



# Board of Directors Meeting

September 24, 2019

2:15pm



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

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[www.rivanna.org](http://www.rivanna.org)

## BOARD OF DIRECTORS

### Regular Meeting of the Board of Directors of the Rivanna Water & Sewer Authority

**DATE:** September 24, 2019

**LOCATION:** Conference Room, Administration Building  
695 Moores Creek Lane, Charlottesville, VA

**TIME:** 2:15 p.m.

## AGENDA

- 1. CALL TO ORDER**
- 2. MINUTES OF PREVIOUS BOARD MEETINGS**
  - a. Minutes of Regular Board Meeting on August 27, 2019*
- 3. RECOGNITION**
- 4. EXECUTIVE DIRECTOR'S REPORT**
- 5. ITEMS FROM THE PUBLIC**
- 6. RESPONSES TO PUBLIC COMMENTS**
- 7. CONSENT AGENDA**
  - a. Staff Report on Finance*
  - b. Staff Report on Ongoing Projects*
  - c. Staff Report on Operations*
  - d. Position Reclassification Request- Grounds Maintenance to Civil Engineer*
  - e. General Administrative Procedures*
  - f. Award of Nonprofessional Services Contract: On-Call Dam Maintenance Services - Bander Smith, Inc.*
  - g. Authorization of Professional Engineering Services, Route 29 Water Pump Station and Water Main Project – Short Elliot Hendrickson Engineers*
  - h. Approval of Observatory Water Treatment Plant, Raw Water Pumping and Piping Upgrade Cost and Capacity Allocation Agreement*

**8. OTHER BUSINESS**

*a. Presentation: Biosolids Disposal Alternatives; Dave Tungate, Director of Operations*

*b. Presentation and Approval: "Joint Resolution" to Terminate the Buck Mountain Surcharge; Lonnie Wood, Director of Finance and Administration*

**9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

**10. CLOSED MEETING**

**11. ADJOURNMENT**

## GUIDELINES FOR PUBLIC COMMENT AT RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please raise your hand or stand when the Chairman asks for public comments.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Items From The Public." Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

During public hearings, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion presentations may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended that you not fully repeat the comments and instead advise the Board of your agreement. The time allocated for speakers at public hearings are the same as for regular Board meetings, although the Board can allow exceptions at its discretion.

Speakers should keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. For that reason, speakers are requested to speak from the podium and wait to be recognized by the Chairman. In order to give all speakers proper respect and courtesy, the Board requests that speakers follow the following guidelines:

- Wait at your seat until recognized by the Chairman.
- Come forward and state your full name and address and your organizational affiliation if speaking for a group;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Summarize your key points and provide the Board with a written statement, or supporting rationale, when possible;
- If you represent a group, you may ask others at the meeting to be recognized by raising their hand or standing;
- Be respectful and civil in all interactions at Board meetings;
- The Board may ask speakers questions or seek clarification, but recognize that Board meetings are not a forum for public debate; Board Members will not recognize comments made from the audience and ask that members of the audience not interrupt the comments of speakers and remain silent while others are speaking so that other members in the audience can hear the speaker;
- The Board will have the opportunity to address public comments after the public comment session has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that citizens who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

The agendas of Board meetings, and supporting materials, are available from the RWSA Administration office upon request or can be viewed on the Rivanna website(s)

**RWSA BOARD OF DIRECTORS**  
**Minutes of Regular Meeting**  
**August 27, 2019**

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, August 27, 2019 at 2:35 p.m. in the 2<sup>nd</sup> floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

**Board Members Present:** Mike Gaffney, Tarron Richardson, Kathy Galvin, Gary O'Connell, Liz Palmer.

**Board Members Absent:** Lauren Hildebrand, Jeff Richardson.

**Rivanna Staff Present:** David Rhoades, Phil McKalips, Michelle Simpson, Austin Marrs, Andrea Terry, Victoria Fort, Jennifer Whitaker, Scott Schiller, Lonnie Wood, Liz Coleman, Dr. Bill Morris, Dyon Vega, Katie McIlwee, Bill Mawyer.

**Attorney(s) Present:** Kurt Krueger, RWSA counsel, members of the public and media representatives.

**1. CALL TO ORDER**

Mr. Gaffney called the August 27, 2019 regular meeting of the Rivanna Water and Sewer Authority Board of Directors to order at 2:35 p.m.

**2. MINUTES OF PREVIOUS BOARD MEETINGS**

- a. *Minutes of Regular Board Meeting on May 28, 2019*
- b. *Minutes of Regular Board Meeting on July 23, 2019*

Mr. Gaffney asked Mr. Krueger which members would be able to vote on the meeting minutes.

Mr. Krueger replied that for the May 28, 2019 meeting, the Board members absent were Ms. Hildebrand, Mr. Richardson, and Dr. Palmer, and that there were four members present who could vote.

Mr. Gaffney asked the Board members if there were any questions or comments about the May 28, 2019 meeting and heard none.

**Mr. O'Connell moved that the Board approve the minutes of the regular Board meeting of May 28, 2019. The motion was seconded by Ms. Galvin and passed 4-0-1. Dr. Palmer abstained from the vote. Mr. Richardson and Ms. Hildebrand were absent from the meeting and the vote.**

Mr. Gaffney asked the Board members if there were any questions or comments about the July 23, 2019 meeting and heard none.

**Mr. O'Connell moved that the Board approve the minutes of the regular Board meeting of**

48 **April 23, 2019. The motion was seconded by Dr. Palmer and passed unanimously (5-0). Mr.**  
49 **Richardson and Ms. Hildebrand were absent from the meeting and the vote.**

50  
51 **3. *RECOGNITIONS***

52 There were no recognitions.

53  
54 **4. *EXECUTIVE DIRECTOR'S REPORT***

55 Mr. Mawyer stated that for the Strategic Plan update for this quarter, the Communication and  
56 Collaboration Team was participating in an "Imagine a Day Without Water" event with Mr.  
57 O'Connell and the City. He stated that school children are invited to draw pictures of what it  
58 would be like to have a day without water, and that some of this artwork could be seen in the  
59 hallway.

60  
61 Mr. Mawyer stated that RWSA is also participating in the United Way's Day of Caring on  
62 September 25 and going to Camp Holiday Trails to work on a trail improvement project.

63  
64 Mr. Mawyer stated that RWSA continues to optimize its operations and security by installing  
65 security cameras at a number of its reservoir locations. He stated that they also plan to keep the  
66 front gate closed longer in the morning, starting Monday, September 3, 2019. He explained that  
67 it currently opens at about 6:00 am when there is a shift change, but that there are only two staff  
68 on the property until after 7:00 am and they would therefore leave the gate closed until 7:00 am,  
69 staying open until 5:30 pm.

70  
71 Mr. Mawyer continued that a letter was sent to about 140 haulers who are the frequent early-  
72 morning customers, informing them that the schedule has changed and noting that they can still  
73 come in 24 hours a day, 7 days a week, but they must call the operator on duty to have the gate  
74 opened. He stated that if the haulers choose to do this there is a fee, except for the one hour of  
75 6:00-7:00 am so that the new schedule change will not affect the haulers.

76  
77 Mr. Gaffney asked if there were only two people there after 7:00 am.

78  
79 Mr. Mawyer replied that there are two staff present before 7:00 am, and that those two operators  
80 work alone all night.

81  
82 Mr. Gaffney asked if it was expensive to put up an automatic gate.

83  
84 Mr. Mawyer replied that this would be considered as part of the security project that was  
85 approved the prior month, noting that he wasn't sure what the specific cost would be. He stated  
86 that there is currently an automatic gate there now and that he can click with his remote to open  
87 it. He stated that staff have clickers to obtain access 24-7, but the private haulers and anyone  
88 from the public do not have these.

89  
90 Mr. Gaffney stated that he didn't know if someone could call the operator and if the operator  
91 could open the gate.

92  
93 Mr. Mawyer replied that they currently cannot do this remotely.

94  
95 Mr. Mawyer stated that the Infrastructure and Master Planning Initiative is continuing and that  
96 work is underway for the second phase of the Asset Management Program. He stated that a pilot  
97 study would be done on the relatively new Rivanna Pump Station to catalogue assets and help  
98 develop a new asset management software system.  
99

100 Mr. Mawyer stated that, as he mentioned at the last Board meeting, there was training as part of  
101 Workforce Development on the OSHA-10 safety topics, as well as in CPR.  
102

103 Mr. Mawyer stated that for environmental stewardship, the water resources manager has been  
104 coordinating with County staff about algae blooms in the reservoirs.  
105

106 Mr. Mawyer stated that also in regard to infrastructure and master planning, work is being done  
107 on the Buck Mountain Property Master Plan and there would be interviews the following week  
108 with consultants who would help move this project forward. He stated that Mr. Krueger has  
109 helped to craft a resolution to eliminate the Buck Mountain surcharge and was coordinating with  
110 the City, County, and ACSA attorneys. He stated that Mr. Wood is coordinating with the bond  
111 trustee, who also have to approve termination of the surcharge. He stated that after approval is  
112 obtained from the bond trustee, it would be brought to the Board for review and approval, then  
113 would be passed on to the City, the County and the Service Authority for Council and their  
114 Boards to approve the resolution to terminate the surcharge.  
115

116 Mr. Mawyer stated that negotiations are continuing with property owners to acquire the Rivanna  
117 to Ragged Mountain water line property easements.  
118

119 Mr. Mawyer stated that work is continuing with UVA staff on the lease for the Observatory  
120 Water Treatment Plant. He stated that they received comments from UVA in the week prior and  
121 that there would be a meeting with them on Thursday to begin to wrap up negotiations.  
122

123 Mr. Mawyer stated that he and staff are working on a capacity increase agreement with the City  
124 and the ACSA for the Observatory WTP project. A 2003 agreement provides that if there is any  
125 new capacity built in the urban water system, there will need to be a new agreement between the  
126 City and the ACSA to allocate funding for the project. He stated that they are adding 2.3 million  
127 gallons capacity at the Observatory Treatment Plant as a new project, and that an agreement was  
128 drafted with Mr. O'Connell, Ms. Hildebrand, and Mr. Krueger, which will soon come to the  
129 Board (possibly in September) for review. He stated that it would then move forward to the City  
130 and Service Authority for final approval.  
131

132 Mr. Mawyer stated that after recently speaking with Mr. Jeff Richardson about responsibilities  
133 for the reservoirs, as well as concerns about traffic, parking and trash, a memorandum of  
134 understanding is being drafted between the County, the City, and Rivanna about the five  
135 reservoirs that Rivanna uses and what the responsibilities would be for the various aspects. He  
136 stated that he plans to send a letter to Dr. Tarron Richardson and Mr. Jeff Richardson in the next  
137 week or so with the proposed plan of responsibilities.  
138

139 Dr. Palmer stated that the prior weekend, she walked along the South Fork at Mormon's River

down to Skyline Drive, down to the “Blue Hole,” which is City property. She stated that as soon as she arrived on the City property, there was a steady stream of people coming there to go swimming. She stated that a large number of people had coolers and some had large cases of beer. She stated that there was a significant amount of alcohol there, and she wasn’t sure how this relates with the City in terms of insurance. She stated that there is also a rope swing there that doesn’t look like it is in good shape. She stated that this may be something to consider for insurance purposes.

Mr. Mawyer stated that guidance was found in the original Four-Party Agreement about limiting Rivanna’s responsibility for municipal purposes at the reservoirs - that it is in charge of the structures, but not municipal activities – which was the guideline for the matrix.

Ms. Galvin stated that it seemed that some of the standards and guidelines in public parks would apply, because the areas are used as parks.

Mr. Mawyer stated that this is what was suggested – that others are responsible for park-related activities and not Rivanna.

Ms. Galvin expressed that it was good to make this clear.

Mr. Mawyer stated that RWSA has received calls about who would retrieve dead animals, trash, and about parking at Sugar Hollow (where emergency vehicles cannot get through). He stated that there was also damage to the gate, which RWSA repaired, but at Mr. Richardson’s suggestion, he made a list of responsibilities to communicate to the groups responsible.

Mr. O’Connell asked which reservoirs this pertained to.

Mr. Mawyer replied that it was all five – Ragged Mountain, Sugar Hollow, South Fork, Totier, and Beaver Creek. He stated that three are owned by the City and two by the County.

Dr. Palmer stated that taking the trash cans away from Sugar Hollow has helped dramatically, as the trash can was usually overflowing. She stated that people do use doggie bags there and they can be found all along the trails.

Mr. Krueger added that one of the reasons Rivanna had a relatively limited scope of duties at the reservoirs was the recognition of the fact that Rivanna has no police powers, but the County does. He stated that Rivanna could enact regulations but that they had no way to enforce them. He stated that this was the original thought process when the original 1972 Four-Party Agreement was put together.

Mr. Mawyer stated that the matrix tries to follow this guidance.

Mr. Gaffney stated that Rivanna does not want police powers.

Mr. Mawyer stated that Rivanna is at the threshold of getting started with the Observatory Water Treatment Plant and South Rivanna Treatment Plant upgrades, through which the two buildings



will be combined into one construction mega-contract relative to Rivanna. He stated that to encourage competitive bidding, they would invite contractors to an informational meeting on September 26 and that the meeting would be advertised in national newspapers to improve interest and pricing. He stated that likely in October to November, they would advertise for and receive bids.

Mr. Mawyer stated that in environmental stewardship, as well as infrastructure and master planning, Ms. Whitaker and Ms. Terry have been coordinating with the Virginia DEQ and had a stream gauge replaced below the South Fork-Rivanna Reservoir Dam. He stated that this gauge can be used to help measure and estimate flow out of the reservoir. He stated that when there are meters in the reservoir, they can calibrate and cross-check them with the gauge that DEQ has put in the river. He stated that it would also have a monitoring station online and that anyone can see what the gauge is reading.

Mr. Mawyer stated that a grant application for AEDs (automated external defibrillators) was made for the RWSA, which was approved for \$4,000 from the Virginia Resource Sharing Association, who is RWSA's property and liability insurance company. He thanked Safety Manager, Liz Coleman, for managing this project.

Dr. Palmer asked where the cameras at Sugar Hollow are located.

Ms. Whitaker stated that there is the ability to see the whole downstream piece of the dam.

Mr. Mawyer asked if they were on the dam.

Ms. Whitaker replied they are mounted to the dam.

Mr. Gaffney asked if they were in the parking area, too.

Ms. Whitaker replied that only a small portion of the parking area had cameras.

Mr. Gaffney asked about the eagle's nest across the reservoir.

Ms. Whitaker replied no.

## **5. ITEMS FROM THE PUBLIC**

Mr. Gaffney opened the meeting to the public.

As no one came forward to address the Board, Mr. Gaffney closed this portion of the meeting.

## **6. RESPONSES TO PUBLIC COMMENTS**

Mr. Gaffney stated that there were no responses to public comments.

## **7. CONSENT AGENDA**

### ***a. Staff Report on Finance***

232 *b. Staff Report on Ongoing Projects*

233  
234 *c. Staff Report on Operations*

235  
236 *d. Professional Services Authorization and CIP Budget Amendment: Moores Creek Wastewater*  
237 *Facilities Master Plan; Hazen And Sawyer Engineers*

238  
239 *e. Professional Services Authorization – Asset Management Plan, Phase 2; GHD, Inc.*  
240

241  
242 Mr. Gaffney asked Board members if there are any items they would like to pull. There were  
243 none.

244  
245 Mr. O'Connell asked if an update could be provided on wholesale meters.  
246

247 Mr. Mawyer stated that they have been working on the wholesale meter project for some time  
248 and experts have helped with it. He stated that the week prior, a calibration firm calibrated the  
249 meters. He stated that they have 25 total meters and 20 have passed calibration now, 3 have  
250 failed and attempts are being made to determine why, one has a problem with a test port, and one  
251 is on its way back from the factory to be reinstalled and tested.  
252

253 Mr. Gaffney asked Mr. Mawyer if, on the list of projects, it would be possible to note if the  
254 projects have had any changes to their write-ups since the last meeting. He stated that he ends up  
255 reading the project completely each month and if it hasn't changed, he doesn't realize until he's  
256 read it.  
257

258 Ms. Galvin noted that they used to bold anything that was new.  
259

260 Mr. Mawyer stated that the current status is intended to be new every month unless a project is  
261 on hold. He stated that the updates could be bolded.  
262

263 Mr. Gaffney suggested that on-hold projects be noted as such.  
264

265 Mr. Mawyer suggested that anything that isn't current is moved into the history section. He  
266 asked if this was what Mr. Gaffney meant.  
267

268 Mr. Gaffney replied yes.  
269

270 Mr. O'Connell asked if Mr. Mawyer could speak more about the Wastewater Master Plan, noting  
271 that it was a CIP item and asking if there were concerns about capacity.  
272

273 Mr. Mawyer stated that there were no concerns and that it was determining what is needed over  
274 the next 50 years. He stated that the Urban Water Master Plan is being done for 50 years in  
275 advance and commensurate with that, they are looking at which wastewater facilities have needs.  
276 He stated that they considered putting an addition on the Administration building and want to  
277 make sure they program all the wastewater facilities for the next 50 years before they plan any

Administration building changes. He stated that it is purely a planning document and there were no concerns about immediate capacity issues.

Mr. O'Connell asked if they were getting rock boring on McIntire Road for the Schenks Branch project.

Mr. Mawyer replied this was correct. He stated that they were getting borings at the baseball field to determine the rock profile through the field and street, and that the information would be provided to the Board as a comparison to help decide which path to take for that project.

Mr. Schiller stated that geophysical analysis was done the week prior, which was non-destructive and was completed for both the road and the ball field alignment. He stated that they would be going there again the week of September 9 to do a few borings to correlate and create a profile, and that the report would be complete in October.

**Dr. Palmer moved that the Board approve the Consent Agenda. The motion was seconded by Ms. Galvin and passed unanimously (5-0). Ms. Hildebrand and Mr. Richardson were absent from the meeting and the vote.**

## **7. OTHER BUSINESS**

*a. Presentation and Request for Approval: University of Virginia Rowing Team and Rivanna Rowing Club Waiver Extension – Kevin Sauer, Head Coach, UVA Women's Rowing Team*

Mr. Kevin Sauer thanked the Board for allowing him to present. He praised the efforts of a particular company UVA has been working with for the past three years to get the new electric motor, and that they are the first rowing company in the United States to have this.

Mr. Sauer noted that UVA has secured \$85,000 in funds from a foundation, and the UVA Athletic Department has promised \$75,000. He stated that there has been a huge investment of time, money, and effort to make this work. He noted it was in beta testing for the company in Seattle, and that he was informed the day prior that the company has approached two engineers from Tesla, which he found to be impressive.

Mr. Sauer indicated to the Board the size of the battery, noting the battery alone was \$8,500. He stated that the motor itself is \$6,000, with a charging system of about \$2,000, totaling \$16,000-\$17,000 for the power plant per motorboat, which was a significant investment. He explained they have the motorboats they need and that they just need to buy the power plants.

Mr. Sauer presented two pictures showing the outfit, which was put on the day prior by the company. He stated that it was tested and pointed to a picture of the motor, noting that it was not very big. He showed a picture of the battery, noting its size, and the line that connects it. He stated that a 200-amp service was brought to the dock the year prior so that the charging can be done at the dock, noting that there was beta testing being done relating to this as well.

Mr. Sauer played some videos of what the launch looks like in operation. He pointed out the motor and the battery, and the engine in operation taking off from the dock, noting how quickly it came to speed. He stated that the motorboat he has currently, which has a gasoline engine, was

325 outrun by the new motors. He mentioned there was minimum wake and that helped with erosion  
326 control, as had been discussed in years past. He stated that this was the first time he felt confident  
327 that they have the ability to have a power plant that will keep up with the rowing shells for safety  
328 and coaching reasons. He also noted that UVA received this before the University of Washington  
329 (in Seattle) got one.

330  
331 Mr. Sauer noted again that they are in beta testing, and that \$42,000 was invested so far. He  
332 stated that the women's program is the "guinea pig," and the men's program is watching closely.  
333 He stated that he could not promise exactly how long it would take to get everything outfitted,  
334 but that testing would continue, and the final product would arrive in the spring, with at least  
335 two, and one more each year (possibly more).

336  
337 Ms. Galvin asked about maintenance and what happens if it breaks down.

338  
339 Mr. Sauer replied that he asked the same question the day prior, as there are not many people  
340 who work on them. He explained that it is a very simple process and because it's an electric  
341 motor, there is no carburetor or cooling system. He noted that a tech on the East Coast would be  
342 available to help during R&D, adding that UVA has budgeted to have a spare motor and a spare  
343 battery if one is down. He stated that he also offered to send his boat repairman to Seattle to learn  
344 the system, but the company assured him that there was nothing that he would need to know  
345 besides the electric engineering between the battery, motor, and throttle.

346  
347 Mr. Sauer stated that one of the videos had sound associated, and the actual wind of the boat  
348 going 15 mph produced more sound than the motor itself. He noted this would be great for the  
349 rowers and coaches.

350  
351 Mr. Gaffney asked how many launches there would be.

352  
353 Mr. Sauer replied that they would like to eventually have 10 up and running across the UVA  
354 women's and men's teams and Rivanna Rowing Club. He stated that he confirmed with the  
355 company that they would have enough amperage at the boathouse to get charging stations for all  
356 the motors. He stated that his hope was in five years, they would have everyone up to speed.

357  
358 Mr. Gaffney asked if all the bass boaters would want these.

359  
360 Mr. Sauer recognized that as soon as they would see the new motor, they would likely want it,  
361 and wasn't sure if this would cause problems or not. He stated that the owners of the company  
362 were rowers, and that bass fishing (which is a \$20 million industry) would likely follow with this  
363 type of motor. He noted it is cost-restrictive, but that some of the bass boats are expensive and  
364 could go in this direction. He stated that the disadvantage is that this motor typically goes 20-25  
365 mph and when the bass boats want to go fast, it's typically at about 80 mph. He expressed doubt  
366 that the high-tech bass fishermen would be interested, but that some boaters on the reservoir may  
367 want to invest in it, again stating that it was expensive.

368  
369 Mr. O'Connell asked how long Mr. Sauer had been coaching.

