



Board of Directors Meeting

September 28, 2021

2:15pm



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970 

434.293.8858 

www.rivanna.org 

BOARD OF DIRECTORS

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

DATE: September 28, 2021

LOCATION: Virtually via ZOOM

TIME: 2:15 p.m.

AGENDA

1. CALL TO ORDER

2. STATEMENT FROM THE CHAIR

3. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on August 24, 2021

4. RECOGNITION

5. EXECUTIVE DIRECTOR'S REPORT

6. ITEMS FROM THE PUBLIC

7. RESPONSES TO PUBLIC COMMENTS

8. CONSENT AGENDA

a. Staff Report on Finance

b. Staff Report on Operations

c. Staff Report on Ongoing Projects

d. Staff Report on Wholesale Metering

e. Staff Drought Monitoring Report

f. Authorization of Water Conservation Measures

g. Resolution to Adopt the Regional TJPDC Natural Hazard Mitigation Plan

h. Authorization of Waiver Extension for UVA Rowing Programs and Rivanna Rowing Club

9. OTHER BUSINESS

- a. Presentation: Wastewater Rates and Charges for FY 21-22; Executive Director, Bill Mawyer*

(Joint Session with RSWA)

- b. Presentation: Rivanna's Response to COVID-19: Director of Finance & Administration, Lonnie Wood*

10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

11. CLOSED MEETING: PERSONNEL REVIEW

12. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT VIRTUAL RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please use the “chat” feature in the Zoom Meeting interface.

Members of the public who submit comments will be recognized during the specific time designated on the meeting agenda for “Items From The Public.” The comment(s) will be read aloud to the Board of Directors only during this agenda item, so comments must be received prior to the end of this agenda item. The comments will be read by the Rivanna Authority’s Executive Coordinator/Clerk of the Board.

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.

If you would like to submit a comment, please keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. In order to give all who wish to submit a comment proper respect and courtesy, the Board requests that commenter follow the following guidelines:

- Submit your comment prior to the start of or during the “Items from the Public” section of the Agenda.
- In your comment, state your full name and address and your organizational affiliation if commenting 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;
- Be respectful and civil in all interactions at Board meetings;
- 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 commenters 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.

CALL TO ORDER

STATEMENT OF CHAIR TO OPEN MEETING

This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

I would like to call the September 28, 2021 meeting of the Board of Directors to order.

Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time.

ROLL CALL:

Mr. Boyles: Please state your full name and location.
Ms. Hildebrand: Please state your full name and location.
Mr. O'Connell: Please state your full name and location.
Dr. Palmer: Please state your full name and location.
Mr. Richardson: Please state your full name and location.
Mr. Snook: Please state your full name and location.

And I am Mike Gaffney and I am located at _____.

Joining us today electronically are the follow Authority staff members:

Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, and Katie McIlwee

We are also joined electronically by Carrie Stanton, counsel to the Authority.



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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
August 24, 2021

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, August, 24, 2021 at 2:15 p.m. via Zoom.

Board Members Present: Mike Gaffney, Jeff Richardson, Lauren Hildebrand, Gary O’Connell, Chip Boyles, Lloyd Snook, Liz Palmer.

Board Members Absent: none

Rivanna Staff Present: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, Victoria Fort

Attorney(s) Present: Carrie Stanton.

1. CALL TO ORDER

Mr. Gaffney called the July 27, 2021, regular meeting of the Rivanna Water and Sewer Authority to order at 2:16 p.m.

2. STATEMENT FROM THE CHAIR

Mr. Gaffney read the following statement aloud:

“This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

“I would like to call the August 24, 2021, meeting of the Board of Directors to order.

“Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville’s Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County’s Continuity of Government Ordinance adopted on April 15th, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real-time electronic means with no Board member physically present at a single, central location.

“All Board members are participating electronically. This meeting is being held pursuant to the second resolution of the City’s Continuity of Government Ordinance and Section 6 of the County’s revised Continuity of Government Ordinance. All Board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Zoom as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority’s Executive Director, at any time.”

Mr. Gaffney called the roll.

Mr. Chip Boyles, City Manager, stated he was located at 605 E. Main Street in Charlottesville, VA.

Ms. Lauren Hildebrand stated she was located at 305 4th Street Northwest in Charlottesville, VA.

Mr. Gary O'Connell stated he was located at the ACSA Offices at 168 Spotnap Road, Charlottesville, VA.

Dr. Liz Palmer stated she was located in Albemarle County on Mechum Banks Drive, Charlottesville, VA.

Mr. Jeff Richardson stated he was located at the County Administration Building at 401 McIntire Road in Charlottesville, VA.

Mr. Lloyd Snook stated he was located at 408 East Market Street, Charlottesville, VA.

Mr. Mike Gaffney stated he was located at 3180 Dundee Road in Earlysville, VA.

Mr. Gaffney stated the following Authority staff members were joining the meeting electronically: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, and Victoria Fort.

Mr. Gaffney stated they were also joined electronically by Carrie Stanton, Counsel to the Authority.

3. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on July 27, 2021

Dr. Palmer stated she was not in attendance, so she can not vote, but she sent in one change of name from Andrea Terry to Andrea Bowles in the minutes.

Ms. Stanton stated those can be approved as corrected, and Ms. McIlwee can make the correction in the previous Board minutes.

Ms. Hildebrand moved that the Board approve the minutes of the previous meeting. The motion was seconded by Mr. O'Connell and passed 6-0. Dr. Palmer abstained from the vote.

4. RECOGNITIONS

There were none.

5. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer stated one of the strategic plan goals is Workforce Development. He stated he does want to recognize the efforts of several of the teammates, including Jeremy Lawson, who passed the State Class III Wastewater Operators License and attained certification. Mr. Mawyer stated that Mr. Lawson joined RWSA last year and has a degree in Astrophysics from UVA, and expressed his congratulations.

93 Mr. Mawyer reported that Will Dobson had completed a security certification provided by a
94 professional organization, for which he studied and took the test and passed an IT security exam.
95 Mr. Mawyer stated Mr. Dobson's role with RWSA is Assistant Information Systems
96 Administrator, noting that he has been with the organization about four years, is a Navy veteran,
97 and has a degree in information technology. Mr. Mawyer congratulated Mr. Dobson.
98

99 Mr. Mawyer recognized new Information Technology Manager Brandi Breeden, stating that she
100 comes to RWSA with a wide range of experience that includes 20 years in IT. He asked Ms.
101 Breeden to address the Board and stated he is pleased to have her join the organization.
102

103 Ms. Breeden stated she looked forward to her work with Rivanna and thanked the Board for
104 having her.
105

106 Mr. Mawyer stated RWSA is excited about having Ms. Breeden as its technology manager,
107 which was one of the new positions that the Board approved as of July 1, 2021.
108

109 Mr. Mawyer commented that the succession management program continues to work. He stated
110 that last month, Daniel Campbell was promoted to the Water Department Manager position that
111 Matt Bussell vacated when he returned to his home state of Indiana. Mr. Mawyer stated that
112 more recently, Bradley Puffenbarger was promoted to the Water Supervisor position that Mr.
113 Campbell vacated, noting that Mr. Puffenbarger is a Class I Water Operator who has been with
114 RWSA for 12 years.
115

116 Mr. Mawyer stated also he is pleased to announce that Katie McIlwee has been promoted to the
117 new Asset Manager position in the Engineering group. He stated that also was a new position the
118 Board approved effective July 1, 2021 to help manage the new Cityworks Asset Management
119 system and get asset data in and out of the system. He stated they have high expectations of Ms.
120 McIlwee and congratulate her on her promotion.
121

122 Mr. Mawyer reported that Rivanna is recruiting for a position to help Mr. Mawyer and help the
123 Board with their meetings, and he is thrilled about all of these changes in the organization.
124

125 Mr. Mawyer stated for the strategic plan goal of "Infrastructure and Master Planning," there are
126 engineering drawings being done now on the central water pipe that's going to weave its way
127 through the City to help strengthen the urban water system. He stated RWSA continues to work
128 with the private owners and UVA and its foundation on the Ragged Mountain Reservoir to
129 Observatory Water Treatment Plant water pipe and pump station project. He stated there are
130 easements that are expected to be completed in the next couple of months with two private
131 owners: a school and a church off of Reservoir Road, and the Department of Forestry, to place
132 this water line across their property.
133

134 Mr. Mawyer stated RWSA has had two good meetings with the UVA Foundation about the
135 pump station property that will be located on the foundation property off Reservoir Road, and the
136 project is moving forward. He stated RWSA is about to stake the location in the field to show
137 them where the pump station property and easements are specifically located.
138

139 Mr. Mawyer stated RWSA continues to work with UVAF regarding the property between
140 Barracks Road and Old Garth Road for the South Rivanna to Ragged Mountain Reservoir
141 pipeline project. He stated specifically, RWSA is doing detailed drawings of the pipe that will
142 pass under Ivy Road, the railroad tracks, and Old Garth Road, to the Foundation property on the
143 north side of Old Garth Road. He stated this would be another addition to the South Rivanna to
144 Ragged Mountain pipeline that will be completed in about two years.

145
146 Mr. Mawyer stated RWSA continues to optimize the use of the reservoirs. He stated the South
147 Rivanna Reservoir is considered the most critical reservoir, and water is used to its maximum as
148 long as the reservoir is overflowing, as it allows for conservation at Observatory Water
149 Treatment Plant and the Ragged Mountain Reservoir. He stated if the South Rivanna Reservoir
150 stops overflowing, RWSA will reverse that optimization and start taking more water from
151 Ragged Mountain and treating it at Observatory WTP, and less at South Rivanna reservoir and
152 WTP.

153
154 Mr. Mawyer stated that regarding the issue of drought conditions, as shown in the consent
155 agenda, RWSA did make a request to the Board this month to authorize a declaration of
156 voluntary and mandatory water conservation measures—only if needed, and they are not
157 recommending those measures now.

158
159 Mr. Mawyer stated that around August 7, after many days of hot and dry weather with drought
160 conditions becoming more evident, stream flows were low going into the reservoirs, and there
161 was just a trickle going over the South Rivanna Dam. He stated there was only about a quarter of
162 an inch, which is estimated to be about one million gallons per day (MGD) overflowing. He
163 stated since August 7, rainfall has totaled about three inches. He stated that on August 20, there
164 were four inches of water going across the dam, which equals about 210 MGD overflowing the
165 South Rivanna Dam, which is good news.

166
167 Mr. Mawyer stated that as of August 23, the flow on the dam had decreased to about 2.5 inches
168 from 4 inches and from 210 MGD to about 45 MGD. He stated there is some flashiness as it
169 rains and the flow into the reservoir increases, but when there are extended dry periods, as are
170 forecasted for the next week, RWSA is requesting that the Board authorize the Executive
171 Director to issue voluntary and/or mandatory water conservation measures. He stated they are
172 monitoring the stream flow and volume of water in the reservoirs, and want to be prepared—
173 particularly if South Rivanna Reservoir would stop overflowing, leaving the Urban Area with
174 60-90 days of available water. He stated that would be the time that they would be concerned
175 about issuing voluntary and possible mandatory water conservation measures. He added that he
176 wants to be prepared in case the hot and dry weather continues.

177
178 Mr. Mawyer stated there was a meeting with the Regional Drought Committee which includes
179 representatives from the Service Authority, the City, the County, and Rivanna. He stated they
180 reviewed the stream and reservoir conditions and the plan if drought conditions persist, have also
181 run the hydrologics computer model which predicts drought condition probabilities over the next
182 few months, based on the historical weather and precipitation data for the area over the last 80-
183 100 years. He stated the model indicated that it did not anticipate Albemarle County would be in
184 drought conditions at the South Rivanna Reservoir to justify water conservation measures.

185
186 Mr. Mawyer stated RWSA is looking at all of these data points, weather forecasts, volume of
187 water flowing in the streams and coming into the reservoirs, and how full the reservoirs are. He
188 noted that they have all regained good flow and storage levels: Sugar Hollow gained over a foot
189 with the rains, Ragged Mountain didn't go up because the drainage area is quite small, so rain
190 does not help very much. He stated the only time Ragged Mountain water level increases is when
191 there is a transfer from Sugar Hollow Reservoir, which is not being done now.

192
193 Mr. Mawyer stated that is a prelude to the consent agenda, and his last item is that RWSA did
194 communicate with the Crozet Community Advisory Committee a few weeks ago. He stated they
195 attended their virtual meeting and gave an update on all of the ongoing projects in the Crozet
196 community, such as the water treatment plant upgrade and the Beaver Creek Dam modifications
197 that are underway. He added that it was a good meeting with that group.

198
199 Mr. O'Connell asked Mr. Mawyer if he is seeing the water use climb back up with the students
200 back and the hot weather.

201
202 Mr. Mawyer responded that the use has increased, but he hasn't seen the student impact and
203 would be looking for that. He stated they have seen days that are close to 12 MGD in the urban
204 area, which is pretty high; the average is usually 9-10 MGD. He stated there are football games
205 coming up shortly, with additional demand created as people come into the community. He
206 added that they would be monitoring all of these factors, with any drought-like conditions being
207 considered.

208
209 Mr. Mawyer mentioned that the South Rivanna Reservoir has been overflowing on the spillway
210 since 2017, but they want to be prepared in case drought conditions continue.

211
212 Mr. O'Connell asked Mr. Mawyer to speak briefly about the supply at Beaver Creek Reservoir,
213 which serves Crozet.

214
215 Mr. Mawyer explained that Beaver Creek was down about two feet but has over seven months of
216 storage at that level. He stated even being down two feet, there is still 400M gallons of usable
217 storage, and the demand of that community is typically less than 1 MGD. He stated that while
218 that could appear to be 400 days of water storage, when considering evaporation and flow
219 released to the stream, they estimate conservatively that there is still about seven months of
220 storage in Beaver Creek Reservoir now.

221
222 Mr. Mawyer stated he is looking toward the end of October as being the end of the dry season, so
223 there is still about two months to go, with about seven months in storage—and he therefore does
224 not see any indication that conservation measures in the Crozet community will be needed in the
225 near term.

226
227 Mr. Mawyer stated the drought conditions emphasize again the importance of the South Rivanna
228 Reservoir to Ragged Mountain Reservoir pipeline, as there is a huge amount of water stored at
229 the Ragged Mountain Reservoir. He stated they are limited by how much can be produced and
230 supplied to the community. He stated there are currently only about 3-4 MGD being produced at

Observatory WTP, but that facility is being renovated and upgraded to 10 MGD over the next year and a half, which will be a big boost to our production capacity. He commented that the pipeline tying together the two reservoirs and two treatment plants will be a huge benefit to the water supply dynamics. He stated when South Rivanna Reservoir stops overflowing, there is about a 2-3 months' supply of water left—and that is the part of our water supply system of greatest concern.

6. ITEMS FROM THE PUBLIC

Mr. Gaffney opened the meeting to the public.

There were no public comments.

Mr. Gaffney closed Items from the Public.

7. RESPONSES TO PUBLIC COMMENT

There were no public comments.

8. CONSENT AGENDA

- a. *Staff Report on Finance*
- b. *Staff Report on Operations*
- c. *Staff Report on Ongoing Projects*
- d. *Staff Report on Wholesale Metering*
- e. *Staff Drought Monitoring Report*
- f. *Authorization of Water Conservation Measures*
- g. *Approval of Series 2021 Bond Issue - \$41M*
- h. *Approval of Capital Improvement Plan Amendment – South Rivanna Reservoir to Ragged Mountain Reservoir Pipeline, Intake, & Facilities – Water Quality Analyses*

Mr. O'Connell moved that the Board approve the Consent Agenda. Ms. Hildebrand seconded the motion, which passed unanimously (7-0).

9. OTHER BUSINESS

- a. *Presentation: Beaver Creek Reservoir Raw Water Pump Station Alternatives; Victoria Fort – Senior Civil Engineer*

Ms. Fort stated she is the project manager on the Beaver Creek Dam project as well as the Beaver Creek Raw Pump Station and Intake project. She stated she is going to provide an update on the site selection efforts for a new raw water pump station and intake at Beaver Creek.

Ms. Fort stated to provide some information on the purpose of this project, the 2019 Crozet drinking water infrastructure plan, or as often referred to as the DWIP, identified a need for a new raw water pump station and intake at Beaver Creek Reservoir in order to increase the raw water withdrawal and pumping and piping capabilities, so that RWSA can convey enough water to the Crozet Water Treatment Plant to meet future drinking water demands in the Crozet area.

Ms. Fort stated also related to the project is an ongoing study of spillway upgrade alternatives for the Beaver Creek Dam, which is currently being funded by NRCS. She stated that also indicates

277 that one or more of the options for the spillway would require relocation of the raw water pump
278 station. She stated for those two reasons, RWSA is looking for a new site for a new raw water
279 pump station and intake.

280
281 Ms. Fort displayed an arial view of Beaver Creek and Reservoir to orient the Board. She stated
282 the Dam can be seen with Brown's Gap Turnpike running along the crest. She stated that north
283 of the parking area is the current emergency spillway. She stated that there is an intake structure,
284 catwalk, and pipe that goes through the dam and comes out into the raw water pump station. She
285 stated from there, that station pumps water to the Crozet water treatment plant for treatment.

286
287 Ms. Fort stated knowing that a new pump station intake was needed, RWSA staff and consultant
288 identified six potential sites, all of which are located on Albemarle County-owned property
289 around the reservoir. She stated these were selected based on the feasibility of construction, and
290 most importantly access to the deepest areas of the reservoir, so the use of the water supply out
291 of Beaver Creek can be maximized.

292
293 Ms. Fort stated the initial evaluations of these sites took place between June 2019 and May 2020
294 and included site visits by boat, a desktop analysis of environmental and private property
295 impacts, preliminary site layouts and construction costs based on the information available. She
296 stated upon completion of that initial site selection study, staff recommended proceeding with
297 Site #3, primarily due to relatively lower cost as compared to some of the other sites. She stated
298 however, RWSA did receive a lot of concerned feedback from some of the property owners
299 located adjacent to that site. She stated some of the expressed concerns were both personal, as
300 well as on the environmental impacts of proceeding with that site, so staff opted to proceed with
301 a more detailed study of all sites that were feasible. She stated this was to develop a broader
302 understanding of the environmental and other impacts of each of those site options.

303
304 Ms. Fort stated the next slide shows all of the sites that were considered and pointed out Site #5.
305 She stated this is located at Beaver Creek Lake Park. She stated that site was ruled out pretty
306 early in the evaluation process since a pipe would have to go through the reservoir, and
307 logistically, that is pretty infeasible as a pipe cannot go through the dam along Browns Gap
308 Turnpike. She stated Sites #1 and #2 are located adjacent to the dam along the edge of the
309 reservoir, Site #3 is on the next peninsula. She stated Site #3 was the one adjacent to the property
310 owners that reached out expressing concern. She continued with Sites #4a and #4b located on the
311 next peninsula.

312
313 Ms. Fort stated again that all of these sites were selected based on access to the deepest portions
314 of the reservoir. She stated there are definitely some challenges with access and then some of the
315 environmental impacts of these sites. She stated because of this, RWSA staff moved on to more
316 detailed studies.

317
318 Moving to the next slide, Ms. Fort stated this additional analysis was done last year and included
319 a cultural resources survey by archeologists at all of the sites. She stated that they did not find
320 any artifacts. She stated they also did wetland delineation at all of the potential pump station
321 sites, except for Site #5, and completed a very detailed, quantitative desktop analysis of impacts
322 to wooded areas, the riparian buffer, public trails, private property, critical slopes, along with

some other factors. She stated Hazen refined their conceptual site and access layouts and developed more detailed cost layouts and estimates in current day dollars.

Ms. Fort stated the next slide shows the additional analysis that was done. She stated the limits for disturbance for each of the sites is outlined in red. She stated they looked at all of the potential access routes and pipeline routes associated with each of those sites. She stated the cultural resources survey areas are highlighted in the yellow/orange color, the pink denotes the riparian areas, green is forested areas, red is critical slopes which RWSA is exempt from building within critical slope areas, but obviously for constructability concerns, that was worth being looked at as well.

Ms. Fort stated on the next slide, the table intends to summarize all of the data collected during the initial and supplemental analysis. She stated project costs listed in the column furthest to the right includes everything associated with the project. She stated this includes engineering, design, and construction services, permitting, construction, contingency, etc. She stated these are still preliminary costs and there is still a lot of information that is not known with the sites. She stated this is intended to be used to demonstrate the relative cost of each site as compared to one another.

Ms. Fort stated the other columns on the chart lay out the length of new pipe needed, length of access road, impacts to the critical slopes and wooded areas, etc. that were mentioned before. She stated based on looking at all of these factors and the impacts to private property, RWSA staff felt it was most prudent to minimize the overall limits of disturbance, and thus the environmental impact of the property. She stated because of this, they have focused in on Sites #1 and 2, which are highlighted in green on the displayed slide.

