



Board of Directors Meeting

September 24, 2024

2:15pm

BOARD OF DIRECTORS

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

DATE: SEPTEMBER 24, 2024

LOCATION: Rivanna Administration Building (2nd Floor Conference Room),
695 Moores Creek Lane, Charlottesville, VA 22902

TIME: 2:15 p.m.

AGENDA

1. *CALL TO ORDER*
2. *AGENDA APPROVAL*
3. *MINUTES OF PREVIOUS BOARD MEETING ON AUGUST 27, 2024*
4. *RECOGNITION*
5. *EXECUTIVE DIRECTOR'S REPORT*
6. *ITEMS FROM THE PUBLIC*
Matters Not Listed for Public Hearing on the Agenda
7. *RESPONSES TO PUBLIC COMMENTS*
8. *CONSENT AGENDA*
 - a. *Staff Report on Finance*
 - b. *Staff Report on Operations*
 - c. *Staff Report on CIP Projects*
 - d. *Staff Report on Administration and Communications*
 - e. *Staff Report on Wholesale Metering*
 - f. *Staff Report on Drought Monitoring*
 - g. *Approval of Construction Contract Award; South Fork Rivanna River Crossing 24" Water Main – Faulconer Construction*

- h. Approval To Increase Construction Contingency – MCAWRRF 5kV Electrical Infrastructure Improvements – Pyramid Electrical Contractors*
- i. Approval of Engineering Services – Rivanna Pump Station Restoration – Hazen and Sawyer Engineers*
- j. Approval to Increase Design Contingency – MCAWRRF 5kV Electrical Infrastructure Improvements – Hazen and Sawyer Engineers*

9. OTHER BUSINESS

(Combined Session with the RSWA)

- a. Presentation: Safety Program Update
George Cheape, Safety Manager*

(Complete and close the RWSA meeting, then complete and close the RSWA meeting)

10. OTHER ITEMS FROM BOARD/STAFF NOT ON THE AGENDA

11. CLOSED MEETING

12. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT RIVANNA BOARD OF DIRECTORS MEETINGS

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

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for “Items From The Public, Matters Not Listed for Public Hearing on the Agenda.” Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

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

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

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

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

Rev. September 7, 2022



RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
August 27, 2024

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, August 27, 2024 at 2:15 p.m. at the 2nd Floor Conference Room at the Moores Creek Administration Building, 695 Moores Creek Lane, Charlottesville, VA 22902.

Board Members Present: Mike Gaffney, Sam Sanders, Brian Pinkston, Ann Mallek, Quin Lunsford, Lauren Hildebrand

Board Members Absent: Jeff Richardson

Rivanna Staff Present: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, Betsy Nemeth, Jacob Woodson, Michelle Simpson, Scott Schiller, Austin Marrs, Deborah Anama

Attorney(s) Present: Valerie Long

1. CALL TO ORDER

Mr. Gaffney convened the August 27, 2024, regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:15 p.m.

2. AGENDA APPROVAL

There were no comments, questions, or changes for the agenda.

Mr. Pinkston moved the Board to approve the agenda. Ms. Mallek seconded the motion, which carried unanimously (6-0). (Mr. Richardson was absent)

3. MINUTES OF PREVIOUS BOARD MEETING

a. Minutes of Regular Board Meeting on July 23, 2024

There were no comments on or questions regarding the minutes for the meeting held on July 23, 2024.

Ms. Mallek moved the Board to approve the minutes from the meeting held on July 23, 2022. Mr. Sanders seconded the motion, which passed unanimously (6-0). (Mr. Richardson was absent)

4. RECOGNITIONS

There were none.

5. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer stated as they celebrated Water Quality Awareness Month, their presentations today would focus on their water quality programs. He recognized Drew Prothero, a wastewater operator, who recently passed the Class 1 license exam. He stated that Mr. Prothero had been with them since 2022. He stated that Lonnie Wood and his staff had done an excellent job in

47 successfully closing the revenue bond for \$93.6 million through the Virginia Resources
48 Authority in July, securing an interest rate of 3.92%.

49
50 Mr. Mawyer stated that they were pleased to have a grant application on the draft U.S. Senate
51 spending appropriations list. He stated that a local newspaper had recently highlighted this, and
52 he thought it was important to inform the Board. He stated that this was a congressionally
53 directed spending program, and Senators Warner and Kaine had listed three projects on their
54 webpage to receive grant funding including a Rivanna project to replace powder activated carbon
55 water treatment equipment at the South Rivanna WTP.

56
57 Mr. Mawyer stated that Ms. Anama had discovered this program and assisted them in preparing
58 the application. He stated that if approved through the congressional budgeting process, they
59 would receive \$880,000 to replace the powder activated carbon system at the South Rivanna
60 Water Treatment Plant. He stated that one of the new positions approved by the Board was a
61 Sustainability and Grants Coordinator. He stated that this individual would work on finding
62 opportunities like this congressionally directed spending program for them to apply for grants
63 and assist with paperwork. He stated that they hoped to have this person starting on September
64 30, and he would introduce her to the Board in October.

65
66 Mr. Mawyer stated that he had previously informed the Board in March about their collaboration
67 with ASCA to identify the cause of the sediment material which had been clogging plumbing
68 fixtures in the hot water system of homes, especially in the Glenmore and Farmington
69 subdivisions. He stated that they had been conducting lab analysis through a consultant for
70 several months to determine the cause of this precipitate formation. He stated that indications
71 suggested that the change in the corrosion control inhibitor two years ago might be contributing
72 to this issue.

73
74 Mr. Mawyer stated that lab assessments indicated the corrosion control inhibitor could be
75 contributing to the formation of the precipitate. He stated that they were currently working with
76 the Virginia Health Department Office of Drinking Water, for approval and planned to reduce
77 the amount of corrosion control product from 0.9 to 0.7 milligrams per liter. He stated that they
78 used a sodium orthophosphate product as a corrosion inhibitor. He stated that this adjustment
79 was based on lab tests indicating that with high water age and high pH, a reduction in the
80 corrosion control product may prevent the precipitate formation.

81
82 Mr. Mawyer stated that they were hopeful that this change would resolve the problem, although
83 it would take several weeks for the adjustment to permeate through the urban water distribution
84 system. He stated that they were only implementing this change in the urban system at this time
85 and would monitor the distribution system to ensure that the adjustment did not cause any
86 unintended consequences. He stated that this product was crucial in preventing metals from pipes
87 and plumbing fixtures from leaching into drinking water, making it an essential part of their
88 treatment program.

89
90 Mr. Mawyer stated that Rivanna, ACSA, and the City had not historically experienced corrosion
91 problems. He stated that they switched to a more contemporary product several years ago after
92 extensive testing to ensure it would not cause problems. He stated that this change had largely

93 been successful, with only 50 to 100 homes, mostly with recirculating hot water systems,
94 experiencing clogged dishwashers and washing machines. He stated that they were hopeful that
95 the change in chemistry would resolve this problem.

96
97 Mr. Mawyer stated that they were excited about the pipe crossing project to be constructed under
98 the South Rivanna River, which had recently been advertised for construction bids. He stated that
99 the pipe from Ragged Mountain Reservoir to Observatory WTP had also been advertised. He
100 stated that they were hopeful that in a few months, they would be able to award two major
101 construction projects. He stated that they had one last easement with UVA to be obtained.

102
103 Mr. Mawyer stated that they continued to work on acquiring these easements. He stated that
104 Jennifer Whitaker and Austin Marrs, Senior Civil Engineer, presented to the Places 29
105 Community Advisory Committee and Town Council in Scottsville, respectively. He stated that
106 they aimed to inform the community about Rivanna and their projects. He stated that they were
107 striving to make the community aware of the major piping projects that were set to begin in
108 2025, which included the pipelines from Ragged Mountain Reservoir to Observatory WTP,
109 Observatory WTP to Free Bridge around Cherry Avenue, and subsequently, the pipeline from
110 South Rivanna Reservoir to Ragged Mountain Reservoir.

111
112 Mr. Mawyer stated that these projects would span approximately 15 miles of major piping,
113 which is why they recently borrowed funds through a revenue bond to finance the work. He
114 stated that August was recognized as National Water Quality Awareness Month, and he was
115 grateful for the efforts of their water professionals in maintaining water quality. He stated that
116 their presentations today would be based on this theme.

117 118 **6. ITEMS FROM THE PUBLIC**

119 *For matters not listed on the agenda for public hearing*

120 There were none.

121 122 **7. RESPONSES TO PUBLIC COMMENTS**

123 There were no comments from the public, therefore, there were no responses.

124 125 **8. CONSENT AGENDA**

126 *a. Staff Report on Finance*

127
128 *b. Staff Report on Operations*

129
130 *c. Staff Report on CIP Projects*

131
132 *d. Staff Report on Administration and Communications*

133
134 *e. Staff Report on Wholesale Metering*

135
136 *f. Staff Report on Drought Monitoring*

137
138 **Mr. Pinkston moved the Board to approve the Consent Agenda. Ms. Mallek seconded the**

139 **motion, which passed unanimously (6-0). (Mr. Richardson was absent)**
140

141 **9. OTHER BUSINESS**

142 *a. Presentation: Annual Reservoir Update*

143 *Bethany Houchens, Water Resources Coordinator*

144 David Tungate, Director of Operations and Environmental Services stated that Ms. Houchens
145 was not able to attend the meeting, so he would provide the presentation instead. He stated that
146 RWSA manages a series of reservoirs for their water quality supply; the reservoirs included
147 South Rivanna, Ragged Mountain, Sugar Hollow, Beaver Creek in Crozet, and Totier Creek in
148 Scottsville. RWSA has 2 river intakes: North Rivanna River and Totier Creek.
149

150 Mr. Tungate stated that South Fork Rivanna Reservoir contained 885 million gallons of water,
151 had a surface area of 366 acres, and a watershed of 259 square miles. He stated that the largest
152 reservoir was the Ragged Mountain Reservoir with 1.4 billion gallons of water, a surface area of
153 170 acres, and a watershed of only two square miles. He stated that the only way to get water
154 into Ragged Mountain was through a pipe from Sugar Hollow.
155

156 Mr. Tungate stated that the Sugar Hollow Reservoir holds 339 million gallons of water and
157 covers a surface area of 47 acres. South Rivanna Reservoir has the largest watershed and it
158 includes Beaver Creek and Sugar Hollow's watersheds. He stated that RWSA has an intensive
159 reservoir monitoring program to collect data to better understand the biological processes in their
160 reservoirs, which would be used to make more informed decisions on how to run the water plants
161 and treat the water.
162

163 Mr. Tungate stated that the baseline data for this program was established in 2014, and they
164 conducted an annual review of their data with the help of a consultant. He stated that the South
165 Rivanna and Ragged Mountain Reservoirs were sampled twice a month from April to November,
166 while Totier Creek Reservoir was sampled monthly, and Beaver Creek Reservoir was sampled
167 weekly.
168

169 Mr. Tungate stated that reservoir stratification referred to the separation of water in a reservoir
170 into stable layers of differing densities and temperatures, which was most prominent in the
171 summer. He stated that turnover was the seasonal mixing of the reservoirs that occurred when
172 outside temperatures cooled. Cooler outside temperatures cool the upper layers of a reservoirs
173 and the reservoirs will turnover when there is enough cooler water at the surface.
174

175 Mr. Tungate stated that for example, the Beaver Creek Reservoir exhibited stratification in early
176 May, with turnovers typically occurring around mid-November, coinciding with the cooling of
177 outside temperatures. He stated that this seasonal mixing resulted in anoxic conditions at depths
178 by late May, where oxygen levels were very low. He stated that to correlate these conditions with
179 algae blooms, total phosphorus levels were monitored weekly at Beaver Creek Reservoir.
180

181 Mr. Tungate stated that the South Fork Rivanna Reservoir showed stratification in early May but
182 experienced turnover in early October as the outside temperatures cooled. He stated that this
183 turnover could bring up more suspended solids, presenting a challenge for water treatment. He
184 stated that the Ragged Mountain Reservoir also demonstrated stratification in early May, with

185 mild turnover in November. He stated that each of the water treatment plants had to account for
186 these changes.

187
188 Ms. Mallek asked if the Secchi disk warned them if the turnover was about to begin based on the
189 turbidity.

190
191 Mr. Tungate stated that turnover tended to happen over the course of a couple days. He stated
192 that if they caught it while they were out there doing reservoir monitoring, they could respond,
193 but typically, the turbidimeters at the treatment plant in Crozet detect the reservoir turnover. He
194 stated that in 2023, RWSA applied algaecide twice at South Rivanna, eight times at Beaver
195 Creek, and once at Ragged Mountain. He stated that the Ragged Mountain algaecide application
196 was for Dinobryon not a blue-green algae, but it was a taste and odor producer. He stated that
197 RWSA treats the reservoirs with algaecide for different kinds of algae (green and blue-green).
198 He stated that in 2024 through August 20, RWSA had completed one algaecide treatment at
199 South Rivanna, four algaecide treatments at Beaver Creek, and none at the other two reservoirs.

200
201 Mr. Tungate stated that RWSA hired a licensed contractor to do the algaecide applications. He
202 stated that one important component of reservoir quality was land use management. He stated
203 that RWSA coordinated with the City and the County on land management around the reservoirs.
204 He stated that they focused on recreational access, boat docks, and illegal dumping. He stated
205 that some land adjacent to the Sugar Hollow Reservoir is to be placed in the Forest Legacy
206 Program, a preservation program. The FLP is a conservation program administered by the U.S.
207 Forest Service in partnership with State agencies to encourage the protection of privately owned
208 forest lands through conservation easements or land purchases.

209
210 Mr. Pinkston asked if the preservation program was maintained by a non-profit organization.

211
212 Mr. Sanders stated that it was managed by the federal government, and it was a designation to
213 create a conservation area.

214
215 Mr. Tungate stated that they conducted reservoir surveillance on a regular basis from their boat.
216 He stated that this included surveillance at Beaver Creek, South Rivanna, and Ragged Mountain
217 twice a year, and once a year at Sugar Hollow and Totier Creek Reservoir. He stated that they
218 looked for trash, dump sites, discharges in the reservoir, unauthorized withdrawals such as
219 irrigation pumps and wells, as well as invasions by aquatic species. He stated that they also
220 checked for any violations of water protection ordinances.

221
222 Mr. Tungate stated that their water resources team participated in the Rivanna River Fest,
223 Rivanna Forest Health and Resilience Partnership, Rivanna Conservation Alliance Science
224 Advisory Committee, and the Southeastern Partnership for Forest and Water.

