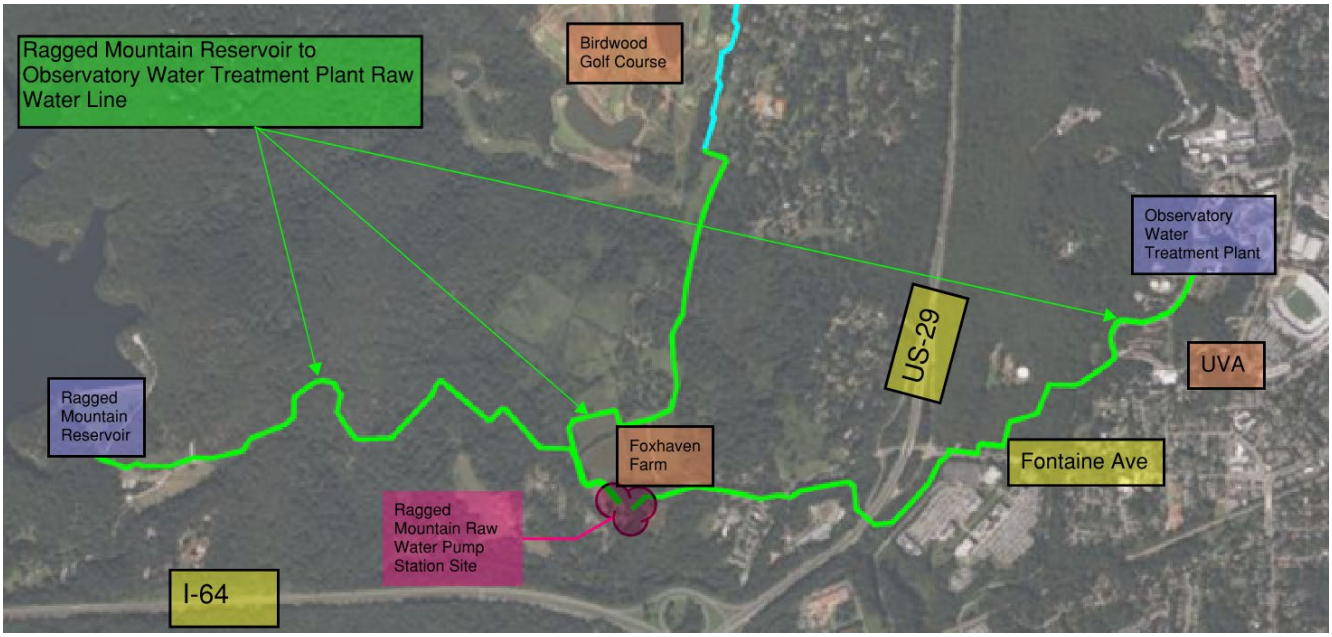
Notice to Proceed (NTP) was issued to Thalle on December 12, 2024. The pre-construction conference will be conducted in late January, along with a public meeting. More details regarding the public meeting will be posted to https://www.rivanna.org/, under "Upcoming Events". Once these critical steps are taken to ensure that the project is communicated appropriately both internally within the project team and externally with stakeholders, it is anticipated that the Contractor will begin mobilizing its jobsite trailer and equipment to the area. Once mobilization has occurred, the Contractor's primary focus is likely to be tree-clearing, in order to facilitate pipe installation and pump station construction throughout the rest of 2025.



Map Showing Community Water Supply Plan Projects



Rendering of the new Ragged Mountain Raw Water Pump Station



Map Showing Extents of RMR-OBWTP Project and Proximity to Major Local Features