Ms. Fort stated there is a slight preference towards Site #1 based on a lower anticipated cost as compared to Site #2. She stated from constructability purposes, it's a better site in that it has a perceived lower impact to private property owners in the short term during construction.

Ms. Fort moved to the next slide and stated this is Site #1. She stated this is the second site located as going away from the dam. She stated it will be accessed off of Brown's Gap Turnpike, adjacent to the Beaver Creek Dam. She stated what is liked about this site and Site #2 is that the pump station, access road, and pipe would all be located on Albemarle County property. She stated there would be no expectation for any permanent easements for any of these facilities from private property owners. She continued saying the new raw water line would be installed along the same alignment as the existing piping along Brown's Gap Turnpike and onto Old Three Notch Road towards the treatment plant.

Ms. Fort stated she noted on the last slide that this site would place the pump station further away from any existing houses, which can be slightly seen in the drawing on parcel 5724. There is a house located fairly close to where Site# 2 is located. She stated they felt that would have a lesser impact during construction on the neighboring houses with Site #1.

Ms. Fort stated lastly this site also involves only a single stream crossing, which can be seen in the road plan on the right side. She stated there is a swale that goes across where the road would

369 be, so we will have to bridge that, but otherwise, there are much fewer stream crossings than
370 what would be seen on Site #3, which had two for one route, and five stream crossings for
371 another.

372
373 Ms. Fort stated the next slide is used to demonstrate some of the constructability challenges and
374 why RWSA staff set this as not a preferred site. She stated this is Site #2 and is also located
375 directly off of Brown's Gap Turnpike. She stated due to the tightness and steepness of the site, it
376 presents constructability challenges. She stated a platform would essentially need to be graded
377 out, which can be seen in the displayed section cuts on the right side. She stated this is almost a
378 project in and of itself, just to get the grading done. She stated this does represent lower overall
379 environmental impacts, a smaller footprint, and it's a short access road, so it's located essentially
380 right off of the road that goes over the dam.

381
382 Ms. Fort stated it would be located in closer proximity to the house, which is less preferable.
383 She stated they reserve that as a second option if for some reason it is later determined that Site
384 #1 may be infeasible for reasons unknown at this time.

385
386 Ms. Fort stated with that being the recommendation for moving forward, she wanted to touch
387 quickly on what the next steps are related to this project. She stated in the next six weeks, RWSA
388 staff will be narrowing in on a spillway upgrade alternative for the Beaver Creek Dam which will
389 impact both the raw water pump station and intake project, and possibly the funding mechanisms
390 for the pump station and intake project. She stated they will also be filing a Joint Permit
391 Application with VDEQ for the Crozet water system VWP permit this fall or winter. She stated
392 that lastly, based on the current schedule, she expects to begin design in 2022 and construction in
393 2024 on the dam and raw water pump station projects with anticipated completion in 2026.

394
395 Ms. Fort stated in summary that RWSA staff recommends as the first option to proceed with Site
396 #1 with Site #2 as a backup if any issues were to arise. She stated both of these sites will be
397 accessed from Brown's Gap Turnpike. She stated with that, she'll open for questions.

398
399 Dr. Palmer asked for confirmation that option #3 was picked primarily because of the lower cost.

400
401 Ms. Fort confirmed that to be true.

402
403 Dr. Palmer asked if Ms. Fort could go back and compare the environmental impacts of #1 versus
404 #3, so she is able to understand that better.

405
406 Ms. Fort stated that the length of the access road for Sites #1 and #2 is shorter. She stated the
407 access roads for Site #3 would have to go through private property and cross several streams.
408 She stated there are a number of stream crossings, with Site #3 both access options have either 2
409 or 5 crossings, which is significant. She stated also the impacts to riparian buffer in terms of
410 acreage, there is a lot more excavation within the riparian buffer for Site #3. She stated likewise,
411 due to the overall limits of disturbance, wooded areas and critical slopes are more impacted by
412 that site.

Dr. Palmer stated Site #3 had two different routes, with one having two stream crossings and the other had five stream crossings. Ms. Fort confirmed and Dr. Palmer stated she has no other questions.

Mr. Mawyer stated Site #3 also involves eight private properties or three private properties depending on the route chosen.

Mr. O'Connell asked Mr. Mawyer if there was any Board action needed, or if this was just informational.

Mr. Mawyer stated RWSA will be meeting with NRCS and the public to review the recommended site. He stated he would like the Board's concurrence that Site #1 is okay with the Board.

Dr. Palmer moved to approve Site #1 for the Beaver Creek Raw Water Pump Station. Mr. Snook seconded the motion. The motion passed unanimously (7-0).

b. Wastewater Allocations Update; Jennifer Whitaker – Director of Engineering and Maintenance

Ms. Whitaker stated that she would address the sanitary sewer improvement program and specifically the 2020 wastewater flow allocation study that is currently underway, noting that the last time they'd really talked about the program was 2012. She stated they had gone into quite a bit of detail at the time about how a sewer system operates and what some of the issues are, and she'd like to move forward and talk about where RWSA has been since that point.

Ms. Whitaker explained that RWSA is one system owned by three different agencies; it is all interconnected and what happens in one system affects the others. Referencing a map, she stated that the yellow is the City of Charlottesville boundary, and the pipes shown are Rivanna pipes. She stated that her next slide added the City pipes, with an interconnection system that ties into the Rivanna system at various points. She then noted the Albemarle County Service Authority pipes, which are in the urban area as well, and stated the entire urban area includes Crozet and the piping that comes from the west. She stated again, this is one system operated by three different entities, and as such, RWSA spends a lot of time cooperating on trying to evaluate and correct issues within the system.

Ms. Whitaker stated that in 2006, RWSA completed a regional sanitary sewer capacity study—which revealed some fairly substantial issues within the system, with areas where there were capacity concerns during both dry and wet weather. She stated they found a lot of aging infrastructure, there were significant amounts of inflow and infiltration (I&I), which is stormwater making its way through various means into the system. She stated they were having fairly routine sanitary sewer overflows throughout the system, grease and root problems, and identified some pretty significant capital needs.

Ms. Whitaker reported that at the time, it was obvious to everyone involved that there were some problems that needed to be addressed, and she referenced a slide showing the history from 2006-

460 2017. She stated RWSA finished the capacity study, identified some significant efforts that
461 needed to happen for each agency to begin work, and developed a capital improvement plan over
462 the course of 2007-2009. In 2010, she stated, they held regional meetings and set a joint I&I
463 reduction goal across the system. She stated around that time, DEQ became involved in that
464 process, and they brought all three agencies into a consent order program—with DEQ able to
465 adopt the RWSA capital improvement plans directly into the consent order.

466
467 Ms. Whitaker reported that in 2014, the City, ACSA, and Rivanna developed the Wastewater
468 Cost Allocation Agreement. She explained that this developed a cost split between the City and
469 ACSA, as well as a way and method to monitor that program going forward.

470
471 Ms. Whitaker stated that in 2016, RWSA completed the sanitary sewer capacity study, which
472 again looked at how the performance of the system was doing and what additional improvements
473 were needed. She stated that in 2017, they had achieved the goals set out with DEQ and the
474 individual capital programs, and as such were able to terminate the consent order.

475
476 Ms. Whitaker stated that in 2014, the wastewater flow analysis stipulated that every five years,
477 RWSA would look at system flows and model them through a sewer model to look at actual flow
478 metering data, rainfall data, etc. She stated it directed on 10-year intervals to look not only at
479 sewer flows but at population projections and future anticipated flow numbers. She noted that as
480 part of that 2014 agreement obligation, staff began working in 2019 on the 2020 wastewater flow
481 analysis.

482
483 Ms. Whitaker stated to do that, RWSA updated their sewer model with physical infrastructure
484 from all of the agencies, updated population and demand projections developed for the urban
485 water system projection and population study, reviewed the permanent flow meters throughout
486 the system, and installed 23 additional temporary flow meters. She stated they were able to use
487 all of that data to see long-term and short-term trends, then were able to calculate the current dry
488 and wet weather flow projections for today, 2045, and into the future at 2070.

489
490 Ms. Whitaker stated the purple displayed on the map represents the City flow basins, the orange
491 is ACSA flow basins, the yellow is the Rivanna sewer pipes, and the dots are where the flow
492 meters are located. She noted that around the boundary of the City, in particular, there are places
493 where the Rivanna pipes receive flow from the City as well as the Service Authority—sometimes
494 solely and sometimes jointly.

495
496 Moving to the next slide, Ms. Whitaker explained RWSA's study methodology by stating that
497 they looked at individual sewer sheds for the entire region. She stated for each subbasin, they
498 considered the total flows going from the sewer lines to the Rivanna pipes, then delineated the
499 area by individual user. She stated they isolated City flow and ACSA flow, looked at growth,
500 looked at wet weather in each basin, and then identified the system performance and needs, as
501 well as what improvements would be needed in the future on a cooperative basis. She stated that
502 they also addressed the question of how the system as a whole needs to improve to meet some of
503 the goals and targets.

504
505 Ms. Whitaker stated that there is a table created, like the one displayed, for each of the sewer

sub-basins, and the one shown is for the Moores Creek Advance Water Resource Recovery Facility, otherwise known as the Moores Creek Wastewater Plant. She stated the reason she chose to show this table is because this plant is the very end of the system, and everything in the entire system flows towards this location.

Ms. Whitaker explained that the top of the table shows the work that was done in 2015 and 2016. She stated that in 2015, RWSA projected that the wet weather flows in the ACSA system would be about 20 MGD, and the wet weather flows in the City system would be 46 MGD—for a total coming into Moores Creek of 78 MGD. She stated these numbers were fairly large, and at the time there was great concern about the ability to convey that water through the collection system, the interceptor system, and the pump stations—as well as the ability to treat that amount of water at Moores Creek.

Ms. Whitaker stated there have been upgrades and improvements completed throughout the system to try to handle that number. She stated the good news is that, as seen at the bottom of the displayed table, there has been a 13% reduction in 2020 in the amount of flow from ACSA during wet weather and a 41% reduction in flow coming in from the City. She stated instead of 46M, that number is closer to 27 MGD; the total system flow coming to the Moores Creek facility is now in the 55 MGD range, which is about 30% less than the original 78 MGD.

Ms. Whitaker stated she also provided a table that projects not only the current flows but future flows, future use, and future demand. She stated they are also seeing reductions in what is projected for the future—with a 2% reduction in ACSA's wet weather flow, despite 50 years of growth, and the City seeing a 30% reduction in their wet weather flow. She stated the total flow has seen a reduction from 82 MGD down to 67 MGD, even during wet weather.

Ms. Whitaker reported that there has been a very large reduction in current and projected future wet weather flows: about 13% for the Service Authority and over 40% for the City, with total system reductions at more than 30%. She stated another finding is that routine rainfalls no longer induce sanitary sewer overflows, which is significant. She stated RWSA would routinely send people out to look for overflows if there was more than $\frac{3}{4}$ of an inch of rain, and now it is very rare for RWSA to have any type of overflow at all.

Ms. Whitaker noted that these lower future projected flows would most likely delay some fairly costly upgrades of the collection system, the interceptor system, and especially the Moores Creek plant. She stated they may be able to delay the hydraulic capacity upgrade at the plant by well over a decade, and there are some very real cost savings that accompany all of this.

Ms. Whitaker asked rhetorically how the RWSA was able to get to the point where they were able to achieve such dramatic results. She explained that since 2009, the City and Service Authority have invested in their sewer monitoring and sewer rehab program. She referenced a slide and stated that the City has spent over \$21M on sewer rehab alone, with close to 47 miles of sewer line either lined or replaced in entirety. She stated 197 manholes have been removed and replaced, with an additional 5,400 vertical feet being rehabilitated. She stated all of that equals about 27% of the City's total sewer system renewed during this time period.

Ms. Whitaker stated that in parallel with that, the Service Authority has spent about \$12.7M on sewer rehab, with over 24 miles of sewer being relined and almost 2,000 manholes rehabilitated. She stated both the City and the Service Authority have put in a lot of work, and the results show great success.

Dr. Palmer asked what the hydraulic capacity is currently.

Ms. Whitaker replied that the wastewater treatment plant is sized to handle the 85 MGD peak hour to come into the plant. She stated they designed the wet weather program about a decade ago to handle that peak capacity, which now gives the operation staff relief in handling the wet weather flows. She noted that it also prevents the system from backing up in the collection system and overflowing before it gets to the plant.

Dr. Palmer thanked her and stated clearly the comment should be, "Great job." She stated she's watched this over the years, and it is really wonderful and heartening to listen to this report.

Mr. Snook asked about the data for 2020, noting that he is leery right now of trying to draw any conclusions about anything from 2020 data. He asked how certain Ms. Whitaker feels that this shows a real trend and not just a Covid-related anomaly.

Ms. Whitaker explained that the data was collected in 2019, and there are several independent pieces of information. She stated there are permanent sewer flow meters that have been in the ground about 12-13 years, with daily data supplied from those. She stated on the Rivanna part of the system, there are eight permanent flow meters, and on the Moores Creek side, there are six—for a total of 14. She stated those are operating every day of every year of every decade. She stated they used the temporary flow meters that were in the ground from April to December of 2019, then completed the study in 2020. She stated that staff believes, as do the consultants, that this is pre-Covid data that fairly represents what's going on in the collection system.

Mr. Snook asked what she attributes the 30% drop to.

Ms. Whitaker responded that as a pipe system ages, there are more opportunities for water to penetrate into that system—whether it runs across asphalt and drops through holes in the manhole lid, infiltrates through leaky manholes, or any other number of ways it can get into the system. She stated it is not unusual for older systems to have very high inflow numbers. She stated in 2006 when they started to look at the system, it was determined to be important to keep investing in the system to keep elements from becoming leaky. She noted that Rivanna feels—and she thinks the City and Service Authority agree—that those numbers are real and are based on the entities' very aggressive programs to identify the worst areas and do extensive rehabilitation and replacement.

Ms. Hildebrand thanked Ms. Whitaker for talking about the success stories. She commented that in looking at sewer rehab across the country, it's amazing what has been able to be achieved in a little over 10 years. She stated in the City system, it was long ignored up until probably 14 years ago. She stated then it was realized how much work there was—and still is, but they have been able to take advantage of some of the low-hanging fruit.

598
599 Ms. Hildebrand stated that she also does not want to overlook some of the investment that's been
600 made into the sewer system, as well as the stormwater system. She stated Ms. Whitaker talked
601 about the numbers that have been made in the sewer system over the last 10+ years, but the
602 stormwater utility was developed in 2013 and approved by City Council, and they have been able
603 to spend a lot of money on that system as well. She stated in the same timeframe, they have spent
604 about \$10M improving over 12.5 miles of stormwater line, and 18% of the system has been
605 rehabilitated or replaced. She stated they work collaboratively with the sewer rehabilitation
606 system because there are cross-connections from the storm system to the sewer system that
607 shouldn't be happening, as well as the storm system also needing to be improved. Ms.
608 Hildebrand stated they didn't talk about those numbers in the presentation, but it is something
609 not to be overlooked, and the City is making major investments in those systems.
610

611 Dr. Palmer stated it should also be mentioned that Rivanna has put a lot of money into the sewer
612 system, which is not reflected in the numbers provided for the City and the County, and she
613 asked if there is a number for that.
614

615 Ms. Whitaker responded that in the 2012 presentation, Rivanna had completed the majority of
616 the big-dollar capital infrastructure, which was close to \$100M at that point. She stated she
617 certainly can put that number together, but some of it was for plant upgrades that needed to
618 happen (specifically for wet weather), as well as two major pump station upgrades. She stated
619 when that is done, along with some of the piping projects, it was a fairly large number. She
620 added that she can provide a more definitive number with more recent information in it.
621

622 Dr. Palmer stated she does not necessarily need Ms. Whitaker to go to a lot of trouble, but she
623 recalled Ms. Mueller getting up and saying that the sewer infrastructure was going to cost more
624 than the water supply plan. She stated one of the first things she heard about when she got on the
625 ACSA Board in 2006 was the Meadow Creek Interceptor. She added that she thinks everyone
626 has done a phenomenal job.
627

628 Mr. Gaffney stated that it may be hard to fathom, but in the mid-2000s right after the drought,
629 Rivanna was further behind in wastewater than they were in water. He stated that Rivanna, as
630 well as the City and the ACSA, have done a phenomenal job over the last 20 years catching up.
631 He stated he thinks it would be great if Ms. Whitaker could put some dollars on the Rivanna
632 infrastructure, all of the interceptors that were rebuilt, the pump stations, and the Moores Creek
633 facility, so the community can see what has happened over the last 20 years.
634

635 Ms. Whitaker stated that she had just pulled up the 2012 presentation, and as of that time, there
636 was \$125.2M between the three agencies. She stated it is probably close to \$150M now, but she
637 would pull the exact details for the Board.
638

639 Mr. Gaffney stated that would be helpful and informative.
640

641 Dr. Palmer stated they were told very early on that \$220M would be needed to go into the sewer
642 system, which was very shocking to her.
643

644 Mr. Mawyer thanked Ms. Whitaker for her presentation.

645
646 *c. Water and Wastewater Facilities and Treatment Overview; David Tungate – Director of*
647 *Operations*

648
649 Mr. Tungate stated that RWSA has six water treatment facilities under its control. He stated there
650 is North Rivanna, by the airport and south of the Greene County line; South Rivanna, located just
651 to the west of Walmart on Rt. 29N; Crozet; Observatory; Scottsville; and the smallest facility,
652 Red Hill, on Rt. 29S.

653
654 Mr. Tungate presented a picture taken about a month earlier at the South Rivanna Water
655 Treatment Plant that showed some of the recent construction. He stated it has changed a bit since
656 then, but he noted some familiar items such as the GAC building in the back and work going on
657 in sedimentation basin five related to sludge removal and basin piping. He showed the main
658 filtration plant and the chemical feed building which contains the lime tanks, which were
659 previously uncovered in the GAC project but have been placed in a new building in this latest
660 upgrade.

661
662 Mr. Tungate stated the Observatory Treatment Plant project on UVA Grounds was taking the
663 plant from 7.7 to 10 MGD, and the first part of the Observatory and South Rivanna WTP
664 projects focused on South Rivanna WTP. The Observatory WTP project has started with some
665 earth work by the sedimentation basins.

666
667 The next slide showed the Crozet Water Treatment Plant. He stated this project has now been
668 completed, and the new chemical building can be seen to the east of the granular-activated
669 carbon (GAC) building. He stated new filters were added, with new flocculators and plate
670 settlers in the sand basins, and this plant went from a treatment capacity of 1 to 2 MGD.

671
672 Mr. Tungate stated the next slide showed the North Rivanna plant and its waste lagoons, raw
673 water intake, GAC building, and main filtration plant. He stated this is the plant scheduled for
674 decommissioning in the next couple of years, once the new Airport Road pump station is
675 operational.

676
677 The next slide showed the Scottsville Water Treatment facility, which serves the town of
678 Scottsville and is rather small at only 0.25 MGD.

679
680 He then showed a slide with the Red Hill plant and stated there is a hydropneumatics (under
681 pressure) tank that stores finished/treated water, and it will supply water to the nine homes and
682 the Red Hill School. He stated it is important to note that this is a groundwater treatment
683 facility—the only groundwater system in our inventory—and has a 6,000-GPD treatment
684 capacity.

685
686 Mr. Tungate stated they have talked a lot about GAC in the past, and this next slide shows
687 specifics for those facilities. He stated that South Rivanna is the largest water treatment facility
688 and also has the largest amount of GAC treatment in service at any time, with 320,000 lbs. in
689 eight 40,000-lb. contactors/vessels. He stated the Observatory Treatment Plant currently has two

690 contactors with 80,000 lbs. of GAC, and the additional four contactors to Observatory WTP. He
691 stated North Rivanna has one 40,000-lb. contactor, Scottsville has two smaller 6,000-lb.
692 contactors, and Crozet has two 20,000-lb. contactors.

693
694 Mr. Tungate stated this next slide shows details of the facilities and their current capacities,
695 noting that there are assigned operators to these plants. He stated RWSA has eight at South
696 Rivanna, four at Observatory, and 1.4 at North Rivanna, and 2.4 at Crozet. He stated all of these
697 facilities are staffed every day, and the system's total of 18.2 water treatment plant operators
698 does not include the management staff or relief operators, who are licensed operators covering
699 last-minute staff absences or production increases. He noted there are actually 27 employees in
700 the water department.

701
702 Mr. Tungate stated in talking about the basic steps of water treatment, the goal is to protect the
703 raw water at the water sources, pump it to the treatment plants, treat it to exceed Safe Drinking
704 Water Act standards, and pump it into the distribution system to meet daily consumer water
705 demands—but it is also important to note that it must meet distribution system water quality. He
706 emphasized that their responsibility for that water does not end once it leaves the water treatment
707 facilities, as they are still responsible for the water in the distribution system.