370

371 Mr. Sauer replied that he was in his 43<sup>rd</sup> year of college coaching and his 32<sup>nd</sup> year at UVA.

372  
373 Ms. Galvin asked if Mr. Sauer wanted to purchase as many of the motors as he could today, how  
374 many would he want.

375  
376 Mr. Sauer replied 10 at maximum, noting that this was all that was needed across all the  
377 programs. He stated that doing the math, with the boats, it's about a \$160,000 investment.

378  
379 Ms. Galvin asked if others schools (such as the University of Richmond and VCU) would be  
380 interested.

381  
382 Mr. Sauer replied yes, explaining that he has already started to receive phone calls. He stated that  
383 the video was posted to social media the day prior and that he had already received about 3-4  
384 calls.

385  
386 Ms. Galvin stated that her son is a volunteer coach for VCU's rowing team and would love it.

387  
388 Mr. Sauer noted that even people who don't have restrictions are interested in the product  
389 because of the environmental aspects, making it very popular. He stated that he was glad that the  
390 project was finally happening.

391  
392 **Dr. Palmer moved that the Board authorize the Executive Director to expand UVA's**  
393 **waiver to August 2021 to allow the use of gasoline-powered safety and coaching launches**  
394 **by the UVA Women's and Men's Rowing Teams and the Rivanna Rowing Team, subject to**  
395 **UVA agreeing to other conditions and what RWSA deems necessary to protect the**  
396 **treatment of water supply and the quality of the South Fork Rivanna Reservoir to include**  
397 **continued research on electric motor technology. The motion was seconded by Ms. Galvin**  
398 **and passed unanimously (5-0). Ms. Hildebrand and Mr. Richardson were absent from the**  
399 **meeting and the vote.**

400  
401 Mr. Mawyer noted that one interesting point that was reviewed was that the prohibition on  
402 combustion engines on the reservoirs is a County ordinance requirement, but the ordinance  
403 delegates authority to the RWSA Board to authorize waivers.

404  
405 Mr. Sauer stated that regarding the maintenance of each reservoir in theC county, he gets a 5-  
406 gallon bucket per practice of trash, and he tells all the other coaches that there is a 5-gallon  
407 bucket on the front of each boat and asks them to pick up any trash they see.

408  
409 *b. Presentation: Major Construction Projects and Value Engineering Update*

410 Mr. Scott Schiller, Engineering Manager, began his presentation by reviewing completed  
411 projects.

412  
413 Mr. Schiller stated that the Crozet Finished Water Pump Station was done to increase the  
414 capacity in the pump station from 1 MGD to 1.6 MGD and to replace old infrastructure from the  
415 1960s. He stated that the project was completed in June 2019, noting construction had been

416 extended for quite awhile and that it was ready to be expanded in the future as the plant  
417 continues to upgrade and expand its capacity.

418  
419 Dr. Palmer asked when Mr. Schiller believed it would be needed to expand it beyond the 1.6  
420 MGD.

421  
422 Ms. Whitaker replied it would be in 2032.

423  
424 Dr. Palmer asked if she meant the project would be completed by then or would be starting then.

425  
426 Ms. Whitaker replied that the expansion accounted for future capacity upgrades.

427  
428 Mr. Schiller spoke to the project for the Birdwood raw water main located along the side of the  
429 golf course, explaining that 5,900 linear feet of 36-inch raw water main had been installed as part  
430 of the future South Rivanna Reservoir to Ragged Mountain Reservoir transfer line. He stated that  
431 all pipe work was completed in June 2019, but reports show 99% complete as there are still some  
432 negotiations associated with permanent seeding with the UVA Foundation. He stated that the  
433 pipe is installed, and the easement areas are fairly well restored.

434  
435 Mr. Schiller stated that regarding the Sugar Hollow Reservoir to Ragged Mountain Reservoir  
436 Transfer Flow Meter, the project expanded as it was developed, with an existing, older Venturi  
437 style flow meter that was replaced and a new automatically controlled flow isolation valve,  
438 which now will allow for the transfer of water from Sugar Hollow to Ragged Mountain remotely  
439 as opposed to being physically present to slowly open the valve throughout the course of the day.  
440 He stated that with direction from the City, many of the outbuildings that were there were  
441 removed. He stated that a shed and a barn were also demolished and removed, as well as a  
442 couple buildings related to the water line and old facilities that were removed as well.

443  
444 Mr. Schiller presented a picture of what the area looks like presently, noting that it has been  
445 cleared.

446  
447 Mr. Schiller stated that the Piney Mountain Tank Rehabilitation was completed in July 2019 and  
448 was put back into operation the first week of August. He stated that it involved some structural  
449 repairs to the roof as well as fully sand blasting and recoating the interior, in addition to some  
450 retouch work on the exterior. He stated that week, there were some punch list items done outside  
451 of the tank, noting that the tank is in operation and everything is complete otherwise.

452  
453 Mr. Schiller stated that there are some projects currently under construction. He stated that the  
454 major current project is the Crozet Water Treatment Plant Expansion, which is to increase the  
455 capacity of the plant by modernizing the existing equipment. He stated that the footprint of the  
456 site is limited and capacity is trying to be maximized within the space that is available. He stated  
457 that powder activated carbon contactors are being added, plate settlers installed into the  
458 sedimentation basins, the chemical building backwash storage is being added and filters are  
459 being rebuilt among other general improvements. He stated that the project is approaching the  
460 first major milestone and the rest of the work is scheduled to be complete by May of 2020.

Mr. Schiller stated that the Moores Creek Digester Coating is a project to seal the internal roof of the digester to improve odor control and gas collection and to stop any structural degradation occurring from the sludge that it's storing. He stated that they have completed the coatings on Digesters 1 and 2 and are currently working on Digester 3. He stated that unfortunately, Digester 3 does not seem to be taking the initial coating, as well as the additional coatings that were tried, so designers and contractors are being consulted to determine the best way to move forward. He stated that based upon this process, they are estimating completion by summer of 2020.

Ms. Galvin asked about Digester 3 not taking the coating.

Mr. Schiller explained that pull tests are performed on the coating to determine if it is adhering to the concrete. He stated that four tests have been done on the original coating product, and one on a second coating product, and none of the pull tests have held. He noted the digestors were all built at the same time and have the same coating, but for some reason the concrete in Digester 3 doesn't want to accept the coating. He stated that they are looking into other options as far as what they can do to make this work.

Mr. Schiller stated that a coating project has been started at Glenmore Wastewater Facility to recoat the metal components of the secondary clarifiers at that plant. He stated that the coatings are over 10 years old and they needed to be recoated to protect them against further metal deterioration. He stated that this is currently being prepped for coating, which should be done by Winter 2019.

Mr. Schiller stated that there were other projects that would soon start construction, noting the Scottsville Water Treatment Plant Finished Water Flow Meter project. He stated that currently, finished flow is determined by using the run time calculation, which is not the most accurate method, and so a finished flow meter will be put in to provide better data. He stated that in order to do this, some of the finished water piping will be modified to shoehorn in a flow meter. He stated that there is a signed contract now, so the project will begin shortly, with an estimated completion of Spring 2020.

Mr. Schiller stated that the Bucks Elbow Ground Storage Tank project and system improvements looks to boost chlorine at this location and that the current chlorine feed process is a generally labor-intensive process, with multiple people involved to haul equipment out to the site. He stated that in order to make this a less labor-intensive process, a permanent chemical feed system will be installed, which will be in building off to the side with a permanent piping connection to the top of the tank. He stated that they are in the midst of signing contracts for this and that it has an estimated completion of Spring 2020.

Dr. Palmer asked about the location.

Mr. Schiller replied it is northwest of town proper.

Mr. O'Connell asked if you pass by Mint Springs to get there.

Ms. Terry stated that it was just before Mint Springs.

508  
509 Mr. Schiller stated that the Moores Creek Aluminum Slide Gates Replacement Project is to  
510 replace slide gates at the Moores Creek Pump Station as well as the UV facility. He stated that  
511 the Moores Creek project would require almost a full bypass of the flow coming in to the Moores  
512 Creek pump station, so this would be done after getting through dealing with the UV facility. He  
513 stated that the bid package for this work was advertised in August 2019 and the bids should be  
514 received on September 5.

515  
516 Mr. Mawyer asked if Mr. Schiller could point to the gates.

517  
518 Mr. Schiller indicated on a picture to the aluminum slide gates that will be replaced. He stated  
519 that there has been some degradation and noted it was a difficult working environment,  
520 especially in the UV facility. He stated that these gates would be replaced by June 2020 and that  
521 the full project budget was \$470,000.

522  
523 Mr. Schiller recalled that with the Security Enhancement Project, approval had been asked for  
524 the previous month for an access control implementer. He stated that the contract is being  
525 finalized and signed, and then the project will be moving into access control at the main facilities  
526 (Moores Creek facility, South Rivanna, Observatory, and Crozet). He stated that with access  
527 control, this would include all the exterior doors, motorized gates, and some of the interior doors.  
528 He stated that as these are worked on, this would be rolled into other facilities, as well as some  
529 other security enhancements, as budget allows. He noted there is currently a \$1 million budget  
530 and that the full completion schedule accounts for all the facilities that would potentially get  
531 incorporated.

532  
533 Mr. Schiller stated that related to the earlier question, part of the situation is determining if there  
534 is a system that can be operated remotely at some of the facilities as far as opening and closing  
535 the gates.

536  
537 Mr. Schiller stated that he would speak about projects that are near completion of the design  
538 phase and upcoming construction projects. He showed a picture of the Crozet flow equalization  
539 tank on the wastewater system in Crozet, which will be located next to the existing Pump Station  
540 #4. He stated that the intent of the tank is to shave off the peak of the wet weather events so as  
541 not to impact the capacity of downstream sewer systems as a result of that process. He stated that  
542 this was identified and confirmed as being needed during the 2016 study. He stated that it will  
543 have a one million-gallon capacity and there would be some improvements to the pump station  
544 as well. He stated that advertising is estimated to start Fall 2019 and that construction should  
545 begin Winter 2019, with an expected completion of 2021, and a budget of \$4.6 million.

546  
547 Mr. Schiller stated that for the South Rivanna and Observatory Water Treatment Plants, there are  
548 long-awaited overall improvements within this major project. He stated that it will increase the  
549 capacity of Observatory to 10 MGD and that this will be done through installation of plate  
550 settlers into two sedimentation basins, as well as rebuilding the filters. He stated that the  
551 backwash pumps will also be replaced, with a new building being created for them adjacent to  
552 the filter room. He stated that they will replace the settled water flume and build a new chemical



553 building. He presented a rendering of the new chemical building that will be located next to the  
554 existing chemical building.  
555

556 Mr. Schiller stated that for South Rivanna, there are general improvements that will be done  
557 there associated with the new chemical storage building for alum and fluoride, raw water and  
558 finished water pumping improvements, and the addition of two new filters. He stated that a new  
559 administration building will be constructed as well. He presented a rendering that showed the  
560 extension of the two additional filters onto the existing filter buildings, with new exits that will  
561 be necessary as a result of the extended area. He stated that construction would begin Winter  
562 2019 with a completion of 2023.  
563

564 Mr. Schiller stated that the estimated budget for the South Rivanna and Observatory project is  
565 \$40.5 million, which accounts for the option to add four additional GAC vessels at Observatory.  
566 He noted the capital budget hasn't been increased for that purpose, but it will likely be included  
567 as an alternate item in the bid to see what the cost would be, and then it would be brought to the  
568 Board to determine if it is a fair value.  
569

570 Mr. Schiller stated that for this project, they also performed a value engineering project in April  
571 of 2019. He explained that this was done in accordance with RWSA policy and that if a project is  
572 over \$5 million in total capital costs, a value engineering workshop is done. He stated that SEH  
573 is the design engineer and that they participated, as well as Hazen and Sawyer and others, over  
574 the course of four days, with multiple site visits to review field conditions. He stated that they  
575 came up with a number of enhancements and identified an amount just short of \$800,000 in cost  
576 savings, which included removal of a high service pump they felt they did not need.  
577

578 Dr. Palmer asked about the high service pump.  
579

580 Mr. Schiller stated that there was an option to have a fifth high service pump, explaining that it  
581 feeds the water into the urban system so that the treated water from the plant gets pushed into the  
582 system. He stated that it was determined that the fifth pump was not needed. He stated that they  
583 also made sure to size buildings appropriately to make sure they were not creating too much  
584 square footage, and so there were cost savings there as well. He stated that they also discussed  
585 optimizing HVAC needs and about which areas need or need not be conditioned, and that this  
586 also resulted in cost reduction.  
587

588 Mr. Schiller stated that in addition to cost reductions, enhancements and improvements were  
589 identified. He stated that there is a need to ensure an appropriate plant water supply for the plant  
590 water system at Observatory, as raw water is needed to make finished water. He stated that they  
591 also evaluated the power transfer process at South Rivanna and its open and close transitions to  
592 ensure the impact on operators is diminished when there is a loss of power and the plant has to  
593 be brought back into operation. He noted that these improvements will increase the overall value  
594 of the project.  
595

596 Mr. Schiller stated that the Route 29 pump station and North Rivanna transmission main will be  
597 used to provide a reliable and redundant source of water for the North Rivanna area. He  
598 mentioned the term "Kohls pump" which will be permanently replaced by this pump station, and

599 it will be a permanent transfer location for water from the more urban, South Rivanna side of the  
600 system up to the north system. He stated that it is located in the Hollymead Town Center and is  
601 part of the future development of what will eventually be the Airport Pressure Zone. He  
602 referenced the site plan, explaining where the ground storage tanks would be located as well as  
603 the booster pump. He stated that construction is anticipated to begin in Fall 2020 and completing  
604 sometime in 2022, noting that the design phase is just beginning for this project.

605  
606 Mr. Schiller stated that there were projects relating to dams and mentioned the Sugar Hollow  
607 Dam - Rubber Crest Gate Replacement and Intake Tower Repairs project. He stated that the  
608 rubber dam is 20 years old and at the end of its serviceable life, so it will be replaced. He  
609 presented a picture of when it was being installed, and the bladder in operation that would be  
610 replaced on top of the concrete structure. He stated that the intake tower would also be evaluated  
611 and addressing some of the issues associated with the tower. He stated that this work will start in  
612 Summer 2020, to be completed in 2021.

613  
614 Mr. Schiller stated that there would be gate repairs to the South Rivanna dam. He stated that this  
615 would either repair or replace the 36" slide gates at both the north and south gate locations. He  
616 stated that they would also work on improving access to the north tower, noting that it is  
617 daunting to currently access it and that they would devise some way to access it more safely. He  
618 stated that there will also be minor repairs associated with the concrete face of the raw water  
619 pump station. He stated that this was estimated to start in Summer 2020.

620  
621 Dr. Palmer stated that when the UVA Foundation did the erosion control at the Birdwood Golf  
622 Course, they used an erosion control matting that contains plastic. She stated that when she  
623 visited the site, there were a number of things trapped in it, including black snakes and small  
624 reptiles. She stated that there were many alternatives that exist for erosion control matting and  
625 that some of the UVA Foundation and UVA people had already been looking at alternatives, but  
626 they weren't requiring them at this point. She stated that she was told that they will, except for in  
627 certain situations where it is not appropriate, such as on steep slopes. She stated that the County  
628 stated that they would not use the plastic anymore, except in extreme situations where they have  
629 to.

630  
631 Mr. Mawyer stated that he would look into alternative materials. He asked Mr. Schiller to  
632 introduce his staff.

633  
634 Mr. Schiller introduced Michelle Simpson, Austin Marrs, Victoria Fort, and Dyon Vega.

635  
636 Mr. Mawyer recognized the staff, who made up the team who manages the projects, noting that  
637 they have about 60 projects they are currently working on in various phases. He stated that there  
638 was a lot of work going on in Engineering and Maintenance, explaining that this was the  
639 engineering side of that division.

640  
641 Ms. Galvin noted this was all based on building out the water supply plan, which was based on  
642 population buildup and numbers that were generated by AECOM. She asked when this took  
643 place.

645 Mr. Mawyer replied it was in 2010.

646  
647 Ms. Galvin asked if there has been an update on the population numbers.

648  
649 Mr. Mawyer replied that this was being done currently. He stated that they are receiving  
650 information from Weldon Cooper, County Planning, City Planning, and UVA.

651  
652 Ms. Galvin asked if she could see the numbers from 2010 compared to the final buildout. She  
653 stated that this is becoming a major issue in the City regarding what their buildout number is.

654  
655 Mr. Mawyer stated that RWSA goes by what those departments tell them, to a large degree.

656  
657 Dr. Palmer stated that it was done every 10 years.

658  
659 Mr. Mawyer agreed and stated that every 10 years, they measure how much water they have in  
660 the reservoirs, and they estimate the demand for the next 50 years and make sure there is enough  
661 water to cover that demand. He stated that there would be a report available to the Board  
662 sometime between December 2019 and Spring 2020.

663  
664 Dr. Palmer noted the growth in the City has become a big part of this and responding to some of  
665 the changes that are being seen.

666  
667 Mr. Mawyer stated that Ms. Simpson was working on this project and working to schedule  
668 meetings with all the parties involved.

669  
670 **9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

671 Dr. Palmer stated that one of the members of the Board of Supervisors recently expressed  
672 concerns to her about the defunct RWSA structure near Lambs Road and was glad to find out  
673 that it would be removed. She stated that this brought up the question of if there is an inventory  
674 of other defunct infrastructure that some people may consider an eyesore.

675  
676 Mr. Mawyer replied that they do plan to remove the structure.. He stated that they had two  
677 clarifiers on the Moores Creek plant and that they were crafting a plan to remove them. He stated  
678 that the old Mechums River pump station is defunct and needs to be removed. He stated that there  
679 is a plan to get a preliminary estimate to remove all the facilities and when RWSA comes to the  
680 Board for the CIP in the Spring, they will see how the projects fit in the priorities and funding.

681  
682 Dr. Palmer suggested that the ones that are in the urban areas and more visible would be higher  
683 priority.

684  
685 Mr. Mawyer stated that the two on Lambs Road were evaluated along with School Facilities, and  
686 they agreed that they should be removed. He stated that there is a pump station there that needs  
687 to be rebuilt, along with easements for the Rivanna-to-Ragged Mountain pipeline.

688  
689 Ms. Galvin recalled that there used to be regular reports about the condition of the algae blooms  
690 in the reservoirs and facilities. She stated that the reason this was coming up was reports about

domesticated animals ingesting river bacteria that is connected with the algae, becoming sick and dying. She asked if there was any understanding about how this is impacting the operations of RWSA and what is being done about this.

Ms. Terry replied that RWSA's monitoring program is extremely proactive and because of that, when these events occur, they know that the reservoir had just been sampled to determine what was in it. She stated that the week prior, two treatments were done (one at Beaver Creek and one at South Rivanna), and that the one at South Rivanna tested for toxins associated with the blue-green algae because it was at a level that was much higher than the treatment level. She stated that the treatment level is 10,000 cells per milliliter and that it had gotten up to 65,000 at South Rivanna. She stated that toxins were tested at South Rivanna and that they did not have any hits.

Mr. Mawyer asked how frequently this is monitored.

Ms. Terry stated that they have it set up to monitor every other week (mainly for Beaver Creek and South Rivanna) and that Ragged Mountain and Totier can be more spread out. She stated that it has been weekly at Beaver Creek for awhile now, and they are upping the frequency on South Rivanna as well.

Dr. Palmer stated that it was her understanding regarding the incident that was reported for Chris Greene Lake, the dog died the following day and the owner stated that the dog had been to Chris Greene Lake but that there was no direct correlation with anything that the dog ingested. She stated that it was out of an abundance of caution that the County decided to close it to test it. She asked if there was any update on Mint Springs.

Ms. Terry replied that she did not, acknowledging that they were closed. She asked if Chris Greene is still open.

Dr. Palmer replied that it is open. She stated that Mint Springs was closed down for the rest of the year. She stated that she was unsure if they found toxins, but they found algae. She wanted to know if they had come to a next step in the investigation.

Ms. Terry replied that she did not know. She noted that regarding the dog that died after being in the Rivanna River, this was not an algae-related event but a different kind of illness.

Mr. Mawyer stated that the reservoirs are regularly monitored for algae.

## **10. Adjournment**

**At 3:35 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer Authority. The motion was seconded by Ms. Galvin and passed unanimously (5-0). Mr. Richardson and Ms. Hildebrand were absent from the meeting and the vote.**



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: EXECUTIVE DIRECTOR'S REPORT**

**DATE: SEPTEMBER 24, 2019**

### *STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION*

#### **Community Outreach**

Staff will participate in the United Way's "Day of Caring" event by cleaning a trail for Camp Holiday Trails on September 25th.

I attended the Virginia Association of Municipal Wastewater Agencies (VAMWA) quarterly meeting in Richmond this month.

I met with the Blue Ridge Home Builders Association to inform the group about our long-range community water supply plan including the pipeline planned to connect South Rivanna and Ragged Mtn Reservoirs.

### *STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING*

#### **Buck Mountain Property Master Plan**

A scope of work and fees are being developed with the selected consultant.

#### **South Rivanna to Ragged Mountain Water Line**

Meetings are in progress with private property owners, UVA Foundation, VDOT, and Albemarle School Board staff about locations for the water line easements. Field surveying, easement appraisals and offers to acquire easements are underway.

#### **Observatory Water Treatment Plant Lease**

We recently met with UVA staff and have reduced the list of items to be resolved. Discussions continue.

#### **Observatory and South Rivanna WTP Upgrade Project**

We are having an informational meeting with contractors on September 26, 2019 to encourage interest in the project.

#### **Wholesale Water Master Metering**

20 of 25 meters are currently functional. One meter and one meter test port will be replaced during the week of September 23<sup>rd</sup>. Following completion of that work, all 5 remaining

meters will have the calibration verified. The system should be substantially completed and placed into operation in October, with the initial water usage report in November.

*STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT*

We have coordinated with PVCC to provide a Project Management training program for our staff in October.

Safety and management training programs are being provided at no cost from our new property and liability insurance provider, the Virginia Risk Sharing Association

Group Long Term Care Insurance is being offered to staff by the Virginia Retirement System, with Genworth Life Insurance Company as the provider.

## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND  
ADMINISTRATION**

**REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: AUGUST MONTHLY FINANCIAL SUMMARY – FY 2020**

**DATE: SEPTEMBER 24, 2019**

Urban Water flow and rate revenues are 17% over budget estimates for July through August, and Urban Wastewater flow and rate revenues are 5.5% over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
<b>Operations</b>				
Revenues	\$ 1,405,969	\$ 1,581,010	\$ 376,782	\$ 3,363,761
Expenses	(1,242,058)	(1,403,995)	(296,496)	(2,942,549)
Surplus (deficit)	<u>\$ 163,911</u>	<u>\$ 177,015</u>	<u>\$ 80,286</u>	<u>\$ 421,212</u>
<b>Debt Service</b>				
Revenues	\$ 1,116,161	\$ 1,551,547	\$ 250,508	\$ 2,918,216
Expenses	(1,133,250)	(1,456,432)	(249,853)	(2,839,535)
Surplus (deficit)	<u>\$ (17,089)</u>	<u>\$ 95,115</u>	<u>\$ 655</u>	<u>\$ 78,681</u>
<b>Total</b>				
Revenues	\$ 2,522,130	\$ 3,132,557	\$ 627,290	\$ 6,281,977
Expenses	(2,375,308)	(2,860,427)	(546,349)	(5,782,084)
Surplus (deficit)	<u><u>\$ 146,822</u></u>	<u><u>\$ 272,130</u></u>	<u><u>\$ 80,941</u></u>	<u><u>\$ 499,893</u></u>

Urban Wastewater received the annual Nutrient Exchange Credit of \$78,763 and billed Albemarle County for the annual septage receiving support of \$109,441 in July.

Some expense categories are over the prorated year-to-date budget as follows, but should even out over the course of the year compared to budget estimates, unless otherwise noted:

- A. Personnel Costs (Urban Water, Urban Wastewater, Administration, Engineering – pages 2, 5, 8, 11) – The annual contributions to health savings accounts and wages paid to summer interns are causing this category to exceed the prorated budget for the year and will even out as the fiscal year progresses.

- B. Professional Services (Urban Wastewater – page 5) – Urban Wastewater spent \$13,900 for engineering and technical services to develop a comprehensive lighting plan for Moores Creek AWRRF.
- C. Other Services and Charges (Urban Water – page 2) – Urban Water is over the prorated budget due to the \$15,000 annual contribution to the Rivanna Conservation Alliance related to watershed management, and utilities are running high. These are budgeted items, so the budget vs. actual will likely even out over the fiscal year.
- D. Communications (Urban Water, Maintenance – pages 2, 9) - The annual payment to the County of Albemarle for Rivanna's share of the radio system maintenance cost has pushed some rate centers over the prorated budget. This is a budgeted item, so the budget vs. actual will even out over the fiscal year.
- E. Information Technology (Administration, Engineering – pages 8, 11) – Administration paid \$25,000 for the annual ArcGIS software license agreement, and Engineering made a \$15,000 purchase of a mobile form application for GIS software. These are budgeted items, so the budget vs. actual will even out over the fiscal year.
- F. Operations & Maintenance (Urban Wastewater, Administration – pages 5, 8) – Urban Wastewater is over the prorated budget on pump station maintenance costs. The Administration department paid \$12,600 in July for some heating and air conditioning work in the Administration building.
- G. Equipment Purchases (Urban Water – page 2) – Urban Water is over the prorated budget for small equipment purchases.

Attachments



**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**  
**Fiscal Year 2020**

**Consolidated****Revenues and Expenses Summary****Operating Budget vs. Actual**

## Notes

**Revenues**

	<i>Budget</i> <i>FY 2020</i>	<i>Budget</i> <i>Year-to-Date</i>	<i>Actual</i> <i>Year-to-Date</i>	<i>Budget</i> <i>vs. Actual</i>	<i>Variance</i> <i>Percentage</i>
Operations Rate Revenue	\$ 17,381,293	\$ 2,896,882	\$ 3,174,760	\$ 277,878	9.59%
Lease Revenue	100,000	16,667	15,158	(1,508)	-9.05%
Admin., Maint. & Engineering Revenue	478,000	79,667	79,930	263	0.33%
Other Revenues	562,478	93,746	163,456	69,710	74.36%
Use of Reserves	667,000	111,167	-	(111,167)	-100.00%
Interest Allocation	31,500	5,250	10,386	5,136	97.84%
<b>Total Operating Revenues</b>	<b>\$ 19,220,271</b>	<b>\$ 3,203,379</b>	<b>\$ 3,443,691</b>	<b>\$ 240,312</b>	<b>7.50%</b>

**Expenses**

Personnel Cost	<b>A</b>	\$ 8,760,078	\$ 1,378,904	\$ 1,436,548	\$ (57,644)	-4.18%
Professional Services	<b>B</b>	666,050	111,008	85,600	25,408	22.89%
Other Services & Charges	<b>C</b>	2,980,612	496,769	426,590	70,178	14.13%
Communications	<b>D</b>	142,593	23,766	42,984	(19,218)	-80.87%
Information Technology	<b>E</b>	352,750	58,792	79,346	(20,554)	-34.96%
Supplies		46,180	7,697	3,995	3,702	48.10%
Operations & Maintenance	<b>F</b>	5,069,478	844,913	749,159	95,754	11.33%
Equipment Purchases	<b>G</b>	359,550	59,925	57,757	2,168	3.62%
Depreciation		843,000	140,500	140,500	-	0.00%
Reserve Transfers		-	-	-	-	
<b>Total Operating Expenses</b>		<b>\$ 19,220,291</b>	<b>\$ 3,122,273</b>	<b>\$ 3,022,479</b>	<b>\$ 99,794</b>	<b>3.20%</b>
<b>Operating Surplus/(Deficit)</b>		<b>\$ (20)</b>	<b>\$ 81,105</b>	<b>\$ 421,212</b>		

**Debt Service Budget vs. Actual****Revenues**

Debt Service Rate Revenue	\$ 15,861,022	\$ 2,643,504	\$ 2,643,504	\$ 0	0.00%
Septage Receiving Support - County	109,440	18,240	109,441	91,201	500.01%
Buck Mountain Surcharge	125,900	20,983	-	(20,983)	-100.00%
Buck Mountain Lease Revenue	1,600	267	2,001	1,734	650.22%
Trust Fund Interest	158,200	26,367	32,730	6,363	24.13%
Reserve Fund Interest	690,000	115,000	130,540	15,540	13.51%
<b>Total Debt Service Revenues</b>	<b>\$ 16,946,162</b>	<b>\$ 2,824,360</b>	<b>\$ 2,918,216</b>	<b>\$ 93,855</b>	<b>3.32%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 14,473,236	\$ 2,412,206	\$ 2,412,206	\$ -	0.00%
Reserve Additions-Interest	690,000	115,000	130,540	(15,540)	-13.51%
Debt Service Ratio Charge	725,000	120,833	120,833	-	0.00%
Reserve Additions-CIP Growth	1,055,725	175,954	175,954	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 16,943,961</b>	<b>\$ 2,823,994</b>	<b>\$ 2,839,534</b>	<b>\$ (15,540)</b>	<b>-0.55%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ 2,201</b>	<b>\$ 367</b>	<b>\$ 78,682</b>		

**Summary**

<b>Total Revenues</b>	\$ 36,166,433	\$ 6,027,739	\$ 6,361,906	\$ 334,167	5.54%
<b>Total Expenses</b>	36,164,252	5,946,267	5,862,013	84,254	1.42%
<b>Surplus/(Deficit)</b>	<b>\$ 2,181</b>	<b>\$ 81,472</b>	<b>\$ 499,893</b>		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Urban Water Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
---------------------------	--------------------------------	--------------------------------	------------------------------	--------------------------------

**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 7,118,541	\$ 1,186,424	\$ 1,390,452	\$ 204,028	17.20%
Lease Revenue	70,000	11,667	11,186	(480)	-4.12%
Miscellaneous	-	-	-	-	
Use of Reserves	600,000	100,000	-	(100,000)	-100.00%
Interest Allocation	13,200	2,200	4,331	2,131	96.87%
<b>Total Operating Revenues</b>	<b>\$ 7,801,741</b>	<b>\$ 1,300,290</b>	<b>\$ 1,405,969</b>	<b>\$ 105,679</b>	<b>8.13%</b>

**Expenses**

Personnel Cost	<b>A</b>	\$ 1,861,134	\$ 294,246	\$ 309,297	\$ (15,051)	-5.12%
Professional Services		207,200	34,533	15,705	18,828	54.52%
Other Services & Charges	<b>C</b>	574,963	95,827	118,429	(22,602)	-23.59%
Communications	<b>D</b>	65,100	10,850	16,330	(5,480)	-50.51%
Information Technology		77,000	12,833	3,052	9,781	76.22%
Supplies		6,100	1,017	845	171	16.84%
Operations & Maintenance		2,356,590	392,765	317,363	75,402	19.20%
Equipment Purchases	<b>G</b>	50,500	8,417	17,092	(8,675)	-103.07%
Depreciation		300,000	50,000	50,000	-	0.00%
Reserve Transfers		-	-	-	-	
<b>Subtotal Before Allocations</b>		<b>\$ 5,498,587</b>	<b>\$ 900,488</b>	<b>\$ 848,113</b>	<b>\$ 52,375</b>	<b>5.82%</b>
Allocation of Support Departments		2,303,155	364,648	393,945	(29,297)	-8.03%
<b>Total Operating Expenses</b>		<b>\$ 7,801,742</b>	<b>\$ 1,265,136</b>	<b>\$ 1,242,058</b>	<b>\$ 23,078</b>	<b>1.82%</b>
<b>Operating Surplus/(Deficit)</b>		<b>\$ (1)</b>	<b>\$ 35,154</b>	<b>\$ 163,911</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 6,178,598	\$ 1,029,766	\$ 1,029,766	\$ (0)	0.00%
Trust Fund Interest	54,000	9,000	11,161	2,161	24.01%
Reserve Fund Interest	387,000	64,500	73,233	8,733	13.54%
Buck Mountain Surcharge	125,900	20,983	-	(20,983)	-100.00%
Lease Revenue	1,600	267	2,001	1,734	650.22%
<b>Total Debt Service Revenues</b>	<b>\$ 6,747,098</b>	<b>\$ 1,124,516</b>	<b>\$ 1,116,161</b>	<b>\$ (8,356)</b>	<b>-0.74%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 5,223,498	\$ 870,583	\$ 870,583	\$ -	0.00%
Reserve Additions-Interest	387,000	64,500	73,233	(8,733)	-13.54%
Debt Service Ratio Charge	400,000	66,667	66,667	-	0.00%
Reserve Additions-CIP Growth	736,600	122,767	122,767	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 6,747,098</b>	<b>\$ 1,124,516</b>	<b>\$ 1,133,249</b>	<b>\$ (8,733)</b>	<b>-0.78%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (17,089)</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 14,548,839	\$ 2,424,807	\$ 2,522,129	\$ 97,323	4.01%
<b>Total Expenses</b>	14,548,840	2,389,653	2,375,307	14,345	0.60%
<b>Surplus/(Deficit)</b>	<b>\$ (1)</b>	<b>\$ 35,154</b>	<b>\$ 146,822</b>		
<b>Costs per 1000 Gallons Operating and DS</b>	\$ 2.30		\$ 1.87		
	\$ 4.28		\$ 3.58		
<b>Thousand Gallons Treated or Flow (MGD)</b>	3,397,700	566,283	663,700	97,417	17.20%
	9.309		10.705		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Crozet Water Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 1,028,808	\$ 171,468	\$ 171,468	\$ -	0.00%
Lease Revenues	30,000	5,000	3,972	(1,028)	-20.56%
Use of Reserves	52,000	8,667	-	(8,667)	-100.00%
Interest Allocation	1,800	300	602	302	100.80%
<b>Total Operating Revenues</b>	<b>\$ 1,112,608</b>	<b>\$ 185,435</b>	<b>\$ 176,042</b>	<b>\$ (9,392)</b>	<b>-5.07%</b>

**Expenses**

Personnel Cost	\$ 300,589	\$ 47,545	\$ 48,961	\$ (1,416)	-2.98%
Professional Services	12,850	2,142	-	2,142	100.00%
Other Services & Charges	137,816	22,969	12,726	10,243	44.59%
Communications	4,950	825	1,274	(449)	-54.47%
Information Technology	2,600	433	80	353	81.53%
Supplies	1,395	233	265	(33)	-14.00%
Operations & Maintenance	398,400	66,400	13,392	53,008	79.83%
Equipment Purchases	6,500	1,083	2,037	(954)	-88.02%
Depreciation	30,000	5,000	5,000	-	0.00%
Reserve Transfers	-	-	-	-	
<b>Subtotal Before Allocations</b>	<b>\$ 895,100</b>	<b>\$ 146,630</b>	<b>\$ 83,736</b>	<b>\$ 62,895</b>	<b>42.89%</b>
Allocation of Support Departments	217,513	34,458	37,021	(2,564)	-7.44%
<b>Total Operating Expenses</b>	<b>\$ 1,112,613</b>	<b>\$ 181,088</b>	<b>\$ 120,757</b>	<b>\$ 60,331</b>	<b>33.32%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (5)</b>	<b>\$ 4,346</b>	<b>\$ 55,285</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 1,311,312	\$ 218,552	\$ 218,552	\$ -	0.00%
Trust Fund Interest	5,500	917	1,146	229	24.97%
Reserve Fund Interest	21,500	3,583	4,047	463	12.93%
<b>Total Debt Service Revenues</b>	<b>\$ 1,338,312</b>	<b>\$ 223,052</b>	<b>\$ 223,744</b>	<b>\$ 692</b>	<b>0.31%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 1,230,815	\$ 205,136	\$ 205,136	\$ -	0.00%
Reserve Additions-Interest	21,500	3,583	4,047	(463)	-12.93%
Reserve Additions-CIP Growth	86,000	14,333	14,333	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 1,338,315</b>	<b>\$ 223,053</b>	<b>\$ 223,516</b>	<b>\$ (463)</b>	<b>-0.21%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ (3)</b>	<b>\$ (1)</b>	<b>\$ 228</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 2,450,920	\$ 408,487	\$ 399,787	\$ (8,700)	-2.13%
<b>Total Expenses</b>	2,450,928	404,141	344,273	59,868	14.81%
<b>Surplus/(Deficit)</b>	<b>\$ (8)</b>	<b>\$ 4,346</b>	<b>\$ 55,514</b>		
<b>Costs per 1000 Gallons</b>	\$ 5.59		\$ 2.97		
<b>Operating and DS</b>	\$ 12.31		\$ 8.47		
<b>Thousand Gallons Treated</b>	199,053	33,176	40,667	7,492	22.58%
<b>Flow (MGD)</b>	0.545		0.656		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Scottsville Water Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 520,812	\$ 86,802	\$ 86,802	\$ -	0.00%
Use of Reserves	15,000	2,500	-	(2,500)	-100.00%
Interest Allocation	800	133	270	137	102.54%
<b>Total Operating Revenues</b>	<b>\$ 536,612</b>	<b>\$ 89,435</b>	<b>\$ 87,072</b>	<b>\$ (2,363)</b>	<b>-2.64%</b>

**Expenses**

Personnel Cost	\$ 197,349	\$ 31,177	\$ 31,029	\$ 149	0.48%
Professional Services	20,000	3,333	-	3,333	100.00%
Other Services & Charges	33,318	5,553	2,517	3,036	54.67%
Communications	3,430	572	1,170	(599)	-104.72%
Information Technology	800	133	160	(27)	-20.05%
Supplies	410	68	142	(73)	-107.23%
Operations & Maintenance	121,340	20,223	5,099	15,124	74.79%
Equipment Purchases	3,200	533	1,561	(1,028)	-192.67%
Depreciation	20,000	3,333	3,333	(0)	0.00%
Reserve Transfers	-	-	-	-	-
<b>Subtotal Before Allocations</b>	<b>\$ 399,847</b>	<b>\$ 64,927</b>	<b>\$ 45,011</b>	<b>\$ 19,915</b>	<b>30.67%</b>
Allocation of Support Departments	136,770	21,708	22,893	(1,186)	-5.46%
<b>Total Operating Expenses</b>	<b>\$ 536,617</b>	<b>\$ 86,634</b>	<b>\$ 67,905</b>	<b>\$ 18,730</b>	<b>21.62%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (5)</b>	<b>\$ 2,801</b>	<b>\$ 19,167</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 128,749	\$ 21,458	\$ 21,458	\$ (0)	0.00%
Trust Fund Interest	1,700	283	327	44	15.51%
Reserve Fund Interest	8,400	1,400	1,566	166	11.89%
<b>Total Debt Service Revenues</b>	<b>\$ 138,849</b>	<b>\$ 23,142</b>	<b>\$ 23,352</b>	<b>\$ 210</b>	<b>0.91%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 129,524	\$ 21,587	\$ 21,587	\$ -	0.00%
Reserve Additions-Interest	8,400	1,400	1,566	(166)	
Reserve Additions-CIP Growth	925	154	154	-	
<b>Total Debt Service Costs</b>	<b>\$ 138,849</b>	<b>\$ 23,142</b>	<b>\$ 23,308</b>	<b>\$ (166)</b>	<b>-0.72%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 44</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 675,461	\$ 112,577	\$ 110,424	\$ (2,153)	-1.91%
<b>Total Expenses</b>	675,466	109,776	91,213	18,563	16.91%
<b>Surplus/(Deficit)</b>	<b>\$ (5)</b>	<b>\$ 2,801</b>	<b>\$ 19,211</b>		
<b>Costs per 1000 Gallons</b>	\$ 29.56		\$ 23.75		
<b>Operating and DS</b>	\$ 37.21		\$ 31.90		
<b>Thousand Gallons Treated or Flow (MGD)</b>	18,151	3,025	2,859	(166)	-5.49%
	0.050		0.046		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Urban Wastewater Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 8,033,620	\$ 1,338,937	\$ 1,412,786	\$ 73,850	5.52%
Stone Robinson WWTP	22,478	3,746	2,643	(1,103)	-29.45%
Septage Acceptance	450,000	75,000	82,051	7,051	9.40%
Nutrient Credits	90,000	15,000	78,763	63,763	425.08%
Miscellaneous Revenue	-	-	-	-	
Interest Allocation	14,400	2,400	4,767	2,367	98.64%
<b>Total Operating Revenues</b>	<b>\$ 8,610,498</b>	<b>\$ 1,435,083</b>	<b>\$ 1,581,010</b>	<b>\$ 145,927</b>	<b>10.17%</b>

**Expenses**

Personnel Cost	<b>A</b>	\$ 1,281,463	\$ 202,236	\$ 211,692	\$ (9,456)	-4.68%
Professional Services	<b>B</b>	175,000	29,167	40,522	(11,355)	-38.93%
Other Services & Charges		2,030,825	338,471	268,226	70,245	20.75%
Communications		10,430	1,738	4,612	(2,874)	-165.33%
Information Technology		62,500	10,417	2,664	7,753	74.42%
Supplies		2,700	450	90	360	79.92%
Operations & Maintenance	<b>F</b>	1,724,650	287,442	318,680	(31,238)	-10.87%
Equipment Purchases		77,500	12,917	10,000	2,917	22.58%
Depreciation		470,000	78,333	78,333	(0)	0.00%
Reserve Transfers		-	-	-	-	
<b>Subtotal Before Allocations</b>		<b>\$ 5,835,068</b>	<b>\$ 961,170</b>	<b>\$ 934,820</b>	<b>\$ 26,350</b>	<b>2.74%</b>
Allocation of Support Departments		2,775,430	440,029	469,176	(29,147)	-6.62%
<b>Total Operating Expenses</b>		<b>\$ 8,610,498</b>	<b>\$ 1,401,199</b>	<b>\$ 1,403,996</b>	<b>\$ (2,797)</b>	<b>-0.20%</b>
<b>Operating Surplus/(Deficit)</b>		<b>\$ (0)</b>	<b>\$ 33,884</b>	<b>\$ 177,015</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 8,229,143	\$ 1,371,524	\$ 1,371,524	\$ 0	0.00%
Septage Receiving Support - County	109,440	18,240	109,441	91,201	500.01%
Trust Fund Interest	96,900	16,150	20,063	3,913	24.23%
Reserve Fund Interest	266,900	44,483	50,519	6,036	13.57%
<b>Total Debt Service Revenues</b>	<b>\$ 8,702,383</b>	<b>\$ 1,450,397</b>	<b>\$ 1,551,547</b>	<b>\$ 101,150</b>	<b>6.97%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 7,880,079	\$ 1,313,347	\$ 1,313,347	\$ -	0.00%
Reserve Additions-Interest	266,900	44,483	50,519	(6,036)	-13.57%
Debt Service Ratio Charge	325,000	54,167	54,167	-	0.00%
Reserve Additions-CIP Growth	230,400	38,400	38,400	-	0.00%
<b>Total Debt Service Costs</b>	<b>\$ 8,702,379</b>	<b>\$ 1,450,397</b>	<b>\$ 1,456,432</b>	<b>\$ (6,036)</b>	<b>-0.42%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ 4</b>	<b>\$ 1</b>	<b>\$ 95,115</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 17,312,881	\$ 2,885,480	\$ 3,132,558	\$ 247,077	8.56%
<b>Total Expenses</b>	17,312,877	2,851,595	2,860,428	(8,833)	-0.31%
<b>Surplus/(Deficit)</b>	<b>\$ 4</b>	<b>\$ 33,885</b>	<b>\$ 272,130</b>		
<b>Costs per 1000 Gallons</b>	\$ 2.54		\$ 2.35		
<b>Operating and DS</b>	\$ 5.11		\$ 4.80		
<b>Thousand Gallons Treated</b>	3,390,400	565,067	596,364	31,297	5.54%
<b>or</b>					
<b>Flow (MGD)</b>	9.289		9.619		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Glenmore Wastewater Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 370,524	\$ 61,754	\$ 61,754	\$ -	0.00%
Interest Allocation	700	117	229	112	95.86%
<i>Total Operating Revenues</i>	<b>\$ 371,224</b>	<b>\$ 61,871</b>	<b>\$ 61,983</b>	<b>\$ 112</b>	<b>0.18%</b>