225
226 Mr. Tungate stated that there had been five periods in the past decade where the South Fork
227 Rivanna Reservoir's water level was below the top of the dam. These are times when the
228 reservoir is not spilling. He stated that South Rivanna spilled for all of 2014, 2018, 2019, 2020,
229 2021, and 2022. He stated that during the two-day period of Tropical Depression Debby, they
230 recorded rainfall amounts ranging from 3.66 inches at South Rivanna to 6.5 inches at Beaver

231 Creek. He stated that RWSA has rain gauges at these facilities.

232
233 Mr. Tungate stated that they monitored several USGS streamflow gauging stations regularly,
234 including stations on the Mechums River, which measures the flow into South Rivanna
235 Reservoir, and the Moormans River gauging station. The Moormans River gauging station
236 measures the flow out of Sugar Hollow. He stated that the North Rivanna River gauging station
237 was upstream of the North Rivanna intake, and a new station was recently installed on the South
238 Rivanna River downstream of the South Rivanna Dam.

239
240 Mr. Tungate stated that he believed the recent fluctuations in reservoir water levels could be
241 indicative of climate change. He stated that as a summary, RWSA maintained a proactive
242 reservoir monitoring program that guided their water treatment decision-making. He stated that
243 RWSA also has an active source water protection program and partnerships with the County on
244 water protection and land use around their reservoirs. He stated that RWSA updated their water
245 demand and reservoir capacities every ten years.

246
247 Mr. Tungate stated that as of 11:41AM on 8/27/2024, dry spots and wet spots could be seen on
248 the South Fork Rivanna dam face. He stated that they could still see some of the debris that
249 washed down after Tropical Storm Debby. He stated that there was a plan to increase water
250 production from South Rivanna WTP to Observatory WTP should South Rivanna Reservoir stop
251 spilling and drop six inches below the top of the dam. He stated that almost an inch of rain was
252 projected for Thursday 8/29/2024.

253
254 Mr. Pinkston stated that he understood that Sugar Hollow and Ragged Mountain were owned by
255 the City.

256
257 Mr. Mawyer stated that the land surrounding the reservoir and, technically, the land beneath the
258 water, was owned by the City. He stated that as per the four-party agreement, the water and dam
259 were controlled by Rivanna.

260
261 Mr. Pinkston asked about South Rivanna.

262
263 Mr. Mawyer stated that it was the same. He stated that South Rivanna, Sugar Hollow, and
264 Ragged Mountain were all City-owned areast. He stated that the City was the original builder of
265 the Observatory WTP and the Moores Creek wastewater facility.

266
267 Ms. Mallek stated that she had been concerned for years about how to manage the behavior of
268 landowners along Brown's Gap Turnpike adjacent to the Beaver Creek Reservoir, particularly
269 those who repeatedly weeded down to the dirt, even reaching the water's edge. She stated that
270 this was not legal, and she believed it required stronger intervention than what County parks
271 could provide.

272
273 Mr. Mawyer stated that was a zoning violation of the County water protection ordinance. He
274 stated that there was a required setback from all public reservoirs. He stated that the Reservoir
275 Management Program included monitoring these areas, and Rivanna notified the County when
276 they observed violations of this ordinance.

277
278 Ms. Mallek stated that copper sulfate was used as a algaecide, but the EPA was working on lead
279 and copper regulations. She asked how this was addressed.

280
281 Mr. Tungate stated that the concentration of copper sulfate in the reservoir was extremely low.
282 He stated that although he did not recall the exact calculations, they were significantly lower than
283 what the lead and copper rule mandated. He stated that copper could bind with organic materials
284 and settle to the bottom of the reservoir. He stated that as a result, the copper present was not
285 readily available.

286
287 Mr. Sanders asked Mr. Mawyer if he still had a review of the multi-party agreement on his radar.
288

289 Mr. Mawyer stated that they drafted an MOU five years ago regarding who was responsible for
290 maintaining the properties outside of the reservoirs. He stated that this plan was interrupted by
291 the County and City's plan to work at Sugar Hollow, leasing the property to the County for a
292 parking lot, and the conservation easement. He stated that his understanding was that the plan
293 was still under consideration.

294
295 *b. Presentation: Water Treatment Facilities Overview*
296 *David Tungate, Director of Operations and Environmental Services*

297
298 Mr. Tungate stated that their water system included the Sugar Hollow Reservoir, South Rivanna
299 Reservoir, and the Ragged Mountain Reservoir. He stated that these were referred to as their
300 urban system reservoirs, and they served the City of Charlottesville and the ACSA urban area.
301 He stated that the Crozet system included Beaver Creek Reservoir and the Crozet WTP. The
302 intake on the North Rivanna River supplies water to the North Rivanna WTP. He stated that
303 Observatory, South Rivanna, and North Rivanna WTPs were the water treatment plants that
304 produce water for the urban water system.

305
306 Mr. Tungate stated that RWSA has two intakes in Scottsville; the Totier Creek Reservoir, and
307 Totier Creek. He stated that RWSA has a small groundwater system at Red Hill that provides
308 water to 12 homes and Red Hill school. He stated that the largest water treatment plant is South
309 Rivanna, followed by Observatory located on the grounds of University of Virginia. He stated
310 that South Rivanna WTP was the largest permitted capacity at 12 mgd, followed by Observatory
311 at 7.7 mgd, and North Rivanna at 2 mgd. He stated that the total urban water production capacity
312 was 21.7.

313
314 Mr. Tungate stated that once the Observatory WTP Project was completed, 2.3 million gallons of
315 treatment capacity would be added to the urban system. He stated that the average daily
316 production in 2023 for each of these three urban treatment plants was 9.4 million gallons a day.
317 He stated that at Observatory, they maintained a low flow rate, running it as needed, even though
318 it operated every day. He stated that the key takeaway was that they produced an average of 9.4
319 million gallons a day in the urban system in 2023.

320
321 Mr. Tungate stated that they took more water out of South Rivanna when it was spilling, and
322 they took more from Observatory or Ragged Mountain when it was not spilling. He stated that

323 the North Rivanna WTP would eventually be replaced by a booster station near the airport. He
324 stated that the Crozet system's treatment plant had a permitted water production capacity of 1.6
325 million gallons per day. He stated that Scottsville's capacity was 250,000 gallons per day, and the
326 Red Hill facility had a permitted capacity of 6,800 gallons per day.

327

328 Mr. Lunsford asked if the urban flow would remain the same once North Rivanna was
329 decommissioned.

330

331 Mr. Mawyer stated that they had pitched to VDEQ to maintain the same permitted withdrawal
332 and capacity. He stated that if they gave up the water from the North Rivanna River, he wanted
333 VDEQ to increase the water supply from the South Rivanna Reservoir.

334

335 Mr. Tungate stated that the next slide showed conventional surface water treatment, which
336 involved taking water from reservoirs, coagulation, flocculation, sedimentation, filtration, and
337 disinfection. He stated that GAC was utilized between the filtration and disinfection processes.
338 He stated that as of July 2024, before Tropical Depression Debby impacted the area, their source
339 water resembled the clear water shown in the slide.

340

341 Mr. Tungate stated that the challenge lay in the work and effort that the water department and
342 staff had invested to transform the raw water into finished water. He stated that generally, no one
343 on the finished water side was familiar with the appearance of the raw water. He stated that to
344 treat the water RWSA uses a series of treatment additives. He stated that aluminum sulfate was
345 added to coagulate soil particles. He stated that a liquid lime product was used for pH
346 adjustment, sodium hypochlorite for disinfection, fluoride for dental health, and orthophosphate
347 for corrosion control in the piping system.

348

349 He stated that once the water reached the treatment plant, chemicals were added in the mixing
350 basin, followed by flocculation and sedimentation processes. He stated that the goal was for
351 these particles to settle in the sedimentation basins. He stated that the photo on the screen was of
352 the water entering the sedimentation basins, appearing cloudy, and then clear as it settled when it
353 reached the end of the basins.

354

355 Mr. Tungate stated that conventional water treatment plant design was for all this material to
356 settle in the sedimentation basins. He stated that to ensure the correct chemical dosage and
357 timing, they regularly performed jar tests. He stated that this involved collecting water from the
358 raw water intake and adding different chemical doses to beakers, simulating the treatment
359 process. He stated that by observing the settling of material, they could determine the appropriate
360 amounts of alum and lime needed to treat the water.

361

362 Mr. Tungate stated that these tests were conducted as needed. It could be once a day to once a
363 week, and more frequently during challenging treatment periods or after rain events, which could
364 alter water temperature and turbidity. He stated that giardia and crypto were the two primary
365 concerns in water treatment. He stated that giardia, an organism, could be eliminated using
366 chlorine. He stated that crypto, on the other hand, existed in cysts and could not be treated with
367 chemicals. He stated that instead, they required settling and filtration. He stated that chemical
368 treatment and filters were the two main methods used to address these concerns.

369
370 Mr. Tungate stated that new filters were installed at the Observatory WTP to physically separate
371 crypto and coagulated particles from the water. He stated that the performance of these filters
372 was continuously monitored using turbidimeters, which measured the turbidity of the water. He
373 stated that the goal was to maintain a turbidity level of less than 0.1 NTU 95% of the time. He
374 stated that to verify the accuracy of the online turbidimeter readings, RWSA staff used a
375 benchtop turbidimeter to perform regular checks and calibrations. He stated that this ensured that
376 the online data was reliable.

377
378 Mr. Pinkston asked what type of material was in the filters.

379
380 Mr. Tungate stated that the system utilized 18 inches of anthracite and 12 inches of sand. He
381 stated that the water flowed vertically downward. The pressure differential and filter effluent
382 water turbidity determined when to backwash the filters to clean them.

383
384 Mr. Tungate stated that they used granular activated carbon (GAC), which they could reuse
385 multiple times, and powder activated carbon, which was a one-time use. He stated that RWSA
386 had over 650,000 pounds of GAC in service at all times. He stated that the granular activated
387 carbon lasts between 9 to 15 months, while the powder activated carbon was used once and then
388 discarded with the other water treatment plant solids. He stated that the water originated from
389 the raw water pump station and was pumped into the water treatment plant. He stated that a
390 mixer caused the water in the flocculators to mix, ensuring that the small solids came into
391 contact with each other and made larger solids. He stated that the powder activated carbon was a
392 byproduct of sizing granular material.

393
394 Mr. Tungate stated that the model 12-40 granular activated carbon contactors each contained
395 40,000 pounds of GAC, with a diameter of 12 feet and a height of 26 feet. He stated that there
396 were eight of these contactors at South Rivanna, six at Observatory, and one at North Rivanna.
397 He stated that they sampled water entering the vessels at various points to assess the remaining
398 life of the GAC filters. He stated that they recently replaced the GAC in all six vessels at
399 Observatory WTP. The new GAC was reactivated GAC. He stated that our vendor superheated
400 the GAC remove contaminants and reactivate it.

401
402 Mr. Tungate stated that South Rivanna had eight contactors with a total capacity of 320,000
403 pounds of GAC, which is their largest GAC facility. He stated that Observatory had recently
404 added four contactors, bringing the total to six, with a capacity of 240,000 pounds of GAC. He
405 stated that North Rivanna had one 40,000 pound GAC contactor, and Crozet had two smaller
406 contactors, each with a capacity of 20,000 pounds of GAC. He stated that RWSA was planning
407 to add additional GAC treatment to Crozet. He stated that currently, they had two 6,000-pound
408 GAC contactors in Scottsville. He stated that the project to install a GAC contactor at Red Hill
409 was also underway.

410
411 Mr. Tungate stated that in addition to the work and testing they conducted, RWSA submits
412 monthly operations reports to the Virginia Department of Health. He stated that these reports
413 included daily volumes of water pumped in and out of each plant, chemical doses, turbidity,
414 water temperatures, and pH levels. He stated that they also provided finished water data, chlorine

415 residuals, and disinfection calculations to ensure they effectively eliminated giardia. He stated
416 that they cross-referenced the data from their online and benchtop instruments with the amount
417 of water produced and treated, as well as the amount of chemicals used, to ensure all numbers
418 balanced.

419

420 Mr. Tungate stated that they conducted total coliform sampling for all four water systems,
421 including Scottsville, Crozet, Red Hill, and the main urban system. He stated that any Safe
422 Drinking Water Act compliance data was posted on a central data exchange by the testing lab,
423 where RWSA staff verified the information.

424

425 Mr. Tungate stated that they allocated the FY 25 operating budget as follows: \$3.1 million for
426 employee salaries, \$2.51 million for water treatment chemicals, and \$900,000 for utilities, which
427 included electricity, natural gas, and LP. He stated that in FY 24, they produced 3.45 billion
428 gallons of drinking water at a cost of \$3.81 per thousand gallons. He stated that the South
429 Rivanna Water Treatment Plant was a class one facility with 12 million gallons of capacity. He
430 stated that it was staffed 24/7/365. He stated that there were two operators per shift and four
431 shifts per week. He stated that each operator worked two weeks of days and two weeks of nights.

432

433 Mr. Tungate stated that Observatory WTP was currently staffed 12 hours per day, but when
434 South Rivanna Reservoir dropped to six inches below the top of the dam, the staffing plan was
435 24 hours a day, which required four additional water operators. He stated that Class 1 was the
436 highest operator classification, and a properly licensed operator had to be present at every water
437 treatment plant when it was in operation. He stated that it was crucial that they encouraged
438 higher operator certifications. He stated that the North Rivanna facility was a class two facility,
439 with two total operators who usually worked eight to 10 hours a day, 365 days a year.

440

441 Mr. Tungate stated that the Crozet facility is a Class 2 facility with two operators working 12-
442 hour shifts. He stated that Scottsville was a class three facility, and it was staffed eight hours per
443 day. He stated that the Red Hill facility, which treated groundwater, required someone to check it
444 once a day. He stated that they visited the treatment plant every day and monitored the plant
445 information on SCADA continuously.

446

447 Mr. Tungate stated that they also had a series of relief operators. He stated that a relief operator
448 was someone who could be called in on short notice to run a treatment plant if a licensed
449 operator was unavailable due to illness or other reasons. He stated that relief operators were paid
450 a premium for their availability. He stated that there were four management staff in the water
451 department, including a manager, assistant manager, and two supervisors, making a total of 27
452 people on staff.

453

454

455 *c. Presentation: Virginia Water Protection Permits Update*

456 *Jennifer Whitaker, P.E., Director of Engineering and Maintenance*

457 Jennifer Whitaker, Director of Engineering and Maintenance, stated that the Virginia Water
458 Protection Program focused on the protection of source water and the applicable permits. She
459 stated that in Virginia, there were two types of raw water withdrawals, which were regulated by

460 the Department of Environmental Quality Office of Water Supply. She stated that historically,
461 these regulations were managed by various departments.

462
463 Ms. Whitaker stated that in Virginia, there were two program areas. She stated that there was
464 groundwater permitting, which primarily applied to the eastern part of the state. She stated that
465 there were two formal groundwater management areas, one encompassing the eastern seaboard,
466 all three peninsulas, and the southside, and one encompassing the Eastern Shore. She stated that
467 in 1992, the groundwater management districts were established, responsible for issuing permits
468 for large withdrawals over 300,000 gallons per minute. She stated that these were primarily
469 overseen by the Department of Environmental Quality.