708
709 Mr. Tungate stated the following slide shows the South Rivanna Dam in late May 2018 after
710 nearly a foot of rain fell in the Ivy area. The picture on the left shows how dirty or turbid the
711 source water can be. The middle two pictures are of giardia and cryptosporidium, which are the
712 main biological contaminants of concern for surface water supplies. The last picture on the right
713 shows that no matter what the source water looks like the finished product is always
714 excellent. The water department still has to meet all of the Safe Drinking Water Act compliance
715 rules no matter what the source water looks like.

716
717 Mr. Tungate stated this next slide was a quick tour of South Rivanna WTP that shows the
718 sedimentation basins and provides a better picture of the new chemical feed building that
719 encloses the lime tanks. He pointed out the main filtration building, and the two new filters being
720 added to South Rivanna. He stated there are white lime tanks which have been enclosed in the
721 new structure.

722
723 Mr. Tungate stated they have talked a lot about GAC and powdered activated carbon (PAC),
724 referencing a slide showing the two. He stated GAC is the size of Grape Nuts cereal, whereas
725 powdered activated carbon has the consistency of flour and is used in slightly different ways. He
726 stated they feed PAC as a slurry into the treatment process; it is a one-time use product that
727 settles out with the sludge in the treatment plants. He stated his next slide showed GAC and the
728 eight vessels at South Rivanna. The GAC is contained in the vessels and the water flows through
729 them. The GAC can be in service for up to 1.5 years under the current operating scenarios.

730
731 Mr. Tungate stated that in addition to RWSA's production and meeting customer demands, they
732 also have to file a monthly report to the Virginia Department of Health. He stated it's slightly
733 more complicated to meet the format and data collection and reporting requirements, with about
734 15-20 pages of information, depending on the water treatment plant; these reports get filed and
735 the state checks them and reaches out with any questions or concerns.

736
737 Mr. Tungate presented another picture of South Rivanna in a different phase of construction. He
738 asked the Board if there were any questions about the information he had covered.
739
740 Mr. O'Connell stated it was a great tour and thanked Mr. Tungate.
741
742 Dr. Palmer asked if there were 11 houses that had/have an option of connecting to the Red Hill
743 Plant but only nine connected.
744
745 Mr. Tungate responded that there are nine homes and the school currently being served, and two
746 residential units that could tie in, so there are essentially two unused connections. He noted that
747 this treatment plant and distribution system was put in due to a contamination event.
748
749 Dr. Palmer stated that was what she thought she remembered, as there were two rental properties
750 that never connected.
751
752 Mr. Snook asked if there were any issues in any of these facilities for things like metals, heavy
753 metals, or other things that they sometimes hear reports about.
754
755 Mr. Tungate responded that they are very fortunate in Rivanna that they have little to no industry
756 in their watersheds and no wastewater treatment plant discharges upstream of the intakes. He
757 stated they do regular monitoring for heavy metals and have little to no detections. He explained
758 that they are at reduced monitoring for those constituents because after they were tested initially,
759 the state and EPA stated it is not essential for them to look every year and can instead do that
760 every two to three years.
761
762 Mr. Tungate reported that RWSA has four wastewater treatment plants that the wastewater
763 department operates. He stated there is the Moores Creek facility, a small package plant at the
764 Stone Robinson School on Rt. 250, the Glenmore facility that serves that subdivision and
765 Rivanna Ridge, and a wastewater treatment plant in Scottsville.
766
767 Mr. Tungate presented a drone view of the Moores Creek facility and noted the grit removal
768 system that was installed in the last five years. He stated the grit removal system takes inert
769 solids out of the sewage flow and puts them in a dumpster to haul away for disposal. He stated
770 everyone can remember what two flow equalization basins looked like when they had grit built
771 up, and this facility now takes the grit out of the flows—with band screens that remove more of
772 the finer grit material like ground plastics.
773
774 Mr. Tungate stated that the image also shows the primary treatment covers and the odor control
775 system for the primary clarifiers. He stated the five aeration basins can also be seen, along with a
776 series of four secondary clarifiers that finish off some of the treatment process. He noted the
777 location of the holding ponds, which were cleaned out earlier in the year and were able to get rid
778 of a lot of grit and materials. He stated these are the holding ponds used to take care of high-flow
779 events during wet weather.
780
781 Mr. Tungate presented a slide with a view driving into the facility, noting the location of the

782 anaerobic digesters, as well as the in-plant clarifiers to be removed with the lime silo. He stated
783 that project should begin sometime in the next few months. He stated as one drives across the
784 bridge, this outfall water can be seen, where it is then discharged into Moores Creek, then the
785 Rivanna River, James River, and Chesapeake Bay.

786
787 Mr. Tungate stated that his next slide was important to tie the picture together with two pump
788 stations at Moores Creek—the Moores Creek pump station and the Rivanna pump station. He
789 explained that the Rivanna station takes everything north towards the airport and into Greene
790 County. He stated the Moores Creek station takes the south side of Charlottesville and the
791 County customers around the City, as well as the area of Crozet. He stated there are four lift
792 stations on Rt. 250 bringing the sewage from Crozet to the Moores Creek pump station. He
793 stated in years past, there was a wastewater treatment plant in Crozet—but the community's
794 investment in pumps means that wastewater now gets pumped to the Moores Creek plant.

795
796 Mr. Tungate stated that a hot topic as of late has been of flushable wipes and how they are
797 negatively impacting the collection system. There is a bar screen at one of the Crozet pump
798 stations designed to catch them. He stated they have seen an increase in flushable wipes since
799 COVID, and he thinks a lot of people were using bleach wipes and were flushing them down the
800 toilet. He stated it is not uncommon for RWSA staff to handle 50-66 five-gallon buckets of these
801 being caught at bar screens, which is about a 50% increase from what was being done before
802 COVID.

803
804 Mr. Tungate stated that many of the members who have been on the Board for some time now
805 are familiar with the covers at Moores Creek on the primary clarifiers, which have helped reduce
806 a lot of the odor complaints received at the plant. He stated the next slide shows the odor control
807 system, which is taking the air off the top of the clarifiers and treating it to remove odors.

808
809 Mr. Tungate showed a slide with aeration basins, noting there are five at Moores Creek, with one
810 aeration step being the start of the new treatment removal process. He stated the next step in the
811 process is the liquid material that comes off the aeration clarifier then moves to the second
812 clarifiers. He stated the purpose is to settle the solids out, so they get taken off the bottom of the
813 clarifier where it gets digested for final UV disinfection and discharge. He stated after the
814 secondary clarifiers, the water is passed through sand filters to remove any turbidity that might
815 be present. He stated it is then passed through UV light channels, which then disinfect the water
816 and inactivate any viruses or bacteria that could be in the water. He stated the last step is to
817 discharge it to Moores Creek, which is the outfall that he mentioned previously.

818
819 Mr. Tungate stated there are solids being handled and two centrifuges, so after they take the
820 solids from the secondary clarifier, the flow goes into an anaerobic digester and sits there
821 anywhere from 11-15 days. He stated once the sludge has been digested, it goes to a centrifuge
822 that spins fast and removes the water—leaving what is known as biosolids. He stated that
823 material gets hauled to McGill Environmental in Waverly to be composted with their
824 commercial product.

825
826 Mr. Tungate stated just like the water reports, they have to report to the Virginia Department of
827 Environment Quality, and he displayed a list of the items required to be reported.

828
829 Dr. Palmer thanked him for the great overview.

830
831 Mr. Gaffney asked if flushable wipes are not flushable.

832
833 Mr. Tungate responded that they should be called “non-flushable wipes.” He stated there have
834 been videos of mock systems circulated to show the lifespan as they travel through sewer
835 systems, and there are larger systems like those with fatbergs that can cause very serious
836 blockage problems.

837
838 Dr. Palmer pondered who in government would be appropriate to tell advertisers not to call them
839 “flushable wipes.”

840
841 Mr. Tungate responded that the VWEA or WEA in wastewater professional organizations have
842 been involved in some litigation with these flushable wipes to change the nomenclature on the
843 boxes to remove the flushable portion.

844
845 Dr. Palmer asked if there was any federal agency that regulates this type of issue.

846
847 Mr. Mawyer responded that it would relate to false advertising, and that is who is involved in
848 current lawsuits. He stated several large utilities where these wipes have created tremendous
849 blockages and clogged up pumps have sued, saying these flushable wipes are not flushable, and
850 there have been several companies forced to change their advertising.

851
852 **10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

853 There are none.

854
855 **11. CLOSED MEETING**

856 There was no reason for a closed meeting.

857
858 **12. ADJOURNMENT**

859 **At 3:38 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer**
860 **Authority. Mr. O’Connell seconded the motion, which passed unanimously (7-0).**



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: SEPTEMBER 28, 2021

STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT

Recognitions

The professional qualifications of our staff continue to improve and enhance our services. The following employees have successfully completed the requirements for a license from the State or national certification:

- Michael Hearn – Water Operator Class 2
- Mary Rad Morris – Water Operator Class 4

New Laboratory Manager

We are pleased to announce that after a competitive interview and selection process, Patricia Defibaugh has been selected as our new Laboratory Manager. Patricia has BS in Biology from Mary Washington College, and has been an outstanding Chemist in our laboratory for 29 years.

On-Site Vaccinations

Augusta Health will provide flu vaccinations at the Moores Creek and IMUC locations for staff on October 6, 2021.

Code Red Alert System

Along with the Regional Emergency Operations Center, we use the Code Red alert system for staff Emergency Notifications. Code Red is a mass notification system used during emergencies such as active shooters, tornados, fires, etc. We recently successfully completed a test of this system, during which each staff member received an email, phone text or phone call to notify him/her of impending danger.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

Beaver Creek Reservoir Dam, Pump Station and Piping Modifications

Virtual Public Information Meeting #2 will be held on October 6, 2021 at 7 pm to provide an update on the project plan and schedule. The project now includes a detour road for local traffic during construction, which was a significant concern during prior meetings with the public.

Central Water Pipe

Preparation of engineering plans and specifications is underway for this 24 - 30" finished water distribution pipe through the City needed to strengthen the urban drinking water system. Detailed considerations continue to be reviewed with City and ACSA staff. A funding allocation agreement is also under discussion.

Ragged Mtn Reservoir to Observatory WTP Water Pipe and Pump Station

Easement discussions continue with two private owners, the UVA Foundation, the Virginia Department of Forestry and UVA for about 3 miles of 36" raw water pipe and a pumping station site.

S. Rivanna to Ragged Mtn Reservoir Water Pipe

Preparation of engineering plans and specifications is underway for a 0.25 mile section of this 36" raw pipe from Ivy Road to Old Garth Road. We have obtained agreements with VDOT and easements for 6 of the 8 miles required for the water pipe from the SRR to the new raw water pump station located near RMR. Our focus is now with the UVA Foundation and 3 private owners for the remaining 2 miles.

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Reservoirs and Water Treatment Plants

We continue to maximize the use of water from the South Rivanna reservoir at our South Rivanna WTP, while minimizing the use of water from the Ragged Mtn reservoir at our Observatory WTP. If water in the South Rivanna reservoir stops spilling over the dam, we will increase water production at the Observatory WTP and reduce production at the South Rivanna WTP to conserve water storage in the South Rivanna reservoir.

STRATEGIC PLAN GOAL: ENVIRONMENTAL STEWARDSHIP, COMMUNICATION & COLLABORATION

Virginia Department of Health Reservoir Protection Grant

In June 2020, RWSA was awarded a \$19,200 grant from the Virginia Department of Health to establish watershed and reservoir protection signs in the following watersheds:

- Beaver Creek Reservoir
- Totier Creek Reservoir
- North Rivanna Intake

RWSA has coordinated with the VA Department of Transportation regarding rules about sign size and color. A VDOT representative said that this was the first time a public utility in Virginia has requested source water protection signs for their water supply watershed. Installation of signs at the Beaver Creek Reservoir was completed in August, and installation at Totier Creek Reservoir and the North Rivanna river intake will be completed by the end of the 2021.



United Way Day of Caring

Staff participated in the United Way's "Day of Caring" event by helping to construct a structure in the Moormans River that improves the habitat for trout along with the Therapeutic Adventures and Thomas Jefferson Trout Unlimited organizations on September 22nd.

STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION

Moore's Creek AWRRF Virtual Tour

Dave Tungate, Director of Operations, gave a virtual tour of the Moore's Creek Advanced Water Resource Recovery Facility to a group of UVA students from the Darden School of Business.

VDEQ PFAS Workgroup

I am serving on an informal VDEQ workgroup to discuss issues surrounding PFAS in wastewater discharges and biosolids. VDEQ is taking a conservative approach to investigate PFAS sources and impacts, primarily from industrial dischargers.

Team Sponsorship

RWSA continues to support the children of employees by providing donations to youth sports teams.



In-Person Public Board Meetings

In July, we indicated we would review the plans of the City, County and ACSA to return to public Board meetings, and discuss the topic with the Rivanna Boards this month. Based on the current increase in covid cases in the community, we understand the City, County and ACSA will continue use of the virtual format for their public meetings. We recommend continued use of the virtual format for Rivanna Board meetings, with a plan to review the topic in November when both Rivanna Boards will meet again.

Our authorization to conduct virtual meetings is pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. The County Ordinance provides that virtual public meetings can continue for six months after the County declares that a disaster has ended. Our understanding is that the County and the City have not made such a declaration.



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND
ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: JULY MONTHLY FINANCIAL SUMMARY – FY 2022

DATE: SEPTEMBER 28, 2021

Urban Water flow and rate revenues are 21% over budget estimates for July, and Urban Wastewater flow and rate revenues are 3% under budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	\$ 815,932	\$ 846,340	\$ 194,030	\$ 1,856,302
Expenses	(587,674)	(835,559)	(206,929)	(1,630,162)
Surplus (deficit)	\$ 228,258	\$ 10,781	\$ (12,899)	\$ 226,140
Debt Service				
Revenues	\$ 636,935	\$ 825,139	\$ 167,209	\$ 1,629,283
Expenses	(638,027)	(726,299)	(167,465)	(1,531,791)
Surplus (deficit)	\$ (1,092)	\$ 98,840	\$ (256)	\$ 97,492
Total				
Revenues	\$ 1,452,867	\$ 1,671,479	\$ 361,239	\$ 3,485,585
Expenses	(1,225,701)	(1,561,858)	(374,394)	(3,161,953)
Surplus (deficit)	\$ 227,166	\$ 109,621	\$ (13,155)	\$ 323,632

When reviewing the Authority as a whole, operating revenues are \$191,000 over budget and operating expenses are \$10,000 over budget.

A. Annual and Quarterly Transactions

Some revenues and expenses are over the prorated year-to-date budget due to one-time receipts of revenues for the year and quarterly or annual payments of expenses. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but will even out as the year progresses. Septage receiving support revenue of \$109,441 is billed to the County annually in July. Annual payments are made for health savings account

contributions, leases and certain maintenance agreements. Insurance premiums are paid quarterly.

- B. Professional Services (Scottsville Wastewater – page 7) – Scottsville Wastewater incurred \$14,000 of unbudgeted Engineering and Technical Services expense in July.
- C. Other Services and Charges (Urban Wastewater – page 5) - Urban Wastewater is \$24,600 over the prorated budget for Crozet Pump Station odor control costs.
- D. Personnel Costs (Urban Water – page 2) – Urban Water’s salaries were a little higher than budgeted for July due to some overlap of salary for the outgoing water department manager and the interim manager. Annual health savings account contributions were made in July, as mentioned in Note A.

Attachments

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021
Fiscal Year 2022

Consolidated
Revenues and Expenses Summary

Operating Budget vs. Actual

Notes

Revenues

	<i>Budget</i> <i>FY 2022</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	\$ 18,810,555	\$ 1,567,546	\$ 1,684,944	\$ 117,397	7.49%
Lease Revenue	105,000	8,750	6,024	(2,726)	-31.15%
Admin., Maint. & Engineering Revenue	553,000	46,083	46,221	138	0.30%
Other Revenues	540,589	45,049	147,585	102,536	227.61%
Use of Reserves-GAC	316,250	26,354	-	(26,354)	-100.00%
Rate Stabilization Reserves	200,000	16,667	16,667	-	0.00%
Interest Allocation	8,200	683	1,083	400	58.56%
Total Operating Revenues	\$ 20,533,594	\$ 1,711,133	\$ 1,902,524	\$ 191,391	11.19%

Expenses

Personnel Cost	A,D	\$ 9,649,988	\$ 759,160	\$ 827,714	\$ (68,554)	-9.03%
Professional Services	B	712,050	59,338	17,385	41,952	70.70%
Other Services & Charges	A,C	3,111,400	259,283	258,199	1,084	0.42%
Communications		191,412	15,951	27,449	(11,498)	-72.09%
Information Technology	A	447,100	37,258	77,221	(39,963)	-107.26%
Supplies		42,160	3,513	3,002	511	14.56%
Operations & Maintenance	A	4,864,235	405,353	370,088	35,265	8.70%
Equipment Purchases		615,250	51,271	20,325	30,946	60.36%
Depreciation		900,000	75,000	75,000	-	0.00%
Reserve Transfers		-	-	-	-	-
Total Operating Expenses		\$ 20,533,595	\$ 1,666,128	\$ 1,676,384	\$ (10,256)	-0.62%
Operating Surplus/(Deficit)		\$ (1)	\$ 45,005	\$ 226,140		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 18,193,960	\$ 1,516,163	\$ 1,516,165	\$ 2	0.00%
Use of Reserves	-	-	-	-	-
Septage Receiving Support - County	109,440	9,120	109,441	100,321	1100.01%
Buck Mountain Lease Revenue	1,600	133	-	(133)	-100.00%
Trust Fund Interest	33,700	2,808	111	(2,697)	-96.03%
Reserve Fund Interest	80,000	6,667	3,565	(3,102)	-46.52%
Total Debt Service Revenues	\$ 18,418,700	\$ 1,534,892	\$ 1,629,283	\$ 94,391	6.15%

Debt Service Costs

Total Principal & Interest	\$ 14,256,077	\$ 1,188,006	\$ 1,188,006	\$ -	0.00%
Reserve Additions-Interest	80,000	6,667	3,565	3,102	46.52%
Debt Service Ratio Charge	725,000	60,417	60,417	-	0.00%
Reserve Additions-CIP Growth	3,357,634	279,803	279,803	-	0.00%
Total Debt Service Costs	\$ 18,418,711	\$ 1,534,893	\$ 1,531,791	\$ 3,102	0.20%
Debt Service Surplus/(Deficit)	\$ (11)	\$ (1)	\$ 97,491		

Summary

Total Revenues	\$ 38,952,294	\$ 3,246,025	\$ 3,531,806	\$ 285,782	8.80%
Total Expenses	38,952,306	3,201,020	3,208,175	(7,154)	-0.22%
Surplus/(Deficit)	\$ (12)	\$ 45,004	\$ 323,632		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Urban Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2022</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	\$ 7,971,504	\$ 664,292	\$ 803,036	\$ 138,744	20.89%
Lease Revenue	75,000	6,250	4,115	(2,135)	-34.16%
Miscellaneous	-	-	-	-	
Use of Reserves-GAC	300,000	25,000	-	(25,000)	-100.00%
Rate Stabilization Reserves	100,000	8,333	8,333	-	0.00%
Interest Allocation	3,400	283	449	165	58.32%
Total Operating Revenues	\$ 8,449,904	\$ 704,159	\$ 815,932	\$ 111,774	15.87%

Expenses

Personnel Cost	A,D \$ 2,039,157	\$ 161,085	\$ 187,954	\$ (26,870)	-16.68%
Professional Services	279,200	23,267	1,715	21,552	92.63%
Other Services & Charges	734,150	61,179	26,179	35,000	57.21%
Communications	98,670	8,223	10,839	(2,617)	-31.83%
Information Technology	80,500	6,708	9,765	(3,057)	-45.57%
Supplies	5,100	425	322	103	24.28%
Operations & Maintenance	2,250,440	187,537	99,995	87,542	46.68%
Equipment Purchases	15,400	1,283	1,283	0	0.00%
Depreciation	300,000	25,000	25,000	-	0.00%
Reserve Transfers	-	-	-	-	
Subtotal Before Allocations	\$ 5,802,617	\$ 474,707	\$ 363,054	\$ 111,653	23.52%
Allocation of Support Departments	2,647,289	209,324	224,620	(15,296)	-7.31%
Total Operating Expenses	\$ 8,449,906	\$ 684,031	\$ 587,674	\$ 96,357	14.09%
Operating Surplus/(Deficit)	\$ (2)	\$ 20,128	\$ 228,258		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 7,621,725	\$ 635,144	\$ 635,144	\$ 0	0.00%
Trust Fund Interest	12,000	1,000	40	(960)	-95.96%
Reserve Fund Interest	39,300	3,275	1,750	(1,525)	-46.55%
Use of Reserves	-	-	-	-	
Lease Revenue	1,600	133	-	(133)	-100.00%
Total Debt Service Revenues	\$ 7,674,625	\$ 639,552	\$ 636,935	\$ (2,617)	-0.41%