**Expenses**

Personnel Cost	\$ 95,340	\$ 15,055	\$ 15,659	\$ (604)	-4.01%
Professional Services	-	-	-	-	
Other Services & Charges	35,210	5,868	5,279	589	10.04%
Communications	3,000	500	864	(364)	-72.90%
Information Technology	3,700	617	-	617	100.00%
Supplies	100	17	-	17	100.00%
Operations & Maintenance	119,450	19,908	20,454	(546)	-2.74%
Equipment Purchases	2,900	483	400	83	17.24%
Depreciation	5,000	833	833	0	0.00%
<i>Subtotal Before Allocations</i>	<b>\$ 264,700</b>	<b>\$ 43,281</b>	<b>\$ 43,490</b>	<b>\$ (209)</b>	<b>-0.48%</b>
Allocation of Support Departments	106,527	16,936	17,527	(591)	-3.49%
<i>Total Operating Expenses</i>	<b>\$ 371,227</b>	<b>\$ 60,217</b>	<b>\$ 61,017</b>	<b>\$ (800)</b>	<b>-1.33%</b>
<i>Operating Surplus/(Deficit)</i>	<b>\$ (3)</b>	<b>\$ 1,654</b>	<b>\$ 966</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 3,778	\$ 630	\$ 630	\$ 0	0.05%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	3,100	517	653	136	26.33%
<i>Total Debt Service Revenues</i>	<b>\$ 6,878</b>	<b>\$ 1,146</b>	<b>\$ 1,283</b>	<b>\$ 0</b>	<b>0.03%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 1,578	\$ 263	\$ 263	\$ -	0.00%
Reserve Additions-CIP Growth	\$ 2,200				
Reserve Additions-Interest	3,100	517	653	(136)	-26.33%
<i>Total Debt Service Costs</i>	<b>\$ 6,878</b>	<b>\$ 780</b>	<b>\$ 916</b>	<b>\$ (136)</b>	<b>-17.45%</b>
<i>Debt Service Surplus/(Deficit)</i>	<b>\$ -</b>	<b>\$ 367</b>	<b>\$ 367</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 378,102	\$ 63,017	\$ 63,265	\$ 248	0.39%
<b>Total Expenses</b>	378,105	60,996	61,933	(936)	-1.53%
<b>Surplus/(Deficit)</b>	<b>\$ (3)</b>	<b>\$ 2,021</b>	<b>\$ 1,333</b>		
<b>Costs per 1000 Gallons</b>	\$ 9.31		\$ 11.40		
<b>Operating and DS</b>	\$ 9.48		\$ 11.57		
<b>Thousand Gallons Treated or Flow (MGD)</b>	39,892	6,649	5,353	(1,296)	<b>-19.49%</b>
	0.109		0.086		

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2019

**Scottsville Wastewater Rate Center**  
**Revenues and Expenses Summary**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Operations Rate Revenue	\$ 308,988	\$ 51,498	\$ 51,498	\$ -	0.00%
Interest Allocation	600	100	187	87	86.96%
<b>Total Operating Revenues</b>	<b>\$ 309,588</b>	<b>\$ 51,598</b>	<b>\$ 51,685</b>	<b>\$ 87</b>	<b>0.17%</b>

**Expenses**

Personnel Cost	\$ 95,366	\$ 15,059	\$ 15,659	\$ (600)	-3.98%
Professional Services	2,000	333	-	333	100.00%
Other Services & Charges	28,000	4,667	2,589	2,078	44.53%
Communications	3,930	655	904	(249)	-38.05%
Information Technology	1,700	283	-	283	100.00%
Supplies	25	4	-	4	100.00%
Operations & Maintenance	58,850	9,808	7,991	1,818	18.53%
Equipment Purchases	3,200	533	400	133	25.00%
Depreciation	18,000	3,000	3,000	-	0.00%
<b>Subtotal Before Allocations</b>	<b>\$ 211,071</b>	<b>\$ 34,343</b>	<b>\$ 30,543</b>	<b>\$ 3,801</b>	<b>11.07%</b>
Allocation of Support Departments	98,523	15,656	16,275	(619)	-3.95%
<b>Total Operating Expenses</b>	<b>\$ 309,594</b>	<b>\$ 49,999</b>	<b>\$ 46,817</b>	<b>\$ 3,182</b>	<b>6.36%</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$ (6)</b>	<b>\$ 1,599</b>	<b>\$ 4,868</b>		

**Debt Service Budget vs. Actual**

**Revenues**

Debt Service Rate Revenue	\$ 9,442	\$ 1,574	\$ 1,574	\$ 0	0.02%
Trust Fund Interest	100	17	33	16	
Reserve Fund Interest	3,100	517	522	6	1.07%
<b>Total Debt Service Revenues</b>	<b>\$ 12,642</b>	<b>\$ 2,107</b>	<b>\$ 2,129</b>	<b>\$ 22</b>	<b>1.04%</b>

**Debt Service Costs**

Total Principal & Interest	\$ 7,742	\$ 1,290	\$ 1,290	\$ -	0.00%
Reserve Additions-Interest	3,100	517	522	(6)	
Estimated New Principal & Interest	1,800	300	300	-	
<b>Total Debt Service Costs</b>	<b>\$ 12,642</b>	<b>\$ 2,107</b>	<b>\$ 2,113</b>	<b>\$ (6)</b>	<b>-0.26%</b>
<b>Debt Service Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 16</b>		

**Rate Center Summary**

<b>Total Revenues</b>	\$ 322,230	\$ 53,705	\$ 53,814	\$ 109	0.20%
<b>Total Expenses</b>	322,236	52,106	48,930	3,176	6.10%
<b>Surplus/(Deficit)</b>	<b>\$ (6)</b>	<b>\$ 1,599</b>	<b>\$ 4,884</b>		
<b>Costs per 1000 Gallons</b>	\$ 14.28		\$ 14.15		
<b>Operating and DS</b>	\$ 14.87		\$ 14.79		
<b>Thousand Gallons Treated</b>	21,677	3,613	3,308	(305)	-8.44%
<b>or</b>					
<b>Flow (MGD)</b>	0.059		0.053		

**Rivanna Water & Sewer Authority**  
**Monthly Financial Statements - August 2019**

**Administration**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Payment for Services SWA	\$	466,000	\$	77,667	\$	77,667	\$	(0)	0.00%
Miscellaneous Revenue		2,000		333		2,263		1,930	578.92%
<b>Total Operating Revenues</b>	<b>\$</b>	<b>468,000</b>	<b>\$</b>	<b>78,000</b>	<b>\$</b>	<b>79,930</b>	<b>\$</b>	<b>1,930</b>	<b>2.47%</b>

**Expenses**

Personnel Cost	<b>A</b>	\$	1,841,351	\$	288,538	\$	318,002	\$	(29,464)	-10.21%
Professional Services			229,000		38,167		26,390		11,777	30.86%
Other Services & Charges			106,400		17,733		13,897		3,836	21.63%
Communications			18,500		3,083		3,950		(866)	-28.10%
Information Technology	<b>E</b>		174,250		29,042		54,783		(25,742)	-88.64%
Supplies			21,500		3,583		1,599		1,985	55.39%
Operations & Maintenance	<b>F</b>		64,500		10,750		25,860		(15,110)	-140.55%
Equipment Purchases			24,000		4,000		2,363		1,637	40.92%
Depreciation			-		-		-		-	
<b>Total Operating Expenses</b>		<b>\$</b>	<b>2,479,501</b>	<b>\$</b>	<b>394,897</b>	<b>\$</b>	<b>446,844</b>	<b>\$</b>	<b>(51,948)</b>	<b>-13.15%</b>

**Department Summary**

<b>Net Costs Allocable to Rate Centers</b>		<b>\$</b>	<b>(2,011,501)</b>	<b>\$</b>	<b>(316,897)</b>	<b>\$</b>	<b>(366,914)</b>	<b>\$</b>	<b>50,018</b>	<b>-15.78%</b>
<b><u>Allocations to the Rate Centers</u></b>										
Urban Water	44.00%	\$	885,060	\$	139,434	\$	161,442	\$	(22,008)	
Crozet Water	4.00%	\$	80,460		12,676		14,677		(2,001)	
Scottsville Water	2.00%	\$	40,230		6,338		7,338		(1,000)	
Urban Wastewater	48.00%	\$	965,520		152,110		176,119		(24,009)	
Glenmore Wastewater	1.00%	\$	20,115		3,169		3,669		(500)	
Scottsville Wastewater	1.00%	\$	20,115		3,169		3,669		(500)	
	100.00%	\$	2,011,501	\$	316,897	\$	366,914	\$	(50,018)	



Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2019

**Maintenance**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

Payment for Services SWA  
Miscellaneous Revenue

*Total Operating Revenues*

\$ 10,000	-	-	-	-
<b>\$ 10,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Expenses**

Personnel Cost  
Professional Services  
Other Services & Charges  
Communications  
Information Technology  
Supplies  
Operations & Maintenance  
Equipment Purchases  
Depreciation

D

*Total Operating Expenses*

\$ 1,345,633	\$ 211,734	\$ 205,437	\$ 6,297	2.97%
-	-	-	-	-
14,500	2,417	1,725	692	28.63%
17,600	2,933	8,010	(5,076)	-173.05%
6,500	1,083	2,250	(1,167)	-107.69%
2,000	333	-	333	100.00%
77,400	12,900	12,777	123	0.95%
147,150	24,525	20,245	4,280	17.45%
-	-	-	-	-
<b>\$ 1,610,783</b>	<b>\$ 255,925</b>	<b>\$ 250,444</b>	<b>\$ 5,481</b>	<b>2.14%</b>

**Department Summary**

**Net Costs Allocable to Rate Centers**

<b>\$ (1,600,783)</b>	<b>\$ (255,925)</b>	<b>\$ (250,444)</b>	<b>\$ (5,481)</b>	<b>2.14%</b>
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**Allocations to the Rate Centers**

Urban Water	30.00%	\$ 480,235	\$ 76,778	\$ 75,133	\$ 1,644
Crozet Water	3.50%	56,027	8,957	8,766	192
Scottsville Water	3.50%	56,027	8,957	8,766	192
Urban Wastewater	56.50%	904,442	144,598	141,501	3,097
Glenmore Wastewater	3.50%	56,027	8,957	8,766	192
Scottsville Wastewater	3.00%	48,023	7,678	7,513	164
	100.00%	<b>\$ 1,600,783</b>	<b>\$ 255,925</b>	<b>\$ 250,444</b>	<b>\$ 5,481</b>

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2019

Laboratory

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual**

Notes

**Revenues**

N/A

**Expenses**

Personnel Cost	\$ 394,222	\$ 61,930	\$ 58,959	\$ 2,971	4.80%
Professional Services	-	-	-	-	
Other Services & Charges	9,230	1,538	104	1,434	93.23%
Communications	1,153	192	309	(117)	
Information Technology	2,500	417	-	417	100.00%
Supplies	2,150	358	69	290	80.85%
Operations & Maintenance	61,500	10,250	13,121	(2,871)	-28.01%
Equipment Purchases	2,200	367	283	83	22.73%
Depreciation	-	-	-	-	
<b>Total Operating Expenses</b>	<b>\$ 472,955</b>	<b>\$ 75,052</b>	<b>\$ 72,845</b>	<b>\$ 2,207</b>	<b>2.94%</b>

**Department Summary****Net Costs Allocable to Rate Centers**

<b>\$ (472,955)</b>	<b>\$ (75,052)</b>	<b>\$ (72,845)</b>	<b>\$ (2,207)</b>	<b>2.94%</b>
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**Allocations to the Rate Centers**

Urban Water	44.00%	\$ 208,100	\$ 33,023	\$ 32,052	\$ 971
Crozet Water	4.00%	18,918	3,002	2,914	88
Scottsville Water	2.00%	9,459	1,501	1,457	44
Urban Wastewater	47.00%	222,289	35,274	34,237	1,037
Glenmore Wastewater	1.50%	7,094	1,126	1,093	33
Scottsville Wastewater	1.50%	7,094	1,126	1,093	33
<b>100.00%</b>	<b>\$ 472,955</b>	<b>\$ 75,052</b>	<b>\$ 72,845</b>	<b>\$ 2,207</b>	

Rivanna Water & Sewer Authority  
Monthly Financial Statements - August 2019

**Engineering**

<i>Budget FY 2020</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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**Operating Budget vs. Actual****Revenues**

Payment for Services SWA

*Total Operating Revenues*

\$ -	\$ -	\$ -	\$ -	-
<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>-</b>

**Expenses**

Personnel Cost

Professional Services

Other Services &amp; Charges

Communications

Information Technology

Supplies

Operations &amp; Maintenance

Equipment Purchases

Depreciation &amp; Capital Reserve Transfers

*Total Operating Expenses*

<b>A</b>	\$ 1,347,631	\$ 211,385	\$ 221,854	\$ (10,468)	-4.95%
	20,000	3,333	2,984	350	10.50%
	10,350	1,725	1,097	628	36.39%
	14,500	2,417	5,560	(3,143)	-130.05%
<b>E</b>	21,200	3,533	16,356	(12,822)	-362.90%
	9,800	1,633	985	649	39.70%
	86,798	14,466	14,423	43	0.30%
	42,400	7,067	3,376	3,691	52.23%
	-	-	-	-	
	<b>\$ 1,552,679</b>	<b>\$ 245,560</b>	<b>\$ 266,634</b>	<b>\$ (21,074)</b>	<b>-8.58%</b>

**Department Summary**

Net Costs Allocable to Rate Centers

\$ (1,552,679)	\$ (245,560)	\$ (266,634)	\$ 21,074	-8.58%
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**Allocations to the Rate Centers**

Urban Water

47.00%	\$ 729,759	\$ 115,413	\$ 125,318	\$ (9,905)
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Crozet Water

4.00%	62,107	9,822	10,665	(843)
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Scottsville Water

2.00%	31,054	4,911	5,333	(421)
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Urban Wastewater

44.00%	683,179	108,046	117,319	(9,272)
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Glenmore Wastewater

1.50%	23,290	3,683	4,000	(316)
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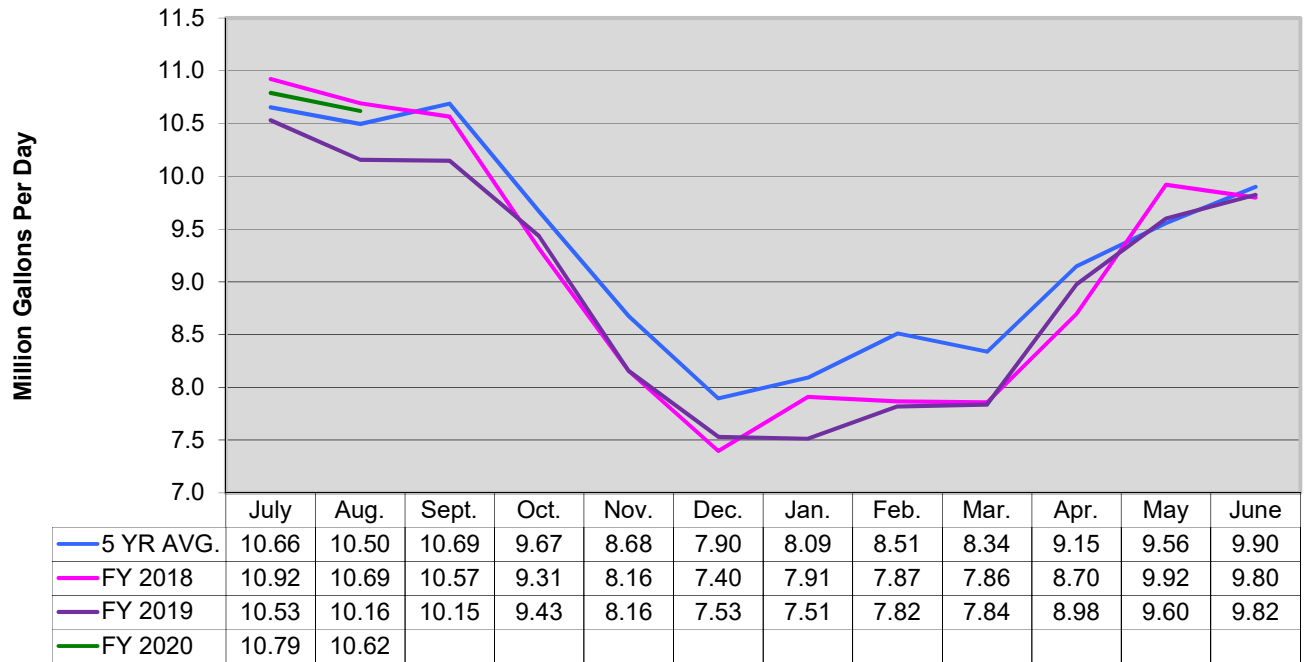
Scottsville Wastewater

1.50%	23,290	3,683	4,000	(316)
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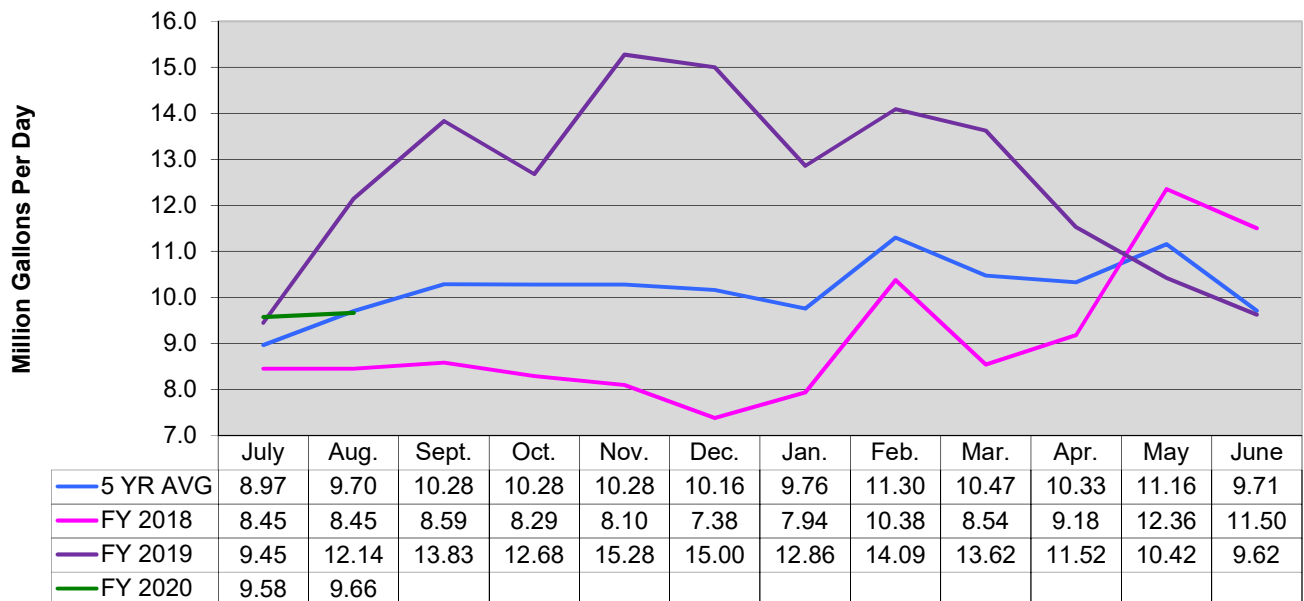
100.00%	<b>\$ 1,552,679</b>	<b>\$ 245,560</b>	<b>\$ 266,634</b>	<b>\$ (21,074)</b>
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**Rivanna Water and Sewer Authority  
Flow Graphs**

**Urban Water Flows**



**Urban Wastewater Flows**



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &  
MAINTENANCE**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: STATUS REPORT: ONGOING PROJECTS**

**DATE: SEPTEMBER 24, 2019**

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

### Under Construction

1. Crozet Water Treatment Plant Expansion
2. Wholesale Water Master Metering
3. Interceptor Sewer & Manhole Repair
4. Valve Repair – Replacement (Phase 2)
5. Scottsville WTP – Finished Water Metering Improvements
6. Buck's Elbow Ground Storage Tank Chlorination System
7. Glenmore Secondary Clarifier Coating
8. Security Enhancements
9. Urgent and Emergency Repairs

### Design and Bidding

10. Observatory Water Treatment Plant Expansion
11. South Rivanna Water Treatment Plant Improvements
12. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station
13. Crozet Flow Equalization Tank
14. Beaver Creek Dam Alterations
15. Beaver Creek Raw Water Pump Station
16. Crozet Interceptor Pump Station Rebuilds
17. MC Digester Sludge Storage Improvements
18. MC Aluminum Slide Gate Replacements
19. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs

- 20. Route 29 Pump Station
- 21. South Rivanna Dam – Gate Repairs
- 22. Moores Creek Wetland Hydrology Improvements

#### Planning and Studies

- 23. Avon to Pantops Water Main (on hold until completion of the Urban Water Master Plan)
- 24. South Fork Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way
- 25. Urban Water Demand and Safe Yield Study
- 26. Urban Finished Water Infrastructure Master Plan
- 27. South Rivanna River Crossing and North Rivanna Transmission Main
- 28. South Rivanna Hydropower Plant Decommissioning
- 29. Upper Schenks Branch Interceptor, Phase II
- 30. Asset Management Plan

#### O&M Related Projects

- 31. NRWTP Raw Metering Improvements
- 32. NRWTP Sludge Lagoon Study and Needs Assessment
- 33. MCAWRRF Cogeneration System Analysis

### **1. Crozet Water Treatment Plant Expansion**

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Orders Construction Co. (WVA)
Construction Start:	December 2018
Percent Completion:	20%
Base Construction Contract + Change Order to Date = Current Value:	\$7,170,000- \$285,000 = \$6,885,000
Expected Completion Date:	May 2021
Total Capital Project Budget:	\$8,500,000

#### **Current Status:**

**Working on the expansion of the Chemical Building, sanitary force main installation, and backwash lagoon improvements.**

#### History:

This project was created to increase the supply capacity of the existing Crozet WTP by modernizing plant systems. The goal was to not drastically increase the plant footprint in regard to the existing filter plant, flocculation tanks, and sedimentation basins. By modernizing the outdated equipment within these treatment systems, the plant discharge capacity will be improved by approximately 100% (from 1 to 2 mgd). SEH completed a Preliminary Engineering Report (PER); watershed data collection; raw water jar testing; pilot scale testing, as well as preliminary and final design. A Notice to Proceed was issued on December 13, 2018 and the contractor mobilized on February 26, 2019.

