

# ALBEMARLE COUNTY SERVICE AUTHORITY

## AGENDA ITEM EXECUTIVE SUMMARY

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| <b>AGENDA TITLE:</b> Rivanna Water & Sewer Authority (RWSA) Monthly Update | <b>AGENDA DATE:</b> January 21, 2016 |
| <b>STAFF CONTACT(S)/PREPARER:</b> Gary O'Connell, Executive Director       | <b>CONSENT AGENDA:</b> Informational |
|  | <b>ATTACHMENTS:</b> None             |

**BACKGROUND:** This report continues the monthly updates on the Rivanna Water & Sewer Authority (RWSA) projects and Board meetings. Below are some updates from the Board meeting on December 15<sup>th</sup> (one week early due to the holidays), and other RWSA projects:

- Drinking Water GAC Project – Work has begun at the South Fork Water Treatment Plant with excavations complete for the new chlorine contact tank and GAC building. Work has continued on the reinforced concrete placement for structure foundations. The newly finished water flow meter is complete and in service at South Fork. New flow meters have also been installed and are in service at Observatory and North Rivanna Water Treatment Plants. GAC work at the Observatory Water Treatment Plant has begun. Work at Observatory includes foundation excavation for the GAC intermediate pump station, a new GAC building, and chlorine contact tank. Most of this work is complete. Rehabilitation of the Observatory flocculator system has been approved, within the CIP budget estimate. Start dates for the other water treatment plants GAC: Tentative: North Fork – January, 2016; Crozet – March, 2016; and Scottsville – July, 2016. The anticipated completion dates are near the end of 2017.
- Rivanna Pump Station – Work is ongoing on the Rivanna Pump Station on RWSA property and the tunnel work is completed, with pipe installation to complete. Reinforcing steel, conduit installation, and concrete pours for the concrete walls of the new pump station are underway. Installation and grouting of the new 60" interceptor sewer pipe inside the tunnel is awaiting final shop drawing approvals, which is delaying the pipe installation project.
- Schenk's Branch Sewer Line – This is a 100% City funded project serving only the City, and City customers. This project is part of the DEQ Consent Order requiring completion. The project has been divided into two phases (1) a section between Schenk's Greenway (at Allied Street) to the McIntire Recycling Center and (2) the Recycling Center to the Preston Avenue section (under negotiation between the City and County, which has not been finalized). The Phase 1 construction contract has been awarded and work began in early July. Excavation has begun on the project along McIntire Road in the Schenk's greenway area, with some pipe and manhole installation work continuing over the next several months.

# ALBEMARLE COUNTY SERVICE AUTHORITY

## AGENDA ITEM EXECUTIVE SUMMARY

- Reservoir Management Study – The project work by Dinatale Water Consulting is well underway, and they are reviewing the background information that has been provided. The primary goal for the study is recommendations for improved reservoir water quality, especially dealing with the algal bloom issues that occur seasonally. The study will include all five reservoirs used for the public water supply: Beaver Creek, Ragged Mountain, South Fork Rivanna, Sugar Hollow and Totier Creek. The reservoirs' sampling program is now ongoing and will continue for additional sampling, with ongoing water quality analysis of the data that is being collected from the reservoirs. A report is expected in early spring of 2016.
- Wholesale Water Metering – This was a project required in the Water Supply Agreement to assure accurate water use data for future City and ACSA cost allocations. Additional easements are needed for two UVa sites, which are presently being acquired. Three of the urban water metering plants were bid with the GAC/Water Plant Improvement Projects, and have been installed in conjunction with the urban water GAC upgrades. The contract for \$2.03 million has been approved (under the CIP and engineer's estimate). Construction is expected to begin in the spring of 2016.
- VDOT Route 29 Solutions – Route 29 Widening and Berkmar Drive Extension – The VDOT Route 29 Widening project includes widening of Route 29 (Seminole Trail) from a four-lane divided highway to a six-lane divided highway from Polo Grounds Road to Town Center Drive at Hollymead Town Center. Due to the proposed grade changes and full depth pavement replacement, VDOT has determined that RWSA's existing 12-inch cast iron water line along Route 29 is in conflict and must be relocated for the entire length of the project. RWSA had previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant to Hollymead Town Center, in order to meet future water demands. RWSA has requested that VDOT and its Design-Build Contractor relocate the existing 12-inch water main as a 24-inch water main, and according to VDOT policy, VDOT would bear the cost of relocation as a 12-inch line and RWSA would bear the additional cost for the "betterment" from 12-inch to 24-inch. Design is already underway on this project and construction is anticipated to begin in the summer of 2016. Additionally, as part of the utility work for the Berkmar Drive Extension Project, RWSA has requested to include the installation of a casing pipe under the new roadway to carry a future sewer line from the South Rivanna Water Treatment Plant to an existing ACSA sewer line, subject to Board approval of the cost. The costs associated with the requested water line betterment were presented to the RWSA Board at the December meeting for inclusion in the Capital Improvement Plan, and additional background is included in the attached project report.
- Ragged Mountain Reservoir – The reservoir is slowly filling to a full reservoir level (to top level of 671'). RWSA has developed a computer model to simulate the Urban Water Supply based on water use, available supply, stream flow release requirements, average weather, etc. Based on this simulation and average fall wet weather, the Ragged Mountain Reservoir is estimated to be full

# ALBEMARLE COUNTY SERVICE AUTHORITY

## AGENDA ITEM EXECUTIVE SUMMARY

by the late spring, 2016. The upper reservoir floating bridge has been delivered to Rivanna, and will be installed when the trail is completed to this point.