Debt Service Costs

Total Principal & Interest	\$ 5,215,275	\$ 434,606	\$ 434,606	\$ -	0.00%
Reserve Additions-Interest	39,300	3,275	1,750	1,525	46.55%
Debt Service Ratio Charge	400,000	33,333	33,333	-	0.00%
Reserve Additions-CIP Growth	2,020,050	168,338	168,338	-	0.00%
Total Debt Service Costs	\$ 7,674,625	\$ 639,552	\$ 638,028	\$ 1,525	0.24%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (1,093)		

Rate Center Summary

Total Revenues	\$ 16,124,529	\$ 1,343,711	\$ 1,452,867	\$ 109,157	8.12%
Total Expenses	16,124,531	1,323,583	1,225,702	97,881	7.40%
Surplus/(Deficit)	\$ (2)	\$ 20,128	\$ 227,166		
Costs per 1000 Gallons	\$ 2.49		\$ 1.72		
Operating and DS	\$ 4.75		\$ 3.58		
Thousand Gallons Treated	3,397,700	283,142	342,300	59,158	20.89%
or					
Flow (MGD)	9.309		11.042		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Crozet Water Rate Center
Revenues and Expenses Summary

Budget FY 2022	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 1,058,856	\$ 88,238	\$ 88,238	\$ -	0.00%
Lease Revenues	30,000	2,500	1,909	(591)	-23.63%
Use of Reserves-GAC	13,000	1,083	-	(1,083)	-100.00%
Interest Allocation	500	42	63	21	50.82%
Total Operating Revenues	\$ 1,102,356	\$ 91,863	\$ 90,210	\$ (1,653)	-1.80%

Expenses

Personnel Cost	\$ 324,463	\$ 25,636	\$ 29,614	\$ (3,978)	-15.52%
Professional Services	15,100	1,258	-	1,258	100.00%
Other Services & Charges	104,450	8,704	6,253	2,451	28.16%
Communications	17,530	1,461	1,709	(248)	-17.01%
Information Technology	5,250	438	40	397	90.85%
Supplies	1,500	125	62	63	50.48%
Operations & Maintenance	296,900	24,742	31,674	(6,933)	-28.02%
Equipment Purchases	28,000	2,333	250	2,083	89.29%
Depreciation	60,000	5,000	5,000	-	0.00%
Reserve Transfers	-	-	-	-	
Subtotal Before Allocations	\$ 853,193	\$ 69,697	\$ 74,602	\$ (4,906)	-7.04%
Allocation of Support Departments	249,161	19,709	21,122	(1,414)	-7.17%
Total Operating Expenses	\$ 1,102,354	\$ 89,405	\$ 95,725	\$ (6,320)	-7.07%
Operating Surplus/(Deficit)	\$ 2	\$ 2,458	\$ (5,515)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 1,847,832	\$ 153,986	\$ 153,986	\$ -	0.00%
Trust Fund Interest	2,900	242	9	(232)	-96.13%
Use of Reserves	-	-	-	-	
Reserve Fund Interest	2,500	208	111	(98)	-46.95%
Total Debt Service Revenues	\$ 1,853,232	\$ 154,436	\$ 154,106	\$ (330)	-0.21%

Debt Service Costs

Total Principal & Interest	\$ 1,216,667	\$ 101,389	\$ 101,389	\$ -	0.00%
Reserve Additions-Interest	2,500	208	111	98	46.95%
Reserve Additions-CIP Growth	634,070	52,839	52,839	-	0.00%
Total Debt Service Costs	\$ 1,853,237	\$ 154,436	\$ 154,339	\$ 98	0.06%
Debt Service Surplus/(Deficit)	\$ (5)	\$ (0)	\$ (233)		

Rate Center Summary

Total Revenues	\$ 2,955,588	\$ 246,299	\$ 244,316	\$ (1,983)	-0.81%
Total Expenses	2,955,591	243,841	250,063	(6,222)	-2.55%
Surplus/(Deficit)	\$ (3)	\$ 2,458	\$ (5,747)		
Costs per 1000 Gallons	\$ 5.44		\$ 3.78		
Operating and DS	\$ 14.58		\$ 9.88		
Thousand Gallons Treated	202,697	16,891	25,299	8,408	49.77%
Flow (MGD)	0.555		0.816		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Scottsville Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2022</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	\$ 514,704	\$ 42,892	\$ 42,892	\$ -	0.00%
Use of Reserves-GAC	3,250	271		(271)	-100.00%
Interest Allocation	200	17	30	14	82.04%
<i>Total Operating Revenues</i>	\$ 518,154	\$ 43,180	\$ 42,922	\$ (257)	-0.60%

Expenses

Personnel Cost	\$ 195,695	\$ 15,446	\$ 18,055	\$ (2,609)	-16.89%
Professional Services	2,900	242	695	(453)	-187.59%
Other Services & Charges	28,100	2,342	1,363	979	41.81%
Communications	4,930	411	710	(299)	-72.73%
Information Technology	1,250	104	80	24	23.18%
Supplies	770	64	-	64	100.00%
Operations & Maintenance	87,200	7,267	3,684	3,582	49.30%
Equipment Purchases	1,500	125	125	-	0.00%
Depreciation	40,000	3,333	3,333	0	0.00%
Reserve Transfers	-	-	-	-	
<i>Subtotal Before Allocations</i>	\$ 362,345	\$ 29,334	\$ 28,045	\$ 1,289	4.39%
Allocation of Support Departments	155,813	12,342	13,163	(821)	-6.65%
<i>Total Operating Expenses</i>	\$ 518,158	\$ 41,676	\$ 41,207	\$ 468	1.12%
<i>Operating Surplus/(Deficit)</i>	\$ (4)	\$ 1,504	\$ 1,715		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 138,888	\$ 11,574	\$ 11,574	\$ -	0.00%
Trust Fund Interest	300	25	1	(24)	-96.00%
Reserve Fund Interest	1,200	100	53	(47)	-46.53%
<i>Total Debt Service Revenues</i>	\$ 140,388	\$ 11,699	\$ 11,628	\$ (71)	-0.60%

Debt Service Costs

Total Principal & Interest	\$ 125,892	\$ 10,491	\$ 10,491	\$ -	0.00%
Reserve Additions-Interest	1,200	100	53	47	
Reserve Additions-CIP Growth	13,299	1,108	1,108	-	
<i>Total Debt Service Costs</i>	\$ 140,391	\$ 11,699	\$ 11,653	\$ 47	0.40%
<i>Debt Service Surplus/(Deficit)</i>	\$ (3)	\$ (0)	\$ (24)		

Rate Center Summary

Total Revenues	\$ 658,542	\$ 54,879	\$ 54,551	\$ (328)	-0.60%
Total Expenses	658,549	53,375	52,860	515	0.96%
Surplus/(Deficit)	\$ (7)	\$ 1,504	\$ 1,691		
Costs per 1000 Gallons	\$ 30.07		\$ 24.50		
Operating and DS	\$ 38.22		\$ 31.43		
Thousand Gallons Treated	17,230	1,436	1,682	246	17.14%
or					
Flow (MGD)	0.047		0.054		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Urban Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2022</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	\$ 8,535,195	\$ 711,266	\$ 689,920	\$ (21,346)	-3.00%
Stone Robinson WWTP	20,589	1,716	1,412	(304)	-17.70%
Septage Acceptance	475,000	39,583	41,698	2,115	5.34%
Nutrient Credits	45,000	3,750	104,475	100,725	2686.00%
Rate Stabilization Reserve	100,000	8,333	8,333	-	0.00%
Miscellaneous Revenue	-	-	-	-	
Interest Allocation	3,800	317	502	185	58.42%
Total Operating Revenues	\$ 9,179,584	\$ 764,965	\$ 846,340	\$ 81,374	10.64%

Expenses

Personnel Cost	A	\$ 1,289,471	\$ 101,610	\$ 117,448	\$ (15,837)	-15.59%
Professional Services		208,500	17,375	-	17,375	100.00%
Other Services & Charges	A,C	2,011,700	167,642	200,512	(32,870)	-19.61%
Communications		9,800	817	2,821	(2,004)	-245.42%
Information Technology		56,500	4,708	8,551	(3,843)	-81.61%
Supplies		1,200	100	231	(131)	-130.93%
Operations & Maintenance	A	1,672,520	139,377	194,639	(55,263)	-39.65%
Equipment Purchases		294,250	24,521	4,167	20,354	83.01%
Depreciation		470,000	39,167	39,167	(0)	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		\$ 6,013,941	\$ 495,316	\$ 567,535	\$ (72,219)	-14.58%
Allocation of Support Departments		3,165,643	250,531	268,024	(17,494)	-6.98%
Total Operating Expenses		\$ 9,179,584	\$ 745,847	\$ 835,559	\$ (89,713)	-12.03%
Operating Surplus/(Deficit)		\$ (0)	\$ 19,119	\$ 10,780		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 8,568,221	\$ 714,018	\$ 714,019	\$ 1	0.00%
Septage Receiving Support - County	109,440	9,120	109,441	100,321	1100.01%
Trust Fund Interest	18,500	1,542	60	(1,481)	-96.08%
Use of Reserves	-	-	-	-	
Reserve Fund Interest	36,300	3,025	1,619	(1,406)	-46.49%
Total Debt Service Revenues	\$ 8,732,461	\$ 727,705	\$ 825,139	\$ 97,434	13.39%

Debt Service Costs

Total Principal & Interest	\$ 7,689,212	\$ 640,768	\$ 640,768	\$ -	0.00%
Reserve Additions-Interest	36,300	3,025	1,619	1,406	46.49%
Debt Service Ratio Charge	325,000	27,083	27,083	-	0.00%
Reserve Additions-CIP Growth	681,950	56,829	56,829	-	0.00%
Total Debt Service Costs	\$ 8,732,462	\$ 727,705	\$ 726,299	\$ 1,406	0.19%
Debt Service Surplus/(Deficit)	\$ (1)	\$ (0)	\$ 98,840		

Rate Center Summary

Total Revenues	\$ 17,912,045	\$ 1,492,670	\$ 1,671,479	\$ 178,808	11.98%
Total Expenses	17,912,046	1,473,552	1,561,858	(88,306)	-5.99%
Surplus/(Deficit)	\$ (1)	\$ 19,118	\$ 109,621		
Costs per 1000 Gallons	\$ 2.71		\$ 3.05		
Operating and DS	\$ 5.28		\$ 5.70		
Thousand Gallons Treated	3,390,400	282,533	274,104	(8,429)	-2.98%
or					
Flow (MGD)	9.289		8.842		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2022</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	\$ 404,028	\$ 33,669	\$ 33,669	\$ -	0.00%
Rate Stabilization Reserve	-	-	-	-	-
Interest Allocation	200	17	23	6	36.56%
Total Operating Revenues	\$ 404,228	\$ 33,686	\$ 33,692	\$ 6	0.02%

Expenses

Personnel Cost	\$ 94,885	\$ 7,478	\$ 8,613	\$ (1,135)	-15.18%
Professional Services	12,900	1,075	-	1,075	-
Other Services & Charges	34,300	2,858	3,219	(361)	-12.63%
Communications	3,130	261	297	(36)	-13.93%
Information Technology	2,000	167	-	167	100.00%
Supplies	-	-	69	(69)	-
Operations & Maintenance	121,650	10,138	7,197	2,940	29.00%
Equipment Purchases	3,800	317	317	(0)	0.00%
Depreciation	10,000	833	833	0	0.00%
Subtotal Before Allocations	\$ 282,665	\$ 23,126	\$ 20,546	\$ 2,580	11.16%
Allocation of Support Departments	121,563	9,645	10,225	(581)	-6.02%
Total Operating Expenses	\$ 404,229	\$ 32,771	\$ 30,772	\$ 1,999	6.10%
Operating Surplus/(Deficit)	\$ (1)	\$ 915	\$ 2,920		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 7,412	\$ 618	\$ 618	\$ 0	0.05%
Trust Fund Interest	-	-	-	-	-
Reserve Fund Interest	200	17	11	(6)	-35.86%
Total Debt Service Revenues	\$ 7,612	\$ 634	\$ 629	\$ 0	0.05%

Debt Service Costs

Total Principal & Interest	\$ 1,578	\$ 132	\$ 132	\$ -	0.00%
Reserve Additions-CIP Growth	5,834	486	486	-	0.00%
Reserve Additions-Interest	200	17	11	6	35.86%
Total Debt Service Costs	\$ 7,612	\$ 634	\$ 628	\$ 6	0.94%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ 0		

Rate Center Summary

Total Revenues	\$ 411,840	\$ 34,320	\$ 34,320	\$ 0	0.00%
Total Expenses	411,841	33,405	31,400	2,005	6.00%
Surplus/(Deficit)	\$ (1)	\$ 915	\$ 2,921		
Costs per 1000 Gallons	\$ 9.76		\$ 10.95		
Operating and DS	\$ 9.95		\$ 11.17		
Thousand Gallons Treated or Flow (MGD)	41,401	3,450	2,811	(639)	-18.52%
	0.113		0.091		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2022</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	\$ 326,268	\$ 27,189	\$ 27,189	\$ -	0.00%
Interest Allocation	100	8	17	9	107.96%
Total Operating Revenues	\$ 326,368	\$ 27,197	\$ 27,206	\$ 9	0.03%

Expenses

Personnel Cost	\$ 94,875	\$ 7,477	\$ 8,613	\$ (1,136)	-15.20%
Professional Services	10,250	854	14,078	(13,223)	-1548.10%
Other Services & Charges	21,800	1,817	2,344	(528)	-29.05%
Communications	3,400	283	541	(258)	-91.03%
Information Technology	1,500	125	-	125	100.00%
Supplies	-	-	-	-	
Operations & Maintenance	58,100	4,842	2,184	2,658	54.90%
Equipment Purchases	3,800	317	317	(0)	0.00%
Depreciation	20,000	1,667	1,667	(0)	0.00%
Subtotal Before Allocations	\$ 213,725	\$ 17,381	\$ 29,743	\$ (12,362)	-71.12%
Allocation of Support Departments	112,640	8,934	9,482	(548)	-6.14%
Total Operating Expenses	\$ 326,365	\$ 26,315	\$ 39,225	\$ (12,910)	-49.06%
Operating Surplus/(Deficit)	\$ 3	\$ 882	\$ (12,019)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 9,882	\$ 824	\$ 824	\$ 1	0.06%
Trust Fund Interest	-	-	0	0	
Reserve Fund Interest	500	42	21	(20)	-48.64%
Total Debt Service Revenues	\$ 10,382	\$ 865	\$ 846	\$ (20)	-2.27%

Debt Service Costs

Total Principal & Interest	\$ 7,453	\$ 621	\$ 621	\$ -	0.00%
Reserve Additions-Interest	500	42	21	20	48.64%
Estimated New Principal & Interest	2,431	203	203	-	0.00%
Total Debt Service Costs	\$ 10,384	\$ 865	\$ 845	\$ 20	2.34%
Debt Service Surplus/(Deficit)	\$ (2)	\$ (0)	\$ 0		

Rate Center Summary

Total Revenues	\$ 336,750	\$ 28,063	\$ 28,052	\$ (11)	-0.04%
Total Expenses	336,749	27,180	40,070	(12,890)	-47.42%
Surplus/(Deficit)	\$ 1	\$ 882	\$ (12,019)		
Costs per 1000 Gallons	\$ 13.80		\$ 29.34		
Operating and DS	\$ 14.24		\$ 29.97		
Thousand Gallons Treated	23,643	1,970	1,337	(633)	-32.14%
or					
Flow (MGD)	0.065		0.043		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Administration

Operating Budget vs. Actual

Budget FY 2022	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Notes

Revenues

Payment for Services SWA	\$ 551,000	\$ 45,917	\$ 46,167	\$ 250	0.55%
Miscellaneous Revenue	2,000	167	54	(113)	-67.58%
Total Operating Revenues	\$ 553,000	\$ 46,083	\$ 46,221	\$ 138	0.30%

Expenses

Personnel Cost	\$ 2,177,998	\$ 170,786	\$ 174,727	\$ (3,941)	-2.31%
Professional Services	163,200	13,600	628	12,973	95.39%
Other Services & Charges	86,200	7,183	12,194	(5,011)	-69.76%
Communications	21,000	1,750	2,199	(449)	-25.67%
Information Technology	171,900	14,325	38,637	(24,312)	-169.72%
Supplies	21,500	1,792	1,320	472	26.33%
Operations & Maintenance	68,600	5,717	4,723	993	17.38%
Equipment Purchases	25,200	2,100	1,267	833	39.68%
Depreciation	-	-	-	-	
Total Operating Expenses	\$ 2,735,598	\$ 217,253	\$ 235,695	\$ (18,442)	-8.49%

Department Summary

Net Costs Allocable to Rate Centers		\$ (2,182,598)	\$ (171,169)	\$ (189,474)	\$ 18,304	-10.69%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 960,343	\$ 75,314	\$ 83,368	\$ (8,054)	
Crozet Water	4.00%	\$ 87,304	\$ 6,847	\$ 7,579	\$ (732)	
Scottsville Water	2.00%	\$ 43,652	\$ 3,423	\$ 3,789	\$ (366)	
Urban Wastewater	48.00%	\$ 1,047,647	\$ 82,161	\$ 90,947	\$ (8,786)	
Glenmore Wastewater	1.00%	\$ 21,826	\$ 1,712	\$ 1,895	\$ (183)	
Scottsville Wastewater	1.00%	\$ 21,826	\$ 1,712	\$ 1,895	\$ (183)	
	100.00%	\$ 2,182,598	\$ 171,169	\$ 189,474	\$ (18,304)	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Maintenance

<i>Budget FY 2022</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

\$ -	\$ -	\$ -	\$ -	-
\$ -	\$ -	\$ -	\$ -	-
\$ -	\$ -	\$ -	\$ -	-

Expenses

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

Total Operating Expenses

\$ 1,398,597	\$ 109,983	\$ 119,929	\$ (9,946)	-9.04%
-	-	-	-	-
61,200	5,100	3,067	2,033	39.86%
15,730	1,311	4,786	(3,476)	-265.14%
9,500	792	17	775	97.89%
2,000	167	-	167	100.00%
89,600	7,467	10,197	(2,730)	-36.56%
208,100	17,342	10,667	6,675	38.49%
-	-	-	-	-
\$ 1,784,727	\$ 142,161	\$ 148,663	\$ (6,502)	-4.57%

Department Summary

Net Costs Allocable to Rate Centers

\$ (1,784,727)	\$ (142,161)	\$ (148,663)	\$ 6,502	-4.57%
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Allocations to the Rate Centers

Urban Water	30.00%	\$ 535,418	\$ 42,648	\$ 44,599	\$ (1,951)
Crozet Water	3.50%	62,465	4,976	5,203	(228)
Scottsville Water	3.50%	62,465	4,976	5,203	(228)
Urban Wastewater	56.50%	1,008,371	80,321	83,994	(3,674)
Glenmore Wastewater	3.50%	62,465	4,976	5,203	(228)
Scottsville Wastewater	3.00%	53,542	4,265	4,460	(195)
	100.00%	\$ 1,784,727	\$ 142,161	\$ 148,663	\$ (6,502)

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Laboratory

<i>Budget FY 2022</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	\$ 411,037	\$ 32,277	\$ 35,841	\$ (3,564)	-11.04%
Professional Services	-	-	-	-	
Other Services & Charges	7,900	658	1,032	(373)	-56.70%
Communications	1,300	108	107	1	
Information Technology	200	17	-	17	100.00%
Supplies	1,300	108	125	(16)	-15.01%
Operations & Maintenance	120,590	10,049	7,496	2,553	25.40%
Equipment Purchases	1,700	142	142	(0)	0.00%
Depreciation	-	-	-	-	
Total Operating Expenses	\$ 544,027	\$ 43,360	\$ 44,742	\$ (1,383)	-3.19%

Department Summary

Net Costs Allocable to Rate Centers		\$ (544,027)	\$ (43,360)	\$ (44,742)	\$ 1,383	-3.19%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 239,372	\$ 19,078	\$ 19,687	\$ (608)	
Crozet Water	4.00%	21,761	1,734	1,790	(55)	
Scottsville Water	2.00%	10,881	867	895	(28)	
Urban Wastewater	47.00%	255,693	20,379	21,029	(650)	
Glenmore Wastewater	1.50%	8,160	650	671	(21)	
Scottsville Wastewater	1.50%	8,160	650	671	(21)	
	100.00%	\$ 544,027	\$ 43,360	\$ 44,742	\$ (1,383)	

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2021

Engineering

<i>Budget FY 2022</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

Total Operating Revenues

\$ -	\$ -	\$ -	\$ -	-
\$ -	\$ -	\$ -	\$ -	-

Expenses

Personnel Cost

Professional Services

Other Services & Charges

Communications

Information Technology

Supplies

Operations & Maintenance

Equipment Purchases

Depreciation & Capital Reserve Transfers

Total Operating Expenses

A

\$ 1,623,810	\$ 127,382	\$ 126,921	\$ 462	0.36%
20,000	1,667	270	1,397	83.80%
21,600	1,800	2,035	(235)	-13.08%
15,922	1,327	3,439	(2,112)	-159.19%
118,500	9,875	20,131	(10,256)	-103.86%
8,790	733	874	(141)	-19.26%
98,635	8,220	8,298	(78)	-0.95%
33,500	2,792	1,792	1,000	35.82%
-	-	-	-	-
\$ 1,940,757	\$ 153,795	\$ 163,759	\$ (9,964)	-6.48%

Department Summary

Net Costs Allocable to Rate Centers

\$ (1,940,757)	\$ (153,795)	\$ (163,759)	\$ 9,964	-6.48%
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Allocations to the Rate Centers

Urban Water

Crozet Water

Scottsville Water

Urban Wastewater

Glenmore Wastewater

Scottsville Wastewater

47.00%	\$ 912,156	\$ 72,284	\$ 76,967	\$ (4,683)
4.00%	77,630	6,152	6,550	(399)
2.00%	38,815	3,076	3,275	(199)
44.00%	853,933	67,670	72,054	(4,384)
1.50%	29,111	2,307	2,456	(149)
1.50%	29,111	2,307	2,456	(149)
100.00%	\$ 1,940,757	\$ 153,795	\$ 163,759	\$ (9,964)

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 2021

DATE: SEPTEMBER 28, 2021

WATER OPERATIONS:

The average and maximum daily water produced in August 2021 was as follows:

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
South Rivanna	8.76	9.96 (8/26/2021)
Observatory	1.77	2.74 (8/15/2021)
North Rivanna	<u>0.49</u>	<u>0.68 (8/10/2021)</u>
<i>Urban Total</i>	11.02	12.80 (8/27/2021)
Crozet	0.77	1.026 (8/10/2021)
Scottsville	0.06	0.08 (8/23/2021)
Red Hill	<u>0.0020</u>	0.003 (8/17/2021)
<i>RWSA Total</i>	11.85	-

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

Status of Reservoirs (as of September 16, 2021):

- Urban Reservoirs: 91% of Total Useable Capacity
- Ragged Mountain Reservoir is not full (88%)
- Sugar Hollow Reservoir is full (81.92%)*
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is not full (84%)
- Totier Creek Reservoir is full (100%)

*The Sugar Hollow Reservoir was lowered 5 feet on Monday, November 30, 2020 for a construction project. Normal pool level will be restored when the construction project has been completed.