## **2. Wholesale Water Master Metering**

Design Engineer:	Michael Baker International (Baker)
Construction Contractor:	Linco, Inc.
Construction Start:	January 2016
Percent Complete:	98%
Base Construction Contract + Change Orders to Date = Current Value:	\$2,228,254 - \$284,104.24 = \$1,944,149.76
Expected Completion Date:	October 2019
Total Capital Project Budget:	\$3,200,000

### **Current Status:**

**20 of 25 meters are currently functional. One meter and one meter test port will be replaced during the week of September 23<sup>rd</sup>. Following completion of that work, all 5 remaining meters will have the calibration verified. The system should be substantially completed and placed into operation in October, with the initial water usage report in November.**

### **History:**

In January 2012, a Water Cost Allocation Agreement was signed by the City of Charlottesville (City) and ACSA designating how the two agencies would share in the financing of the New Ragged Mountain Dam project. Within the agreement is a general provision developed by the ACSA and City to enhance measurement of the water usage by each of the distribution agencies.

The Board authorized staff in August of 2012 to enter into an agreement with Michael Baker International, Inc. (Baker) to complete an engineering study on metering plan alternatives. Baker's study identified several alternatives for a metering plan based on combinations of metering and estimating methodologies. Based on feedback from ACSA, the City, and RWSA, Baker recommended a Jurisdictional Approach which included installation of water meters at 34 locations at the City/County corporate boundary and at each of the three urban water treatment plants at an estimated cost of \$6.4 million. At its September 2013 meeting, the RWSA Board of Directors requested staff to proceed with the Jurisdictional Coverage Approach. In February 2014, the Board of Directors authorized Baker to complete preliminary and final design for the project and to provide bid-phase services. The final design includes construction of 25 metering systems in underground vaults and required acquisition of twenty (20) permanent water line easements and one (1) permanent access easement.

In May 2018, a final version of the *Wholesale Metering Administration and Implementation Policy* was completed and forwarded to the ACSA and the City. RWSA terminated the construction contract with Linco, Inc. on April 2, 2018 and is coordinating the remaining work in-house.

## **3. Interceptor Sewer and Manhole Repair**

Design Engineer:	Frazier Engineering
Construction Contractor:	IPR Northeast
Construction Start:	November 2017
Percent Complete:	30%

Base Construction Contract +	
Change Orders to Date = Current Value:	\$1,244,337.19
Expected Completion:	October 2021
Total Capital Project Budget:	\$1,088,330 (Urban) + \$625,000 (Crozet) = \$1,713,330

**Current Status:**

**Condition assessment and repair activities continue on portions of the Crozet and Morey Creek Interceptors through the Birdwood Golf Course.**

**History:**

Results from sewer flow monitoring and modeling under the Comprehensive Sanitary Sewer Study provided awareness to specific inflow and infiltration (I&I) concerns in the collection system and resulted in strengthened commitments from the City, ACSA and RWSA to continue professional engineering services to aid in the rehabilitation and repair of the sewer collection system. Engineering services will be used for sewer infrastructure condition assessments and the development of a sewer rehabilitation bid package for the procurement of a contractor to perform the recommended rehabilitation work.

**4. Valve Repair – Replacement (Phase 2)**

Design Engineer:	RWSA / Dewberry
Construction Contractor:	Garney Construction
Construction Start:	May 2019
Percent Complete:	15%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$843,460.00 - \$33,525.21 = \$809,934.79
Expected Completion:	June 2020
Total Capital Project Budget:	\$882,914

**Current Status:**

**Valve replacements will resume in October.**

**History:**

Due to the recently completed Piney Mountain Tank Rehabilitation project and bypass pumping necessary for that work, two valves identified for replacement in the Valve Repair-Replacement Project have been unavailable to be replaced. As such, the Contractor demobilized from the project after the valve replacement completed on May 21, 2019.

Isolation valves are critical for normal operation of the water distribution system and timely emergency response to water main breaks. Staff continuously reviews results from an ongoing Valve Exercising and Condition Assessment Program. This project will replace the highest-priority valves that are identified during the condition assessment as not operable and not repairable. Phase 2 will continue replacing inoperable and unrepairable valves in the North Rivanna Finished Water System, but it will also replace (and potentially repair) valves on the South Rivanna, Crozet, Pantops, and Southern Loop Finished Water Systems. Once all specified valves have been repaired/replaced in Phase 2, the focus will shift to replacing older isolation valves in subsequent phases.



A Request for Bids (RFB) was issued on November 6, 2018. RWSA staff opened bids for the project on December 11, 2018, and Garney Companies, Inc. was the apparent low bidder (\$843,460). The RWSA Board of Directors approved the bid award recommendation and Capital Improvement Plan Budget Amendment on January 22, 2019. A Notice to Proceed was issued on May 6, 2019.

Two (2) valve replacements were completed in May 2019; one (1) valve was replaced on the Crozet Waterline, and one (1) valve was replaced on the South Rivanna Waterline.

#### **5. Scottsville WTP – Finished Water Metering Improvements**

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction Inc.
Construction Start:	November 2019
Percent Complete:	0%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$115,500
Completion:	April 2020
Approved Capital Budget:	\$145,000

#### **Current Status:**

**Construction will begin when materials are delivered in November.**

#### **History:**

Construction bids were opened on May 29, 2019. Notice of Award was provided to the contractor on July 9, 2019 and a Notice to Proceed was provided on August 26, 2019.

The Scottsville WTP is permitted to provide up to 0.25 MGD of potable drinking water to RWSA customers in the Scottsville service area. After water has been treated in the plant it is collected in an existing clearwell, which was constructed with the original facility. From the clearwell, the water is pumped into the distribution system by one of the two high service pumps. The flow from these pumps is not metered. In order to keep a record of the total flow entering the Scottsville system, plant operators must periodically conduct draw-down tests to verify the pumping rate of each of the two pumps. The total flow is then calculated based on the run time of each pump. This method of measuring flow is not accurate, as the pumping rate will vary based on the clearwell level and the hydraulic grade line of the distribution system. In addition, the Virginia Department of Health has indicated that the flow should be metered during recent conversations related to the disinfection profile calculation throughout the plant. The purpose of this project is to install a finished water meter at the plant.

#### **6. Buck's Elbow Ground Storage Tank Chlorination System**

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Littleton and Associates, Inc.
Construction Start:	December 2019
Percent Complete:	0%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$186,000
Completion:	April 2020

Approved Capital Budget: \$239,000

**Current Status:**

**Construction will begin when materials are delivered in December.**

**History:**

The Contract Documents have been executed by both parties, and a Notice to Proceed (NTP) was issued on September 9, 2019.

The two million-gallon Bucks Elbow Ground Storage Tank provides finished water storage for the Crozet Area. Historically, RWSA has experienced low chlorine residuals in the tank during the warm weather months due to water age and stratification. When chlorine residuals drop, RWSA must manually feed chlorine into the tank. Previously, this meant that staff had to bring all required pumping infrastructure to the site and climb the tank to access the injection point(s). To enhance the efficiency and safety of this process, SEH is assisting RWSA with the design of a chlorine feed system that is capable of one-person operation, will not require tank climbing or confined space entry into the adjacent altitude valve vault, and will minimize overall chemical exposure risk to RWSA staff. An active mixing system will also be installed at the Buck's Elbow Ground Storage Tank as a part of the work to supplement the existing passive mixing system. This will ensure that the tank is being appropriately mixed during the chlorine feed process and will decrease overall stratification in the tank.

SEH completed an update to the project's original Alternatives Analysis (completed in Winter 2017 as an O&M Project) and held a review meeting with RWSA Engineering and Operations staff during the week of May 6, 2019. This document was submitted to VDH for preliminary review following the meeting. Bidding documents were finalized, and the Request for Bids was issued on June 20, 2019. Bids were opened on July 11, 2019, and the apparent low bidder was Littleton and Associates, Inc. (\$186,000). A Bid Award Recommendation and Capital Improvement Plan Amendment was approved by the Board of Directors on July 23, 2019. A Notice of Award was issued to Littleton and Associates, Inc. on August 6, 2019.

**7. Glenmore Secondary Clarifier Coating**

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Nostos SS Contractors, LLC
Construction Start:	August 2019
Percent Complete:	50%
Base Construction Contract + Change Orders to Date = Current Value:	\$98,900
Completion:	January 2020
Approved Capital Budget:	\$110,000 + \$50,000 requested = \$160,000

**Current Status:**

**Work on the second clarifier began mid-September.**

### History:

Blasting and coating of the first clarifier is complete. The secondary clarifiers at the Glenmore facility were painted over 10-years ago. The clarifier environment is a particularly harsh environment subject to corrosive gases, grit abrasion and mechanical wear. Based on observations by operations staff, the coating system is in need of replacement to prevent deterioration and failure of the underlying metal superstructure. This project includes the cleaning and full coating of the clarifier.

## **8. Security Enhancements**

Contractor:	Security 101
Construction Start:	August 2019
Percent Complete:	Award
Completion:	2021
Approved Capital Budget:	\$1,000,000

### **Current Status:**

**An initial work authorization is being developed to secure doors at priority locations.**

### History:

As required by the Federal Bioterrorism Act of 2002, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was brought to the Board on July 23, 2019.

## **9. Urgent and Emergency Repairs**

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

Project No.	Project Description	Approx. Cost
2017-03	Crozet Sewer Force Main Air Release Valve Repair	\$10,000
2018-06	South Rivanna Dam Apron and River Bank Repairs	\$200,000
2019-05	Observatory Water Line Repair near Lambeth Pump Station	\$100,000
2019-06	Upper Sugar Hollow Water Line near Meriwether Drive	\$15,000
2019-07	Urban Water Line Valve and Blow-off Repair	TBD

- Crozet Sewer Force Main Air Release Valve Repair

During routine inspections of the sewer force main, the Maintenance Department identified that the saddle for one of the air release valves was loose and needed to be repaired. Due to the profile of the force main however, it is not currently possible to dewater the force main and take pressure off the pipe at this location without the installation of line stops. However, once the Crozet Flow Equalization Tank (FET) has been installed, ample time will be available to dewater the force main without the aid of line stops. RWSA will be working with Faulconer Construction to stabilize the saddle for the short-term, and once the FET comes online, a permanent repair can be made. **Coordination with the property owner is underway and this repair will be scheduled this fall.**

- South Rivanna Dam Apron and River Bank Repairs

Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam were completed June 3-7, 2019 under RWSA's on-call construction contract. **Repairs to the north and south concrete aprons will be designed by Schnabel Engineering and those services will be procured separately from the on-call contract.**

- Urban Water Line Valve and Blow-off Repair

During its routine inspections of the Water System, the Maintenance Department discovered a blowoff (drain) valve along the Urban Waterline (UWL-017) that had significant leakage. In addition, during one of the numerous heavy rain events received in 2018, the water in the creek adjacent to the drain line rose, eroding the area around the drain line and causing the headwall to become disconnected from the end of the pipe. Staff will be coordinating internally to confirm the overall scope of the project, including whether the drain line will need to be further reinforced or restrained. Once the scope has been finalized, **Faulconer Construction will be performing the valve replacement(s), as well as any piping/outlet modifications to the drain line.**

## **10. Observatory Water Treatment Plant Expansion**

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Project Start:	October 2017
Project Status:	90% Design
Construction Start:	March 2020
Completion:	2023
Approved Capital Budget:	\$19,700,000
Current Project Estimate:	\$25,500,000

### **Current Status:**

**An informational meeting with prospective contractors has been scheduled for September 26, 2019 to maximize interest in the project. An advertisement for competitive bids is anticipated in October 2019.**

### **History:**

A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8<sup>th</sup> and a memo summarizing the results has been completed. Any agreed upon results will be incorporated into the project. This project will consider the design and costs for upgrading the plant systems to achieve a consistent 7.7 MGD plant capacity, as well as consider the costs involved with upgrading the plant to 10 or 12 MGD capacity. Much of the Observatory Water Treatment Plant is original to the 1953 construction. In an effort to better understand the needed future improvements, a Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. A portion of this project was expedited in order to repair and replace old, existing equipment that was not functional. The flocculator systems have been replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). The second flocculator system was started up in May 2017, and both systems are currently in full service. Four additional GAC contactors will be included in the design.

## **11. South Rivanna Water Treatment Plant Improvements**

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	October 2017
Project Status:	90% Design
Construction Start:	March 2020
Completion:	2023
Approved Capital Budget:	\$15,000,000

### **Current Status:**

**An informational meeting with prospective contractors has been scheduled for September 26, 2019 to maximize interest in the project. An advertisement for competitive bids is anticipated in October 2019.**

### **History:**

A project kickoff meeting with staff was held on November 13, 2018 and 30% design documents were

provided in February. A Value Engineering Workshop took place the week of April 8<sup>th</sup> and a memo summarizing the results has been completed. Any agreed upon results will be incorporated into the project. The South Rivanna Water Treatment Plant is currently undergoing significant upgrades as part of the Granular Activated Carbon Project. Several other significant needs have also been identified and have been assembled into a single project. The projects herein include: expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; and the construction of a new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase plant treatment capacity.

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

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Design & Easement Acquisition in Progress
Construction Start:	2022
Completion:	2026
Approved Capital Budget:	\$3,877,000
Current Project Estimate:	\$18,000,000

### **Current Status:**

**Easement acquisitions are underway.**

### **History:**

A site evaluation study to recommend a location for the raw water pipe and pump station has been completed. Survey and appraisal work have been completed for portions of this alignment. A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. Raw water is transferred from the Ragged Mountain Reservoir to the Observatory Water Treatment Plant by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant, which may eventually have the capacity to treat 10 mgd. The new pipeline is expected to be constructed of 36-inch ductile iron and will approximately 14,000 feet in length. The opportunity to integrate the Observatory WTP raw water supply line with the proposed South Rivanna Reservoir to RMR raw water main project is currently being investigated as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (mgd) of raw water to the Observatory WTP. Integration of the new pump station with the

planned South Rivanna Reservoir to RMR pipeline is being considered in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 mgd of raw water from RMR back to the SRR WTP.

### **13. Crozet Flow Equalization Tank**

Design Engineer:	Schnabel Engineering
Project Start:	October 2016
Project Status:	95% Design
Construction Start:	February 2020
Completion:	May 2022
Approved Capital Budget:	\$4,860,000

#### **Current Status:**

**An advertisement for construction bids will be issued by November 2019.**

#### **History:**

A 2016 update to the 2006 model was completed which evaluated the I&I reduction goals previously established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and namely the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet Service Area during a two-year storm. However, as projected growth in the service area occurs, peak wet weather flows in the area under the storm conditions established in the updated model will begin to exceed the firm capacities of the pump stations by 2025. Additional I&I reductions in order to reduce flows enough to not exceed the pump station firm capacities are not feasible and as a result, the construction of a flow equalization tank was identified as the best method to alleviate wet weather capacity issues.

While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps and the associated force mains while the system is down. As a result, it is important to progress into the siting study for the flow equalization tank to ensure that it can be constructed in time for the 2025 flow targets but also to facilitate less complicated and more thorough maintenance on the system that has not been possible previously.

Greeley and Hansen completed a siting study to determine the location for the flow equalization tank based on the results of the comprehensive model update. The results of the siting study were reviewed with ACSA and a final tank location was determined.

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. A data collection period has been completed which includes a wetlands investigation of the project site and a topographic survey of the site has also been completed.

### **14. Beaver Creek Dam Alterations**

Design Engineer:	Schnabel Engineering
Project Start:	February 2018

Project Status:	Final Design and Permitting Underway
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	\$4,898,000
Current Project Estimate:	\$15,000,000

#### **Current Status:**

**Final design of the dam improvements is underway. Development of a Joint Permit Application for the new Pump Station, Intake, and Beaver Creek Dam Spillway Upgrades began in May 2019 by Hazen & Sawyer and is expected to be completed in the summer of 2020. Staff is also currently pursuing federal funding for the project.**

#### **History:**

RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

### **15. Beaver Creek Raw Water Pump Station and Intake**

Design Engineer:	Hazen & Sawyer
Project Start:	August 2018
Project Status:	Permitting and Site Selection Work Underway
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	\$4,138,000
Current Project Estimate:	\$8,000,000

#### **Current Status:**

**Hazen and Sawyer is continuing work on a site selection study for the new Raw Water Pump Station and intake. Initial site alternatives have been narrowed to a shortlist, and geotechnical evaluations are anticipated this fall to aid in determining the preferred site for the project.**



**Development of a Joint Permit Application for the new Pump Station, Intake, and Beaver Creek Dam Spillway Upgrades is also underway and is expected to be completed in the summer of 2020.**

History:

The Drinking Water Infrastructure Plan for the Crozet water service area, developed by Hazen and Sawyer, recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

**16. Crozet Interceptor Pump Station Rebuilds**

Design Engineer:	RWSA
Project Start:	July 2018
Project Status:	25% Design
Construction Start:	2019
Completion:	2023
Approved Capital Budget:	\$545,000

**Current Status:**

**The Maintenance Department has begun pump replacement work associated with this overall project.**

History:

Staff is reviewing the overall scope of work for the project and will be coordinating other items with the Maintenance Department regarding schedule and preferred equipment and materials.

The Crozet Interceptor Pump Stations were constructed in the 1980's and many of the components are still original. The project will include the replacement of pumps and valves at Pump Station No. 2 in order to improve pumping capabilities at this location and provide spare parts for the pumps at Pump Station No. 1. This work will also include roof replacements at all four pump stations, siding replacement for the wet well enclosure at Pump Station No. 3, and installation of a new water well at Pump Station No. 3. Components of this project will be coordinated and timed to properly coincide with the Crozet Flow Equalization Tank project.

**17. MC Digester Sludge Storage Improvements**

Design Engineer:	TBD
Project Start:	Summer 2019
Project Status:	Preliminary Design
Construction Start:	Fall 2019
Completion:	June 2020
Approved Capital Budget:	\$313,000

### **Current Status:**

**We are currently scheduling an engineer to perform an interior inspection of the sludge storage tank. Preparation of construction documents will begin after an inspection is completed and scope of repair work better defined. Implementation of this work will commence after Digester No. 3 is coated and is back in service in late summer 2019.**

### **History:**

With the second centrifuge installation, additional capacity for storage of digested sludge would provide the Authority operational flexibility it does not currently have. Additionally, the sole sludge storage tank at the MCAWRRF was constructed in 1959 of reinforced concrete and is in need of repairs. This project would convert one of the three existing anaerobic digesters (Digester No. 1) into a sludge storage tank through piping modifications, and would provide redundancy to the existing sludge storage tank so it can be removed from service, cleaned, inspected, and repaired with minimal impact to the existing sludge dewatering operations. The piping configuration would also allow flexibility for the anaerobic digester to be used as either an anaerobic digester or sludge storage tank as needed for operations. The scope of work would include piping modifications, hydraulic improvements, tank safety improvements such as handrail and lights, and structural improvements to the existing sludge storage tank roof.

## **18. MC Aluminum Slide Gate Replacements**

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	Bidding
Construction Start:	February 2020
Completion:	October 2020
Approved Capital Budget:	\$470,000

### **Current Status:**

**Construction bidding is underway.**

### **History:**

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to access and repair the gates, it is now necessary to replace and modify the gate arrangement. The replacement includes new gates for greater flexibility and resiliency as well as significant influent flow bypass pumping. Likewise, there are several gates at the Ultraviolet disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity.

## **19. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs**

Design Engineer:	Schnabel Engineering
Project Start:	January 2019
Project Status:	Design 20%
Construction Start:	2020

Completion:	2021
Approved Capital Budget:	\$1,140,000

**Current Status:**

**A dive inspection of the intake tower and evaluation of existing electrical and mechanical equipment are anticipated in September 2019. Construction is anticipated to begin in late spring or summer of 2020.**

**History:**

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure will be inspected and evaluated. Recommended repairs may include issues relating to the intake gate valves and tower walls, including repair or replacement of intake trash racks, and sealing/grouting of minor concrete wall cracks.

**20. Route 29 Pump Station**

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	Design 5%
Construction Start:	2021
Completion:	2022
Approved Capital Budget:	\$2,300,000

**Current Status:**

**Design is underway for the pump station and piping extensions to the North Rivanna Transmission Main.**

**History:**

The Rt. 29 Pipeline and Pump Station master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands; reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and future low pressure conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone.

## **21. South Rivanna Dam – Gate Repairs**

Design Engineer:	Schnabel
Project Start:	July 2019
Project Status:	Work Authorization Development
Construction Start:	Spring- Fall 2020
Completion:	2020
Approved Capital Budget:	\$900,000

### **Current Status:**

**Design will begin in September 2019 with construction in 2020, pending preliminary findings.**

### **History:**

The South Rivanna Dam, originally constructed in 1965, is equipped with two 36” diameter slide gates and conduits, one each on the north and south abutments of the dam, which can be utilized to dewater the facility or to meet minimum instream flow (MIF) requirements when the dam is not spilling. These gates are original to the dam and while they are operable and are exercised regularly, they can no longer provide a complete seal, therefore allowing some leakage through the dam. RWSA has protocols in place to temporarily stop leakage through the gates when necessary to conserve water; however, there is a desire to repair or replace the gates and components as needed to restore full functionality. The project includes other repairs to the facility, including improvements to the concrete wall adjacent to the Raw Water Pump Station as well as improvements to the north dam tower to provide safer access by staff while still discouraging access by the general public.