- Wastewater Flow Metering (Comprehensive Sanitary Sewer Study Update) – Part of the 2014 Wastewater Cost Allocation Agreement was to base future allocation of costs on actual sewer flow metering. Field sewer flow meters were installed to measure wet weather flows. This will help take into account the infiltration/inflow, rainwater/groundwater, and wet weather flows in the ACSA and City systems in the allocation of costs. Wastewater flow data was collected for six months which included sufficient wet weather information for modeling purposes and updates, as part of the process to determine flow projections throughout the collection system. Additional flow monitoring will be occurring in the next three months. Population projections, which are part of the model, are also being updated, with current meetings with appropriate City, County, ACSA and UVa staff to confirm these projections.
- Moore's Creek AWRRF (Advanced Water Resource Recovery Facility-new name) Odor Control – Recommendations for odor control improvements that would significantly control odors from traveling beyond the Moore's Creek AWRRF fence line were presented to the RWSA Board of Directors (BOD) in December, 2014 and a CIP project for \$9.33 million was approved at the January, 2015 BOD meeting. The design for odor control improvements includes covering the head works and screening channels, installing grit facilities, constructing a bypass line through an equalization basin, covering the primary clarifiers, building additional odor scrubbing facilities to treat the foul air from the covered sources and the New Rivanna Pump Station, removing the post-digestion clarifiers from service, modifying the handling, hauling and storage of biosolids on-site, cleaning the equalization basins and holding ponds, and coating the interior of the digesters. The project was advertised and bids were received on December 17<sup>th</sup>. All the bids were at least \$1 million over budget. The bids have been rejected. Additional design work will be done to help reduce the cost of the project, and the project will then be rebid.
- South Rivanna Hydropower Plant Rehabilitation – RWSA constructed a hydropower plant at the South Fork Rivanna Dam in 1987. Power generation at the plant was limited for a number of years due to various mechanical issues and has been completely offline for the past two years. The first step towards rehabilitation of the hydropower facility is to perform a feasibility study where previous recommendations and interaction with the Federal Energy Regulatory Commission (FERC) are taken into account to determine whether it will be cost effective for RWSA to rehabilitate the facility. If the results indicate that RWSA could expect a positive return on their investment, a thorough inspection of the plant's mechanical equipment and the eventual design of plant improvements may follow. The firm of Gomez and Sullivan was approved to conduct the feasibility study, with work on this project beginning in October. A second site visit by the engineer to inspect the turbine. The engineer anticipates completion of the feasibility report at the end of January.

# ALBEMARLE COUNTY SERVICE AUTHORITY

## AGENDA ITEM EXECUTIVE SUMMARY

- South Fork Reservoir to Ragged Mountain Pipeline – The adopted RWSA CIP Budget has \$2,250,000 budgeted to the right-of-way and feasibility phase, with funding beginning in July, 2017 (FY 2018). The future construction of a new pipeline is part of the 50-year Community Water Supply Plan to increase the future transfer capacity through replacement of the Sugar Hollow Pipeline along an alternative alignment to be determined. The pipeline project will involve a more detailed routing study to determine the most feasible alignment.
- Crozet Water Plant Capacity Study – As Crozet continues to grow, RWSA monitors the water treatment plant sizing to meet water demand (use) on the maximum day (24 hour period) of each calendar year. RWSA will be conducting a preliminary engineering evaluation of a future water plant expansion at Crozet, as part of the FY 2017 CIP. Current trending is indicating that the maximum day demand could reach the current capacity (1 MGD) of the Crozet Water Treatment Plant as soon as 2021.
- Crozet Ground Storage, Crozet Waterball and Stillhouse Tank Improvements – Following inspections of these water tanks, work identified was repairs, painting, and structural improvements. Also, an installation of a water tank mixing system is planned for the Crozet Ground Storage Tank. One bid was received on December 1<sup>st</sup>, which was over budget; negotiation is underway to bring cost within the budget. Construction anticipated to begin the first quarter of 2016.
- Observatory Water Treatment Plant – The Observatory Water Plant was built in 1949, with some rehabilitation work done in 1988. There are several water treatment plant projects at Observatory scheduled in the 2015-19 Capital Improvements Plan (CIP). The most immediate project is to replace the existing flocculator equipment and repair basin inlet troughs, replace valves, install a new baffle wall and SCADA control equipment. The flocculator work contract has been approved. Further work is phased over the five year CIP.
- Northern Water Line Repair - The North Rivanna Water System has a 12” diameter pipe that crosses the North Fork Rivanna River on the west side of Route 29. Due to streambank erosion, the existing water line is exposed and needs repairs. A large storm could cause further erosion, which is believed would cause structural damage to the water line, and the break would cause a major loss of water service in northern Albemarle (Airport and Hollymead Town Center). A repair contract was approved by RWSA to move this needed repair forward over the next two months.

### Attachments:

-Route 29 Water Main Betterment Project