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during August 2021. Performance of the WRRFs in August was as follows compared to the respective VDEQ permit limits:

WRRF	Average Daily Effluent Flow (MGD)	Average CBOD₅ (ppm)		Average Total Suspended Solids (ppm)		Average Ammonia (ppm)	
		RESULT	LIMIT	RESULT	LIMIT	RESULT	LIMIT
Moore's Creek	9.23	5.0	10	<QL	22	0.2	2.2
Glenmore	0.090	4.8	15	3.2	30	NR	NL
Scottsville	0.044	8.8	25	2.1	30	NR	NL
Stone Robinson	0.001	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 Moore's Creek AWRRF were as follows for August 2021.

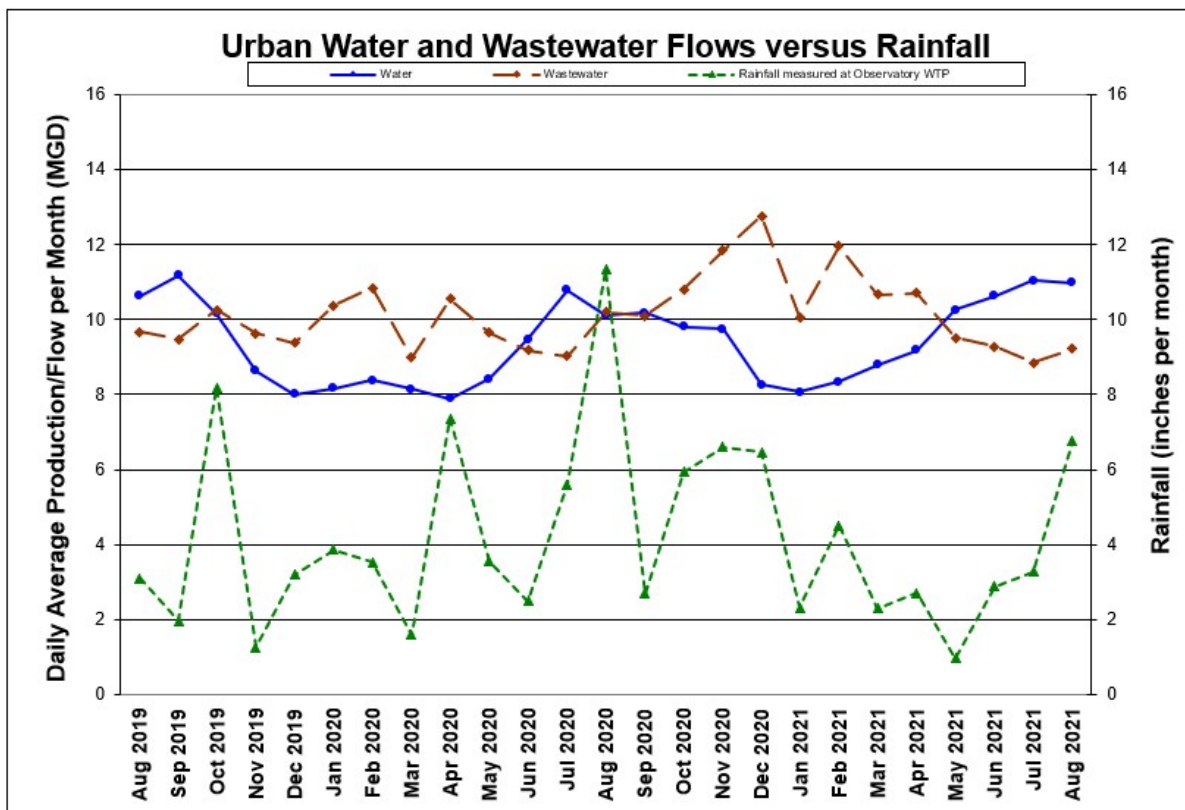
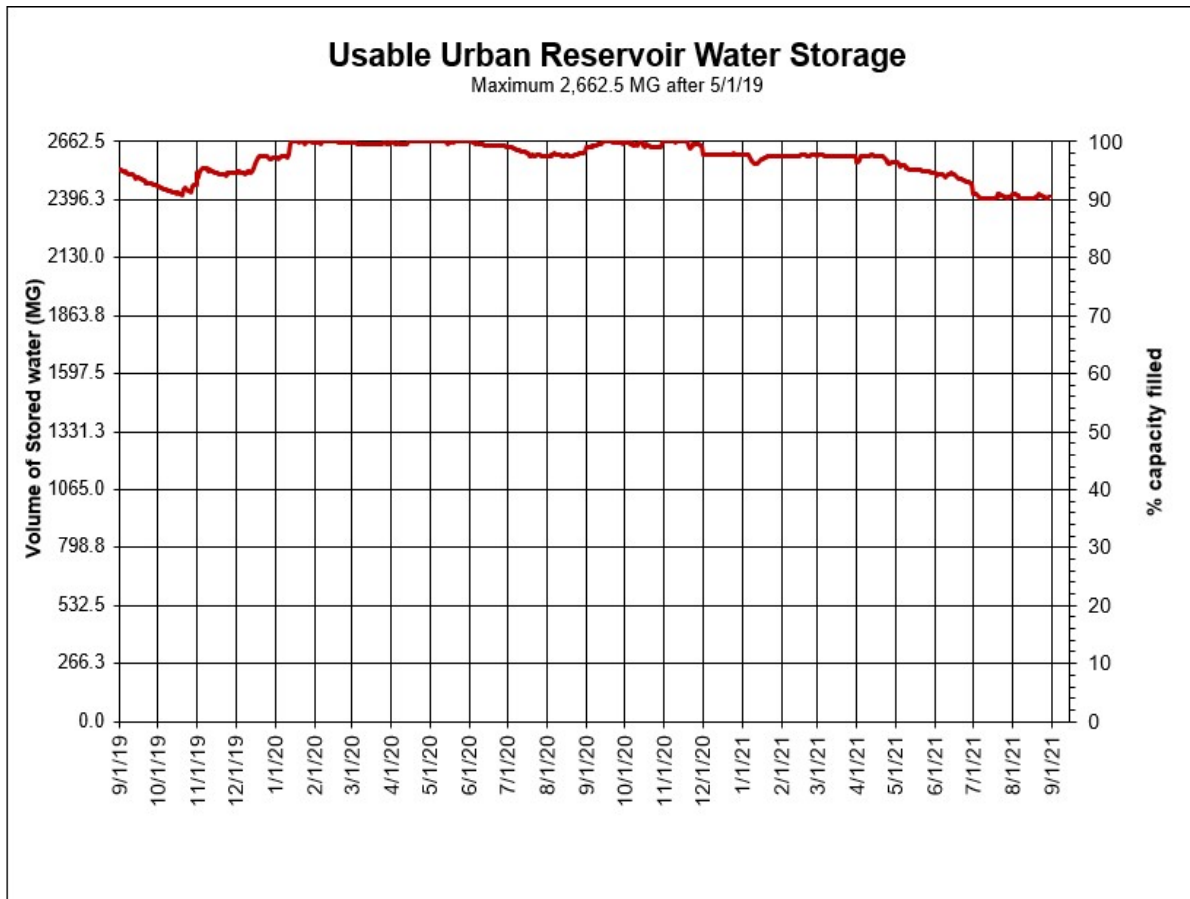
State Annual Allocation (lb./yr.) Permit		Average Monthly Allocation (lb./mo.) *	Moore's Creek Discharge August (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	5,220	22%	19%
Phosphorous	18,525	1,544	594	38%	23%

*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





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 28, 2021

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

For the current, approved CIP, please visit: <https://www.rivanna.org/wp-content/uploads/2021/06/2022-2026-CIP-Final.pdf>

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Crozet Flow Equalization Tank
3. MC Aluminum Slide Gate Replacements
4. MC Exterior Lighting Improvements
5. MC Generator Fuel Expansion
6. MC Clarifier and Silo Demolition
7. Glenmore WRRF Influent Pump & VFD Addition

Design and Bidding

8. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
9. South Rivanna to Ragged Mtn. Raw Water Line – Birdwood to Old Garth
10. Beaver Creek Dam, Pump Station and Piping Improvements
11. Airport Road Water Pump Station and Piping
12. South Rivanna River Crossing
13. MC 5kV Electrical System Upgrades
14. Central Water Line

Planning and Studies

15. South Rivanna Reservoir to Ragged Mtn Reservoir Water Line Right-of-Way
16. Urban Finished Water Infrastructure Master Plan
17. Upper Schenks Branch Interceptor, Phase II

- 18. Asset Management Plan
- 19. MC Facilities Master Plan
- 20. SRR to RMR Pipeline – Pretreatment Pilot Study

Other Significant Projects

- 21. Urgent and Emergency Repairs
- 22. Interceptor Sewer & Manhole Repair
- 23. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	45%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500 + \$474,849.89 = \$37,223,349.89
Completion:	March 2023
Budget:	\$43,000,000

Current Status: Work continues at the SRWTP with construction of the filter building expansion, the Alum and Fluoride Chemical Storage Building, Administration Building, sedimentation basin improvements and the replacement of high service pumps and VFDs. Work at the OBWTP includes foundation work associated with the new Chemical Storage Building, coordination with Dominion Power and UVA on a new electrical service and expansion of the filter building.

2. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Construction Contractor:	Anderson Construction (Lynchburg, VA)
Construction Start:	September 2020
Percent Complete:	55%
Based Construction Contract +	
Change Orders to Date = Current Value:	\$4,406,300
Completion:	November 2022
Budget:	\$5,400,000

Current Status: Placement of the liner and reinforcing for pouring the concrete dome roof have been completed and concrete placement is scheduled for this month. Electrical work and installation of new pumps in the pump station have begun.

3. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
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Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	September 2020
Percent Complete:	85%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$373,600 - \$30,400 = \$343,200
Completion:	October 2021
Budget:	\$675,000

Current Status: Work has resumed and the contractor has installed the bulkhead at the headworks to repair the corroded mud valves.

4. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	April 2021
Percent Complete:	45%
Base Construction Contract +	
Change Order to Date = Current Value:	\$349,000
Completion:	February 2022
Budget:	\$600,000

Current Status: Conduit has been installed for all new light poles. Pole bases for new lights will start this month.

5. MC Generator Fuel Storage Expansion

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH).
Construction Contractor:	Waco Incorporated (Sandston, VA) .
Construction Start:	July 2021
Percent Complete:	20%
Base Construction Contract +	
Change Order to Date = Current Value:	\$168,860
Completion:	January 2022
Budget:	\$220,000

Current Status: The 8,000 gallon, above ground fuel storage tank has been ordered and delivery is expected in November 2021. Contractor is preparing for placement of the concrete pad.

6. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pleasant View Developers (Staunton, VA)
Construction Start:	September 2021
Percent Complete:	0%
Base Construction Contract +	
Change Order to Date = Current Value:	\$649,000

Completion:	August 2022
Budget:	\$790,000

Current Status: A Notice of Award was provided to the contractor on August 6th and contracts are being executed. A preconstruction meeting is scheduled for October 4th.

7. **Glenmore WRRF Influent Pump and VFD Addition**

Design Engineer:	Wiley Wilson
Construction Contractor:	MEB (Chesapeake, VA)
Construction Start:	September 2021
Percent Complete:	0%
Base Construction Contract + Change Order to Date = Current Value:	\$288,000
Completion:	October 2022
Budget:	\$370,000

Current Status: A Notice of Award was provided to the contractor on August 6th and contracts are being executed. A preconstruction meeting is planned for October .

Design and Bidding

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

Design Engineer:	Michael Baker International (Baker) (Right of Way)
Design Engineer:	Kimley-Horn (Design)
Project Start:	August 2018
Project Status:	Design & Easement Acquisition
Construction Start:	2023
Completion:	2027
Budget:	\$24,000,000

Current Status:

Preparation of engineering plans and specifications is underway. A kickoff meeting for the design efforts was held on September 17th. Kimley-Horn is assisting staff with preparing documents for easement negotiations. Easement negotiations with two private owners, UVA, the UVA Foundation, and the Virginia Department of Forestry continue.

9. **South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line – Birdwood to Old Garth**

Design Engineer:	Kimley-Horn
Project Start:	June 2021
Project Status:	30% Design
Construction Start:	Summer 2022
Completion:	2023
Budget:	\$1,980,000

Current Status:

One remaining easement is under negotiation with the UVA Foundation. 30% design drawings have been completed.

10. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	60% NRCS Planning Process
Construction Start:	2024
Completion:	2026
Budget:	\$35,000,000

Current Status: A spillway upgrade alternative for the dam has been selected, and will be presented in a public meeting on October 6, 2021. A new raw water pump station site and pipe access route were selected and approved by the Board in August. Staff is moving forward with development of a Joint Permit Application and supporting documents for submission to DEQ by the end of 2021.

11. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	Bidding
Construction Start:	January 2022
Completion:	December 2023
Budget:	\$7,600,000

Current Status: The project was advertised for bids on September 7, 2021 and a pre-bid meeting was held on September 13, 2021. Bids will be opened on October 7, 2021 and staff anticipates an award of this project at the October 2021 BOD meeting.

12. South Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	25% Design
Construction Start:	Spring 2022
Completion:	Fall 2023
Budget:	\$3,655,000

Current Status: Baker and its subconsultants are completing survey work.

13. MC 5 kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	85% Design

Construction Start:	March 2022
Completion:	June 2024
Budget:	\$4,600,000

Current Status: An electrical contractor completed a round of condition assessments on the existing conduits, which may be used for the 5kV cable pulls. Initial efforts indicate the conduits are in good condition and suitable for use. Hazen is continuing with design efforts and intends to have the 95% submittal to staff by the end of the month. Permitting documents are also anticipated to be submitted to the County at this time as well.

14. Central Water Line

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	2% Design
Construction Start:	January 2024
Completion:	June 2026
Budget:	\$25 M

Current Status: A kickoff meeting with ACSA and the City was held on August 27, 2021.

Planning and Studies

15. 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
Completion:	2021
Budget:	\$2,295,000

Current Status: Progress continues in our efforts to acquire the 8 miles of easements and agreements (with VDOT) for this 36" water line. Discussions continue on remaining easements with 3 private owners and the UVA Foundation.

16. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	95% complete
Completion:	November 2021
Budget:	\$253,000

Current Status: Staff is reviewing the draft report. Once the draft report is finalized, it will be circulated to stakeholders for review and comment.

17. Upper Schenks Branch Interceptor, Phase II

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

Current Status: Design efforts to refine the pipe alignment based on recent discussions are underway with the intention of the sewer line being installed within easements out of the roadway.

18. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 2 – 99% Complete CMMS Implementation – 38% Complete
Completion:	2021
Budget:	\$1,115,000

Current Status: A draft Tactical Asset Management Plan has been submitted for review. For implementation of the new CMMS, workshops have been held related to the software configuration process and GHD is developing updates to our facility geodatabase to include information gathered during development of an initial asset register.

19. MC Facilities Master Plan

Design Consultant:	Hazen and Sawyer
Project Start:	August 2019
Project Status:	95% Complete
Completion:	November 2021
Budget:	\$275,000

Current Status: Hazen will address staff comments and then the Master Plan will be circulated to stakeholders for comment.

20. SRR to RMR Pipeline – Pretreatment Pilot Study

Design Consultant:	SEH
Project Start:	August 2020
Project Status:	100% Complete (Phase 1), 30% Complete (Phase 2)
Completion:	July 2022
Budget:	\$22,969 (Phase 1), \$98,629 (Phase 2)

Current Status: Phase 1, analysis of existing water quality and seasonal weather data, has been completed. SEH and staff have finalized the memo for this portion of the study. Phase 2 of the study has begun and includes detailed reservoir water quality modeling performed by DiNatale Water Consultants. DiNatale has completed a draft of the desktop model for staff review, prior to advancing to later stages of the modeling efforts.

Other Significant Projects

21. Urgent and Emergency Repairs

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

Project No.	Project Description	Approx. Cost
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-20	Finished Water Sampling Stations	\$150,000
2020-23	MCI Erosion @ Moores Creek Crossing (Near Avon Ct)	\$40,000
2021-02	CZI-MH-96 Slope Failure	\$40,000
2021-04	UWL-ARV-15 Settlement	\$25,000
2021-05	Erosion Near SRW-059	\$40,000
2021-08	MCAWRRF Digester Manway Sealing	\$70,000
2021-09	SLW Erosion Near SLW-022	\$15,000
2021-13	UWL-ARV-12 Abandonment and Replacement	\$75,000

- Moores Creek WWPS Gate Valve 205 Replacement:** In July 2020, RWSA Operations staff identified a valve had become stuck in nearly the fully closed position, causing a reduction in the discharge capacity of the pumping station (PS), especially during wet weather events where both of the 24” force mains leaving the PS are required. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director, and staff worked with Waco to plan for the associated force main shutdown and valve replacement. Due to excessive lead times and impending weather, a spool piece of pipe was procured for temporary installation while the replacement valve is procured. The existing gate valve was ultimately replaced with the spool piece of pipe during a planned pumping station shutdown during the early morning hours of August 2, 2020, restoring full pumping capabilities to the PS. In the preliminary attempts to shut down one of the two discharge force mains and replace the No. 205 valve, it was discovered that additional valves inside the PS are not fully holding when placed in a closed position. It has been determined that any bypass pumping and replacement of valves will be coordinated with aluminum slide gate improvements to be performed at the pump station as well.
- Finished Water Sampling Stations:** As a part of its ongoing Water Quality Monitoring Program, members of the Water & Laboratory Departments collect water samples from throughout the distribution system to track parameters such as Chlorine Residuals and Disinfection Byproducts. Historically, this has meant that staff must enter local businesses to collect the samples, which takes several minutes and further exposes staff to members of the public. In order to minimize staff exposure to the public and overall impact to local businesses/offices, seven (7) prefabricated sampling stations will be installed along ACSA finished water lines throughout the distribution

system, which will allow staff to quickly and safely retrieve water samples. Faulconer Construction is performing this work for RWSA, with ACSA providing the associated wet taps. These 7 sites were completed by the week of December 7th. In addition, RWSA staff is coordinating with ACSA, the City, and UVA on a new set of five (5) additional sites. Work on these additional sites has begun, with three (3) sites being completed during the week of August 30th. The final two (2) sites are slated to be completed during the week of September 13th.