470
471 Ms. Whitaker stated that wells in the Piedmont region were typically regulated by the Virginia
472 Department of Health. Next, Ms. Whitaker spoke about Surface Water withdraws. She stated that
473 surface water, by definition, included anything that was not groundwater. She stated that it
474 included waters that crossed state boundaries, and it included things such as wetlands, stream
475 channels, lake springs, ponds, and impounded surface waters. She stated that the Virginia Water
476 Protection Permit covered two key areas. She stated that one area was impacts to surface water,
477 such as land clearing, dredging, filling, runoff, excavation, draining, and ditching.

478
479 Ms. Whitaker stated that the second area was water withdrawal from surface water and non-
480 agricultural impoundments. She stated that in Virginia, agricultural impoundments were
481 generally exempt from most regulation. She stated that even then, some of them were exempt.
482 She stated that the surface water withdrawal permit can come in several different forms. She
483 stated that RWSA fell under the water protection permit program. She stated that generally, the
484 program covered non-tidal areas and regulates withdrawals over 10,000 gallons per day.

485
486 Ms. Whitaker stated that there were five types of VWP permits. She stated that four of them
487 were called general permits, and those were set up based on the incremental area of impact. She
488 stated that it could be linear feet of stream impact, square feet or acres of wetland impacts. She
489 stated that there was also an individual permit, and water withdrawals were categorized under
490 this permit.

491
492 Ms. Whitaker stated that water withdrawals with the DEQ, generally reviewed and regulated
493 under an individual permit. She stated that the applications for these permits were processed
494 through a Joint Permit Application (JPA) process. She stated that the JPA is a complex and time-
495 consuming process. She stated that it can take anywhere from 2 to 4 to 12 years to complete this
496 process. She stated that this was a significant undertaking for a utility, and it typically involved a
497 team of consultants to guide staff through the process and ensure all necessary documents were
498 prepared.

499
500 Ms. Whitaker stated that when a Joint Permit Application was filed, it was reviewed by various
501 state agencies, including the Virginia Marine Resources Commission, DEQ, the Department of
502 Health, Wildlife Resources, and Historic Resources. She stated that at the federal level, the Army
503 Corps of Engineers, the EPA, and U.S. Fish and Wildlife Service were involved. She stated that
504 other agencies, such as the DOD, can also be involved if the application. She stated that
505 additionally, any federally recognized tribe had full jurisdiction within the Joint Permit

506 Application process. She stated that currently, the Crozet Permit Application had received
507 comments from the Monacan Nation.

508
509 Ms. Whitaker stated that individual permits had a 15-year term and needed to be reapplied for at
510 the end of that term. She stated that these permits were a process. She stated that typically, the
511 Community Water Supply Permit took over a decade to complete. She stated that it was only
512 good for 15 years, and within that timeframe, they then had to apply again. She stated that it was
513 something that most utilities had staff dedicated to the monitoring and renewing of these types of
514 permits.

515
516 Ms. Whitaker stated that there was one other small exception to the permitting process, and it
517 was grandfathering of surface water withdrawals. She stated that the code was somewhat
518 convoluted. She stated that if the water withdrawal existed before July 1, 1989, did not need to
519 be changed in volume or character, and had not been abandoned or discontinued use at some
520 point in the process, then they were exempt from the DEQ permits, and instead, they were
521 regulated under the historic Virginia VDH Water Works Permit Program. She stated that
522 currently, Crozet, North Rivanna, and Scottsville all fit that category. She stated that prior to the
523 Community Water Supply Plan, the entire urban system also was included.

524
525 Ms. Whitaker stated that Crozet would soon to come off the list, as there was an expansion
526 permit pending. Additionally, she stated that there was a DEQ working group assembled to
527 discuss these grandfathered permits and how they might be added to the current withdrawal
528 permit system. She stated that Mr. Mawyer was a member of the committee with DEQ.

529
530 Ms. Whitaker stated that after the 2002 drought, the Authority looked to establishing an
531 additional water supply. She stated that the 2011 Permit Major Modification number 1 was a key
532 milestone where RWSA became permitted for the current Community Water Supply Plan. She
533 stated that the permit expired in February 2023, and they were required to submit a reapplication
534 before that date. She stated that they submitted their reapplication in 2021.

535
536 Ms. Whitaker stated that due to staffing shortages at DEQ, they had not yet completely reviewed
537 and issued the Urban System permit. She stated that in 2022, they granted a continuance, which
538 meant they continued to operate under their old permit until the new permit was issued. She
539 stated that they were expecting a draft permit this fall. She stated that they had resolved with
540 DEQ some of the mitigation questions on the urban permit. She stated that there was a
541 significant amount of mitigation work done at the wetland site on Franklin Street and the Buck
542 Mountain reservoir property site during the term of the original permit.

543
544 Ms. Whitaker stated that they had continued to work with DEQ staff, and all that the ongoing
545 monitoring work was complete. She stated that generally, if they were just renewing the 15-year
546 permit, it was not an onerous process. She stated that because they were still working on the
547 construction of the water withdraw facilities, there was more scrutiny to the permit process.

548
549 Mr. Pinkston asked if they were requesting real-time changes.

550

551 Ms. Whitaker stated that generally, not in real time, but at the 15-year window, if there had been
552 a policy shift at the state level, that was where it would start showing up. She stated that for
553 example, if there had been an interest in the state to phase in smaller and smaller screen sizes, or
554 if there was a study that they were interested in, it would resurface in the 15-year renewal. She
555 stated that sometimes, they may have had to make improvements or changes to respond to those
556 new permit conditions.

557
558 Mr. Pinkston asked if they were required to make changes as it was undergoing review.

559
560 Ms. Whitaker stated that generally, they did not. She stated that they submitted several small
561 modifications that they believed were improvements to the system operation. She stated that due
562 to the lengthy process of full permit renewal, RWSA submitted minor modifications to adjust
563 one or two small aspects of the permit. She stated that DEQ was open to these changes, allowing
564 them to implement some improvements to their system operation in the meantime while they
565 awaited the comprehensive permit.

566
567 Ms. Whitaker stated that the slide on the screen listed the components of the Community Water
568 Supply Plan that were authorized within the permit. She stated that the last couple were
569 noteworthy. She stated that it was not only the construction of the infrastructure but also the
570 amount of water they were permitted to withdraw from the reservoirs. She stated that they must
571 determine their minimum in-stream flow release requirement at each reservoir. She stated that
572 they must provide compensation for stream and wetland impacts.

573
574 Ms. Whitaker stated that the Crozet system was constructed in 1963 and had been the water
575 supply for Crozet since then. She stated that in 2011, they began examining the new dam safety
576 regulations in the Commonwealth, and Beaver Creek Dam was classified as a high hazard dam,
577 necessitating some upgrades. She stated that as part of this process, they evaluated the Crozet
578 water system, including the amount of raw water, treatment capacity, finished water conveyance
579 capacity, and demand growth. She stated that from 2019 to 2021, they completed the Drinking
580 Water Infrastructure Plan to determine how they would stage these improvements.

581
582 Ms. Whitaker stated that it was crucial to note that staff initiated discussions with DEQ in 2017
583 about the need to apply for a permit and the likely minimum and extreme flows, as well as the
584 requirements of the Department of Wildlife Resources. She stated that they submitted a permit
585 application in 2022, and earlier this year, they received draft permit language. She stated that
586 there were some untenable requirements in that language, and they since responded to DEQ,
587 whose reply was currently in process.

588
589 Ms. Whitaker stated that a few things emerged from this that were significant, as they may alter
590 how they potentially served Crozet in the long term. She stated that the permit would only
591 consider the first 15 years of demand. She stated that when they submitted a permit or
592 documents, they presented a 50-year planning horizon. She stated that benefit is calculated when
593 the cost of improvements is directly tied to the duration of outcome. In this case, staff justified
594 the costs of improvements by investing millions of dollars and wanted to be good stewards of the
595 money. She stated that DEQ's focus was on the first 15 years of the permit only. She stated that
596 this meant that long-term planning was not really considered in their process.

597
598 Ms. Whitaker stated that minimum instream flows were likely to be higher than previously
599 discussed, which meant that the state was likely going to require more water going downstream
600 than had previously been discussed. She stated that as a result, they were likely going to need
601 additional water supply sometime between 2045 and 2070, which may come as a surprise to
602 some.

603
604 Ms. Whitaker stated that in summary, the regulations fell under DEQ for the Water Protection
605 Program. She stated that they currently had three grandfathered exclusions, Crozet, Scottsville,
606 and North Rivanna. She stated that the urban system VWP allowed them to not only build but
607 also operate the components of the community water supply plan. She stated that they were in
608 discussions with the Department of Environmental Quality on both the urban permit and the
609 permit in Crozet. She stated that they were currently waiting to hear back from the agency on
610 both permits.

611
612 Ms. Mallek stated that conservation should be a daily practice, and they must also focus on
613 reducing waste. She stated that this should be an integral part of their overall discussion.

614
615 Ms. Whitaker stated that the concept was that there was a finite watershed. She stated that the
616 plan was to have a specific set of releases that they believed to be acceptable, and the remaining
617 water would be allocated for water supply. She stated that with a larger release, there would be a
618 reduced availability for water supply. She stated that consequently, they would need to explore
619 alternative options.

620
621 Mr. Gaffney stated that the DEQ was setting up restrictions on population growth.

622
623 Ms. Whitaker stated that for this system, they indicated that they needed to find an additional
624 source of water beyond the current reservoir's capacity.

625
626 *d. Presentation: Water Supply Planning Regulations*
627 *Bill Mawyer, Executive Director*

628 Mr. Mawyer stated that he would briefly discuss some of the water supply regulations that were
629 currently being developed. He stated that following the 2002 drought in Virginia, the state
630 legislature enacted a new code mandating that every locality must have a water supply plan. He
631 stated that this directive was intended to encourage localities to be self-sufficient. He stated that
632 by 2008, 48 localities had submitted their plans, with 10 being local plans and 38 regional plans.
633 He stated that their plan was submitted on behalf of Albemarle County, Charlottesville, and the
634 town of Scottsville.

635
636 Mr. Mawyer stated that a water supply plan required localities to consider their water needs,
637 sources, future plans, and drought response contingency plans. He stated that in 2020, the
638 General Assembly passed an amendment to this regulation, emphasizing the goal of ensuring that
639 all citizens of the commonwealth had access to adequate and safe drinking water. He stated that
640 this amendment encouraged cross-jurisdictional water supply projects. Albemarle County and
641 the City of Charlottesville have been grouped with Greene, Louisa, Fluvanna, and Buckingham
642 counties as their new water supply planning area.

643

644 Mr. Mawyer stated that each local government, incorporated town, and water authority involved
645 with water supply, along with their participating stakeholders, would represent the regional
646 planning unit. He stated that within a five-year timeline, each unit was required to develop a
647 regional water supply plan for their region. He stated that DEQ could mandate planning but
648 could not enforce the implementation of the plan at that time. He stated that previously, this
649 proposed amendment had been in the governor's office and had been approved the previous
650 week. He stated that it would now be open for public comment from September 9 to October 9
651 on the revised water supply planning areas and regulations.

652

653 Mr. Mawyer stated that this aligned with the federal government's approach, following the EPA
654 water system restructuring rule. He stated that this rule had been established due to many small
655 utilities struggling to meet water quality regulations, facing challenges of funding and
656 insufficient resources. He stated that in 2018, the America's Water Infrastructure Act had
657 amended the law, requiring the EPA to create the water system restructuring assessment rule. He
658 stated that this rule granted states greater authority to mandate localities to regroup and create
659 new water supply plans.

660

661 Mr. Mawyer stated that the water system restructuring could indicate a change in the
662 management, ownership, operation, or infrastructure of utilities. He stated that it was not
663 mandatory, but it gave states the authority to require localities to create water supply plans in the
664 new planning group. He stated that some of the surrounding jurisdictions had faced water
665 challenges. He stated that these utilities often struggled with the affordability and resources
666 necessary to manage their water and wastewater treatment programs effectively. He stated that as
667 they faced new regulatory requirements, such as those concerning PFAS, the complexity
668 increased. He stated that they were also encountering new plastic-related issues that further
669 complicated matters.

670

671 Mr. Pinkston asked how the regional groups were determined.

672

673 Mr. Mawyer stated that there was some rationale regarding the James River watershed,
674 particularly concerning who was extracting water from the James River. He stated that
675 previously, planning requirements did not consider watersheds. He stated that now they were
676 paying more attention to watersheds. He stated that even Louisa, through the newly established
677 James River Water Authority, would have an intake in the James River, which would supply raw
678 water to Louisa and Fluvanna. He stated that they were currently trying to determine the facilities
679 their other colleague counties had for water treatment.

680

681 Mr. Pinkston asked if they had professional relationships with the regional partners.

682

683 Mr. Mawyer stated that they were attempting to develop these relationships. He stated that their
684 annual Central Virginia Utility Managers meeting was an opportunity for them to invite all utility
685 managers to attend. He stated that generally, they maintained relationships with them. He stated
686 that Greene County had recently appointed a new utility director, and he was arranging to meet
687 with him.

688

689 Mr. Pinkston asked if there was direction from the state to include local elected officials in the
690 regional planning unit.

691
692 Mr. Mawyer stated that he believed it was more the representatives of the counties and cities,
693 who could appoint whomever they deemed suitable.

694
695 Mr. Mawyer stated that the committee had to identify the participating stakeholders and develop
696 a plan. He stated that the local governments were then expected to vote to endorse the plan. He
697 stated that although a particular locality could choose not to endorse the plan, the majority would
698 rule as the regional plan. He stated that if a particular locality disagreed with the plan, but the
699 majority of the plan participants voted in favor, it would be submitted to the state as their
700 region's water supply plan.

701
702 Mr. Pinkston asked if the plan would require them to connect their water systems.

703
704 Mr. Mawyer stated that it did not force them to connect. He stated that DEQ was supposed to
705 facilitate the process. He stated that they were supposed to be part of the planning unit and help it
706 progress and make a decision. He stated that after the amendment becomes effective and
707 required, they would then seek direction from DEQ. He stated that they would discuss with the
708 planning unit about the next steps. He stated that they would then proceed to meet with each
709 locality, assess their resources and needs, and complete the requirements of the plan. He stated
710 that they would also consider their projected growth and the amount of water they would need.

711
712 Mr. Mawyer stated that the EPA had identified a large number of small utilities with water
713 treatment violations. He stated that they were seeking a way to encourage larger utilities to assist
714 the smaller ones, understanding that the smaller ones did not have the resources to meet the
715 requirements of the regulations, particularly when it came to PFAS and microplastics, which
716 were emerging concerns.

717
718 Mr. Lunsford asked how far out was required for this planning.

719
720 Mr. Mawyer stated it was for a 30-year timeline. He stated that the permits only looked out 15
721 years, but that was shortsighted when building a reservoir or utility piping system.

722
723 Mr. Lunsford stated that Mr. Mawyer had mentioned prior conversations with Greene County in
724 prior meetings. He asked if that was related to the regional planning areas.