## **22. MC Wetland Hydrology Improvements**

Design Engineer:	VHB/ECS, Mid-Atlantic
Project Start:	March 2019
Project Status:	90% Design
Construction Start:	November 2019
Completion:	February 2020
Approved Capital Budget:	\$95,000

### **Current Status:**

**Construction bidding in October.**

### **History:**

As part of the Ragged Mountain project, RWSA was required to mitigate for impacts to streams and wetlands. The wetland mitigation site is located along Moores Creek on Franklin St. RWSA has been monitoring the mitigation sites, as required by the project permit, since construction in 2014. Reports on the success of the site are submitted to the Department of Environmental Quality (DEQ) at intervals during the first 10 year of the project construction. From this monitoring it was determined that the wetland is holding more water than is ideal for its function. VHB designed a Hydrology Improvement

Plan for the site, which was approved by DEQ. RWSA is now working with ECS Mid-Atlantic, to obtain the necessary County permits for the improvements (i.e., Erosion and Sediment Control permit).

### **23. Avon to Pantops Water Main (on hold until completion of the Urban Water Master Plan)**

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2017
Project Status:	Preliminary Engineering Report
Construction Start:	TBD
Completion:	TBD
Approved Capital Budget:	\$2,100,000

#### **Current Status:**

**This project is on hold.**

#### **History:**

Route alignment determination, hydraulic modeling, and preliminary design were underway. Due to the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach is warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Avon to Pantops Water Main. The focus of this project is on the southern half of the urban area water system which is currently served predominantly by the Avon Street and Pantops water storage tanks. The Avon Street tank is hydraulically well connected to the Observatory Water Treatment Plant while the Pantops tank is well connected to the South Rivanna Water Treatment Plant. The hydraulic connectivity between the two tanks, however, is less than desired, creating operational challenges and reduced system flexibility. In 1987, the City and ACSA developed the Southern Loop Agreement which laid out two key phases (with the first being built at the time). The 1987 Agreement and planning efforts will service as a starting point for this current project. An engineering contract has been negotiated and was approved by the Board of Directors in July 2017.

### **24. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way**

Design Engineer:	Michael Baker International (Baker)
Project Start:	October 2017
Project Status:	Easement Acquisition Underway
Completion:	2021
Approved Capital Budget:	\$2,295,000

#### **Current Status:**

**We are completing easement appraisals and making offers to property owners.**

#### **History:**

A Draft PER was completed in January 2019. Survey work began in late March to begin preparation of easement plats. Several of the properties are owned by the VDOT, Albemarle School Board, UVA Foundation and the City of Charlottesville. A work authorization for easement acquisition services with ERM and Associates was approved by the Board in April.

The approved 50-year Community Water Supply Plan includes the future construction of a raw water line from the South Fork Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline along an alternative alignment to increase raw water transfer capacity in the Urban Water System. The preliminary route for the water line followed the proposed Route 29 Charlottesville Bypass; however, the Bypass project was suspended by VDOT in 2014, requiring a more detailed routing study for the future water line. This project includes a routing study, preliminary design and preparation of easement documents, as well as acquisition of water line easements along the approved route.

Baker has completed the routing study. Preliminary design, plat creation and the acquisition of easements are underway. Property owners were contacted to request permission to access properties for topographical surveying. A community information meeting was held in June 2018.

## **25. Urban Water Demand and Safe Yield Study**

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	80% complete
Completion:	November 2019
Approved Capital Budget:	\$154,000

### **Current Status:**

**Workshops are scheduled with City, ACSA and County staff in mid-September to review water demand projections.**

### **History:**

The City of Charlottesville, Albemarle County Service Authority, and RWSA entered into the Ragged Mountain Dam Project Agreement in 2012. This Agreement included provisions to monitor the bathymetric capacity of the Urban water reservoirs as well as a requirement to conduct reoccurring demand analysis, demand forecasting and safe yield evaluations. This study will evaluate and calculate current and future demands and present safe yield. Per the project Agreement, these analyses shall be completed by calendar year 2020.

## **26. Urban Finished Water Infrastructure Master Plan**

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	50% complete
Completion:	April 2020
Approved Capital Budget:	\$253,000

### **Current Status:**

**Work on model development and calibration is on-going.**

### **History:**

As identified in the 2017 Strategic Plan, the Authority has a goal to plan, deliver and maintain

dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. Many previously identified projects in the urban finished water treatment and distribution system are in preliminary engineering, design or construction. As such, staff have identified a need to develop a current and ongoing finished water master plan.

## **27. South Rivanna River Crossing and North Rivanna Transmission Main**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2020
Project Status:	Planning
Construction Start:	2021
Completion:	2023
Approved Capital Budget:	\$5,340,000

### **Current Status:**

**Design of this project will begin in summer 2020.**

### **History:**

An update to the Airport Zone Study Report was completed in summer of 2018, confirming the need for and timing of the river crossing and transmission main. As work associated with the Route 29 Pump Station begins, improvements to the North Rivanna Transmission Main as needed to facilitate that project, will be included in that effort. RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 20 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the Airport Road Pump Station Site, RWSA plans to construct a new river crossing at the South Fork Rivanna River and two "gap" sections of 24-inch water main between the already completed sections. Much of the new water main route is within VDOT right-of-way; however, acquisition of right-of-way will be required at the river crossing and on the Kohl's Property at Hollymead Town Center.

## **28. South Rivanna Hydropower Plant Decommissioning**

Consultant:	Gomez and Sullivan
Project Start:	October 2016
Project Status:	Exemption Surrender Process – Phase 2 Underway
Construction Start:	2020
Completion:	2020
Approved Capital Budget:	\$725,000

### **Current Status:**

**A revised decommissioning plan was developed and distributed to local regulatory agencies to identify any issues prior to final submission to FERC. A consultation conference call with**

**regulatory agencies was held on August 7, 2019 and comments were received. The surrender application and conceptual decommissioning plan are being updated accordingly with submission to FERC anticipated for November 2019.**

History:

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. In December 2011, RWSA retained HDR to perform a mechanical and electrical equipment assessment and to provide recommendations for capital expenditures and continued operation. This assessment identified the need to perform a number of mechanical and electrical modifications to improve operation of the hydropower plant. On June 16, 2013, while the plant was down for testing associated with repairs to the speed reducer and generator, the powerhouse flooded during a heavy rainfall event. A post-flood inspection indicated that the rising water damaged the electrical equipment. In addition to electrical system issues, the turbine blades were “stuck” and inoperable prior to the flood event. Prior to beginning any rehabilitation work on the hydropower plant, it was determined that a feasibility study should be performed that reviewed previous recommendations and took into account interaction with the Federal Energy Regulatory Commission (FERC) to determine if it was cost effective for RWSA to rehabilitate the facility. The feasibility study was conducted by Gomez and Sullivan and concluded that rehabilitation of the facility would most likely not provide a return on investment based on current market conditions. Staff recommended that RWSA proceed with surrendering the exemption to licensure with FERC and decommission the facility. During the meeting on October 25, 2016, the Board of Directors agreed with the recommendation and staff began to proceed with the surrender process.

Work associated with the first phase of the exemption surrender process with Gomez and Sullivan and Van Ness Feldman was completed confirming with FERC what the next steps in the surrender process would include. A work authorization with Gomez and Sullivan for Phase 2 of the exemption surrender process was finalized in August 2017 and includes tasks to manage the local regulatory agencies consultation process and development of the surrender application and decommissioning plan.

A consultation document was provided to local regulatory agencies and a meeting was held on May 21, 2018 with the agencies to discuss the decommissioning process. Minor comments were provided by those agencies and development of the surrender application for submission to FERC was underway. As part of the application, a draft decommissioning plan was developed and was being reviewed by RWSA. Due to a significant wet weather event, returning the 72-inch diameter penstock to a reservoir drain was evaluated by Gomez and Sullivan and modifications to the decommissioning plan are being developed to incorporate that into the project.

**29. Upper Schenks Branch Interceptor, Phase II**

Design Engineer:	Frazier Engineering, P.A.
Project Start:	TBD
Project Status:	Alignment Analysis
Construction Start:	TBD
Completion:	TBD
Approved Capital Budget:	\$3,985,000



### **Current Status:**

**Additional subsurface exploration work was completed in September to gather rock information along the alignment in McIntire Road as well as across the ballfield. A final report is anticipated in October 2019.**

### **History:**

The Schenks Branch Sanitary Sewer interceptor is a pipeline operated by RWSA that serves the City of Charlottesville. The 21-inch sewer line was originally constructed by the City in the 1950s. Evaluations from the flow metering and modeling from the Comprehensive Sanitary Sewer Interceptor Study, and negotiations with the ACSA and City, resulted in an inflow and infiltration reduction plan from which it was concluded that increased capacity of the Schenks Branch Interceptor was needed for wet weather peak flow. Due to several road construction projects and the construction of the Meadow Creek Interceptor project along the sewer alignment, Schenks Branch was to be constructed in multiple phases. The completed sections, collectively known as the Lower Schenks Branch Interceptor, include the Tie-in to Meadow Creek, the section along McIntire Road Ext, and the section through the Route 250 Interchange.

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road, and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road or within McIntire Road. .

## **30. Asset Management Plan**

Design Consultant:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 1 – 99% Complete Phase 2 – Underway
Completion:	2020
Approved Capital Budget:	\$500,000

### **Current Status:**

**Development of an asset register, condition assessment protocols, and a pilot study of the asset management process in underway.**

### **History:**

Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. RWSA has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant has been procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class

of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant will also assist RWSA with the procurement of a software package to facilitate the overall program.

### **O&M Related Projects**

Staff is currently working on several O&M related projects within the water and wastewater systems as listed below:

#	Project Description	Total Approx. Value
35	NRWTP Raw Water Metering Improvements	\$135,000
36	NRWTP Sludge Lagoon Study and WTP Needs Assessment	\$60,100
37	MCAWRRF Cogeneration System Analysis	\$48,300

- **NRWTP Raw Water Metering Improvements**

The NRWTP is permitted to provide up to 2.0 MGD of potable drinking water to customers located in the Urban service area. After water is pumped from the raw water pump station on the North Fork Rivanna River, the raw water flow is metered by an orifice plate, or insert style meter, prior to entering the rapid mix chamber. The meter is located behind the existing powdered activated carbon feed system and is difficult to access. In addition, RWSA recognizes that the accuracy of this style of meter is reduced by laying length conditions in comparison to modern magnetic flow meters which have been installed at other locations. **RWSA is working with SEH to develop contract documents to have a magnetic flow meter installed on the raw water line in an exterior below grade vault. The schedule for bidding of this work will be dependent on the availability of funds.**

- **NRWTP Sludge Lagoon Study and WTP Needs Assessment**

The two lagoons or settling ponds at the plant are earthen basins designed to capture and hold residuals generated through the treatment process as well as periodic draining and washdown of the sedimentation and flocculation basins. The basins were designed to allow all the residuals and solids to settle out and then the clarified water to be decanted and conveyed to the river. The operational use of these lagoons is not as originally intended, and the Virginia Department of Environmental Quality has concerns regarding their condition. A study is being performed to determine how they can be improved, and other locations on site that may be less prone to flood waters. Under this project, a needs assessment at the plant will be also be performed and updated. **Completion of the needs assessment is anticipated by the end of September 2019. Construction activities associated with these improvements have been proposed in the FY 20 CIP.**

- **MCAWRRF Cogeneration System Analysis**

The MCAWRRF currently utilizes a cogeneration facility which accepts digester gas and uses it to create electricity and heat. The facility was put into operation in 2011. The generator supplies power back to the plant electrical distribution system providing energy usage savings through offsetting usage with the electric utility. Unfortunately, there have been a number of issues associated with operation of the generator including, expensive and proprietary maintenance services and temperature issues.

With a significant and expensive scheduled maintenance event forthcoming, RWSA wanted to conduct a study to determine if these issues could be resolved or if there was a more efficient way to utilize the digester gas. This study will evaluate options for improvements to the existing system or new systems that could be implemented along with estimated costs and returns on investment. A final report was submitted in February 2019, and RWSA is evaluating the alternatives. **Alternatives will be presented to the Board in October to replace, modify or eliminate the facility.**

## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: DAVE TUNGATE, DIRECTOR OF OPERATIONS**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: OPERATIONS REPORT FOR AUGUST 2019**

**DATE: SEPTEMBER 24, 2019**

### WATER OPERATIONS:

The average daily/monthly total water distributed for August 2019 was as follows:

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Total Monthly Production (MG)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
Observatory	1.56	48.30	2.16 (8/12/19)
South Rivanna	8.73	270.53	9.56 (8/05/19)
North Rivanna	<u>0.334</u>	<u>10.35</u>	0.585 (8/05/19)
<b>Urban Total</b>	10.62	329.18	11.67 (8/21/19)
Crozet	0.654	20.27	0.900 (8/06/19)
Scottsville	<u>0.049</u>	<u>1.53</u>	0.073 (8/16/19)
<b>RWSA Total</b>	11.32	350.98	---

- All RWSA water treatment facilities were in regulatory compliance during the month of August.

### Status of Reservoirs (as of September 16, 2019):

- Urban Reservoirs: 93.75% of Total Useable Capacity
- Ragged Mountain Reservoir is -1.67 feet (93 %)
- Sugar Hollow Reservoir is -5.52 feet (77 %)
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is -0.55 feet (96%)
- Totier Creek Reservoir is full (100%)

## **WASTEWATER OPERATIONS:**

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during August 2019 with the possible exception of Moores Creek AWRRF. Moores Creek laboratory reported three high final ammonia results on 8/19, 8/21, and 8/22. RWSA Staff notified DEQ of the results and are actively investigating the source of the high results. Performance of the WRRFs in August was as follows compared to the respective VDEQ permit limits:

<b>WRRF</b>	<b>Average Daily Effluent Flow (mgd)</b>	<b>Average CBOD<sub>5</sub> (ppm)</b>		<b>Average Total Suspended Solids (ppm)</b>		<b>Average Ammonia (ppm)</b>	
		<b>RESULT</b>	<b>LIMIT</b>	<b>RESULT</b>	<b>LIMIT</b>	<b>RESULT</b>	<b>LIMIT</b>
<b>Moores Creek</b>	9.3	<QL	11	<QL	22	3.3	2.2
<b>Glenmore</b>	0.087	3.0	15	3.0	30	NR	NL
<b>Scottsville</b>	0.047	2.0	25	2.0	30	NR	NL
<b>Stone Robinson</b>	0.002	NR	30	NR	30	NR	NL

NR = Not Required

NL = No Limit

<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moores Creek AWRRF were as follows for August 2019.

<b>State Annual Allocation (lb./yr.) Permit</b>		<b>Average Monthly Allocation (lb./mo.) *</b>	<b>Moores Creek Discharge August (lb./mo.)</b>	<b>Performance as % of monthly average Allocation*</b>	<b>Year to Date Performance as % of annual allocation</b>
<b>Nitrogen</b>	282,994	23,583	5,896	25%	44%
<b>Phosphorous</b>	18,525	1,544	868	56%	25%

\*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

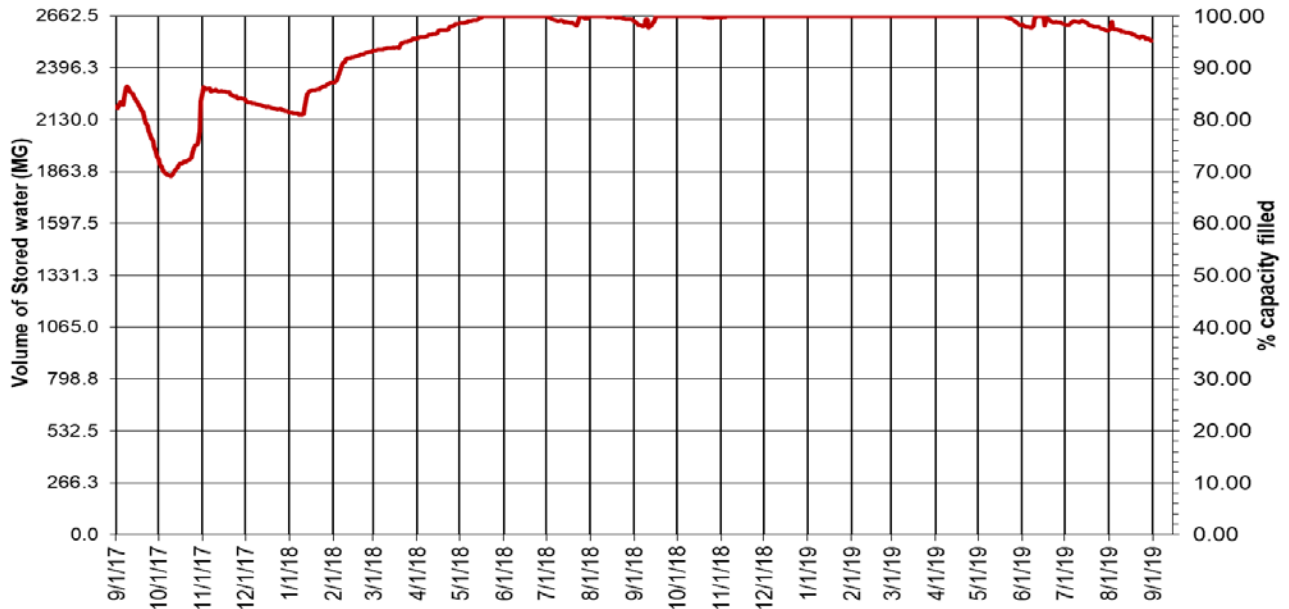
## **WATER AND WASTEWATER DATA:**

The following graphs are provided for review:

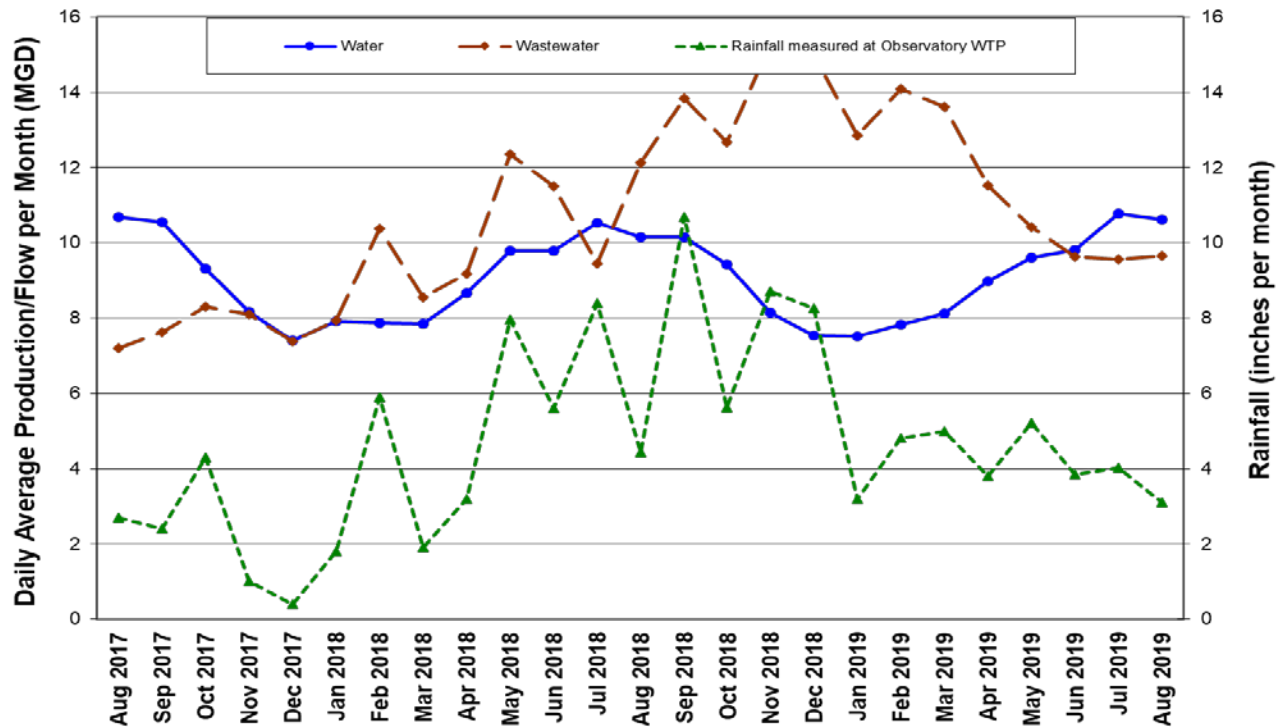
- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall

## Usable Urban Reservoir Water Storage

Maximum 2,662.5 MG after 5/1/19



## Urban Water and Wastewater Flows versus Rainfall



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: POSITION RECLASSIFICATION REQUEST – GROUNDS  
MAINTENANCE TO CIVIL ENGINEER**

**DATE: SEPTEMBER 24, 2019**

This request is to reclassify a currently vacant Grounds Maintenance position to a Civil Engineer position to best use this resource.

As part of our Strategic Plan efforts to Optimize Operations, we have evaluated use of a landscape contractor as compared to in-house staff to complete grounds maintenance tasks (primarily mow grass) at our facilities. Our review indicates there would be an estimated annual savings of \$28,000 depending upon the frequency of mowing, to have the contractor complete this work, as shown in the chart below. In-house staff will continue to provide grounds maintenance at Moores Creek to utilize our current inventory of equipment and provide building maintenance, snow removal, leaf collection and furniture setups. These tasks not routinely performed at other facilities.