- MCI Erosion @ Moores Creek Crossing (Near Avon Ct): While performing routine line maintenance activities, the RWSA Maintenance Department identified erosion along the Moores Creek Interceptor (MCI), at its creek crossing between MH-39 and MH-40. This is just downstream of the previous bank repair made in this area using imbricated stone in early 2019, which remains standing in good condition. Staff visited the site on May 21 and confirmed that no infrastructure is exposed at this time. However, the placement of large riprap will be required to protect the sewer line from future high flow/erosion events. Staff has coordinated the work with the surrounding property owners and applicable regulatory agencies. RWSA's On-Call Maintenance Contractor, Faulconer Construction, finished the placement of rip-rap armament during the week of August 23rd, along with all appropriate site restoration.
- CZI-MH-96 Slope Failure: Following recent heavy rains, the RWSA Engineering Department performed a 1-year inspection of the previous bank repair at CZI-MH-96. While the vast majority of the repair was found to be in good condition, a short stretch of the imbricated stone wall was undercut from behind, which caused a short stretch of the wall to become dislodged and fall over. Staff will coordinate the repairs with its On-Call Contractor (Faulconer Construction), which will include repairs to the wall and additional erosion control measures behind the wall. RWSA coordinated the work with all appropriate property owners and regulatory agencies, and Faulconer completed the work during the week of 8/9.
- UWL-ARV-15 Settlement: While marking a Miss Utility Ticket, the RWSA Engineering Department identified an ARV that was settling with a small section of Kenwood Lane. No immediate danger to the ARV is present, however, staff has looked at the issue with its On-Call Maintenance Contractor, Faulconer Construction, and is coordinating the necessary repairs for completion during the week of September 20th. The overall scope of work will be to excavate around the ARV, replace the entire ARV assembly with more modern materials, install an appropriate structure/manhole around the ARV, and then perform all applicable site restoration.
- SRW-059 Erosion: During routine line inspections, the RWSA Maintenance Department identified that blowoff valve SRW-059 was experiencing continued erosion from the adjacent Meadow Creek, near the intersection of Melbourne and Rio Road. In addition, stormwater flows from Rio Road were found to be causing significant erosion elsewhere along the easement in the same general vicinity as well. RWSA is coordinating with its On-Call Maintenance Contractor, Digs, Inc., for completion of the associated repairs, and is also coordinating with VDOT and other applicable regulatory agencies having jurisdiction over the work. The current plan is for this work to be completed in the late September – early October timeframe.
- MCAWRRF Digester Manway Sealing: Staff has identified the immediate need to repair gas leaks in Digesters #1, #2 and #3 at the MCAWRRF. The gas leaks are a safety concern and are causing significant concrete degradation which has led to Digester #2 being taken out of service thereby

reducing solids processing redundancy. Following external and internal inspections by our engineering consultants, it has been decided that installation of rubber seals in the manways and sample ports will mitigate gas leaks into the annular roof space and decrease further concrete degradation. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director and seals were installed in Digester #2. Unfortunately, the Digester continued to leak gas once back in service so further investigative work is warranted to determine the source of the leaks and evaluate the structural integrity of the annular roof space. Waco will continue the investigative work and perform roof corings prior to proceeding with seal installations in Digesters #1 and #3.

- Erosion Near SLW-022: In Spring 2021, staff identified an area of erosion over RWSA's 20" Southern Loop Waterline (SLW), located near Forest View Road in Albemarle County. During subsequent site visits, it was determined that an adjacent creek/stormwater channel has silted in, causing water to become redirected over the RWSA Easement during heavy rain events. Staff is coordinating easement restoration efforts through its On-Call Maintenance Contract for later this fall, and is also coordinating with Albemarle County Water Resources staff on potential collaborative efforts to address the issues on the RWSA easement and improve stormwater flow in the area.
- UWL-ARV-12 Abandonment and Replacement: As mentioned under the Urban Waterline Valve and Blow-off repair project previously, UWL-ARV-12, which is located in the entrance to the Exxon Gas Station along Rio Road, is slated to be abandoned in place due to its condition and difficult to access location. The Air Release Valve is planned to be relocated into an adjacent grassy area, improving performance with all-new materials, and facilitating better staff access. This work is slated to be completed after the UWL-ARV-15 replacement, likely during the week of September 20th.

22. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	Tri-State Utilities, LLC
Construction Start:	November 2017
Percent Complete:	Evaluation – 0%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$37,980
Expected Completion:	June 2022
Total Capital Project Budget:	\$1,088,330 (Urban) + \$880,000 (Crozet) = \$1,968,330

Current Status: With the completion of the Upper Morey Creek Interceptor (MRI) Point Repair/New MH Installation, all rehabilitation work on the Upper MRI has been completed. Staff continues coordination on the lower Powell Creek Interceptor and a portion of the Woodbrook Interceptor, as these are the next high-priority areas to be addressed based upon the latest CCTV footage. The scope of this rehabilitation work is likely to include several sections of Cured in Place Piping, as well as manhole rehabilitation. After discussions with RWSA's former Sanitary Sewer Rehabilitation Contractor, IPR Northeast, it was determined that they were going to be unable to complete the necessary sewer cleaning and televising prior to the Substantial Completion date for the Contract.

Staff issued a quote package to procure a contractor for the necessary sewer cleaning and televising along the Powell Creek and Woodbrook Interceptors, and Tri-State Utilities, LLC was awarded the cleaning and televising work. Staff is awaiting the final pieces of administrative documentation from the Contractor ahead of the Notice to Proceed, which is anticipated in late September.

23. Security Enhancements

Design Engineer:	N/A
Construction Contractor:	Security 101
Construction Start:	March 2020
Percent Complete:	75% (WA 2 & 3), 0% (WA 4)
Based Construction Contract + Change Orders to Date = Current Value:	\$718,428.00 (WA1) + \$91,130.32 (WA2) + \$128,166.69 (WA3) + \$189,698.95 (WA4) = \$1,127,423.96 (total)
Completion:	September 2021 (WA 2 & 3), February 2022 (WA 4)
Approved Capital Budget:	\$2,730,000

Current Status: Access control system installation has been completed on all exterior doors at MCAWRRF, as well as all WTP motorized gates. The Card Access System is in use at the Administration, Engineering, and Maintenance Buildings at MCAWRRF, as well as at the WTP gates. The only task that remains is some door and lock hardware improvements under WA #2, which will enhance the functionality of the card access system, especially at the various process buildings across the site. Other miscellaneous improvements include installation of card access on 3 additional doors, and improvements to the intercom system in the Administration Building. This work is underway, with the lock and door equipment currently being installed across the site. WA #3 is also underway, which includes card access installation at the Crozet and Scottsville WTP exterior doors. Conduits and cabling have been installed, and the card access equipment has recently arrived, with that installation also ongoing. Finally, WA #4 includes security conduit at the South Rivanna and Observatory WTPs that was not included in the Improvements Project. This work is anticipated to begin later this fall.

History

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. 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, 2019, and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project. The project was advertised, and bids were received. English Construction was awarded the contract and a Notice to Proceed was issued on May 18, 2020.

Observatory: This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. 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. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

South Rivanna: The work herein includes 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; of new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase the 12 MGD plant treatment capacity.

2. Crozet Flow Equalization Tank

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 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.

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. The construction bids were received on July 16, 2020. Anderson Construction of Lynchburg, VA was awarded the construction contract. Notice to Proceed on this project was given on October 9, 2020 and now construction is in progress.

3. MC Aluminum Slide Gate Replacements

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 repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated 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. Work also includes replacement of the cast iron gates in the holding pond pump station and new actuators on the headworks gates. A Notice to Proceed for these efforts was provided on October 6, 2020. The work specific to the Moores Creek Pump Station will be bid under a separate project due to the extensive bypass pumping.

4. MC Exterior Lighting Improvements

The lighting at the 80-acre MCAWRRF consists of over 300 fixtures installed over the entire life of the facilities presence at Moores Creek. In 2019, Albemarle County investigated the lighting plan at the facility and issued a Zoning Notice of Violation.

RWSA and Albemarle County staff have been working together to best address the issue. A photo metric plan of existing lighting was submitted to the county for review. RWSA has submitted a minor site plan amendment and Architectural Review Board submission that will include a large scale replacement of non-compliant fixtures as well as address industrial lighting standards for the entire facility. The submission was approved by the County and design is underway.

The design has been completed by Hazen and Sawyer and the project was awarded to Pyramid Electrical Contractors, LLC. Notice to Proceed was provided on April 13, 2021.

5. MC Generator Fuel Expansion

The Moores Creek AWWRF south side electrical facilities have a single large system back-up power generator that was installed between 2009 – 2012 during the ENR plant upgrade. The generator has a belly tank that allows for approximately 22 hours of operation. This project will install an ancillary fuel tank that will allow for approximately three days of operation. A Notice of Award was issued to Waco, Inc.

6. MC Clarifier and Lime Silo Demolition

The two in-plant clarifiers were constructed in the late 1950's and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were installed for sludge dewatering purposes. This project will include the complete demolition of the in-plant clarifiers by removing all existing components, backfilling the area, and returning the area to open space and removing the lime silo from the plant and properly disposing of it. The project was advertised, and bids are due on July 1, 2021. A Notice of Award was issued on August 6, 2021.

7. Glenmore WRRF Influent Pump and VFD Addition

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility. The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity. After discussions with the Operations and Maintenance departments, installation of a new exhaust fan in the influent pump station will also be included. A work authorization for this project has been finalized and design is underway. The project was advertised, and bids are due on July 8, 2021. A Notice of Award was issued on August 6, 2021.

Design and Bidding

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

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 (RMR) to the Observatory Water Treatment Plant (WTP) 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. The new pipeline will be constructed of 36-inch ductile iron and will be approximately 2.6 miles feet in length. The segment of the project immediately east of the RMR will constitute a portion of the proposed South Rivanna Reservoir to RMR raw water main project 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. The new pump station site selection and design are being conducted in coordination with the South Rivanna Reservoir to RMR pipeline 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 SR WTP.

Both Design Work Authorizations received Board of Directors approval on July 27, 2021.

9. South Rivanna Reservoir to Ragged Mtn. Reservoir Raw Water Line -Birdwood to Old Garth

This project is the continuation of the SRR to RMR 36" raw water pipeline built on the Birdwood Golf Course. Design effort were authorized in June 2021 with construction anticipated in Summer 2022.

10. Beaver Creek Dam and Pump Station Improvements

Dam: 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.

In 2020, staff received grant funding for a planning and environmental study from the Natural Resources Conservation Service (NRCS). The project kicked off in August 2020 and is expected to be completed in July 2022. Following completion of the study and acceptance of the Plan-Environmental document by NRCS, staff will pursue additional grant funding through NRCS that, if available, could cover up to 65% of final design and construction costs.

Pump Station: 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.

11. Airport Road Water Pump Station and Piping

The Rt. 29 Pump Station and Pipeline 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. The North Rivanna Transmission Main improvements included under a separate CIP project have been added to this project to allow connection of the pump station to the distribution system.

12. South Rivanna River Crossing

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. 29 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 new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

13. MC 5 kV Electrical System Upgrades

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWRRF, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This equipment, including the associated cabling, switchgear, transformers, and motor control centers (MCCs), has a useful life expectancy of 20-30 years. Most of this equipment was installed around 1980. With the equipment having well exceeded its useful life expectancy at this point, safety is a concern given the large electric loads that the cabling and other equipment are handling on a day-to-day basis. Failure of the existing 5kV infrastructure could also

result in temporary outages of certain treatment processes, and repairs could take weeks to months given the lead times associated with equipment of this age. A technical memo was provided in July 2020 by Hazen & Sawyer, which recommended that a CIP Project be added immediately to encompass replacement of the original 1980s-vintage 5kV cables, switchgear, transformers, and MCCs. A CIP Amendment Recommendation and Engineering Services Work Authorization was approved during the August 2020 Board of Directors Meeting. The Design Work Authorization was executed on October 6, 2020.

A Design Kickoff Meeting was held virtually on October 20, 2020. A site visit was attended on November 5, 2020 by Hazen & Sawyer staff, as well as RWSA Maintenance and Engineering Department staff. 50% Design Documents were provided in Spring 2021, with staff feedback provided soon thereafter. A follow-up site visit by Hazen was performed in July 2021, in order to confirm the availability of spare conduits across the site and plan for the associated cable replacements.

14. Central Water Line

Route alignment determination, hydraulic modeling, and preliminary design were underway in 2017. Due to the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach was warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Central Water Line (formerly referred to as the Avon to Pantops Water Main). The focus of this project was 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 were a starting point for this current project. An engineering contract has been negotiated and was approved by the Board of Directors in July 2017. Recent efforts and modeling for the Urban Finished Water Infrastructure Master Plan have determined that a central water line corridor through the City is the best option to hydraulically connect the Observatory Water Treatment Plant to the Pantops area.

Planning and Studies

15. South Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way

The approved 50-year Community Water Supply Plan includes the construction of a raw water line from the South Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline and 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.

16. Urban Finished Water Infrastructure Master Plan

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.

17. Upper Schenks Branch Interceptor, Phase II

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.

18. Asset Management Plan

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 also assisted RWSA with the procurement of a new CMMS software package to facilitate the overall program. Cityworks was selected and implementation has begun.

19. MC Facilities Master Plan

The majority of the Moores Creek Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process expansion. With the Enhanced Nutrient Removal (ENR) project in 2009, the operation and layout of

the plant was fundamentally altered, as needed to meet the new regulation. The project did anticipate the need for future expansion and some of the processes have readily available space. However, a full expansion plan was not developed at the time. As identified in the 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. As such, this project will serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes.

20. SRR to RMR Pipeline – Pretreatment Pilot Study

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously studied and a significant amount of pretreatment was initially identified as being needed to avoid reducing the quality of the raw water contained within the RMR. With the pipeline easement acquisition process well underway and additional information now available associated with the proposed timing of this overall project based on water demand projections, the intent of this project is to update the pretreatment needs anticipated.

The study is anticipated to be completed in 4 phases: 1. Analysis and Correlation of Existing Water Quality and Seasonal Weather Data 2. Enhanced Water Quality Sampling 3. Pretreatment Piloting 4. Level Setting for the Final Pretreatment Solution. Phase 1 commenced in January 2021.

Other Significant Projects

21. Urgent and Emergency Repairs

- **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.

- **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.

22. Interceptor Sewer and Manhole Repair

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.

Lining work and manhole rehabilitation on the Upper Morey Creek Interceptor began in Fall 2019 and was completed in Fall 2020. A critical section of upper Morey Creek Interceptor under Rt. 250 was lined on August 28, 2020. 65' of new ductile iron sewer to replace a sagging section of vitrified clay piping was installed in May 2021.

23. Security Enhancements

As required by the Federal Bioterrorism Act of 2002 and the American Water Infrastructure Act of 2018, 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 approved by the Board on July 23, 2019. Access Control System Installation at MCAWRRF began in March 2020. Access Control System Installation was completed in the Administration and Engineering Buildings by the week of November 30, 2020, completing installation of the physical access control system across the MCAWRRF site. Training for staff was completed on November 10, 2020. RWSA authorized improvements to locks and doors across the MCAWRRF site on May 4, 2021, in order to improve the condition of the hardware and subsequently, operations of the access control system. In addition, installation of the card access system on all exterior doors at the Scottsville and Crozet Water Treatment Plants (SVWTP and CZWTP, respectively) was authorized shortly thereafter.

MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: WHOLESALE METERING REPORT FOR AUGUST 2021

DATE: SEPTEMBER 28, 2021

The monthly and average daily Urban water system usages by the City and the ACSA for August 2021 were as follows:

	<i>Month</i>	<i>Daily Average</i>	
City Usage (gal)	164,158,201	5,295,426	48.2%
ACSA Usage (gal)	176,229,694	5,684,829	51.8%
Total (gal)	340,387,895	10,980,255	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to September 2020), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

NOTE: Annual calibration testing of wholesale and finished water meters was completed in June, 2021. Meter Site 25, located on Colonnade Drive, was not able to be calibrated due to a malfunctioning valve. RWSA repaired the valve in September and will calibrate this meter in the next cycle.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

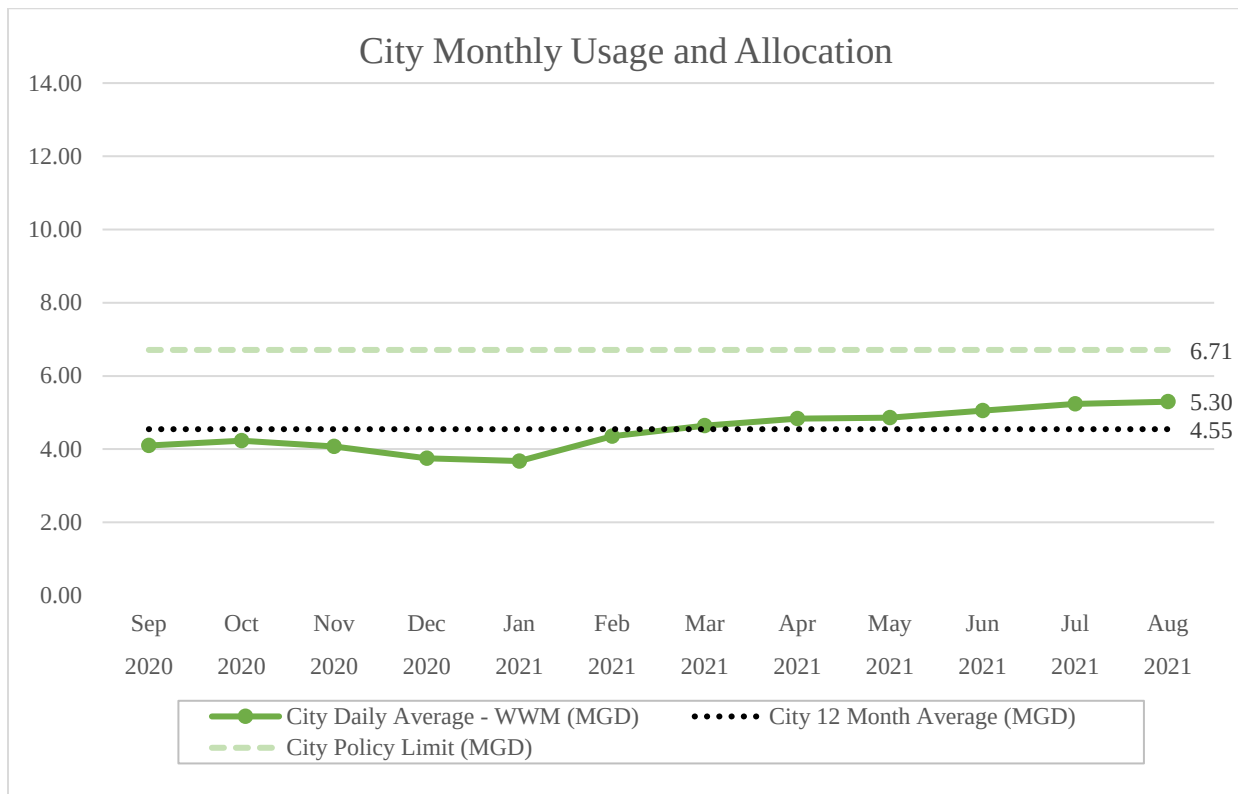
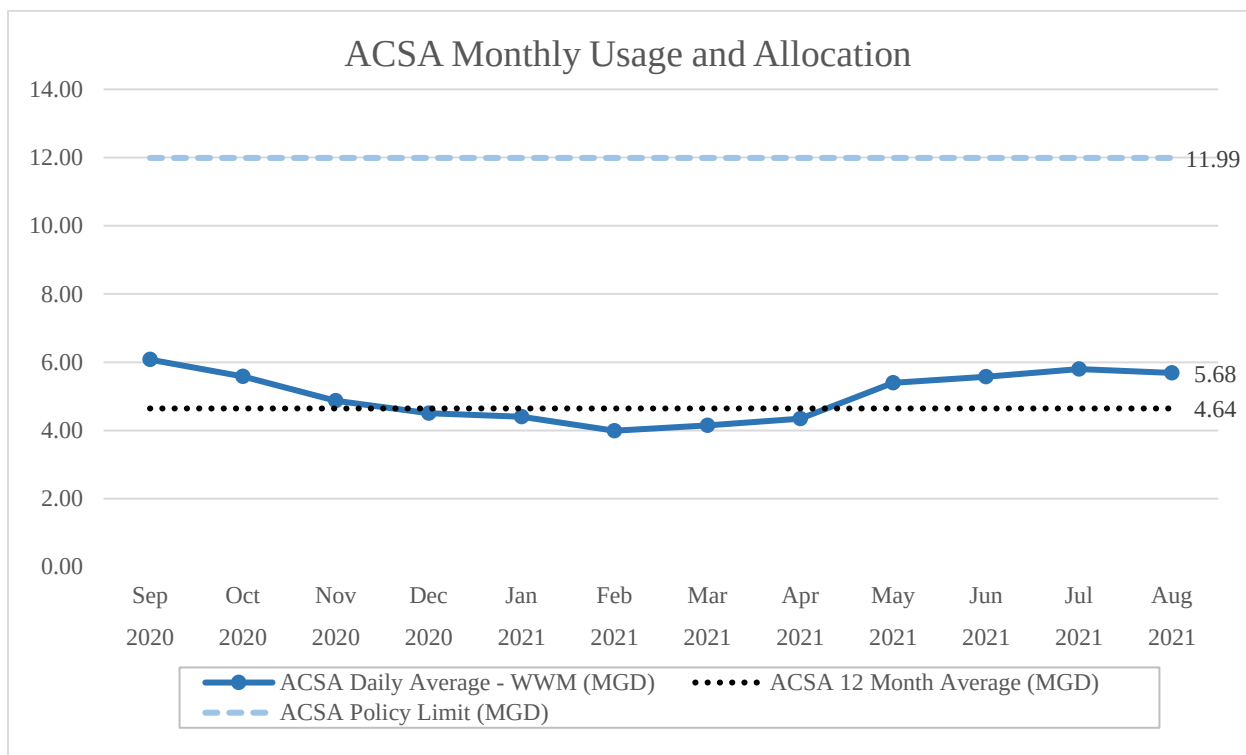


Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation





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MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: ANDREA BOWLES, WATER RESOURCES MANAGER

REVIEWED BY: JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND
MAINTENANCE

BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: DROUGHT MONITORING REPORT

DATE: SEPTEMBER 28, 2021

Staff continues to carefully monitor for indications of drought. Attached is a Drought Monitoring Report which looks at VDEQ drought status, local precipitation statistics, reservoir storage, and regional streamflows. Recent precipitation has been beneficial for many streams and reservoirs.