725
726 Mr. Mawyer stated that it could become a similar conversation with Greene and other members
727 of the planning committee. He stated that he was not sure about Buckingham's situation. He
728 stated that Louisa and Fluvanna were forward thinking with their James River Water Authority
729 and constructing an intake on the James River.

730
731 Ms. Mallek stated that they were essentially the last ones to receive an allowable withdrawal
732 from the Army Corps of Engineers for the James River. She stated that this was the end of the
733 effort in Albemarle to focus solely on the river. She stated that this was the best thing that could
734 have happened because of what Rivanna has been doing every day. She stated that it was one

735 thing to ask others to repeat what they had accomplished in 20 years, but who would pay for the
736 staff's time and effort to assist other communities who were unwilling to invest.
737

738 Ms. Mallek stated that it was not the responsibility of their customers to fund these initiatives.
739 She stated that there had been significant resistance, especially at the EPA and local government
740 planning levels, when the restructuring committee began. She stated that on one hand, there were
741 communities with limited expertise and resources who could not afford to do this. She stated that
742 on the other hand, they were also afraid because the federal government used the term
743 "consolidation" as if they would be forced to be bought up by the worst-case scenario, a private
744 company that would exploit them.
745

746 Ms. Mallek stated that happened in many jurisdictions in her district, including some large
747 neighborhoods. She stated that there was no mandatory participation. She stated that it was often
748 seen as a nice idea, but the question of funding remained. She stated that it was an unfunded
749 mandate, with costs significantly higher than what local governments have been allocated.
750

751 Ms. Mallek stated that another issue that frequently arose at the federal funding level is the
752 reluctance of state governments to distribute funds allocated for initiatives to local governments.
753 She stated that this lack of support affected impoverished communities with failing water and
754 wastewater systems. She stated that she was glad to know that there was a public comment
755 period. She stated that she hoped that people will participate in it. She stated that she was curious
756 if they would have access or will be able to get access to the links to participate in the process.
757

758 Mr. Mawyer stated that they would find out.
759

760 Ms. Mallek stated that everyone needed to come together to figure out and share the ability to
761 discuss the impacts to each locality. She stated that it was one thing to share the guidance and
762 experience that generations of people in this region had contributed. She stated that it was a
763 choice that people were making to either change their choice or live with what they have.
764

765 Ms. Mallek stated that she believed it would be a favor to Greene County to acknowledge our
766 capacity issues and inform them that we could not consider their projects until 2034 when we
767 completed the water supply plan. She stated that it would take them a considerable amount of
768 time to complete all this work. She stated that while this approach may seem harsh to some, it
769 prevented Rivanna from engaging in disputes that could distract Greene from the opportunity to
770 secure substantial federal funding for the reservoir project they had been planning for three
771 decades and move forward to do that.
772

773 Ms. Mallek stated that she hoped that this would encourage them to stop arguing and move
774 forward. She stated that if Rivanna was perceived as an out, it may not aid them. She stated that
775 they could not reasonably expect to take action until they addressed their own customers' needs
776 and plans. She stated that she would value others' perspectives on this matter. She stated that
777 deciding on a course of action today would be beneficial, rather than delaying the process while
778 waiting for a lengthy study that may reveal the cost they could not afford to borrow.
779

780 Mr. Pinkston stated that he agreed with her sentiment on this topic. He stated that he was not

781 aware of any specific response required from them at this time. He stated that there was no
782 immediate action item for them to address.

783
784 Mr. Mawyer stated that there had been some informal discussions, but nothing official had been
785 requested. He stated that he could meet with the new utility director and discuss this issue, as
786 well as their thoughts on the community and our Board.

787
788 Mr. Sanders stated that they were discussing mandatory planning, but not mandatory action. He
789 stated that by mandatory planning from the state, they would have to engage with everyone in
790 this region at some point. He stated that they did not know the schedule for this at the moment.

791
792 Mr. Mawyer stated that it could be soon. He stated that by January, he anticipated that the DEQ
793 would confirm that the amendment was in place. He stated that at that point, localities would
794 need to begin their planning process. He stated that they would have five years to return to the
795 DEQ with a plan.

796
797 Mr. Sanders stated that there had been no official request generated by Greene County to
798 Rivanna at that time.

799
800 Mr. Mawyer stated that was correct. We have not received an official request for water
801 assistance.

802
803 Mr. Sanders stated that without a formal request, the other localities should refer to the concerns
804 from our Board minutes. He stated that regardless, they must prepare for discussions with them.
805 He stated that Buckingham was another area of uncertainty. He stated that while Fluvanna and
806 Louisa were okay, Greene and Buckingham's positions were unclear, and he suggested that they
807 seek clarity on their status.

808
809 Ms. Hildebrand stated that since there was a public comment period, if there were public
810 comments with strong concerns, they could potentially change things. She asked if there was any
811 indication from any of the authorities that this could change.

812
813 Mr. Mawyer stated that the core issue was the challenges faced by small utilities, as well as
814 larger ones like theirs. He stated that he believed there would be more support than opposition as
815 smaller utilities would likely express a desire for assistance. He stated that Rivanna conducted a
816 water supply and demand study every 10 years, which helped them understand their current
817 situation and future needs. He stated that they would encourage other localities to do a water
818 supply plan to determine their future needs. We study and survey population growth to project
819 what our community's water demand will be in the future and study our reservoirs to see how
820 they align with the future water demand we project. We are scheduled to do our next study in
821 2028-2030 to make sure we can serve the community's needs.

822
823 Mr. Mawyer stated that they would be in a strong water supply position with completion of the
824 Rivanna to Ragged Mountain Reservoir pipeline and the full capacity of the Ragged Mountain
825 Reservoir. He stated that this, combined with a reliable and confident supply from the Rivanna
826 Reservoir, would enable them to keep Ragged Mountain Reservoir full and serve their

827 community for an extended period. He stated that he wanted the Board to be aware of the new
828 regulations that were coming.

829
830 Ms. Mallek asked that Mr. Mawyer make contact with his counterpart in Greene County.

831
832 Mr. Lunsford stated that Rivanna's water supply plan only included Charlottesville and
833 Albemarle.

834
835 Mr. Mawyer stated that was true, we did not plan for any other locality. He stated that it was a
836 good decision that the Board decided to keep the Buck Mountain property should we need
837 another water supply reservoir in the future.

838
839 Mr. Sanders added that we should reach out to Buckingham County as well.

840
841 Mr. Mawyer stated that they had some information about the Buckingham facilities, and would
842 continue to communicate with that utility..

843
844 **10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

845 There were no items to discuss.

846
847 **11. CLOSED MEETING**

848 There was no reason for a closed meeting.

849
850 **12. ADJOURNMENT**

851
852 **At 3:55 p.m., Mr. Pinkston moved to adjourn the meeting of the Rivanna Water and Sewer**
853 **Authority. Ms. Mallek seconded the motion, which passed unanimously (6-0). (Mr.**
854 **Richardson was absent)**

855



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: SEPTEMBER 24, 2024

STRATEGIC PLAN PRIORITY: EMPLOYEE DEVELOPMENT

New Credentials and Promotions for Team Members

The professional credentials of our staff continue to improve and enhance our services. We congratulate the following employees for successfully completing the requirements for a college degree or professional certification:

- Brian Haney, Wastewater Assistant Manager, received his Associate of Science degree in General Studies from Piedmont Virginia Community College and will be graduating summa cum laude. The Authority provided financial assistance for Brian to complete his degree.
- Will Dobson renewed his CompTIA Security+ Certification, a cybersecurity certification.
- Jacob Woodson earned CompTIA Network+ (Plus) Certification which certifies IT infrastructure skills for troubleshooting, configuring and managing networks.

National Information Technology Professionals Day

We appreciate the hard work of our dedicated IT professionals and recognize September 17th as National IT Professional Day. Their expertise and hard work keeps our technology running smoothly and ensures the safety and security of our data systems.

Emergency Training – National Preparedness Month

September is National Preparedness Month and serves as a reminder to individuals and businesses to be prepared for disasters or emergencies.

We held Emergency Operations Plan (EOP) training for our staff on August 19th. This internal EOP training prepares staff to implement procedures to protect lives, property, and infrastructure, and to maintain and restore essential services for our community in response to a wide range of emergencies and operational disruptions. Our Directors, Managers, Assistant Managers, and Supervisors participated in this important training.

Team Building Event

The Rivanna Authorities “Breakfast at the Beach” Team Building event was held on August 28th. Staff appreciated the opportunity to connect with employees from other departments and enjoy a nice breakfast.



STRATEGIC PLAN PRIORITY: COMMUNICATION AND COLLABORATION

Greene County Water and Sewer

On September 18th, we provided a windshield tour and virtual presentation to Thomas Hutka, Director of Water and Sewer for Greene County. We reviewed our services, programs and past, current and planned major water supply projects.

Annual WaterJAM Conference

Staff from Engineering, Water, Wastewater, Administration and Communications departments attended the 2024 WaterJAM Conference, held from September 9-12, 2024, in Virginia Beach and participated in workshops, classes, viewed exhibits and demonstrations on the latest in water and wastewater technology, equipment, and services.

Construction Program Presentation

Jennifer Whitaker, Director of Engineering and Maintenance, participated in the VA AWWA Virginia Utility Forum held as part of the WaterJAM Conference in Virginia Beach. Jennifer shared our Capital Improvement Program with the group and discussed specific construction projects.

Inventive Wastewater Efficiency Program Presentation

Rob Haacke, Wastewater Manager, gave a presentation at WaterJam about an inventive program started at Moores Creek AWWRF to improve Dissolved Oxygen (DO) concentrations and reduce energy consumption by using an ammonia-based aeration control. The successful project showed blower power use in 2023 was 4-9% lower than for the same periods in 2021 and 2022 while maintaining biochemical oxygen demand, ammonia, total nitrogen, and phosphorous effluent concentrations far below the permitted limits. At the same time, the DO control improved significantly, providing the right amount of oxygen to the aeration system with much less cycling of the blowers during varying plant loadings.



Places 29 - Rio Community Advisory Committee

Jennifer Whitaker, Director of Engineering and Maintenance attended the Places 29 - Rio Community Advisory Committee meeting on August 22nd and presented information about RWSA and shared project specific information.



STRATEGIC PLAN PRIORITY: PLANNING AND INFRASTRUCTURE

Safety Grant



George Cheape, Safety Manager, applied for and received a \$4000 safety grant from the Virginia Risk Sharing Association, which was used to purchase: 6 Chemical Suits to protect our Wastewater Operators while handling bulk chemical deliveries, 3 Gas Monitors for Maintenance Department staff to use in confined spaces, furthering our goal of having one monitor in each maintenance truck, and 43 ANSI Class 3 Safety Vests to ensure visibility in any situation.

STRATEGIC PLAN PRIORITY: ENVIRONMENTAL STEWARDSHIP

Buck Mountain Mitigation



We appreciate the hard work by students from St. Anne's Belfield school, accompanied by our staff, who volunteered on September 11th to remove tubes from trees planted at the Buck Mountain property as part of the mitigation plan for construction of the Ragged Mountain Reservoir.





MEMORANDUM

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

**FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND INFORMATION
TECHNOLOGY**

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: JULY MONTHLY FINANCIAL SUMMARY – FY 2025

DATE: SEPTEMBER 24, 2024

Financial Snapshot

The Authority’s actual operating revenues for July are \$169,900 over the prorated annual budget estimates, and operating expenses are over the prorated budget by \$460,900, resulting in an operating deficit of \$162,500. Urban Water flows and operating rate revenue for this month are 17.7% over budget estimates, and the annual septage receiving support from the County was received in July. However, that revenue is offset by some quarterly and annual payments of operating expenses. Urban Wastewater flows and operations rate revenue are 5.5% under budget.

Total revenues are \$235,300 over budget estimates and total expenses are \$428,000 over budget, resulting in an overall deficit of \$64,000 for July. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	\$ 1,141,383	\$ 921,766	\$ 264,414	\$ 2,327,563
Expenses	(1,166,395)	(1,039,660)	(284,018)	(2,490,073)
Surplus (deficit)	<u>\$ (25,012)</u>	<u>\$ (117,894)</u>	<u>\$ (19,604)</u>	<u>\$ (162,510)</u>
Debt Service				
Revenues	\$ 1,111,773	\$ 1,017,652	\$ 247,903	\$ 2,377,328
Expenses	(1,112,251)	(918,503)	(248,119)	(2,278,873)
Surplus (deficit)	<u>\$ (478)</u>	<u>\$ 99,149</u>	<u>\$ (216)</u>	<u>\$ 98,455</u>
Total				
Revenues	\$ 2,253,156	\$ 1,939,418	\$ 512,317	\$ 4,704,891
Expenses	(2,278,646)	(1,958,163)	(532,137)	(4,768,946)
Surplus (deficit)	<u><u>\$ (25,490)</u></u>	<u><u>\$ (18,745)</u></u>	<u><u>\$ (19,820)</u></u>	<u><u>\$ (64,055)</u></u>

A more detailed financial analysis is in the following monthly report and reviews more closely actual financial performance compared to budgeted estimates. There are comments listed that will reference to the applicable line items in the financial statement for each rate center and each

support department in the following pages. Please refer to the Budget vs Actual financial statements when reviewing these comments.

Detailed Financials

The following comments help explain most of the other budget vs. actual variances.

- A. Annual and Quarterly Transactions - Some revenues and expenses exceed the prorated annual budget due to up-front annual receipts of revenue and quarterly or annual payments of expenses. These transactions appear to significantly impact the budget vs. actual monthly comparisons, but they usually even out as the year progresses. Septage receiving support revenue of \$109,440 is billed to the County annually in July. Annual payments are made in July for certain maintenance agreements and for employer contributions to employees' health savings accounts. The annual payment to UVA for the Observatory lease is made in August. Insurance premiums are paid at the beginning of each quarter.
- B. Personnel Costs (Urban Water – page 2) – Urban Water's salaries for July are about \$12,600 higher than budgeted due to the loss of spill at the South Rivanna Dam and the transition to extra operations at Observatory WTP.
- C. Professional Services (Urban Water, Administration – pages 2, 8) – Urban Water is over the prorated budget for engineering and technical services for Glenmore and UVA, and the Administration Department is currently \$18,000 over budget for web page design services.
- D. Other Services & Charges (Urban Wastewater – page 5) – Urban Wastewater is currently over the monthly budget for Crozet Pump Station odor control costs.
- E. Operations & Maintenance (Urban Water – page 2) – Urban Water is currently \$128,500 over the prorated budget for chemicals due to a carbon exchange at South Rivanna WTP.