Cost to Contract				Low	High				
No.	Dept.	Location	Unit Cost	Summer (4/1-11/10) (223 days)	Summer (4/1-11/10) (223 days)	Winter (11/11-3/31) (141 days)	Total Units	Total Cost Low (every 14 days)	Total Cost High (every 10 days)
1	W	Scottsville WTP	300	15.9	22.3	4	26.3	\$ 5,979	\$ 7,890
2	W	Scottsville Ground Storage Tank	50	15.9	22.3	4	26.3	\$ 996	\$ 1,315
3	WW	Scottsville WRRF	350	15.9	22.3	4	26.3	\$ 6,975	\$ 9,205
4	WW	Glenmore WRRF	200	15.9	22.3	4	26.3	\$ 3,986	\$ 5,260
5	WW	Crozet WWPS 1	75	15.9	22.3	4	26.3	\$ 1,495	\$ 1,973
6	WW	Crozet WWPS 2	75	15.9	22.3	4	26.3	\$ 1,495	\$ 1,973
7	WW	Crozet WWPS 3	75	15.9	22.3	4	26.3	\$ 1,495	\$ 1,973
8	WW	Crozet WWPS 4	50	15.9	22.3	4	26.3	\$ 996	\$ 1,315
9	WW	Albemarle Berkley PS	100	15.9	22.3	4	26.3	\$ 1,993	\$ 2,630
								<b>\$ 25,409</b>	<b>\$ 33,533</b>

<b><u>In-House Cost</u></b>					
			Low	Mid	High
Personnel Salary			\$ 26,765	\$ 35,597	\$ 44,429
Overhead Cost (Health, VRS, Etc.) (35%)			\$ 9,368	\$ 12,459	\$ 15,550
Equipment, Fuel, Lubricants, Parts			\$ 10,000	\$ 10,000	\$ 10,000
Total			<b>\$ 46,133</b>	<b>\$ 58,056</b>	<b>\$ 69,979</b>

<b><u>Cost Savings</u></b>			
Low Range		\$	<b>12,600</b>
Mid Range		\$	<b>28,585</b>
High Range		\$	<b>44,570</b>
Most Likely		\$	<b>25,829</b>

By using a contractor, we can eliminate one of our two Grounds Maintenance positions (one position is currently vacant). We can further leverage this optimization by reclassifying the vacant Grounds Maintenance position to a Civil Engineer position, which will reduce our costs for engineering consultants. Our group of 4 staff engineers has about 60 CIP, Preliminary Engineering, Operations & Maintenance, and Master Plan projects underway, as well as many recurring program responsibilities (Dam Safety, Development Review, Sewer Flow Metering, Meter Calibrations, Tank Inspections, Easement Clearing, Water/Sewer Line Repairs). One of our biggest challenges is in keeping all of these projects moving forward and on schedule. The net additional cost of a Civil Engineer position will be offset in our salary budget by vacancy savings.

**Board Action Requested:**

Authorization to reclassify a vacant Grounds Maintenance position to a Civil Engineer position.








RIVANNA SOLID WASTE AUTHORITY  
RIVANNA WATER & SEWER AUTHORITY



695 Moores Creek Lane  
Charlottesville, Virginia 22902-9016

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434.293.8858   
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## MEMORANDUM

**TO: RIVANNA SOLID WASTE AUTHORITY  
RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: GENERAL ADMINISTRATIVE PROCEDURES**

**DATE: SEPTEMBER 24, 2019**

As part of our Strategic Plan efforts to Optimize Operations, we have developed procedures to provide guidance to staff and to maintain consistent outcomes for several typical operational areas including:

- Control of Firearms and Ammunition
- Use of Rivanna Credit Cards
- Service Awards and Retirement Celebrations
- Business Meals and Refreshments
- Uniforms and Safety Shoes
- Emergency Food Supplies

These procedures will assist us in managing the appropriate use of our resources, maintain high standards of professional appearance, and support our security objectives. These procedures will supplement the Administrative Policies included in our Personnel Management Plan, as well as the procurement requirements of our Purchasing Manual. Additional procedures may be developed as our Strategic Planning process continues.

### **Board Action Requested:**




These General Administrative Procedures are being provided as information to the Boards of Directors of the RSWA and the RWSA.

Attachments



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## GENERAL ADMINISTRATIVE PROCEDURES

<b>Control of Firearms and Ammunition</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### **Purpose**

It is the intent of the Rivanna Authorities to maintain high standards of professional conduct, safety, security and customer service. Rivanna promotes the security of our employees, facilities and customers through the implementation of security policies, measures and enforcement required to maintain a safe environment. Our policies must be consistent with the laws established by the Commonwealth of Virginia. The laws of the Commonwealth allow public employers to adopt workplace rules for employees. The laws of the Commonwealth do not allow non-school public employers to adopt workplace rules applicable to the public who may lawfully come into the workplace.

### **Control of Firearms and Ammunition**

Employees are not permitted to carry, or to possess in a Rivanna vehicle, firearms or ammunition while on duty. This includes firearms for which employees have a lawful permit. Exceptions to this policy require prior written permission from the Executive Director.

Employees may store lawfully possessed firearms and ammunition in a locked private motor vehicle on Authority property. Firearms and ammunition must remain in the private vehicle while on Authority property.



## GENERAL ADMINISTRATIVE PROCEDURES

<b>Credit Cards</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### Purpose

Rivanna closely manages its financial resources to ensure they are utilized appropriately. All purchases must directly support Rivanna, and be completed in accordance with the Purchasing Manual. This procedure is to outline typical practices for minor operational expenditures.

### Credit Cards

Rivanna credit cards will be available for use by the Executive Director and the Director of Finance. Typical instances of when these cards may be used include:

- Permit fees, license renewals or other administrative fees and charges, when available to be paid online
- Conferences or training and any associated registration fees, travel, and lodging
- Office and educational supplies
- Business meals, refreshments, and emergency food supplies
- Urgent or Emergency purchases – IT hardware, errors in billing disrupting services, etc.

The credit card(s) are used mainly as a means of payment and do not bypass purchasing/purchasing requirements. Procurement requirements still rest within the Purchasing Manual and VPPA as amended. Transactions will normally be less than \$5000 for a single purchase. All charges to the credit card must be approved by the Executive Director or the Director of Finance via the **Credit Card Charge Form (see attached)**. Vendor receipt for the purchase must be submitted to the Accounts Payable office promptly supporting the charge to the credit card account.



## GENERAL ADMINISTRATIVE PROCEDURES

<b>Service Awards and Retirement Celebrations</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### **Purpose**

Celebrations honoring employees for time in service and retirement are a valid means of employee recognition and support our Strategic Plan goal of Workforce Development. At the same time, Rivanna Authorities must be good stewards of Authority funds. The following procedures will apply to all service awards and retirement celebrations utilizing Authority funds.

### **Service Awards**

As specified in our Personnel Management Plan, awards are presented for service in five-year increments. All awards are presented annually in a mass setting, typically on Employee Appreciation Day. Service awards will be based on \$10/year of service with Rivanna.

### **Retirements**

- Should typically be held on Authority property and combined within a Division whenever possible (monthly, quarterly, etc.).
- Gifts must be funded by contributions from employees or non-Rivanna sources.
- Celebration funding will be based on \$10/year of service with Rivanna.

If you have questions about the appropriateness of planned costs for an event, including the reasonable cost per person, please discuss them with your Division Director.



## GENERAL ADMINISTRATIVE PROCEDURES

<b>Business Meals</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### **Purpose**

Rivanna closely manages its financial resources to ensure they are utilized appropriately. All purchases must directly support Rivanna, and be completed in accordance with the Purchasing Manual. This procedure is to outline typical practices for minor operational expenditures.

### **Business Meals and Refreshments**

Business meals, typically a “boxed” lunch or food tray from a local vendor, are appropriate for certain instances to effectively conduct our business, and may be provided at Rivanna’s expense. The cost per person must be reasonable. Prior approval from a Division Director or the Executive Director is required. Typical instances of when business meals and refreshments may be appropriate include:

- For the interview/selection committee when presentations by vendors extend for most of the day as part of a procurement process.
- For the interview/selection committee to fill staff vacancies or promotions when the interviews extend for most of the day.
- For staff training which extends for most of the day.
- For special committee or informational meetings with multiple Divisions or outside partners, such as the ACSA or City.
- For Regional meetings we may host (i.e., NW Central Virginia Regional Utility Managers group).
- Internal and Regional Team Building events, including Employee Appreciation Day, the Holiday Luncheon, Administrative Professionals Day or special achievement events, along with staff departures, with approval by the Division Director.
- Meetings with Board Members, community businesses, or new employees, typically by the Executive Director or Division Directors.
- For service awards or retirement celebrations, in accordance with the Service Awards and Retirement Celebration Procedure.



## GENERAL ADMINISTRATIVE PROCEDURES

<b>Uniforms &amp; Safety Shoes</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### **Purpose**

It is the intent of the Rivanna Authorities to maintain high standards of professional conduct, safety, security and customer service. The customer's first impression of our organization is based on the appearance of our employees. It is very important for our employees to dress and conduct themselves professionally, and to be readily identifiable. Rivanna promotes this philosophy by providing employees with uniforms, shoes and safety equipment that are to be used in the performance of every employee's job. Our policy in providing and requiring the use of these items is as follows:

### **Uniforms**

Uniformed positions include all Maintenance, Water, Wastewater, Solid Waste, Engineering Technicians/Inspectors, Lab employees, as well as the Water Quality Specialist, Water Resources Manager, and the Safety Manager. This uniform procedure does not apply to Directors.

Maintenance, Water, Wastewater, and Solid Waste employees are required to wear Rivanna issued uniform pants and shirts at all times during their work shifts, including during training events. If outer garments and hats are worn, these employees are required to wear Rivanna logo garments and hats. These employees are required to wear safety shoes at all times during their shifts.

Engineering Technicians/Inspectors are required to wear Rivanna shirts, but not pants, including during training events. If outer garments and hats are worn, these employees are required to wear Rivanna logo garments and hats. These employees are required to wear safety shoes at all times when working in the field.

Lab employees, the Water Quality Specialist, Water Resources Manager, and the Safety Manager are required to wear Rivanna shirts, but not pants, when working in the field for planned events. If outer garments and hats are worn when working in the field for planned events, these employees are required to wear Rivanna logo garments and hats. These employees are required to wear safety shoes at all times when working in the field.

Uniforms must be kept neat and clean. If an employee's uniform has missing patches, becomes permanently stained, torn, damaged, worn or no longer fits properly, replacement uniforms will be issued. The employee must turn in damaged, worn or ill-fitting uniforms to receive replacement uniforms using the proper process and approvals.

## GENERAL ADMINISTRATIVE PROCEDURES

Employees must wear uniform pants with a belt provided by the employee. Uniforms must be worn as designed, i.e. pants at waist level, and rental uniform shirts tucked in. No personal clothes may be altered by adding the Rivanna logo and worn as a substitute for Rivanna uniforms. In addition, the following examples are not acceptable while a uniformed employee is working, including attending training:

- Novelty shirts that can be seen through the uniform shirt,
- Shorts in lieu of uniform pants,
- Footwear other than approved safety shoes,
- Stained or badly soiled uniforms (upon arriving for the day),
- Uniforms with cut off sleeves or pant legs,
- Uniforms with frayed pants legs or shirt sleeves,
- Uniforms with missing Rivanna logo patches,

Employees must maintain professional conduct while wearing their uniform, even when off duty, and should not routinely wear their uniform when off duty. Any employee that reports to work and is not wearing the required uniform, including footwear, may be sent home to change. Time away from work for this purpose will be unpaid. Additional offenses will result in progressive disciplinary actions that may include suspension without pay and termination of the employee. No time will be allowed during the normal work hours to change into or out of uniforms. Additional shirts may be provided to establish an adequate initial supply.

### **Rental Uniforms**

Upon initial employment, where applicable, the Department will provide 11-pair of pants and 11-shirts. It is the responsibility of each employee to ensure his or her dirty laundry is returned to the laundry bins each week. Dirty laundry pick-up, and the return of clean uniforms (dropped of the previous week for service), will be provided by the service supplier weekly.

### **Knit Shirts and T-Shirts**

Knit shirts and T-shirts may be provided for uniformed staff, if approved by the Division Director. These shirts must have a readily visible Rivanna logo. Non-uniformed staff will be eligible for two knit shirts per year, which can be replaced if they become unsightly or no longer fit properly, and may be worn on a daily basis, as well as to conferences, seminars, functions with consultants, vendors, or the public (public meetings), when appropriate.

In accordance with the goals of our Uniform Procedure, these shirts must maintain the professional appearance of our employees, and clearly identify our employees for security reasons.

### **Safety Shoes**

Upon being hired, uniformed and other authorized employees will be issued a voucher for the purchase of one pair of safety shoes. Safety shoes will be worn by most employees whose jobs

## GENERAL ADMINISTRATIVE PROCEDURES

involve working in the field or in a plant. The need for safety shoes in other positions is determined by the Department Manager. Employees must select safety shoes appropriate for their job duties. Employees who work with instrumentation and electrical equipment will wear shoes that are also rated for electrical hazard (EH Rated). All Rivanna Solid Waste Authority employees will wear shoes that are puncture resistant.

RWSA employees will be issued a voucher for \$125 each fiscal year (beginning July 1<sup>st</sup>). If an employee does not need to replace their safety shoes, they may forgo their annual voucher and accrue up to \$250 over two years for safety shoes. This is the maximum amount they are allowed to accrue.

RSWA employees will be issued a voucher for \$190 each fiscal year (beginning July 1<sup>st</sup>). If an employee does not need to replace their safety shoes, they may forgo their annual voucher and accrue up to \$250 over two years for safety shoes. This is the maximum amount they are allowed to accrue.

All safety shoe vouchers are issued by Accounts Payable. Employees must return their receipts for the purchase of safety shoes to Accounts Payable.

Employees who feel their most recently issued safety shoes are in need of replacement should see their Department Manager to have their safety shoes inspected and a replacement approved. Employees will incur no costs for the safety shoes which are required to be worn while employed by Rivanna, except under the following conditions:

- The employee will be responsible for the replacement of the safety shoes if the safety shoes which are issued to the employee by Rivanna are lost, abused or there is evidence of deliberate mistreatment of the shoes by the employee.
- If the employee selects a pair of safety shoes that exceeds the cost allowance set by Rivanna, then the employee will be required to pay the difference in cost.
- If the employee cannot purchase proper fitting footwear from one of the two retailers that Rivanna uses for safety shoes (Super Shoes and Red Wing Shoes), consideration can be given to use an alternate vendor. This will be considered on an individual basis. Authorization must be provided by the Department Manager. The cost allowance will remain the same and the employee will have to pay any cost that is over the allowance amount.

All employees are required to wear their safety shoes when in any Rivanna Water and Sewer plant, while working at any Rivanna Solid Waste facilities, while doing any field work for the Rivanna Authorities, and in any other circumstance where foot protection is warranted.





## GENERAL ADMINISTRATIVE PROCEDURES

<b>Emergency Food</b>	Prepared By: Rivanna Authorities Executive Director
Approved By: Bill Mawyer, Executive Director	Approval Date: September 4, 2019

### **Purpose**

Rivanna closely manages its financial resources to ensure they are utilized appropriately. All purchases must directly support Rivanna, and be completed in accordance with the Purchasing Manual. This procedure is to outline typical practices for minor operational expenditures.

### **Emergency Food**

Several Divisions, typically Operations and Engineering/Maintenance, are required to maintain a reasonable stock of food to support staff when required to work emergency situations, such as during a storm (hurricane, tropical storm, snow, ice, wind, natural disaster) or manmade disaster. Purchase and use of the emergency food shall be as follows:

- A stock of nonperishable food shall be maintained at all times throughout the year
- Food shall be consumed only during emergency periods as designated by the Division Director
- Food may be used, if possible, for a regularly scheduled staff function immediately before the food expires.
  - If there is no regularly scheduled staff function, the food shall be disposed of when expired.



RIVANNA SOLID WASTE AUTHORITY  
RIVANNA WATER & SEWER AUTHORITY



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## MEMORANDUM

**TO:** RIVANNA WATER & SEWER AUTHORITY  
RIVANNA SOLID WASTE AUTHORITY  
BOARD OF DIRECTORS

**FROM:** JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND  
MAINTENANCE

**REVIEWED BY:** BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT:** AWARD OF NONPROFESSIONAL SERVICES CONTRACT:  
ON-CALL DAM MAINTENANCE SERVICES,  
BANDER SMITH INC

**DATE:** SEPTEMBER 24, 2019

The Rivanna Water and Sewer Authority (RWSA) and Rivanna Solid Waste Authority (RSWA) own and operate six regulated dams and four small unregulated dams. Neither the RWSA Maintenance and Water Departments nor RSWA staff have the resources or expertise necessary to perform tree removal, complex maintenance, or repair work that occurs periodically on RWSA's and RSWA's dams, or to address all possible emergency situations associated with these structures. In the past, these services have been procured via competitive sealed bid or request for quotes, but it was determined as part of a recent review of this process that having "on-call" contractors under contract for this purpose, with general provisions such as insurance, indemnification, and unit price compensation, could speed up response during routine and emergency situations. As a result, RWSA and RSWA issued a joint Request for Proposals (RFP) with the intent to augment the capabilities of our existing staff in order to respond to dam emergencies or complete complex small-scale repairs. Large scale repairs and modifications to dam structures will continue to be procured via competitive sealed bid.

The RFP was developed and advertised on August 1, 2019 and proposals were due on August 22, 2019. As part of the procurement process, competitive negotiation was utilized as the procurement method for this contract. Due to the nature of dealing with critical dam infrastructure in remote or difficult locations, it is critical to review a contractor's qualifications and references to confirm capabilities and the satisfaction of other owners who have worked with the contractor in similar situations. This method would allow RWSA and RSWA to evaluate not only the firm's experience, capabilities and availability, but also the management approaches and key personnel. In addition, this approach would still allow RWSA and RSWA to factor price into the decision-making process, but not use it as the sole determining factor.

On August 22, 2019 one proposal was received from Bander Smith, Inc. Based on the qualifications of the firm and the proposed project team, responsiveness to the scope of services,

professional competence, qualifications, competitive labor rates, depth of key personnel, and extensive experience with similar projects, including several successful projects completed for RWSA; it was determined that RWSA and RSWA would proceed with awarding a contract to Bander Smith.

**Board Action Requested:**

Staff requests that the Board of Directors authorize the Executive Director to execute a contract with an initial term of two (2) years with options to annually renew the contract following the initial term for a total term not to exceed five (5) years with Bander Smith, Inc. for on-call dam maintenance services.

Staff also requests that the Board of Directors authorize the Executive Director to execute work authorizations under these contracts as needed when the estimated price of a specific repair is less than \$100,000, and to execute work authorizations in estimated amounts exceeding \$100,000 with notification of the Board when an emergency purchase is declared by the Executive Director pursuant to Section XVI of the Procurement Manual.



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND  
MAINTENANCE**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: AUTHORIZATION OF PROFESSIONAL ENGINEERING  
SERVICES FOR THE ROUTE 29 WATER PUMP STATION AND  
WATER MAIN PROJECT – SHORT ELLIOT HENDRICKSON  
ENGINEERS**

**DATE: SEPTEMBER 24, 2019**

The Route 29 Pipeline and Pump Station master plan was developed in 2007. The plan originally envisioned a multi-faceted project that reliably connected the North and South Rivanna water pressure bands, reduced excessive operating pressures, and developed a new Airport water pressure zone to better serve higher elevations located near the Airport and Hollymead Town Center. The master plan was updated in 2018 to reflect current changes in the system and water demands. This project, along with the associated water mains, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be designed to serve system demands at the current high pressure, and will be expandable to address future low-pressure conditions that will include a storage tank and the creation of the Airport pressure zone.

In order to take this project from the master planning phase through construction, staff has negotiated a scope, fee and schedule with SEH under the firm's term contract to perform preliminary engineering, final design, bidding, and construction administration services for the Route 29 Water Pump Station and Water Main Project.

### **Board Action Requested:**

Staff requests the Board of Directors to authorize the Executive Director to execute a work authorization with Short Elliot Hendrickson for preliminary engineering, final design, bidding, and construction administration services for the Route 29 Water Pump Station and Water Main Project, for an amount not to exceed \$470,000, and any amendments needed to complete the design, bidding, and construction administration of the improvements identified above, not to exceed 10% of the original contract amount.



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: APPROVAL OF THE “OBSERVATORY WATER TREATMENT  
PLANT, RAW WATER PUMPING AND PIPING UPGRADE COST  
AND CAPACITY ALLOCATION AGREEMENT”**

**DATE: SEPTEMBER 24, 2019**

This request is to approve a new “Observatory Water Treatment Plant, Raw Water Pumping and Piping Upgrade Cost and Capacity Allocation Agreement” to allocate increased capacity costs to the City and the ACSA.

The Four Party Agreement of 1973 and the “December 1, 2003 Agreement” require RWSA to allocate any additional water capacity, and the cost to construct the additional capacity, to the party which will benefit from the additional capacity. While the majority of the costs for the upcoming Observatory Water Treatment Plant Upgrade CIP project will be for renovations (\$22.5 M), a portion of the work will increase treatment capacity from 7.7 to 10 MGD for an estimated cost of \$2.95 M. Further, additional CIP projects are planned to replace the raw water pumping stations (\$4.8 M total cost) and the raw water piping (\$13.2 M total cost) located between the Ragged Mtn Reservoir and the Observatory Water Treatment Plant. Those projects will provide additional pumping and piping capacity costing an estimated \$3.4 M and \$3.3 M, respectively. Accordingly, the proposed Agreement has been developed which allocates 48% of the additional capacity cost for the Observatory WTP and raw water piping project to the City, and 52% to the ACSA. Further, the proposed Agreement allocates 28% of the combined capacity and non-capacity costs for the pump stations to the City, and 72% to the ACSA. The ACSA Executive Director and the City’s Director of Public Utilities, our attorney, and I have worked to develop the terms of this Agreement over the last year. Costs to the City and ACSA will be allocated annually in our Debt Service charges for Capital Improvement Projects. After consideration by the RWSA Board today, the City Council and the ACSA Board will be asked to consider the Agreement.

Board Action Requested:

Recommend approval of the “Observatory Water Treatment Plant, Raw Water Pumping and Piping Upgrade Cost and Capacity Allocation Agreement”.

Attachment

**OBSERVATORY WATER TREATMENT PLANT,  
RAW WATER PUMPING AND PIPING UPGRADE  
COST AND CAPACITY ALLOCATION AGREEMENT**

This OBSERVATORY WATER TREATMENT PLANT, RAW WATER PUMPING AND PIPING UPGRADE COST AND CAPACITY ALLOCATION AGREEMENT (this “Agreement”) is made for purposes of identification this \_\_\_\_ day of \_\_\_\_\_, 2019, by and between the CITY OF CHARLOTTESVILLE, Virginia, a municipal corporation (the “City”), the ALBEMARLE COUNTY SERVICE AUTHORITY, a public body politic and corporate (“ACSA”) and the RIVANNA WATER and SEWER AUTHORITY, a public body politic and corporate (“RWSA”).