Despite the hot temperatures and generally dry weather in our area, the current VDEQ drought status is Normal.

Board Action Requested:

Provided for informational purposes only.

Memorandum

Date: 9/21/21

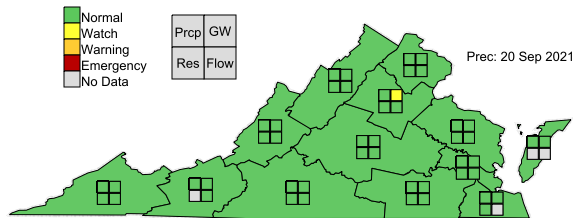
To: Bill Mawyer

From: Andrea Bowles

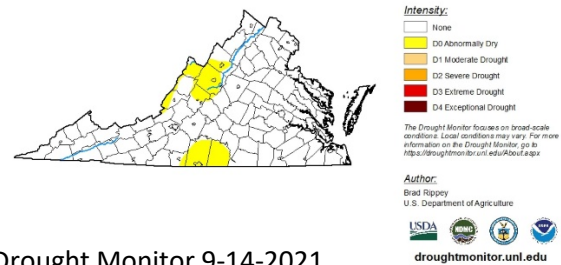
Cc: Dave Tungate; Daniel Campbell; Jennifer Whitaker; Wayne Barnes

Re: Drought Monitoring Report

Current Status DEQ and USDA



VA DEQ Drought Status 9-20-2021



U.S. Drought Monitor 9-14-2021

The Virginia Drought Monitoring Task Force (DMTF) last met on September 9, 2021. No drought phases have been initiated, and the DEQ Drought Status and U.S. Drought Monitor indicate no drought conditions for the area. The next meeting of the DMTF is scheduled for 9-23-2021.

DEQ Current Drought status is: Normal

Precipitation

Charlottesville Precipitation (in.)	
September to-date	1.13
September normal-to-date	2.76
Year-to-date	27.03
Normal for Year-to-date	30.57
Departure from normal	-3.54

Source: National Weather Service, National Climatic Data Center (NCDC). Daily Climatological Report for Charlottesville, VA, September 21, 2021

Current Reservoir Status

Reservoir	Level (ft)	% Full	Useable Storage Volume (MG)	Rainfall (in)	Flow Release to River#
Sugar Hollow *	-4.40	81.92	278.02	0.00	Spillway Overflow
Ragged Mountain	-3.57	87.28	1,255.25	0.00	0.04 MGD
South Rivanna	Full	100.00	884.9	0.00	Spillway Overflow
Totier Creek	Full	100.00	155	0.00	Spillway overflow
Beaver Creek	-2.73	83.09	414.31	0.00	N/A

*Sugar Hollow Reservoir drawn down for construction. Not currently transferring to RMR

Urban Reservoirs useable capacity of 90.82 percent.

USGS Gaging Stations Near Urban Area

Rolling 7-day avg: Sept. 14 – Sept. 20 2021

Median daily flow: Sept. 20, 2021; for the periodic of record (approx. 30 - 80 years)

Gage #	Streamflow: rolling 7- day avg		Streamflow: median daily flow	
	cfs	mgd	cfs	mgd
1	16.5	10.66	23	14.86
2	7.4	4.8	7.8	5.04
3	25.1	16.23	14	9.05
4	27.5	17.78	47	30.37

- 02031000 Mechums River near White Hall, VA
<https://waterdata.usgs.gov/usa/nwis/uv?02031000>
- 02032250 Moormans River near Free Union, VA
https://nwis.waterdata.usgs.gov/va/nwis/uv?site_no=02032250
- 02032640 N F Rivanna River near Earlysville, VA
https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032640&PARAMeter_cd=00065,00060,00062
- 02032515 S F Rivanna River near Charlottesville, VA
https://waterdata.usgs.gov/va/nwis/uv/?site_no=02032515&PARAMeter_cd=00065,00060,62620,62614

Oasis Modeling

- RWSA has not run the drought model since early August and conditions do not indicate the need to trigger a Drought Watch at this time. Staff will continue to carefully monitor for drought.



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: AUTHORIZATION OF WATER CONSERVATION MEASURES

DATE: SEPTEMBER 28, 2021

This memo is to request authorization to declare an official “Drought Watch”, requesting Voluntary Water Conservation Measures, and a “Drought Warning”, requiring Mandatory Water Conservation Measures, for the City, County and ACSA, if warranted by reservoir and stream conditions for the local water supply, and with concurrence from the Chair, until the Board meets again on November 16, 2021. Based on current reservoir and stream conditions, we do not plan to issue a declaration for Water Conservation Measures, but want to be authorized to move forward with that process if reservoir and stream conditions decline significantly. These water conservation measures were developed as part of the “Regional Drought Response and Contingency Plan” prepared in 2004 and updated in 2015.

Background:

The South Rivanna Reservoir (SRR) is the primary supplier of untreated drinking water for the Urban Water System, which includes the City of Charlottesville and the adjacent developed areas of Albemarle County. We closely monitor the water level in the SRR and streamflows in the Mechums and Moormans Rivers which supply the SRR. While recent precipitation has been very beneficial, we want to be prepared to request the City, County and Albemarle County Service Authority (ACSA) to initiate Voluntary Water Conservation Measures, as well as Mandatory Water Conservation Measures, if conditions warrant those actions.

Further, we are also closely monitoring the Beaver Creek and Totier Creek Reservoir levels and streamflows, which serve the Crozet area and the Town of Scottsville, respectively. Any declaration of Voluntary or Mandatory Water Conservation Measures will apply to all areas of the City and Albemarle County served by public water systems.

Board Action Requested:

Authorize the Executive Director to declare Voluntary and Mandatory Water Conservation Measures, with concurrence from the Chair, if conditions warrant, until the Board of Directors meeting on November 16, 2021.



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RESOLUTION TO ADOPT THE REGIONAL NATURAL HAZARD MITIGATION PLAN BY THE RIVANNA WATER AND SEWER AUTHORITY

WHEREAS, the Federal Disaster Mitigation Act of 2000, as amended, requires local governments to develop, adopt and update natural hazard mitigation plans to receive certain federal assistance and grant funding, and requires every local government to evaluate and update its plan every five (5) years; and,

WHEREAS, the Thomas Jefferson Planning District's Regional Natural Hazard. Mitigation Plan has been prepared in accordance with the Federal Emergency Management Agency (FEMA) requirements at 44C.F.R. 201.6; and,

WHEREAS, The Rivanna Water and Sewer Authority has been involved in the preparation of the Regional Natural Hazard Mitigation Plan through representation on the Working Group by staff from RWSA and by staff of the joint Charlottesville-Albemarle-UVA Emergency Communications Center; and,

WHEREAS, the Virginia Department of Emergency Management and FEMA have deemed the submitted plan satisfactory with no changes recommended; and,

WHEREAS, hazard mitigation is essential to protect life and property by reducing the potential for future damages and economic losses resulting from natural disasters.

NOW, THEREFORE, BE IT RESOLVED, that the Rivanna Water and Sewer Authority Board of Directors does hereby adopt the Regional Natural Hazard Mitigation Plan prepared by the Thomas Jefferson Planning District Commission.

Michael Gaffney, Chairman
Chip Boyles
Lauren Hildebrand
Gary O'Connell
Liz Palmer
Jeff Richardson
Lloyd Snook

ADOPTED by the Rivanna Water and Sewer Board of Directors on this 28th day of September, 2021.

SIGNATURE:

RWSA Executive Director

ATTEST:

Executive Assistant



MEMORANDUM

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

FROM: ANDREA B. TERRY, WATER RESOURCES MANAGER

**REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR
JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND
MAINTENANCE**

**SUBJECT: WAIVER EXTENSION FOR UNIVERSITY OF VIRGINIA
ROWING PROGRAMS AND RIVANNA ROWING CLUB**

DATE: SEPTEMBER 28, 2021

The Board has previously granted permission for the University of Virginia (UVA) rowing programs and the Rivanna Rowing Club to use gasoline-powered safety and coaching launches on the South Rivanna Reservoir (SRR) with the requirement that they continue to research and develop electric launches. On August 27, 2019, the Board granted the Executive Director the approval to extend the waiver to those organizations for two years, through August 2021 with the agreement that they would continue to research the use of electric technology.

Mr. Kevin Sauer, Head Coach of the University of Virginia Women's Rowing Crew, has submitted the attached September 14, 2021 progress report indicating the efforts made towards converting gasoline-powered safety and coaching launches to electrical motor driven technology. In their last report in August of 2019, UVA Women's Rowing had received \$75,000 from the athletic department and \$60,000 from the Perkins Foundation for retrofitting of existing launches. An additional \$25,000 had also been received from the Perkins Foundation. UVA Rowing has been working with Purewater out of Seattle, WA, and in 2019 were beta testing electric launches. The testing resulted in the first motor being called back for further research and design. UVA expects to receive an alpha version within the next month. If it is successful, they will retrofit their coach boats to electric in the next two years. The team uses a total of 5 boats for practices. Mr. Sauer is requesting a two-year waiver extension to September 2023.

Board Action Needed:

Authorize the Executive Director to extend UVA's waiver to September 2023 to allow the use of gasoline-powered safety and coaching launches by the UVA Women's and Men's rowing programs, and the Rivanna Rowing Club, subject to UVA agreeing to other conditions RWSA deems necessary to protect the drinking water supply and the water quality of the SRR, to include continued research on electric motor technology.

Attachment



University of Virginia
Women's Rowing
P.O. Box 400852
Charlottesville, VA 22904-4852

September 14, 2021

Andrea Bowles
Water Resources Manager
Rivanna Water and Sewer Authority
695 Moore's Creek Lane
Charlottesville, Virginia 22902

Dear Andrea,

The permit for gasoline powered safety and coaching launches on the Rivanna Reservoir expires this month and this letter is written to request an extension. The UVA women's and men's rowing teams plus the Rivanna Rowing Club appreciate the RWSA's willingness to allow us this permit.

As we have researched the electric technology for our coaching boats, Purewater from Seattle has gone into full production now. I have secured \$75,000 from the athletic department (over three years) and have applied for and received a grant from the Perkin Foundation for another \$85,000 to be able to retrofit our launches with these powerplants. We have been working with Purewater for over four years on this project; doing the beta testing for them in the fall of 2019. That testing resulted in the callback of the beta and further research and design. We should receive the alpha version in the next few weeks and, if successful, we will start with this FIRST motor and retrofit all of our coach boats to electric over the next few years. We use no more than five coach boats at any one time between all three programs; except for minimal overlap between practices.

In advance, we thank you for considering a two-year permit extension for our programs. Allowing our programs this permit is an essential component to achieving success. Since the last permit extension in 2019, UVA Women's Rowing has added another ACC Championship for a total of 20 and the Men have won another club national championship!

Sincerely,

Kevin Sauer, Head Coach
University of Virginia



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE & ADMINISTRATION

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: FY 2021 - 2022 WASTEWATER RATES AND CHARGES;
AUTHORIZATION TO SCHEDULE A PUBLIC HEARING**

DATE: SEPTEMBER 28, 2021

The City, ACSA and the Authority entered a “Wastewater Projects Cost Agreement” in 2014 to allocate the debt service costs for certain wastewater capital projects. The Agreement requires the use of flow data from meters positioned strategically in the wastewater interceptor system to document average daily flow and peaking flow from a 2-year storm event (as a result of inflow and infiltration of stormwater). The meter locations are positioned to determine the flow being received from each jurisdiction’s system. That data is then used to interpolate flows for the next 60 years, which is used in the prescribed formulas per the Agreement to allocate debt service costs relative to the projects identified in the Agreement.

The Agreement calls for the flow metered data to be updated every 5th year beginning in 2015. For 2020, the flow meter data was updated on the 5-year schedule as indicated above; however, “dry weather” or average daily flow is to be updated every 10th year with “land development and population projections provided by the planning departments at the City and County”. In other words, every 10 years the growth data is updated along with the meter flow data, which is scheduled every 5th year.

In accordance with the Agreement, the Authority used an engineering consultant to conduct a review of the data and the projections. The 2020 evaluation has been concluded, and the results have been reviewed with the City and ACSA. Using this updated data and the projections of average daily flows and peaking flows, debt service costs of \$434,000 included in the FY 2022 budget will shift from the City to the ACSA.

	Flow Updated Allocation	Initial Allocation		
Data Source:	2020 Data	2015 Data		
<i>Annual Charges</i>	FY 2022 <u>Charge</u>	FY 2022 <u>Charge</u>	Shift in charge to/(from)	
<u>City</u>				
Meadow Creek Sewer	708,583	899,283	(190,700)	-21%
Moores Creek Pump Station	184,550	181,964	2,586	1%
Rivanna Pump Station	961,174	1,159,705	(198,531)	-17%
Moores Creek Wet Weather	<u>270,138</u>	<u>317,447</u>	<u>(47,309)</u>	-15%
	\$ 2,124,445	\$ 2,558,399	\$ (433,954)	-17%
<u>ACSA</u>				
Meadow Creek Sewer	387,300	196,600	190,700	97%
Moores Creek Pump Station	112,395	114,981	(2,586)	-2%
Rivanna Pump Station	890,672	692,142	198,530	29%
Moores Creek Wet Weather	<u>229,155</u>	<u>181,845</u>	<u>47,310</u>	26%
	\$ 1,619,522	\$ 1,185,568	\$ 433,954	37%
Total charges	\$ 3,743,967	\$ 3,743,967		

There is no change to the overall revenues, charges, expenses or budget for the Authority. The only change is the monthly charges to the City will be reduced \$434,000 and will increase for the ACSA by \$434,000. The current charges were set in the May 2021 meeting after a public hearing was conducted. For the Authority to change the monthly charges to reflect the above changes, the monthly wastewater debt service charges will need to be adjusted as follows:

Wastewater Rates & Charges

<u>Urban Area</u>		Adjusted FY 2022	As Adopted FY 2022	\$ Change	% Change	
ACSA & City	Operating	\$ 2.517	\$ 2.517	No Change	No change	Per 1,000 gallons
City	Debt Service	\$ 376,036	\$ 412,199	\$ (36,163)	-8.8%	Per month
ACSA	Debt Service	\$ 337,983	\$ 301,820	\$ 36,163	12.0%	Per month

The Authority is required to hold a public hearing after adopting a preliminary rate schedule to make this change. This rate schedule will then be published twice at least 14 days before the public hearing and at least 6 days apart. The attached preliminary rate schedule has included all rates and charges with only the wastewater charges being different than the charges adopted in May 2021. It is proposed that the public hearing be held October 26, 2021, with the rates and charges to be effective on October 1, 2021. Additionally, since the monthly invoices for July, August and

September will have already been posted and paid, there will be a retroactive adjustment occurring in the October invoice for \$108,489 to the ACSA and a (\$108,489) credit to the City.

Board Action Requested:

Approve the Preliminary Rate Schedule and authorize a public hearing to be held at the October 26, 2021 regular meeting of the Board to set the wastewater rates and charges for FY 2021 - 2022 to be effective on October 1, 2021.

Attached: Preliminary Rate Schedule
 Public Notice



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RESOLUTION

PRELIMINARY RATE SCHEDULE

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated wastewater rates and charges for Fiscal Year 2021-2022; and

WHEREAS, Section 15.2-5136 (G) of the Code of Virginia requires the adoption of the preliminary rate schedule for notification of a public hearing prior to fixing rates for wastewater charges; of which there is at least a 14 day requirement between the date of the last of two public notices and the actual date fixed for the public hearing;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby approves the preliminary rate schedule for purposes of notification of a public hearing to be held on October 26, 2021 at 2:15 p.m. during the regularly scheduled Board of Directors meeting.

Wastewater Rates & Charges

Urban Area

ACSA & City	Operating	\$ 2.517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month

Glenmore

ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month

Scottsville

ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month

PUBLIC NOTICE



RIVANNA WATER & SEWER AUTHORITY PUBLIC HEARING CONCERNING THE PROPOSED WASTEWATER RATES FOR FY 2021 - 2022, EFFECTIVE OCTOBER 1, 2021

Public Hearing:

Rivanna Water & Sewer Authority will hold a Public Hearing on Tuesday, October 26, 2021, at 2:15 p.m. during the regular Rivanna Water & Sewer Authority Board of Directors meeting. The public hearing is to consider the following wholesale wastewater rates and charges to the City of Charlottesville and the Albemarle County Service Authority. Adopted rates may or may not be what are advertised.

Wastewater Rates & Charges			
Urban Area			
ACSA & City	Operating	\$ 2.517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month
Glenmore			
ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month
Scottsville			
ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month

The Rivanna Water & Sewer Authority (Rivanna) was created by the City of Charlottesville (City) and the County of Albemarle to provide wastewater treatment. The above fees represent Rivanna's fees and charges to the City and the Albemarle County Service Authority (ACSA) for these services, and are not the same as the City and ACSA charges to individual residents and businesses. Debt Service covers capital related project costs and are different for the City and ACSA reflecting terms of contractual agreements.

The City and the ACSA collect wastewater from individual residents and businesses and charge retail rates that combine charges from the above schedule to reflect their service costs, including Rivanna's costs.

Information about the proposed budget may be obtained on the Rivanna website at rivanna.org. Please call 977-2970 ext. 0 or send e-mail to info@rivanna.org with any questions you may have.



Wastewater Rates and Charges for FY 21-22

PRESENTED TO THE BOARD OF DIRECTORS
BY BILL MAWYER, EXECUTIVE DIRECTOR
SEPTEMBER 28, 2021



2020 Wastewater Allocations

In accordance with the 2014 “Wastewater Projects Cost Agreement”, RWSA was required to assess the actual wastewater flows from the City and ACSA by 2015, and every 5 years thereafter.

Our presentation last month reviewed the findings of the 2020 wastewater assessment, using metered data from 2019, which highlighted the positive efforts of the City and ACSA to reduce inflow and infiltration into the RWSA wastewater collection system.