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024
 Fiscal Year 2025

Consolidated
Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 2025</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 25,533,965	\$ 2,127,830	\$ 2,245,964	\$ 118,134	5.55%
Lease Revenue	120,000	10,000	11,933	1,933	19.33%
Admin., Finance/IT, Maint. & Engineering Revenue	364,200	30,350	79,942	49,592	163.40%
Other Revenues	667,768	55,647	43,148	(12,499)	-22.46%
Use of Reserves (Water Resources Fund)	-	-	-	-	
Interest Allocation	165,400	13,783	26,518	12,735	92.39%
Total Operating Revenues	\$ 26,851,333	\$ 2,237,611	\$ 2,407,505	\$ 169,894	7.59%

Expenses

Personnel Cost	A,B \$ 12,816,065	\$ 894,382	\$ 1,140,157	\$ (245,774)	-27.48%
Professional Services	C 492,650	41,054	77,040	(35,986)	-87.66%
Other Services & Charges	A,D 4,371,588	364,299	447,200	(82,901)	-22.76%
Communication	244,950	20,413	26,965	(6,553)	-32.10%
Information Technology	1,470,050	122,504	127,397	(4,893)	-3.99%
Supplies	51,200	4,267	6,053	(1,786)	-41.86%
Operations & Maintenance	E 6,698,884	558,240	643,423	(85,182)	-15.26%
Equipment Purchases	316,950	26,413	24,281	2,132	8.07%
Depreciation	930,000	77,500	77,500	-	0.00%
Total Operating Expenses	\$ 27,392,337	\$ 2,109,072	\$ 2,570,015	\$ (460,944)	-21.86%
Operating Surplus/(Deficit)	\$ (541,004)	\$ 128,539	\$ (162,511)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 25,612,554	\$ 2,134,380	\$ 2,134,380	\$ 1	0.00%
Septage Receiving Support - County	109,440	9,120	109,440	100,320	1100.00%
Buck Mountain Lease Revenue	10,000	833	1,403	569	68.31%
Trust Fund Interest	430,300	35,858	33,355	(2,503)	-6.98%
Reserve Fund Interest	1,580,800	131,733	98,751	(32,983)	-25.04%
Total Debt Service Revenues	\$ 27,743,094	\$ 2,311,925	\$ 2,377,328	\$ 65,404	2.83%

Debt Service Costs

Total Principal & Interest	\$ 16,164,506	\$ 1,347,042	\$ 1,595,689	\$ (248,647)	-18.46%
Reserve Additions-Interest	1,580,800	131,733	98,751	32,983	25.04%
Debt Service Ratio Charge	725,000	60,417	60,417	-	0.00%
Reserve Additions-CIP Growth	9,271,960	772,663	524,017	248,647	32.18%
Total Debt Service Costs	\$ 27,742,266	\$ 2,311,856	\$ 2,278,873	\$ 32,983	1.43%
Debt Service Surplus/(Deficit)	\$ 828	\$ 69	\$ 98,455		

Summary					
Total Revenues	\$ 54,594,427	\$ 4,549,536	\$ 4,784,833	\$ 235,297	5.17%
Total Expenses	55,134,603	4,420,927	4,848,888	(427,961)	-9.68%
Surplus/(Deficit)	\$ (540,176)	\$ 128,608	\$ (64,055)		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Urban Water Rate Center
 Revenues and Expenses Summary

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Revenues					
Operations Rate Revenue	\$ 11,425,341	\$ 952,112	\$ 1,120,770	\$ 168,658	17.71%
Lease Revenue	90,000	7,500	9,157	1,657	22.10%
Miscellaneous	-	-	-	-	
Use of Reserves (Water Resources Fund)	-	-	-	-	
Interest Allocation	71,500	5,958	11,456	5,497	92.27%
Total Operating Revenues	\$ 11,586,841	\$ 965,570	\$ 1,141,383	\$ 175,813	18.21%
Expenses					
Personnel Cost	A,B \$ 2,570,828	\$ 214,236	\$ 253,362	\$ (39,126)	-18.26%
Professional Services	C 177,000	14,750	27,278	(12,528)	-84.94%
Other Services & Charges	A 1,076,746	89,729	101,922	(12,193)	-13.59%
Communications	89,700	7,475	10,283	(2,808)	-37.57%
Information Technology	109,400	9,117	6,759	2,358	25.86%
Supplies	7,900	658	1,486	(828)	-125.70%
Operations & Maintenance	E 3,334,814	277,901	406,389	(128,488)	-46.24%
Equipment Purchases	23,300	1,942	2,675	(733)	-37.77%
Depreciation	300,000	25,000	25,000	-	0.00%
Subtotal Before Allocations	\$ 7,689,688	\$ 640,807	\$ 835,154	\$ (194,346)	-30.33%
Allocation of Support Departments	3,897,153	326,679	331,242	(4,563)	-1.40%
Total Operating Expenses	\$ 11,586,841	\$ 967,486	\$ 1,166,396	\$ (198,910)	-20.56%
Operating Surplus/(Deficit)	\$ 0	\$ (1,916)	\$ (25,012)		

Debt Service Budget vs. Actual

Revenues					
Debt Service Rate Revenue	\$ 12,593,874	\$ 1,049,490	\$ 1,049,490	\$ 1	0.00%
Trust Fund Interest	185,000	15,417	14,369	(1,047)	-6.79%
Reserve Fund Interest	744,800	62,067	46,512	(15,555)	-25.06%
Lease Revenue	10,000	833	1,403	569	68.31%
Total Debt Service Revenues	\$ 13,533,674	\$ 1,127,806	\$ 1,111,773	\$ (16,033)	-1.42%
Debt Service Costs					
Total Principal & Interest	\$ 7,078,274	\$ 589,856	\$ 682,850	\$ (92,994)	-15.77%
Reserve Additions-Interest	744,800	62,067	46,512	15,555	25.06%
Debt Service Ratio Charge	400,000	33,333	33,333	-	0.00%
Est. New Debt Service - CIP Growth	5,310,600	442,550	349,556	92,994	21.01%
Total Debt Service Costs	\$ 13,533,674	\$ 1,127,806	\$ 1,112,251	\$ 15,555	1.38%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (478)		

Rate Center Summary					
Total Revenues	\$ 25,120,515	\$ 2,093,376	\$ 2,253,157	\$ 159,780	7.63%
Total Expenses	25,120,515	2,095,292	2,278,647	(183,355)	-8.75%
Surplus/(Deficit)	\$ 0	\$ (1,916)	\$ (25,490)		
Costs per 1000 Gallons					
Operating and DS	\$ 3.41		\$ 3.50		
	\$ 7.39		\$ 6.84		
Thousand Gallons Treated	3,397,700	283,142	333,266	50,124	17.70%
or					
Flow (MGD)	9.309		10.751		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Crozet Water Rate Center
 Revenues and Expenses Summary

<i>Budget FY 2025</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 1,420,644	\$ 118,387	\$ 118,387	\$ -	0.00%
Lease Revenues	30,000	2,500	2,775	275	11.02%
Interest Allocation	8,900	742	1,432	690	93.07%
Total Operating Revenues	\$ 1,459,544	\$ 121,629	\$ 122,594	\$ 966	0.79%

Expenses

Personnel Cost	\$ 365,428	\$ 30,452	\$ 35,233	\$ (4,781)	-15.70%
Professional Services	22,900	1,908	270	1,639	85.87%
Other Services & Charges	163,107	13,592	19,313	(5,720)	-42.08%
Communications	19,000	1,583	2,416	(833)	-52.60%
Information Technology	35,000	2,917	662	2,254	77.29%
Supplies	1,600	133	409	(276)	-206.65%
Operations & Maintenance	426,600	35,550	31,151	4,399	12.38%
Equipment Purchases	3,300	275	275	-	0.00%
Depreciation	60,000	5,000	5,000	-	0.00%
Subtotal Before Allocations	\$ 1,096,935	\$ 91,411	\$ 94,729	\$ (3,317)	-3.63%
Allocation of Support Departments	362,608	30,391	30,815	(423)	-1.39%
Total Operating Expenses	\$ 1,459,543	\$ 121,803	\$ 125,543	\$ (3,741)	-3.07%
Operating Surplus/(Deficit)	\$ 1	\$ (174)	\$ (2,949)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 2,590,368	\$ 215,864	\$ 215,864	\$ -	0.00%
Trust Fund Interest	32,400	2,700	2,512	(188)	-6.98%
Reserve Fund Interest	93,800	7,817	5,826	(1,990)	-25.46%
Total Debt Service Revenues	\$ 2,716,568	\$ 226,381	\$ 224,202	\$ (2,179)	-0.96%

Debt Service Costs

Total Principal & Interest	\$ 1,131,172	\$ 94,264	\$ 94,264	\$ -	0.00%
Reserve Additions-Interest	93,800	7,817	5,826	1,990	25.46%
Estimated New Principal & Interest	1,491,600	124,300	124,300	-	0.00%
Total Debt Service Costs	\$ 2,716,572	\$ 226,381	\$ 224,391	\$ 1,990	0.88%
Debt Service Surplus/(Deficit)	\$ (4)	\$ (0)	\$ (189)		

Rate Center Summary					
Total Revenues	\$ 4,176,112	\$ 348,009	\$ 346,796	\$ (1,213)	-0.35%
Total Expenses	4,176,115	348,184	349,934	(1,750)	-0.50%
Surplus/(Deficit)	\$ (3)	\$ (174)	\$ (3,138)		
Costs per 1000 Gallons	\$ 7.20		\$ 5.43		
Operating and DS	\$ 20.60		\$ 15.14		
Thousand Gallons Treated	202,697	16,891	23,115	6,224	36.84%
Flow (MGD)	0.555		0.746		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Scottsville Water Rate Center
 Revenues and Expenses Summary

Budget FY 2025	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	\$ 741,984	\$ 61,832	\$ 61,832	\$ -	0.00%
Interest Allocation	4,600	383	743	359	93.70%
Total Operating Revenues	\$ 746,584	\$ 62,215	\$ 62,575	\$ 359	0.58%

Expenses

Personnel Cost	\$ 239,452	\$ 19,954	\$ 21,906	\$ (1,952)	-9.78%
Professional Services	5,000	417	169	248	59.48%
Other Services & Charges	68,490	5,708	2,910	2,797	49.01%
Communications	7,000	583	2,073	(1,489)	-255.32%
Information Technology	13,400	1,117	10,508	(9,391)	-841.02%
Supplies	200	17	417	(401)	-2404.64%
Operations & Maintenance	154,600	12,883	4,238	8,645	67.11%
Equipment Purchases	2,200	183	269	(86)	-46.80%
Depreciation	40,000	3,333	3,333	0	0.00%
Subtotal Before Allocations	\$ 530,342	\$ 44,195	\$ 45,824	\$ (1,629)	-3.68%
Allocation of Support Departments	216,247	18,108	18,199	(91)	-0.50%
Total Operating Expenses	\$ 746,589	\$ 62,303	\$ 64,023	\$ (1,720)	-2.76%
Operating Surplus/(Deficit)	\$ (5)	\$ (88)	\$ (1,448)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 190,416	\$ 15,868	\$ 15,868	\$ -	0.00%
Trust Fund Interest	4,000	333	307	(26)	-7.94%
Reserve Fund Interest	7,000	583	494	(90)	-15.36%
Total Debt Service Revenues	\$ 201,416	\$ 16,785	\$ 16,669	\$ (116)	-0.69%

Debt Service Costs

Total Principal & Interest	\$ 148,815	\$ 12,401	\$ 12,401	\$ -	0.00%
Reserve Additions-Interest	7,000	583	494	90	15.36%
Estimated New Principal & Interest	45,600	3,800	3,800	-	0.00%
Total Debt Service Costs	\$ 201,415	\$ 16,785	\$ 16,695	\$ 90	0.53%
Debt Service Surplus/(Deficit)	\$ 1	\$ 0	\$ (26)		

Rate Center Summary

Total Revenues	\$ 948,000	\$ 79,000	\$ 79,243	\$ 243	0.31%
Total Expenses	948,004	79,087	80,718	(1,630)	-2.06%
Surplus/(Deficit)	\$ (4)	\$ (87)	\$ (1,475)		
Costs per 1000 Gallons	\$ 43.33		\$ 36.13		
Operating and DS	\$ 55.02		\$ 45.55		
Thousand Gallons Treated	17,230	1,436	1,772	336	23.41%
or					
Flow (MGD)	0.047		0.057		

Rivanna Water & Sewer Authority
Monthly Financial Statements - July 2024

Urban Wastewater Rate Center
Revenues and Expenses Summary

Budget FY 2025	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	\$ 11,007,464	\$ 917,289	\$ 866,764	\$ (50,525)	-5.51%
Stone Robinson WWTP	17,768	1,481	1,012	(469)	-31.66%
Septage Acceptance	600,000	50,000	42,136	(7,864)	-15.73%
Nutrient Credits	50,000	4,167	-	(4,167)	-100.00%
Miscellaneous Revenue	-	-	-	-	
Interest Allocation	74,000	6,167	11,854	5,687	92.22%
Total Operating Revenues	\$ 11,749,232	\$ 979,103	\$ 921,766	\$ (57,337)	-5.86%

Expenses

Personnel Cost	A	\$ 1,615,345	\$ 134,612	\$ 155,106	\$ (20,494)	-15.22%
Professional Services		35,000	2,917	-	2,917	100.00%
Other Services & Charges	A,D	2,721,750	226,813	288,319	(61,507)	-27.12%
Communications		14,800	1,233	1,019	214	17.37%
Information Technology		95,500	7,958	13,411	(5,453)	-68.52%
Supplies		2,600	217	87	129	59.72%
Operations & Maintenance		2,190,500	182,542	151,825	30,717	16.83%
Equipment Purchases		73,500	6,125	6,125	-	0.00%
Depreciation		470,000	39,167	39,167	(0)	0.00%
Subtotal Before Allocations		\$ 7,218,995	\$ 601,583	\$ 655,059	\$ (53,476)	-8.89%
Allocation of Support Departments		4,530,238	379,610	384,601	(4,991)	-1.31%
Total Operating Expenses		\$ 11,749,233	\$ 981,193	\$ 1,039,660	\$ (58,467)	-5.96%
Operating Surplus/(Deficit)		\$ (1)	\$ (2,090)	\$ (117,894)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 10,156,560	\$ 846,380	\$ 846,380	\$ -	0.00%
Septage Receiving Support - County	109,440	9,120	109,440	100,320	1100.00%
Trust Fund Interest	208,200	17,350	16,110	(1,240)	-7.14%
Reserve Fund Interest	731,800	60,983	45,722	(15,262)	-25.03%
Total Debt Service Revenues	\$ 11,206,000	\$ 933,833	\$ 1,017,652	\$ 83,819	8.98%

Debt Service Costs

Total Principal & Interest	\$ 7,780,072	\$ 648,339	\$ 803,992	\$ (155,653)	-24.01%
Reserve Additions-Interest	731,800	60,983	45,722	15,262	25.03%
Debt Service Ratio Charge	325,000	27,083	27,083	-	0.00%
Est. New Debt Service - CIP Growth	2,368,300	197,358	41,706	155,653	78.87%
Total Debt Service Costs	\$ 11,205,172	\$ 933,764	\$ 918,503	\$ 15,262	1.63%
Debt Service Surplus/(Deficit)	\$ 828	\$ 69	\$ 99,149		