WITNESSETH:

A. RWSA owns and/or operates facilities for the receipt and treatment of potable water pursuant to the terms of a Four Party Agreement dated June 12, 1973, among the City, RWSA, ACSA, and the Board of Supervisors of Albemarle County, Virginia (the “Four Party Agreement”) and several supplementary agreements.

B. Pursuant to Section 4.3 of the Four Party Agreement, the City and ACSA have agreed upon a project, not contemplated by their previous agreements, for upgrade and expansion of the water production capacity of the Observatory Water Treatment Plant from 7.7 million gallons per day (“mgd”) to 10 mgd, as well as replacement and upgrade of the raw water pump stations and pipelines between the Ragged Mountain Reservoir and the Observatory Water Treatment Plant (the “Project”), and thereby increase the water production capacity of RWSA’s urban water system (the “Urban Water System”). The Urban Water System consists of all water related facilities within or serving the City of Charlottesville and the urban growth area of

Albemarle County surrounding the City of Charlottesville, including water plants and all reservoirs, pipelines, pumping stations, storage tanks and other appurtenances connected to water plants and operated by RWSA.

C. The City, ACSA and RWSA are parties to an agreement dated December 1, 2003 (the “December 1, 2003 Agreement”) regarding the allocation of expenses for a water supply project to increase the safe-yield provided by the Urban Water System by raising the elevation of the South Fork Rivanna Reservoir. RWSA never constructed this project, however, since 2003 RWSA has allocated costs to the City and ACSA for water supply projects to increase safe yield (as opposed to costs for water treatment capacity related projects) based upon the December 1, 2003 Agreement’s agreed upon percentages of 27% to the City and 73% to ACSA, with the exception of the water supply project costs for those projects identified in the Ragged Mountain Dam Project Agreement dated as of January 1, 2012 by and among the City, ACSA and RWSA, the costs of which were allocated between the City and ACSA pursuant to the Water Cost Allocation Agreement dated as of January 1, 2012 by and among the City, ACSA and RWSA (the “Water Cost Allocation Agreement”), entered into as part of the Ragged Mountain Dam Project Agreement dated as of January 1, 2012 by and among the City, ACSA and RWSA (the “Ragged Mountain Dam Project Agreement”).

D. Paragraph 4 of the December 1, 2003 Agreement provides for the allocation of RWSA’s Urban Water System Plants’ capacity by allocating 48% of such capacity to the City and 52% of such capacity to ACSA, and provides further that these respective percentages shall be used for the allocation of all non-capacity expansion related charges imposed by RWSA, including future non-capacity related projects for the Urban Water System.

E. Paragraph 5 of the December 1, 2003 Agreement provides that if any improvements increase capacity (as opposed to safe-yield) of the Urban Water System, the City and ACSA will negotiate a new cost sharing and capacity allocation agreement as a result of the increased capacity.

F. The Water Cost Allocation Agreement did not address cost allocation for new projects which would result in increased capacity of the Urban Water System.

G. The Project consists primarily of improvements not related to capacity increase with costs preliminarily estimated at \$25.5 million for the plant upgrades, \$4.8 million for pump stations replacement and \$13.2 million for piping, of which only \$2.95 million, \$3.4 million and \$3.3 million, respectively, are estimated as being related to capacity increase.

H. As a primarily non-capacity related project, RWSA has been allocating Project costs to the City and ACSA on the basis of Paragraph 4 of the December 1, 2003 Agreement with 48% of such costs allocated to the City and 52% of such costs allocated to ACSA.

I. The City and ACSA have now reached agreement on future cost allocation for the non-capacity related and capacity related costs of the Project and the allocation of the increased capacity of the Urban Water System expected to result from the Project.

J. The parties recognize that the infrastructure improvements to the Observatory Water Treatment Plant and the raw water lines supplying the plant must be coupled with a future finished water distribution pipe in order to receive the benefits of updating the plant and raw water supply lines in order to build redundancy into the Urban Water System and allow RWSA to provide continuously reliable service.

K. RWSA has commenced an Urban Finished Water Infrastructure Master Plan as part of its capital improvements program which will identify one or more locations for a finished water distribution line from the Observatory Water Treatment Plant in lieu of completion of the Eastern



Branch Phase of the extension of the water transmission system originally identified in the Agreement dated October 26, 1987 between RWSA, the City and ACSA (the “Southern Loop Agreement”).

AGREEMENT:

NOW THEREFORE, for and in consideration of the premises and other good and valuable consideration, the receipt of all of which is hereby acknowledged, the City, ACSA and RWSA agree as follows:

1. RWSA’s Urban Water System water treatment plants (the “Urban Water System Plants”) currently have a production capacity of 21.7 mgd of potable water. The Project is expected to provide an additional 2.3 mgd of production capacity in the Observatory Water Treatment Plant, and a total production capacity of 24 mgd in the Urban Water System Plants.

2. The City and ACSA agree that following completion of the Project, RWSA’s expected Urban Water System Plants’ capacity of 24 mgd will be allocated 48% to the City (11.5 mgd) and 52% to ACSA (12.5 mgd); and each shall pay these respective percentages of all non-capacity expansion related charges imposed by RWSA, including future non-capacity related projects for the Urban Water System.

3. Effective [July 1, 2019], the City and ACSA agree that all costs for the Project, whether capacity related or not capacity related, with the exception of the capacity related portion of the pump stations replacement as set forth in Paragraph 4 below, will be shared with 48% of such costs continuing to be allocated to the City and 52% of such costs continuing to be allocated to ACSA. All costs incurred by RWSA for the Project, whether capacity related or not capacity related, for work performed or debt service owed for periods prior to July 1, 2019, irrespective of when invoiced or paid, have been allocated to the City and ACSA using these same allocation

percentages for non-capacity related projects set forth in Paragraph 4 of the December 1, 2003 Agreement. Costs for work performed and debt service owed related to the Project include the budgeted costs of engineering, construction, legal and land costs, administrative costs, permit fees, debt service (including anticipated debt service in the period before bonds are issued or loans are obtained to finance the Project), and establishment of reserves and related expenses (hereinafter collectively referred to as the “Debt Service Charges”). RWSA’s water rates have been determined and calculated, and continue to be determined and calculated, as provided in Article VII of the Four-Party Agreement, as amended by Amendment No. 1 to Agreement dated as of October 27, 2015 by and among the City, ACSA, the Board of Supervisors of Albemarle County and RWSA (“Amendment No. 1”), and as provided in the Working Agreement on Urban Area Wholesale Flow Allocation and Billing Methodology dated January 24, 1983 by and among RWSA, ACSA and the City.

4. The capacity related portion of the cost for the pump stations replacement will be shared by allocating 20% of such cost to the City and 80% of such cost to ACSA. The non-capacity related portion of the cost for the pump stations replacement will be shared by allocating 48% of such cost to the City and 52% of such cost to ACSA as provided in Paragraph 3 above, as previously agreed to by the City and ACSA pursuant to Paragraph 3 of the Water Cost Allocation Agreement for pumping facilities under the SRR-RMR Pipeline project (as such term is defined in Paragraph 1(d) of the Ragged Mountain Dam Project Agreement). Based upon the estimated costs of the pumping stations replacement set forth in Recital G above, combining the capacity related and non-capacity related portions of such costs results in an allocation of 28% of such costs to the City and 72% of such costs to ACSA.

5. If any future non-capacity related projects result in an increase in capacity of any of the Urban Water System Plants, the City and ACSA will negotiate a new cost sharing and capacity allocation agreement as a result of the increased capacity. If any future non-capacity related projects result in a decrease in capacity of any of the Urban Water System Plants, the resulting capacity shall be allocated to the City and ACSA proportionally according to the 48%/52% allocation set forth herein.

6. RWSA shall be responsible for all aspects of the design, easement acquisition and construction of the Project.

7. The City and ACSA will continue to pay for routine labor, chemicals, supplies, power, and other operational costs associated with water production in the Urban Water System on the basis of their respective percentage volume use as set out in the Four Party Agreement, as supplemented by (i) Joint Resolution adopted in January 1983 (as such resolution was clarified by Resolution of the Albemarle County Service Authority dated March 17, 1983, and by Resolution of the Charlottesville City Council dated May 2, 1983, and modified by Joint Resolution adopted in December, 1983), (ii) Working Agreement on Urban Area Wholesale Flow Allocations and Billing Methodology dated January 24, 1983; and (iii) Agreement dated October 26, 1987, relating to the operation of the RWSA's Urban Water System and the division of RWSA's operational costs between the City and ACSA, and as amended by Amendment No. 1.

8. The City and ACSA agree that an additional finished water distribution line, in lieu of the Eastern Branch Phase previously agreed to pursuant to the Southern Loop Agreement, to be located more centrally through the City of Charlottesville and the exact location of which will be identified by RWSA upon completion of the Urban Finished Water Infrastructure Master Plan, is necessary in order to receive the benefits of updating the Observatory Water Treatment Plant and

raw water supply lines in order to build redundancy into the Urban Water System and to allow RWSA to provide continuously reliable service. The City and ACSA agree to cooperate fully to insure the additional finished water distribution line is constructed expeditiously to be completed as nearly as possible with the completion of the Project.

Witness the following duly authorized signatures and seals:

CITY OF CHARLOTTESVILLE

By: \_\_\_\_\_  
Mayor

ALBEMARLE COUNTY SERVICE AUTHORITY

By: \_\_\_\_\_  
Chairman

RIVANNA WATER AND SEWER AUTHORITY

By: \_\_\_\_\_  
Chair

COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2019, by \_\_\_\_\_, as Mayor of the City of Charlottesville, Virginia.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2019, by \_\_\_\_\_, as Chairman of the Albemarle County Service Authority.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

COMMONWEALTH OF VIRGINIA  
CITY/COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 2019, by \_\_\_\_\_, as Chair of the Rivanna Water and Sewer Authority.

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: DAVID TUNGATE, DIRECTOR OF OPERATIONS**

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: BIOSOLIDS DISPOSAL ALTERNATIVES**

**DATE: SEPTEMBER 24, 2019**

As part of our Strategic Plan efforts to Optimize Operations, this presentation will review our existing biosolids disposal / composting program, on which we spend \$600,000 – \$700,000 annually, and offer alternatives for the future disposal of biosolids (composting, land application, landfilling) and the anticipated costs.

The Moores Creek Advanced Resource Recovery Facility produces approximately 14,000 tons of biosolids a year. Biosolids are the nutrient rich organic solids that are made when sewage sludge is dewatered. The Moores Creek facility uses a centrifuge to dewater the sewage sludge. These biosolids are hauled 120 miles to McGill Environmental in Waverly, VA and are converted into a commercially available compost product.

There are three biosolids disposal alternatives, with varying costs:

1. Continue to haul them to the compost facility in Waverly, VA.
2. Contract with a full service biosolids disposal contractor that would do any of the following depending on the weather; compost, apply them on biosolids designated lands, or landfill the biosolids.
3. Haul the biosolids to a landfill.

Future Alternatives	Estimated Cost/Ton	Estimated Annual Savings
Compost	\$50	\$0
Land Apply / Landfill	\$30-\$35	\$245,000
Landfill Only	\$35-\$40	\$175,000

### **Board Action Requested:**

Staff requests guidance from the Board of Directors on acceptable biosolids disposal options.

# Biosolids Disposal Alternatives

as part of our  
Strategic Plan Goal: Operational Optimization

Presented to the RWSA Board of Directors

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BY: DAVID TUNGATE, DIRECTOR OF OPERATIONS  
SEPTEMBER 24, 2019







Moores Creek Advanced Wastewater Resource Recovery Facility



# What are biosolids?

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- Biosolids are nutrient-rich organic materials resulting from the treatment of domestic sewage.
- When treated and processed, biosolids can be recycled as fertilizer to improve and maintain productive soils and stimulate plant growth.
- Biosolids are treated sewage sludge.
- Virginia DEQ regulates sewage sludge and biosolids including the land application program.



# Sewage Sludge in Aeration Basin





# Anaerobic Sludge Digesters 1-3





# Sludge Dewatering Centrifuge



# Biosolids in Transport Trailer



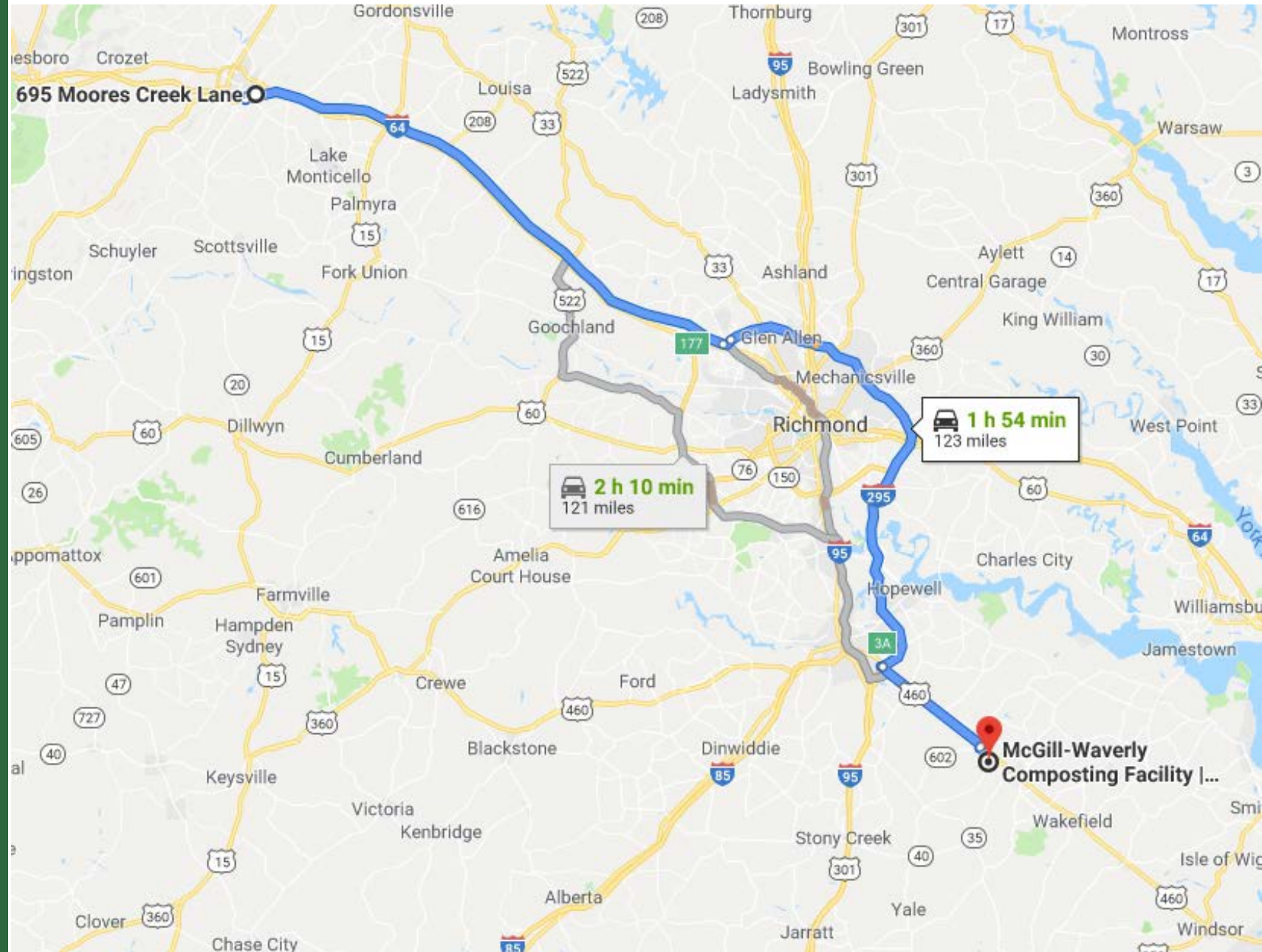
# Biosolids

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- RWSA produces approximately 14,000 tons of Class B biosolids annually
- Class B biosolids have higher levels of detectable pathogens than Class A biosolids
- Biosolids are transported to McGill Environmental in Waverly, VA (120 miles). Contract expires in January 2020.
- Annual transportation and disposal cost: \$600,000 to \$700,000



# Current Biosolids Disposal Location



# Biosolids Disposal Alternatives

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1. Continue to use McGill Environmental or another compost facility
2. Contract with a full service disposal provider that offers any combination of the following:
  - Composting
  - Land application
  - Landfilling
  - Incineration
3. Landfill only



# Biosolids Transportation & Disposal Costs

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Year	Tons	Cost	Cost/Ton
2017	12,945	\$607,723	\$46.95
2018	14,717	\$713,209	\$48.46

Future Alternatives	Estimated Cost/Ton	Estimated Annual Savings
Compost	\$50	\$0
Land Apply / Landfill	\$30-\$35	\$245,000
Landfill Only	\$35-\$40	\$175,000

# Questions?

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## Request:

- Guidance on acceptable biosolids disposal alternatives, as we re-procure this service



## MEMORANDUM

**TO: RIVANNA WATER & SEWER AUTHORITY  
BOARD OF DIRECTORS**

**FROM: BILL MAWYER, EXECUTIVE DIRECTOR**

**SUBJECT: APPROVAL OF A “JOINT RESOLUTION” TO TERMINATE THE  
BUCK MOUNTAIN SURCHARGE**

**DATE: SEPTEMBER 24, 2019**

This request is to approve a new “Joint Resolution” to terminate the Buck Mountain Surcharge implemented in 1983. The surcharge was to fund some of the cost to purchase the Buck Mountain property, located near Free Union in Albemarle County. The intended purpose of the property was to construct a community water supply reservoir. To terminate the surcharge, this Resolution must be approved by the Bond Trustee, the RWSA Board, City Council, the Albemarle County Board of Supervisors and the Board of Directors of the Albemarle County Service Authority (ACSA).

In a “Joint Resolution” of 1983, the City and the ACSA requested the RWSA to purchase the property for the proposed Buck Mountain Reservoir. The City and the ACSA also agreed to collect a surcharge for each new water service connection in the City and in the urban water area of the county. Those funds were allocated to the RWSA to help pay for the bonds used to finance the purchase of the property. From 1984 – 1987, RWSA purchased 1313 acres totaling \$6.95 M for the reservoir site. While the reservoir was never constructed due to the presence of the James Spiny mussel, a state and federally-listed endangered species, 600 acres of the property were preserved in 2013 to mitigate the environmental impacts of the Ragged Mountain Dam project.

This Resolution states that the parties have agreed that it is no longer necessary to collect this surcharge to pay the long-term debt financing for purchase of the property. The Bond Trustee has indicated termination of the surcharge will be approved. After consideration by the RWSA Board today, the City Council, the Albemarle County Board of Supervisors and the Board of Directors of the Albemarle County Service Authority will be asked to approve this “Joint Resolution”. The surcharge will terminate for both the City and the ACSA upon the last approval by the parties.

**Board Action Requested:**

Recommend approval of the “Joint Resolution” to terminate the Buck Mountain Surcharge.

Attachment

## JOINT RESOLUTION

WHEREAS, the Rivanna Water and Sewer Authority ("Rivanna") was formed in 1972 by a joint resolution of Albemarle County and the City of Charlottesville for the purpose of maintaining facilities to supply drinking water to both communities under terms set out in the "Four Party Agreement" dated June 12, 1973 among the City, the County, the Albemarle County Service Authority, and Rivanna; and

WHEREAS, pursuant to Section 4.3 of the Four Party Agreement, Rivanna, at the request of the City and the County, purchased certain land in the County of Albemarle for the purpose of building a reservoir on Buck Mountain Creek; and

WHEREAS, the purchase of such land was financed with the issuance of bonds by Rivanna; and

WHEREAS, pursuant to a Joint Resolution adopted by the Albemarle County Board of Supervisors on January 5, 1983, the Charlottesville City Council on January 18, 1983, the Albemarle County Service Authority (the "Service Authority") on March 17, 1983 and the Rivanna Water and Sewer Authority on January 10, 1983, the City and the Service Authority were directed, beginning July 1, 1983, to collect a surcharge for each new water service connection in the City and in the urban water area of the County, respectively and remit such surcharges to Rivanna for the purpose of paying the debt incurred under the bonds; and

WHEREAS, the Joint Resolution provided that that obligation of the City and the Service Authority to collect the surcharge would terminate upon the retirement of the long-term debt financing incurred by Rivanna for the land acquisition; and

WHEREAS, the bonds issued by Rivanna were subsequently refinanced with bonds issued by Rivanna for other projects; and

WHEREAS, as a result of such refinancings it cannot be determined exactly when such long-term debt financing for the land acquisition has been retired; and

WHEREAS, the parties have agreed that it is no longer necessary to collect such surcharge in order to pay the long-term debt financing under such refinanced bonds;

NOW, THEREFORE, BE IT JOINTLY RESOLVED BY ALBEMARLE COUNTY, THE CITY OF CHARLOTTESVILLE, THE ALBEMARLE COUNTY SERVICE AUTHORITY, AND THE RIVANNA WATER AND SEWER AUTHORITY, as follows:

1. The obligation of the City and the Albemarle County Service Authority under the Joint Resolution to collect the surcharge for each new water service connection in the City and in the urban water area of the County and remit such surcharges to the Rivanna Water and Sewer Authority shall be terminated upon the last to occur of (i) approval of this Joint Resolution by Albemarle County, the City of Charlottesville, the Albemarle County Service Authority and the Rivanna Water and Sewer Authority, and (ii) approval of such termination by the bond trustee.

ATTEST:

ADOPTED BY THE BOARD OF SUPERVISORS  
OF THE COUNTY OF ALBEMARLE

\_\_\_\_\_  
Date

\_\_\_\_\_  
Clerk

\_\_\_\_\_  
Chairman

ATTEST:

ADOPTED BY THE COUNCIL OF THE CITY  
OF CHARLOTTESVILLE

\_\_\_\_\_  
Date

\_\_\_\_\_  
Clerk

\_\_\_\_\_  
Mayor

ATTEST:

ADOPTED BY THE ALBEMARLE COUNTY  
SERVICE AUTHORITY

\_\_\_\_\_  
Date

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Chairman

ATTEST:

ADOPTED BY THE RIVANNA WATER AND  
SEWER AUTHORITY

\_\_\_\_\_  
Date

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Chairman

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