- 41% flow reduction from the City, \$21.3 M investment in sewer pipe rehab since 2009
- 13% flow reduction from the ACSA, \$12.6 M investment in sewer pipe rehab since 2009
- 30% total system flow reduction, \$134 M investment in sewer facilities by RWSA since 2009

Flow reductions will delay costly upgrades within the collection system and Moores Creek Wastewater Treatment Plant

2020 WW Flow Analysis

2020 Wet Weather Sewer
Flows @ Moores Creek
AWRRF

2015 Calibration

Year	Average Day - Dry Weather Flow (mgd)		Wet Weather (I&I) Flow (mgd)		Total Peaking Flow (mgd)	Total Peaking Flow (mgd)		Total Peaking Flow (mgd)
	ACSA	City	ACSA	City		ACSA	City	
2015	5.1	5.3	19.0	46.3	75.8	24.1	51.3	75.7
2020	5.7	5.9	20.0	46.4	78.0	25.7	52.3	78.0
2045	8.0	6.6	22.8	43.6	80.9	30.8	50.1	80.9
2070	10.1	6.6	25.1	39.8	81.7	35.2	46.5	81.7

↑
13%
Reduction
↓

↑
41%
Reduction
↓

↑
30%
Reduction
↓

2020 Calibration

Year	Average Day - Dry Weather Flow (mgd)		Wet Weather (I&I) Flow (mgd)		Total Peaking Flow (mgd)	Total Peaking Flow (mgd)		Total Peaking Flow (mgd)
	ACSA	City	ACSA	City		ACSA	City	
2020	5.45	4.66	17.33	27.27	54.70	22.78	31.93	54.7
2045	7.66	5.53	22.72	27.90	63.81	30.38	33.43	63.8
2070	8.52	6.19	24.55	27.74	67.01	33.07	33.93	67.0

Change in Wastewater Flows = Change in Charges

Flow changes will result in a RWSA charge adjustment of \$434,000 to the City (reduction) and ACSA (increase), to be effective on October 1, 2021 for FY 2021 – 2022.

- Total City Charges will be reduced from \$15.9 to \$15.5 M = 2.9% decrease
- Total ACSA Charges will be increased from \$21.1 to \$21.5 M = 2.3% increase
- No change in the RWSA budget of \$38.9 M for FY 21-22

The RWSA Board of Directors must authorize advertisement of the adjusted wastewater rates and charges, and conduct a public hearing on October 26, 2021 before considering adoption of the new wastewater rates and charges.

Summary of Charges to Customers

Urban WW Allocation Updated

	FY 2021	FY 2022	Change \$	Change %
<u>City - Charges From RWSA</u>				
Urban Water				
Operating Rate Charges	\$ 3,630,500	\$ 3,906,000	\$ 275,500	7.6%
Debt Service Charges	2,323,000	2,954,300	631,300	27.2%
	<u>\$ 5,953,500</u>	<u>\$ 6,860,300</u>	<u>\$ 906,800</u>	<u>15.2%</u>
Urban Wastewater				
Operating Rate Charges	\$ 3,936,500	\$ 4,096,900	\$ 160,400	4.1%
Debt Service Charges	4,891,000	4,512,500	(378,500)	-7.7%
	<u>\$ 8,827,500</u>	<u>\$ 8,609,400</u>	<u>\$ (218,100)</u>	<u>-2.5%</u>
Total City Charges	\$ 14,781,000	\$ 15,469,700	\$ 688,700	4.7%

<u>ACSA - Charges From RWSA</u>				
Urban Water				
Operating Rate Charges	\$ 3,488,100	\$ 4,065,500	\$ 577,400	16.6%
Debt Service Charges	3,855,600	4,667,500	811,900	21.1%
	<u>\$ 7,343,700</u>	<u>\$ 8,733,000</u>	<u>\$ 1,389,300</u>	<u>18.9%</u>
Urban Wastewater				
Operating Rate Charges	\$ 4,097,100	\$ 4,438,300	\$ 341,200	8.3%
Debt Service Charges	3,338,100	4,055,800	717,700	21.5%
	<u>\$ 7,435,200</u>	<u>\$ 8,494,100</u>	<u>\$ 1,058,900</u>	<u>14.2%</u>
Other Rate Centers				
Operating Rate Charges	\$ 2,229,100	\$ 2,303,900	\$ 74,800	3.4%
Debt Service Charges	1,453,300	2,004,000	550,700	37.9%
	<u>\$ 3,682,400</u>	<u>\$ 4,307,900</u>	<u>\$ 625,500</u>	<u>17.0%</u>
Total ACSA Charges	\$ 18,461,300	\$ 21,535,000	\$ 3,073,700	16.6%

<u>RWSA Customer Revenue Charges</u>				
Operating Rate Revenues				
Urban Water	\$ 7,118,600	\$ 7,971,500	\$ 852,900	12.0%
Urban Wastewater	8,033,600	8,535,200	501,600	6.2%
Other Rate Centers	2,229,100	2,303,900	74,800	3.4%
	<u>\$ 17,381,300</u>	<u>\$ 18,810,600</u>	<u>\$ 1,429,300</u>	<u>8.2%</u>
Debt Service Rate Revenues				
Urban Water	\$ 6,178,600	\$ 7,621,800	\$ 1,443,200	23.4%
Urban Wastewater	8,229,100	8,568,300	339,200	4.1%
Other Rate Centers	1,453,300	2,004,000	550,700	37.9%
	<u>\$ 15,861,000</u>	<u>\$ 18,194,100</u>	<u>\$ 2,333,100</u>	<u>14.7%</u>
Total RWSA Customer Revenues	\$ 33,242,300	\$ 37,004,700	\$ 3,762,400	11.3%

Adopted Budget May 2021

	FY 2021	FY 2022	Change \$	Change %	Change in Charge
<u>City - Charges From RWSA</u>					
Urban Water					
Operating Rate Charges	\$ 3,630,500	\$ 3,906,000	\$ 275,500	7.6%	
Debt Service Charges	2,323,000	2,954,300	631,300	27.2%	
	<u>\$ 5,953,500</u>	<u>\$ 6,860,300</u>	<u>\$ 906,800</u>	<u>15.2%</u>	
Urban Wastewater					
Operating Rate Charges	\$ 3,936,500	\$ 4,096,900	\$ 160,400	4.1%	
Debt Service Charges	4,891,000	4,946,500	55,500	1.1%	(434,000)
	<u>\$ 8,827,500</u>	<u>\$ 9,043,400</u>	<u>\$ 215,900</u>	<u>2.4%</u>	
Total City Charges	\$ 14,781,000	\$ 15,903,700	\$ 1,122,700	7.6%	\$ (434,000)

<u>ACSA - Charges From RWSA</u>					
Urban Water					
Operating Rate Charges	\$ 3,488,100	\$ 4,065,500	\$ 577,400	16.6%	
Debt Service Charges	3,855,600	4,667,500	811,900	21.1%	
	<u>\$ 7,343,700</u>	<u>\$ 8,733,000</u>	<u>\$ 1,389,300</u>	<u>18.9%</u>	
Urban Wastewater					
Operating Rate Charges	\$ 4,097,100	\$ 4,438,300	\$ 341,200	8.3%	
Debt Service Charges	3,338,100	3,621,800	283,700	8.5%	434,000
	<u>\$ 7,435,200</u>	<u>\$ 8,060,100</u>	<u>\$ 624,900</u>	<u>8.4%</u>	
Other Rate Centers					
Operating Rate Charges	\$ 2,229,100	\$ 2,303,900	\$ 74,800	3.4%	
Debt Service Charges	1,453,300	2,004,000	550,700	37.9%	
	<u>\$ 3,682,400</u>	<u>\$ 4,307,900</u>	<u>\$ 625,500</u>	<u>17.0%</u>	
Total ACSA Charges	\$ 18,461,300	\$ 21,101,000	\$ 2,639,700	14.3%	\$ 434,000

<u>RWSA Customer Revenue Charges</u>					
Operating Rate Revenues					
Urban Water	\$ 7,118,600	\$ 7,971,500	\$ 852,900	12.0%	
Urban Wastewater	8,033,600	8,535,200	501,600	6.2%	
Other Rate Centers	2,229,100	2,303,900	74,800	3.4%	
	<u>\$ 17,381,300</u>	<u>\$ 18,810,600</u>	<u>\$ 1,429,300</u>	<u>8.2%</u>	
Debt Service Rate Revenues					
Urban Water	\$ 6,178,600	\$ 7,621,800	\$ 1,443,200	23.4%	
Urban Wastewater	8,229,100	8,568,300	339,200	4.1%	
Other Rate Centers	1,453,300	2,004,000	550,700	37.9%	
	<u>\$ 15,861,000</u>	<u>\$ 18,194,100</u>	<u>\$ 2,333,100</u>	<u>14.7%</u>	
Total RWSA Customer Revenues	\$ 33,242,300	\$ 37,004,700	\$ 3,762,400	11.3%	\$ -

RESOLUTION

PRELIMINARY RATE SCHEDULE

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated wastewater rate charges for Fiscal Year 2021-2022; and

WHEREAS, Section 15.2-5136 (G) of the Code of Virginia requires the adoption of the preliminary rate schedule for notification of a public hearing prior to fixing rates for sewer charges; of which there is at least a 14 day requirement between the date of the last of two public notices and the actual date fixed for the public hearing;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby approves the preliminary rate schedule for purposes of notification of a public hearing to be held on October 26, 2021 at 2:15 p.m. during the regularly scheduled Board of Directors meeting.

Wastewater Rates & Charges			
<u>Urban Area</u>			
ACSA & City	Operating	\$ 2,517	Per 1,000 gallons
City	Debt Service	\$ 376,036	Per month
ACSA	Debt Service	\$ 337,983	Per month
<u>Glenmore</u>			
ACSA	Operating	\$ 33,669	Per month
ACSA	Debt Service	\$ 618	Per month
<u>Scottsville</u>			
ACSA	Operating	\$ 27,189	Per month
ACSA	Debt Service	\$ 824	Per month

Questions?

Action to be Considered by the Board:

Approval of the Preliminary Rate Resolution, and Authorization to Advertise the Preliminary Rate Schedule for a Public Hearing to be held during a meeting of the Board of Directors on October 26, 2021.

Findings

- Reduction in Current and Projected Wet Weather Flow
 - ACSA 13% / City 41% = Total System 30% Reduction
- Routine Rainfalls No Longer Induce Sanitary Sewer Overflows
- Reductions Will Delay Costly Upgrades Within the Collection System and at the Wastewater Treatment Plant
- Why Such Dramatic Results?
- Since 2009 the City, ACSA and RWSA Have Invested Heavily in Sewer Infrastructure Improvements

City

- ✓ \$21.3 M Spent on Sewer Rehab.
- ✓ 46.6 miles of Sewer Pipe Relined or Replaced
- ✓ 197 Manholes have been Replaced
- ✓ 5,400 vertical feet of Manhole Rehab.
- ✓ 27% of Total System Renewed



ACSA

- ✓ \$12.62 M Spent on Sewer Rehab.
- ✓ 24.1 miles of Sewer Pipe Relined
- ✓ 1,835 Manholes have been Rehabilitated



Wastewater Flow Allocations

5/13/2021

	Flow Updated Allocation	Proposed Initial Allocation		
Data Source:	2021 Data	2015 Data		
<u>City</u>	<u>FY 2022 Charge</u>	<u>FYT 2022 Charge</u>	Shift in charge to/(from)	
Meadow Creek Sewer	708,583	899,283	(190,700)	-21%
Moore's Creek Pump Station	184,550	181,964	2,586	1%
Rivanna Pump Station	961,174	1,159,705	(198,531)	-17%
Moore's Creek Wet Weather	<u>270,138</u>	<u>317,447</u>	<u>(47,309)</u>	-15%
	\$ 2,124,445	\$ 2,558,399	\$ (433,954)	-17%
<u>ACSA</u>				
Meadow Creek Sewer	387,300	196,600	190,700	97%
Moore's Creek Pump Station	112,395	114,981	(2,586)	-2%
Rivanna Pump Station	890,672	692,142	198,530	29%
Moore's Creek Wet Weather	<u>229,155</u>	<u>181,845</u>	<u>47,310</u>	26%
	\$ 1,619,522	\$ 1,185,568	\$ 433,954	37%
	\$ 3,743,967	\$ 3,743,967		

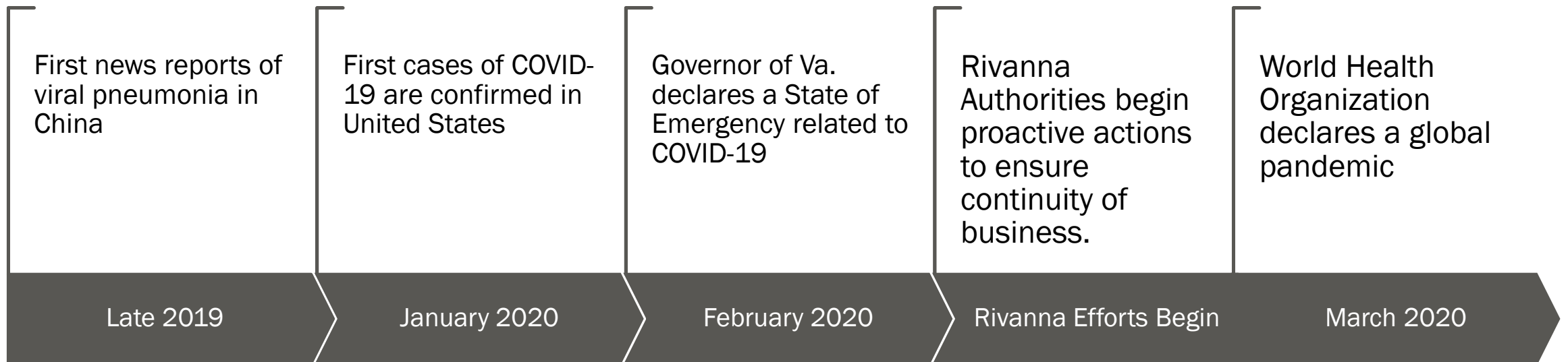
RIVANNA'S RESPONSE TO COVID-19

RIVANNA AUTHORITIES

SEPTEMBER 2021



COVID-19 SUMMARY – THE BEGINNING



QUICK GLANCE AT RESPONSE

Board/Public related events

- ❑ March and April board meetings canceled
- ❑ May board meeting was first using Zoom offsite remote capabilities. Budget was introduced
- ❑ Solid Waste facilities remained open to the public (*Encore Shop and Book Bin were closed)
- ❑ RWSA facilities were closed to the public

Staff related events

- ❑ All facilities kept operating on regular schedules with no interruption of services
- ❑ Offices remained open to daily work for staff
 - Admin staff went to staggered schedules 3/17/20
 - Engineering staff went to Work from Home (WFH) and staggered schedules
 - First Covid-19 case in April, closed Admin offices and remote work from home for several weeks. Then went back to staggered schedules

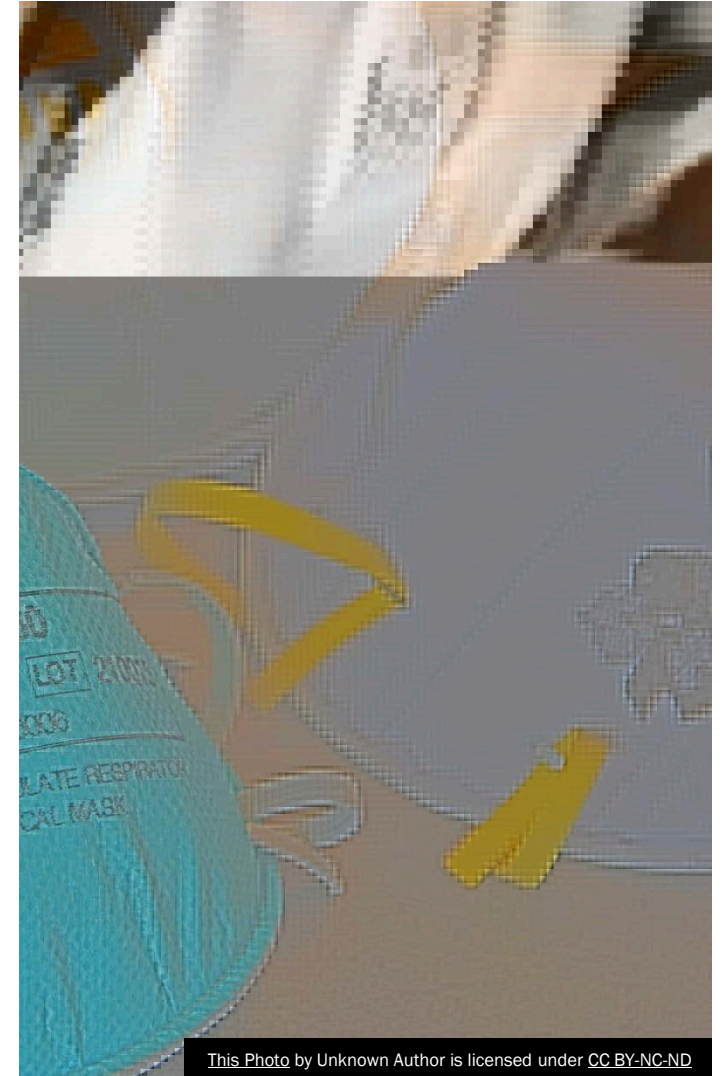
POLICY FORMULATION & GUIDANCE

□ Personnel Policies

- COVID Response Procedures. These policies were continuously updated several times over the year and addressed the following:
 - Stay-at-Home When Sick program, waive 50% sick leave
 - Mitigate risk in the workplace, Workplace cleanliness, PPE
 - Return to work practices
 - Notice of “Essential Water and Wastewater Utility Status” letters issued
- Implemented regulations related to Families First Coronavirus Response Act (FFCRA) – required up to 80 hours of “Emergency Paid Sick Leave”
- Workforce COVID-19 Infection Reduction Plan / PPE Procedures
 - Addressed vaccinations, PPE, social distancing
- Plan to Resume Normal Work Activities
 - Relieved certain mask rules, meeting changes, re-emphasized encouragement for vaccines

□ IT Related Policies

- Remote Access Use policies were developed
- Telecommuting Work Agreements put in place with each employee
- Work From Home (WFH) Procedure



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CONTINUING OPERATIONS

- ❖ IT Department deployed all remote access infrastructure by procuring licenses for dual factor authentication, existing and new laptops (a dozen new ones were purchased), configurations for all Engineering and Admin staff to take home. This required many long hours of support from the IT team during and after deployment.
- ❖ Business Processes never stopped
 - Processed AP payments & Purchase Orders
 - Collection of revenues
 - Payroll, open enrollments continued
 - Procurements (bid openings) continued and performed outside
 - Staff Utilized MS Teams for communications and project collaboration
- ❖ Construction Projects occasionally experienced delays if outbreaks were occurring with contractor workers, but most project did not experience delays.
 - Engineering Dept. created a Contractor Covid protocol
 - Some unavoidable delay claims (Force Majeure) are occurring
 - Some delays are still occurring for materials and parts orders for maintenance activities, labor shortage affecting supply chain
- ❖ IMUC and McIntire Recycling Center maintained normal service days and hours

BUDGET FY2021 & FY2022

RWSA Budget FY 2021

- ❑ Developed budget in January 2020 with roughly 5.7% (City) to 8.8% (ACSA) charge increases.
- ❑ However, COVID-19 required staff to adjust the budget to reflect a 0% overall increase charges to the City and ACSA
 - Cut all new staff positions
 - Eliminated merit increases (did approve 3% merit for January 1, 2021)
 - Used \$1.73 million in reserves to make up the revenue shortage
 - Cut \$846,000 in other costs

RWSA Budget FY 2022

- ❑ Return to 5-year staffing plan with 3 new positions approved
- ❑ Reduced reliance on reserves for revenue needs
 - Still using \$516,000 in reserves
- ❑ Overall charge increases:
 - City 7.6%
 - ACSA 14.3%
- ❑ Operating expense increased \$1.15 million, Debt Service expenses increased \$689,000

SUMMARY OF THE PAST YEAR

- ❑ All staff returned to the offices in June 2020
 - There were a few still using staggered schedules due to childcare issues
 - Most internal meetings were still being done virtually with MS Teams
 - All external meetings were conducted virtually
- ❑ Summer and fall – staff remain in the office with some staff staggering schedules due to home schooling needs
- ❑ Offices continue to be closed to the public
- ❑ Holidays November and December 2020– staggered schedules for Admin. & Engineering staff were put in place
 - Mid January 2021 back in offices
- ❑ All facilities continued to operate under normal business hours – No interruptions of service or interruptions of capital project execution

SUMMARY OF THE PAST YEAR

- ❑ 12 Employees between both Authorities became ill and tested positive for COVID-19 since beginning of pandemic
 - None of these could be traced back to contraction at the Authorities
 - All have since fully recovered
- ❑ FFCRA – federal requirement for emergency sick time ended 12/31/2020
 - We elected to keep this practice in place until 6/12/21
- ❑ Emergency sick time used between 1/1/2020 to 6/12/21
 - Solid Waste – 826 hours used
 - RWSA – 1806.25 hours used
 - Emergency Sick Leave was used for illnesses, quarantine time, testing and vaccinations
- ❑ July 2021: Restored mask requirements for all staff
- ❑ August 2021: Require vaccinations for all new staff

QUESTIONS?