Rate Center Summary

Total Revenues	\$ 22,955,232	\$ 1,912,936	\$ 1,939,418	\$ 26,482	1.38%
Total Expenses	22,954,405	1,914,957	1,958,162	(43,205)	-2.26%
Surplus/(Deficit)	\$ 827	\$ (2,021)	\$ (18,745)		
Costs per 1000 Gallons	\$ 3.47		\$ 3.89		
Operating and DS	\$ 6.77		\$ 7.34		
Thousand Gallons Treated	3,390,400	282,533	266,943	(15,590)	-5.52%
or					
Flow (MGD)	9.289		8.611		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Glenmore Wastewater Rate Center
 Revenues and Expenses Summary

<i>Budget FY 2025</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	\$ 533,112	\$ 44,426	\$ 44,426	\$ -	0.00%
Interest Allocation	3,700	308	583	275	89.21%
Total Operating Revenues	\$ 536,812	\$ 44,734	\$ 45,009	\$ 275	0.61%

Expenses

Personnel Cost	\$ 133,566	\$ 11,130	\$ 12,650	\$ (1,519)	-13.65%
Professional Services	10,000	833	-	833	100.00%
Other Services & Charges	41,840	3,487	2,987	500	14.34%
Communications	3,700	308	1,833	(1,525)	-494.46%
Information Technology	14,350	1,196	-	1,196	100.00%
Supplies	-	-	-	-	-
Operations & Maintenance	130,600	10,883	19,882	(8,998)	-82.68%
Equipment Purchases	3,500	292	292	(0)	0.00%
Depreciation	40,000	3,333	3,333	0	0.00%
Subtotal Before Allocations	\$ 377,556	\$ 31,463	\$ 40,976	\$ (9,513)	-30.24%
Allocation of Support Departments	159,262	13,315	13,126	189	1.42%
Total Operating Expenses	\$ 536,818	\$ 44,778	\$ 54,102	\$ (9,324)	-20.82%
Operating Surplus/(Deficit)	\$ (6)	\$ (44)	\$ (9,093)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 48,780	\$ 4,065	\$ 4,065	\$ -	0.00%
Trust Fund Interest	500	42	40	(2)	-3.93%
Reserve Fund Interest	-	-	-	-	-
Total Debt Service Revenues	\$ 49,280	\$ 4,107	\$ 4,105	\$ (2)	-0.04%

Debt Service Costs

Total Principal & Interest	\$ 18,720	\$ 1,560	\$ 1,560	\$ -	0.00%
Estimated New Principal & Interest	30,560	2,547	2,547	-	0.00%
Reserve Additions-Interest	-	-	-	-	-
Total Debt Service Costs	\$ 49,280	\$ 4,107	\$ 4,107	\$ -	0.00%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ (2)		

Rate Center Summary					
Total Revenues	\$ 586,092	\$ 48,841	\$ 49,114	\$ 273	0.56%
Total Expenses	586,098	48,885	58,209	(9,324)	-19.07%
Surplus/(Deficit)	\$ (6)	\$ (44)	\$ (9,095)		
Costs per 1000 Gallons	\$ 12.97		\$ 15.40		
Operating and DS	\$ 14.16		\$ 16.57		
Thousand Gallons Treated or Flow (MGD)	41,401	3,450	3,512	62	1.79%
	0.113		0.113		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

Budget FY 2025	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	\$ 405,420	\$ 33,785	\$ 33,785	\$ -	0.00%
Interest Allocation	2,700	225	451	226	100.36%
Total Operating Revenues	\$ 408,120	\$ 34,010	\$ 34,236	\$ 226	0.66%

Expenses

Personnel Cost	\$ 133,636	\$ 11,136	\$ 12,650	\$ (1,513)	-13.59%
Professional Services	5,000	417	7,350	(6,933)	-1664.00%
Other Services & Charges	33,400	2,783	2,339	444	15.96%
Communications	3,650	304	29	276	90.58%
Information Technology	15,150	1,263	-	1,263	100.00%
Supplies	-	-	-	-	
Operations & Maintenance	44,500	3,708	3,695	14	0.36%
Equipment Purchases	3,500	292	292	(0)	0.00%
Depreciation	20,000	1,667	1,667	(0)	0.00%
Subtotal Before Allocations	\$ 258,836	\$ 21,570	\$ 28,021	\$ (6,451)	-29.91%
Allocation of Support Departments	149,278	12,483	12,329	155	1.24%
Total Operating Expenses	\$ 408,114	\$ 34,053	\$ 40,350	\$ (6,297)	-18.49%
Operating Surplus/(Deficit)	\$ 6	\$ (43)	\$ (6,114)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 32,556	\$ 2,713	\$ 2,713	\$ -	0.00%
Trust Fund Interest	200	17	17	0	0.02%
Reserve Fund Interest	3,400	283	198	(86)	-30.29%
Total Debt Service Revenues	\$ 36,156	\$ 3,013	\$ 2,927	\$ (86)	-2.85%

Debt Service Costs

Total Principal & Interest	\$ 7,453	\$ 621	\$ 621	\$ -	0.00%
Reserve Additions-Interest	3,400	283	198	86	30.29%
Estimated New Principal & Interest	25,300	2,108	2,108	-	0.00%
Total Debt Service Costs	\$ 36,153	\$ 3,013	\$ 2,927	\$ 86	2.85%
Debt Service Surplus/(Deficit)	\$ 3	\$ 0	\$ 0		

Rate Center Summary					
Total Revenues	\$ 444,276	\$ 37,023	\$ 37,163	\$ 140	0.38%
Total Expenses	444,267	37,066	43,277	(6,211)	-16.76%
Surplus/(Deficit)	\$ 9	\$ (43)	\$ (6,114)		
Costs per 1000 Gallons	\$ 17.26		\$ 30.02		
Operating and DS	\$ 18.79		\$ 32.20		
Thousand Gallons Treated	23,643	1,970	1,344	(626)	-31.79%
or Flow (MGD)	0.065		0.043		

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Administration

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$	364,200	\$	30,350	\$	30,350	\$	-	0.00%
Bond Proceeds Funding Bond Issuance Costs		-		-		-		-	
Miscellaneous Revenue		-		39		39			
Total Operating Revenues	\$	364,200	\$	30,350	\$	30,389	\$	39	0.13%

Expenses

Personnel Cost	A	\$	1,348,563	\$	112,380	\$	136,392	\$	(24,012)	-21.37%
Professional Services	C		153,250		12,771		30,774		(18,003)	-140.97%
Other Services & Charges			161,100		13,425		23,338		(9,913)	-73.84%
Communications			9,700		808		3,925		(3,117)	-385.57%
Information Technology			5,000		417		1,941		(1,524)	-365.85%
Supplies			14,000		1,167		2,448		(1,281)	-109.80%
Operations & Maintenance			57,250		4,771		5,430		(659)	-13.81%
Equipment Purchases			9,000		750		750		-	0.00%
Depreciation			-		-		-		-	
Total Operating Expenses		\$	1,757,863	\$	146,489	\$	204,997	\$	(58,508)	-39.94%

Department Summary

Net Costs Allocable to Rate Centers		\$	(1,393,663)	\$	(116,139)	\$	(174,608)	\$	58,469	-50.34%
Allocations to the Rate Centers										
Urban Water	44.00%	\$	613,212	\$	51,101	\$	76,827	\$	(25,726)	
Crozet Water	4.00%	\$	55,747		4,646		6,984		(2,339)	
Scottsville Water	2.00%	\$	27,873		2,323		3,492		(1,169)	
Urban Wastewater	48.00%	\$	668,958		55,747		83,812		(28,065)	
Glenmore Wastewater	1.00%	\$	13,937		1,161		1,746		(585)	
Scottsville Wastewater	1.00%	\$	13,937		1,161		1,746		(585)	
	100.00%	\$	1,393,663	\$	116,139	\$	174,608	\$	(58,469)	

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Finance and Information Technology

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$ 541,000	\$ 45,083	\$ 45,083	\$ 0	0.00%
Bond Proceeds Funding Bond Issuance Costs	-	-	-	-	-
Miscellaneous Revenue	-	-	-	-	-
Total Operating Revenues	\$ 541,000	\$ 45,083	\$ 45,083	\$ 0	0.00%

Expenses

Personnel Cost	\$ 2,083,478	\$ 173,623	\$ 161,996	\$ 11,627	6.70%
Professional Services	42,000	3,500	11,200	(7,700)	-220.00%
Other Services & Charges	46,000	3,833	2,215	1,618	42.21%
Communication	65,000	5,417	3,083	2,333	43.08%
Information Technology	962,850	80,238	74,331	5,907	7.36%
Supplies	14,500	1,208	725	484	40.02%
Operations & Maintenance	5,000	4,771	-	4,771	100.00%
Equipment Purchases	7,500	625	625	-	0.00%
Depreciation	-	-	-	-	-
Total Operating Expenses	\$ 3,226,328	\$ 273,215	\$ 254,175	\$ 19,040	6.97%

Department Summary

Net Costs Allocable to Rate Centers		\$ (2,685,328)	\$ (228,132)	\$ (209,092)	\$ (19,040)	8.35%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 1,181,544	\$ 100,378	\$ 92,000	\$ 8,377	
Crozet Water	4.00%	\$ 107,413	\$ 9,125	\$ 8,364	\$ 762	
Scottsville Water	2.00%	\$ 53,707	\$ 4,563	\$ 4,182	\$ 381	
Urban Wastewater	48.00%	\$ 1,288,957	\$ 109,503	\$ 100,364	\$ 9,139	
Glenmore Wastewater	1.00%	\$ 26,853	\$ 2,281	\$ 2,091	\$ 190	
Scottsville Wastewater	1.00%	\$ 26,853	\$ 2,281	\$ 2,091	\$ 190	
	100.00%	\$ 2,685,328	\$ 228,132	\$ 209,092	\$ 19,040	

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Maintenance

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$	-	\$	-	\$	-	
Miscellaneous Revenue		-		-		-	
Total Operating Revenues	\$	-	\$	-	\$	-	

Expenses

Personnel Cost	\$	1,645,860	\$	137,155	\$	139,098	\$	(1,943)	-1.42%
Professional Services		10,000		833		-		833	100.00%
Other Services & Charges		29,140		2,428		2,516		(88)	-3.61%
Communications		16,200		1,350		1,322		28	2.09%
Information Technology		7,500		625		193		432	69.07%
Supplies		3,500		292		-		292	100.00%
Operations & Maintenance		138,800		11,567		5,548		6,019	52.04%
Equipment Purchases		145,750		12,146		10,833		1,313	10.81%
Depreciation		-		-		-		-	
Total Operating Expenses	\$	1,996,750	\$	166,396	\$	159,511	\$	6,885	4.14%

Department Summary

Net Costs Allocable to Rate Centers		\$	(1,996,750)	\$	(166,396)	\$	(159,511)	\$	(6,885)	4.14%
Allocations to the Rate Centers										
Urban Water	30.00%	\$	599,025	\$	49,919	\$	47,853	\$	2,066	
Crozet Water	3.50%		69,886		5,824		5,583		241	
Scottsville Water	3.50%		69,886		5,824		5,583		241	
Urban Wastewater	56.50%		1,128,164		94,014		90,124		3,890	
Glenmore Wastewater	3.50%		69,886		5,824		5,583		241	
Scottsville Wastewater	3.00%		59,903		4,992		4,785		207	
	100.00%	\$	1,996,750	\$	166,396	\$	159,511	\$	6,885	

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Laboratory

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

N/A

Expenses

Personnel Cost	\$ 463,225	\$ 38,602	\$ 40,153	\$ (1,551)	-4.02%
Professional Services	-	-	-	-	
Other Services & Charges	9,550	796	133	663	83.33%
Communications	1,050	88	59	29	33.11%
Information Technology	-	-	-	-	
Supplies	1,300	108	16	92	85.24%
Operations & Maintenance	133,600	11,133	11,848	(714)	-6.42%
Equipment Purchases	23,900	1,992	353	1,638	82.27%
Depreciation	-	-	-	-	
Total Operating Expenses	\$ 632,625	\$ 52,719	\$ 52,561	\$ 158	0.30%

Department Summary

Net Costs Allocable to Rate Centers		\$ (632,625)	\$ (52,719)	\$ (52,561)	\$ (158)	0.30%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 278,355	\$ 23,196	\$ 23,127	\$ 69	
Crozet Water	4.00%	25,305	2,109	2,102	6	
Scottsville Water	2.00%	12,653	1,054	1,051	3	
Urban Wastewater	47.00%	297,334	24,778	24,704	74	
Glenmore Wastewater	1.50%	9,489	791	788	2	
Scottsville Wastewater	1.50%	9,489	791	788	2	
	100.00%	\$ 632,625	\$ 52,719	\$ 52,561	\$ 158	

Rivanna Water & Sewer Authority
 Monthly Financial Statements - July 2024

Engineering

Budget FY 2025	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$	-	\$	-	\$	4,469	\$	4,469
<i>Total Operating Revenues</i>	\$	-	\$	-	\$	4,469	\$	4,469

Expenses

Personnel Cost	\$	2,216,684	\$	184,724	\$	171,611	\$	13,112	7.10%
Professional Services		32,500		2,708		-		2,708	100.00%
Other Services & Charges		20,465		1,705		1,208		497	29.17%
Communications		15,150		1,263		924		339	26.83%
Information Technology		211,900		17,658		19,591		(1,933)	-10.94%
Supplies		5,600		467		465		2	0.40%
Operations & Maintenance		82,620		6,885		3,419		3,466	50.34%
Equipment Purchases		21,500		1,792		1,792		0	0.00%
Depreciation		-		-		-		-	
<i>Total Operating Expenses</i>	\$	2,606,419	\$	217,202	\$	199,009	\$	18,192	8.38%

Department Summary										
Net Costs Allocable to Rate Centers		\$	(2,606,419)	\$	(217,202)	\$	(194,540)	\$	(13,723)	6.32%
Allocations to the Rate Centers										
Urban Water	47.00%	\$	1,225,017	\$	102,085	\$	91,434	\$	10,651	
Crozet Water	4.00%		104,257		8,688		7,782		906	
Scottsville Water	2.00%		52,128		4,344		3,891		453	
Urban Wastewater	44.00%		1,146,824		95,569		85,598		9,971	
Glenmore Wastewater	1.50%		39,096		3,258		2,918		340	
Scottsville Wastewater	1.50%		39,096		3,258		2,918		340	
	100.00%	\$	2,606,419	\$	217,202	\$	194,540	\$	22,662	



MEMORANDUM

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

**FROM: DAVE TUNGATE, DIRECTOR OF OPERATIONS & ENVIRONMENTAL
SERVICES**

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: OPERATIONS REPORT FOR AUGUST 2024

DATE: SEPTEMBER 24, 2024

WATER OPERATIONS:

The average and maximum daily water volumes produced in August 2024 were as follows:

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
South Rivanna	8.17	10.50 (8/15/2024)
Observatory	1.81	3.99 (8/6/2024)
North Rivanna	<u>0.54</u>	<u>0.67 (8/6/2024)</u>
<i>Urban Total</i>	10.52	12.64 (8/28/2024)
Crozet	0.73	1.01 (8/28/2024)
Scottsville	0.06	0.076 (8/30/2024)
Red Hill	<u>0.0019</u>	0.006 (8/11/2024)
<i>RWSA Total</i>	11.31	-

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

Status of Reservoirs (as of September 18, 2024):

- Urban Reservoirs are 95% of Total Useable Capacity
 - South Rivanna Reservoir is 100% full
 - Ragged Mountain Reservoir is 90% full
 - Sugar Hollow Reservoir is 100% full
- Beaver Creek Reservoir (Crozet) is 99% full
- Totier Creek Reservoir (Scottsville) is 100% full

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during August 2024. 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	9.25	<QL	9	<QL	22	<QL	2.2
Glenmore	0.108	<QL	15	3.5	30	NR	NL
Scottsville	0.05	<QL	25	3.8	30	NR	NL
Stone Robinson	0.0005	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 2024.

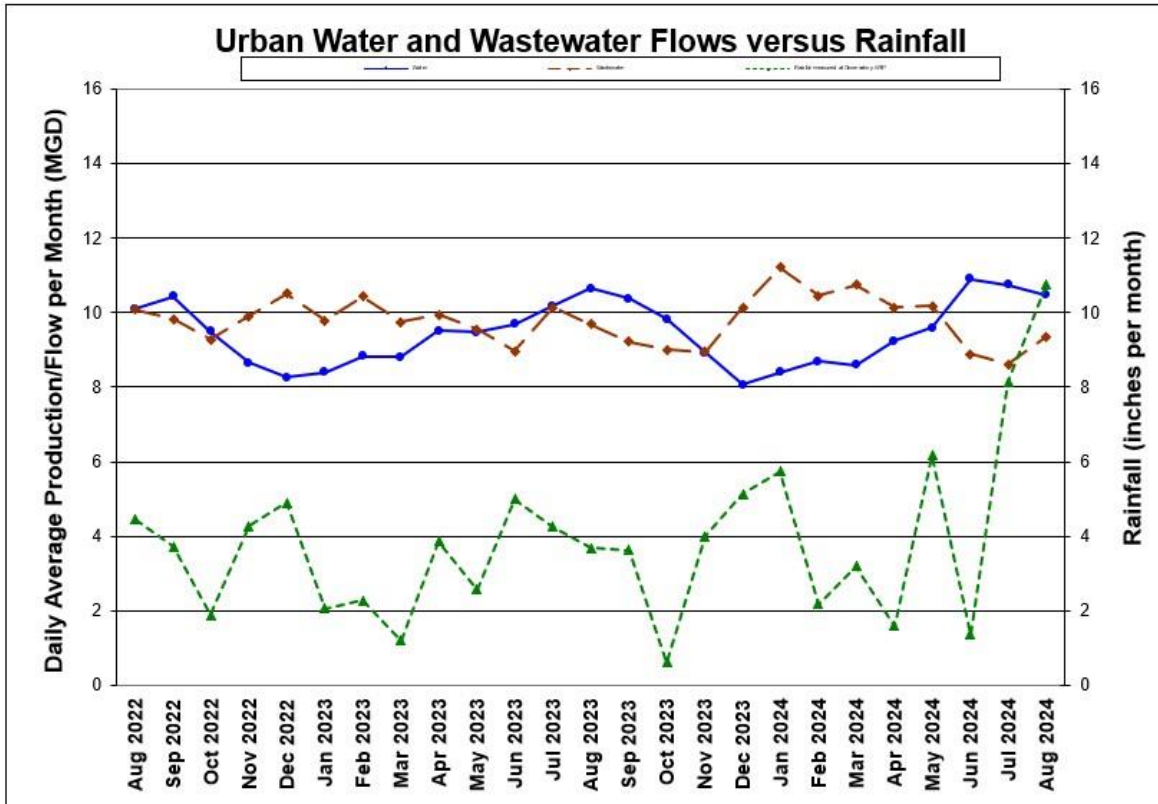
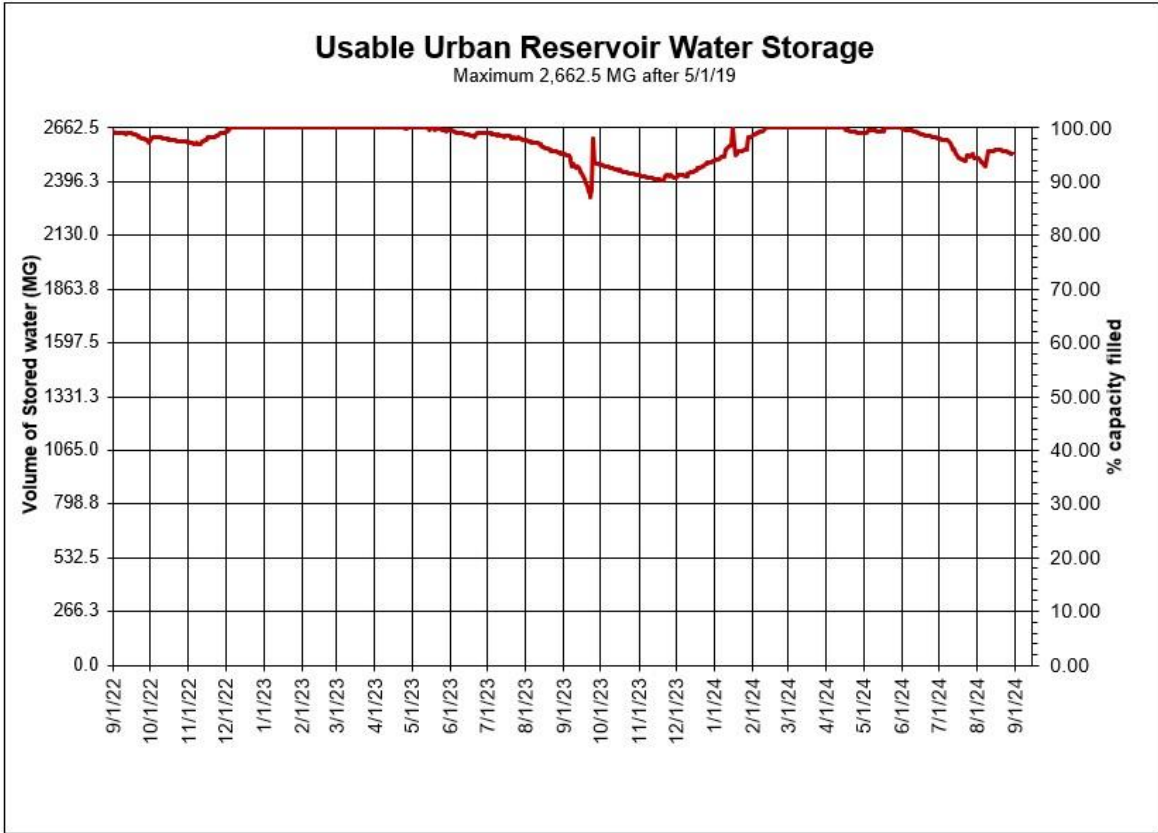
State Annual Allocation (lb./yr.) Permit	Average Monthly Allocation (lb./mo.) *	Moore's Creek Discharge August (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	29%	25%
Phosphorous	18,525	1,636	20%	14%

*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: CIP PROJECTS REPORT

DATE: SEPTEMBER 24, 2024

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

For the current CIP and additional project information, please visit: <https://www.rivanna.org/wp-content/uploads/2024/06/2025-2029-CIP-Final-Draft.pdf>

Summary

	Project	Construction Start Date	Construction Completion Date
1	MC 5kV Electrical System Upgrades	May 2022	June 2025
2	Rivanna Pump Station Restoration	July 2024	May 2025
3	Red Hill Water Treatment Plant Upgrades	October 2024	March 2026
4	South Fork Rivanna River Crossing	January 2025	January 2027
5	RMR to OBWTP Raw Water Line and Pump Station	January 2025	June 2029
6	MC Building Upfits and Gravity Thickener Improvements	February 2025	December 2026
7	MC Structural and Concrete Rehabilitation	February 2025	May 2027
8	Crozet Pump Stations Rehabilitation	April 2025	September 2027
9	MC Administration Building Renovation and Addition	June 2025	December 2027
10	Central Water Line	May 2025	March 2029
11	Crozet WTP GAC Expansion – Phase I	August 2025	March 2027
12	SRWTP – PAC Upgrades	August 2025	December 2026
13	RMR Pool Raise	September 2025	September 2026
14	SFRR to RMR Pipeline, Intake, and Facilities	February 2026	December 2030
15	Beaver Creek Dam, Pump Station, and Piping	May 2026	January 2030
16	Upper Schenks Branch Interceptor, Phase II	TBD	TBD
17	MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades	June 2025	September 2026

Under Construction

- 1. MC 5kV Electrical System Upgrades
- 2. Rivanna Pump Station Restoration
- 3. Red Hill Water Treatment Plant Upgrades
- 4. South Fork Rivanna River Crossing

Design and Bidding

- 5. RMR to OBWTP Raw Water Line and Pump Station
- 6. MC Building Upfits and Gravity Thickener Improvements
- 7. MC Structural and Concrete Rehabilitation
- 8. Crozet Pump Stations Rehabilitation
- 9. MC Administration Building Renovation and Addition
- 10. Central Water Line
- 11. Crozet WTP GAC Expansion – Phase I
- 12. SRWTP – PAC Upgrades
- 13. RMR Pool Raise
- 14. SFRR to RMR Pipeline, Intake, and Facilities
- 15. Beaver Creek Dam, Pump Station, and Piping
- 16. Upper Schenks Branch Interceptor, Phase II
- 17. MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades

Planning and Studies

- 18. MCAWRRF Biogas Upgrades
- 19. Flood Protection Resiliency Study

Other Significant Projects

- 20. Urgent and Emergency Repairs
- 21. Security Enhancements

Under Construction

1. MCAWRRF 5kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	70%
Base Construction Contract +	
Change Order to Date = Current Value:	\$5,180,000 - \$800,127 = \$4,379,873
Completion:	June 2025
Budget:	\$5,635,000

Current Status: The fourth (of 5) motor control center replacements has been completed along with 5kV cable and transformer replacement to the Holding Pond and Maintenance areas. The Contractor has also fully repaired both Primary Clarifiers, which were damaged in May due to faulty wiring and equipment startup. Due to the excessive equipment lead times and unforeseen underground conditions within the project, the completion date has been extended to June 2025.

2. Rivanna Pump Station Restoration

Design Engineer:	Hazen/SEH
Construction Contractor:	MEB
Construction Start:	July 2024
Project Status:	Design & Material Acquisition/Construction
Completion:	May 2025
Budget:	\$22,000,000

Current Status: Electrical demolition work has begun. Contractor continues to order equipment/materials for replacement as design decisions are finalized. Rebuilt pumps will be installed and bypass pumping system removed by March 2025 with full restoration completed by May 2025.

3. Red Hill Water Treatment Plant Upgrades

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction (Lynchburg)
Construction Start:	October 2024
Percent Complete:	0%
Base Construction Contract + Change Order to Date = Current Value:	\$1,742,375
Completion:	March 2026
Budget:	\$2,050,000

Current Status: Work on-site will begin in October. This project received partial grant funding from Albemarle County.

4. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Construction Contractor:	Faulconer
Construction Start:	January 2025
Percent Complete:	0%
Base Construction Contract + Change Order to Date = Current Value:	\$4,916,940
Completion:	January 2027
Budget:	\$7,300,000

Current Status: Construction bids were received on September 12, 2024. A report is included in the Board packet this month recommending award.

Design and Bidding

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

Design Engineer:	Kimley-Horn
Project Start:	August 2018
Project Status:	Bidding
Construction Start:	January 2025
Completion:	June 2029
Budget:	\$45,850,000

Current Status: Construction bids will be opened on October 1st. Staff anticipates bringing a recommendation for award to next month's Board of Directors Meeting.

6. MCAWRRF Building Upfits and Gravity Thickener Improvements

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	March 2023
Project Status:	75% Design
Construction Start:	February 2025
Completion:	December 2026
Budget:	\$7,500,000

Current Status: 90% design documents will be completed in September.

7. MCAWRRF Structural and Concrete Rehabilitation

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	April 2023
Project Status:	100% Design
Construction Start:	February 2025
Completion:	May 2027
Budget:	\$11,300,000

Current Status: 100% design documents are being completed. Brick removal occurred at select locations on digesters 1, 2 and 3 and smoke testing is anticipated to occur in September to further evaluate their condition.

8. Crozet Pump Stations Rehabilitation

Design Engineer:	Wiley Wilson
Project Start:	July 2023
Project Status:	100% Design
Construction Start:	April 2025
Completion:	September 2027
Budget:	\$10,950,000

Current Status: 100% design documents are complete. The project will be advertised for construction bids in October.

9. Moore's Creek Administration Building Renovation and Addition

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	75% Design
Construction Start:	June 2025
Completion:	December 2027
Budget:	\$25,000,000

Current Status: 90% design is underway. Selections have been made by the furnishings & finishes committee for color palettes on interior elements. Revised exterior and interior renderings submissions are anticipated by the end of September. Exhibit designers are finalizing schedule and meetings for the detailed design process.

10. Central Water Line

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	90% Design
Construction Start:	May 2025
Completion:	March 2029
Budget:	\$47,000,000

Current Status: The acquisition process continues for two private easements and a third easement with UVA along Hereford Drive. Redesign efforts in the E. High Street area are in process and survey work has begun. An additional private easement will be required with the redesign as well as new easements on two City parcels. The project will be split into two bidding contracts so that the west side of the work can begin next spring while the east side of the project is being redesigned.

11. Crozet GAC Expansion – Phase I

Design Engineer:	SEH
Project Start:	July 2023
Project Status:	60% Design
Construction Start:	August 2025
Completion:	March 2027
Budget:	\$6,550,000

Current Status: 60% design will be completed in September. \$6.24 M in grant funds from VDH have been awarded for this project.

12. SRWTP – PAC Upgrades

Design Engineer:	SEH
Project Start:	November 2023
Project Status:	95% Design
Construction Start:	August 2025

Completion: December 2026
Budget: \$1,100,000

Current Status: The project is progressing to 100% design. RWSA applied for a Congressionally Directed Spending grant from Senators Kaine and Warner for this project in the amount of \$880,000 and have received approval of the grant by the Senate committee. Final grant approval will occur upon approval of the federal budget by Congress and the President.

13. RMR Pool Raise

Design Engineer: Schnabel
Project Start: April 2024
Project Status: 25% Design
Construction Start: September 2025
Completion: September 2026
Budget: \$5,000,000

Current Status: Geotechnical investigation of the dam has been completed with a report to follow next month.

14. SFRR to RMR Pipeline, Intake, and Facilities

Design Engineer: Kimley Horn/SEH
Project Start: July 2023
Project Status: 45% Design
Construction Start: February 2026
Completion: December 2030
Budget: \$79,000,000

Current Status: The Design Engineer continues to work on both the new reservoir intake and the pipe between SFRR and RMR. Test holes along the water main alignment are being performed late this month into October. Installation of a nutrient analyzer at SFRR has been completed and was successfully started up. This is the last step of the water quality study, and a final report is anticipated in September.

15. Beaver Creek Dam, Pump Station and Piping Improvements

Design Engineer: Schnabel Engineering (Dam)
Design Engineer: Hazen & Sawyer (Pump Station)
Project Start: February 2018
Project Status: 50% Design
Construction Start: May 2026
Completion: January 2030
Budget: \$47,100,000

Current Status: Design work is underway by Hazen for the new raw water pump station, intake, raw water main, and hypolimnetic oxygenation system, and by Schnabel Engineering for final design of the dam spillway upgrades, temporary detour, and spillway bridge. Geological, survey, and other field investigative work for the dam design were recently completed. Documents are being developed for acquisition or lease of property for the Pump Station from the County.

16. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	CHA Consulting
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Budget:	\$4,725,000

Current Status: The design team has provided additional information to assist the County with easement acquisition considerations.

17. MC Pump Station Slide Gates, Valves, Bypass, and Septage Receiving Upgrades

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	June 2023
Project Status:	55% Design
Construction Start:	June 2025
Completion:	September 2026
Budget:	\$3,600,000

Current Status: Hazen is vetting software vendors for additional improvements to the current septage receiving equipment and billing software, and completing a flood resiliency evaluation.

Planning and Studies

18. MCAWRRF Biogas Upgrades

Design Engineer:	SEH
Project Start:	October 2021
Project Status:	Preliminary Engineering/Study (99%)
Completion:	December 2024
Budget:	\$2,145,000

Current Status: RWSA and City staff continue to discuss all available options to reuse biogas.

19. Flood Protection Resiliency Study

Design Engineer:	TBD
Project Start:	August 2024
Project Status:	Preliminary Engineering/Study
Completion:	July 2025
Budget:	\$278,500

Current Status: This project will identify individualized flood mitigation measures of six facilities to increase their resiliency from a 1% to a 0.2% flooding event. Facilities include: Mechums River Raw Water PS, Glenmore WW PS, Moores Creek AWRRF, Scottsville WWRFF, Crozet FET, and Crozet WW PS #2. A consultant is being selected to perform this study and the specific scope of the evaluation

is being confirmed. This project received \$198,930 in grant funding from FEMA and VDEM.

Other Significant Projects

20. Urgent and Emergency Repairs

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

Project No.	Project Description	Approx. Cost
2023-01	Finished Water System ARV Repairs	\$150,000
2024-03	MCAWRRF Secondary Clarifier #4 Equipment Failure	\$150,000

- **RWSA Finished Water ARV Repairs:** RWSA Engineering staff recently met with Maintenance staff to identify a list of Air Release Valves (ARVs) that need to be repaired, replaced, or abandoned. Several of these locations will require assistance from RWSA On-Call Maintenance Contractors, due to the complexity of the sites (proximity to roadways, depth, etc.). The initial round will include seven (7) sites, all along the South Rivanna Waterline. Three replacements have been completed at this time, with a fourth site in progress. This in progress site included abandonment of an existing manual ARV located in the middle of the Route 29-Hydraulic intersection, which has been completed, and was a major coordination effort with VDOT, as they intend to pave this area in the coming weeks. The Contractor is working with VDOT on permits for the final sites.
- **MCAWRRF Secondary Clarifier #4 Equipment Failure:** On Sunday Evening, March 3rd, RWSA Wastewater Department staff identified that Secondary Clarifier #4 at MCAWRRF appeared to have a significant mechanical malfunction. Upon further review by staff, the rotating arm of the clarifier mechanism caught the stationary arm, wrapping it around the center of the clarifier. Staff mobilized MEB General Contractors under its On-Call Maintenance Construction Services Contract with Faulconer, and the clarifier was back up and operational with just one stationary arm on Friday, March 8th. Staff are waiting on the necessary parts to complete repairs to the clarifier arms, but in the meantime, the clarifier is operational should it be needed for wet weather events. The remaining repairs will be completed by the RWSA Maintenance Department.

21. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	90% (WA9), 95% (WA10)
Based Construction Contract +	
Change Orders to Date = Current Value:	\$718,428 (WA1) + \$834,742 (WA2-10)
Completion:	June 2024 (WA9), August 2024 (WA10)
Budget:	\$2,810,000

Current Status: WA9 will include installation of card access on all exterior doors at the South Rivanna WTP and has been amended to include interior doors at the new IT data center. WA10 will include installation of card access on the exterior doors of the finished water pump station and “795” tank buildings in Scottsville. Device installation is complete here as well, with programming and startup ongoing. Design of MCAWRRF entrance modifications with Hazen & Sawyer continues, with

discussions with Dominion Energy also ongoing, as relocation of existing electrical infrastructure will be required. This relocation process will need to be finalized prior to the project proceeding to the bidding phase. Relocation of existing electrical infrastructure will require coordination with the adjacent landowner, as the infrastructure must be completely relocated from the entrance area. As these discussions are ongoing, staff have submitted appropriate permitting documents to Albemarle County.



MEMORANDUM

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

**FROM: BETSY NEMETH, DIRECTOR OF ADMINISTRATION AND
COMMUNICATIONS**

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: ADMINISTRATION AND COMMUNICATIONS REPORT

DATE: SEPTEMBER 24, 2024

Human Resources

Annual turnover for the Rivanna Water and Sewer Authority, for the fiscal year beginning on July 1, 2024, is 1.0% through September 4, 2024.

We are excited to welcome Annie West to our team. She will be joining us on September 30, 2024 as our first Sustainability & Grants Coordinator.

Safety

We were pleased to receive a risk management grant of \$4000 from the Virginia Risk Sharing Association. This grant award will be used to purchase 43 ANSI Class 3 Hi Vis Safety Vests to help us standardize this type of safety protective apparel, three new gas monitors, and six chemical rain suits.

We are currently testing a safety incident reporting system through Paychex, our payroll processing provider. We will begin doing live testing by October 1, 2024, with a planned “go live” date of January 1, 2025.

Community Outreach

We were excited to hire our first Communications & Outreach Coordinator, Tia Waters, who began working with us on September 23, 2024.

On September 11, 2024, a group of 90 students from the St. Anne’s Belfield School volunteered for us again, this time at our Buck Mountain property. The students removed tree tubes from a section of the property. We appreciate their help and the assistance of several of our staff members as well.

This year is the tenth anniversary of the “Imagine a Day Without Water” Art Contest that we sponsor with the Albemarle County Service Authority and the City of Charlottesville. The theme for this year’s contest is “What’s Your Drop in the Bucket”. The contest is open to children in grades K – 12. Entries will be accepted from September 30 through October 28, 2024. The winners will be announced on December 11, 2024.



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 2024

DATE: SEPTEMBER 24, 2024

The monthly and average daily Urban water system usages by the City and the ACSA for August 2024 were as follows:

	<i>Month</i>	<i>Daily Average</i>	
City Usage (gal)	157,902,968	5,093,644	48.6%
ACSA Usage (gal)	166,804,239	5,380,782	51.4%
<i>Total (gal)</i>	324,707,207	10,474,426	

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 dating back to the beginning of FY21, the trailing twelve-month average (extended back to September 2023), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA). Completed in 2019 for a cost of about \$3.2 M, our Wholesale Metering Program consists of 25 remote meter locations around the City boundary and 3 finished water flow meters at treatment plants.

Note 1 – During the month of July, Meter 26 was damaged by a road construction contractor. The meter was out of service for most of July and August. The meter has since been fixed and will have data for the month of September. The totals from Meter 26 this month though reflect an average of the previous 3 months, which is the missing data procedure stipulated in the metering agreement.

Note 2 – During the month of August, Meter 02 stopped reporting data to the server. RWSA Maintenance has changed the endpoint and is working to solve the communication problem. The totals from Meter 02 this month reflect an average of the previous 3 months, which is the missing data procedure stipulated in the metering agreement.



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

**FROM: BETHANY HOUCHENS, WATER RESOURCES COORDINATOR
DAVE TUNGATE, DIRECTOR OF OPERATIONS &
ENVIRONMENTAL SERVICES**

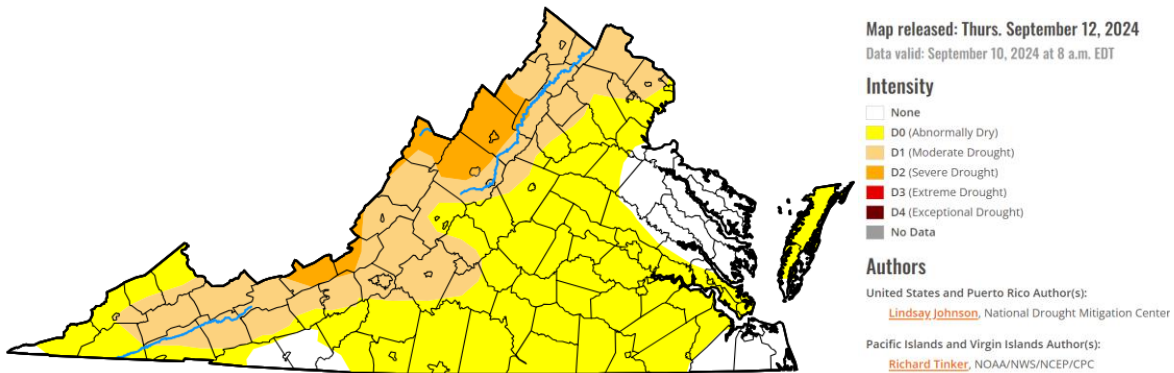
REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: DROUGHT MONITORING REPORT

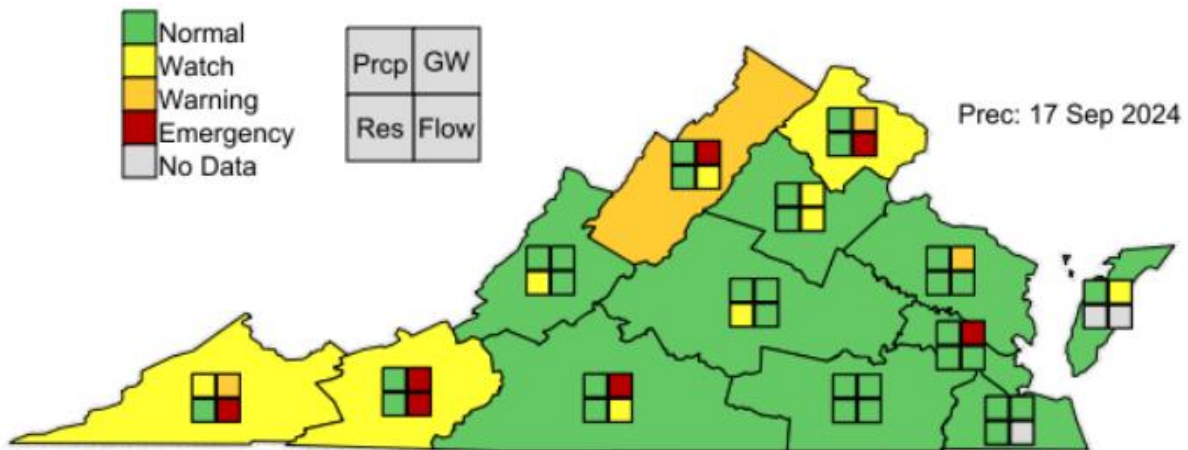
DATE: September 24, 2024

State and Federal Drought Monitoring as of September 18, 2024:

- U.S. Drought Monitoring Report: Indicates the City of Charlottesville and most of Albemarle County are abnormally dry. A section of western Albemarle County is in a moderate drought.



- VDEQ Drought Status Report: Our region is listed as being in a “Normal” level for all indicators except reservoir levels, which are in a “watch”.



Precipitation & Stream Flows

Precipitation September 17 th	
Location	24-hour total (Inches)
Observatory WTP	5.7
Ragged Mountain Reservoir	2.37
Sugar Hollow	2.68
South Rivanna WTP	1.9
Crozet WTP	3.13
Scottsville WTP	1.36

Charlottesville Precipitation					
Year	Month	Observed (in.)	Normal (in.)	Departure (in.)	Comparison to Normal (%)
2021	Jan - Dec	33.82	41.61	-7.79	-19
2022	Jan - Dec	43.53	41.61	+1.92	+5
2023	Jan - Dec	26.95	41.61	-14.66	-35
2024	Jan - Aug	20.71	27.59	-6.88	-28.5

Source: National Weather Service, National Climatic Data Center, Climate Summary for Charlottesville, Charlottesville Albemarle Airport station

USGS Stream Gaging Station Near the Urban Area (Sept 12-18)				
Gage Name	Rolling 7-day Avg. Stream Flow		Median Daily Streamflow	
	cfs	mgd	cfs	mgd
Mechums River	26.9	17.4	22	14.2
Moormans River	3.4	2.2	8.8	5.7
NF Rivanna River	12.4	8	25	16.2
SF Rivanna River	21	13.7	49	31.7

Median daily flow: Sept 18th for the period of record (approx. 30 - 80 years)

Status of Reservoirs as of Sept 18, 2024

- South Rivanna Reservoir is 100% full
- Ragged Mountain Reservoir is 90% full
- Sugar Hollow Reservoir is 100% full
- Beaver Creek Reservoir (Crozet) is 99.4% of Total Useable Capacity
- Totier Creek Reservoir (Scottsville) is 100% of Total Useable Capacity

Drought History in Central Virginia

- Severe: 1930, 1966, 1982, 2002
- Longest: May 2007 - April 2009; 103 weeks
- Significant: every 10 -15 years
- Drought of Record: 2001- 2002; 18 months



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

434.977.2970

434.293.8858

www.rivanna.org

MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: APPROVAL OF CONSTRUCTION CONTRACT AWARD;
SOUTH FORK RIVANNA RIVER CROSSING 24” WATER MAIN
– FAULCONER CONSTRUCTION COMPANY**

DATE: SEPTEMBER 24, 2024

This recommendation is to award a construction contract to Faulconer Construction Company totaling \$4,916,940 to complete the South Fork Rivanna River Crossing 24” Water Main project.

Background:

Staff 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 linear feet (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. The selected alternative will include a 1,200 LF trenchless river crossing to minimize environmental impacts. Once this project is completed, there will be a redundant and reliable supply of finished water to the Airport Road Pump Station to serve the North Zone.

This construction project was advertised for bids on August 14, 2024 (IFB No. 400). Two bids were received on September 12, 2024, totaling \$4,923,000 and \$5,835,466.61. Both bids were under the Engineer’s construction cost estimate of \$6,515,875 (which includes 10% contingency). Our engineering design consultant, Michael Baker International, reviewed the bids and determined that the bid of \$4,923,000 by Faulconer Construction Company from Charlottesville was the lowest, responsive and responsible bid. Following review of the bids, the Engineer discovered a mathematical error in the bid for which a procedure for modifying the bid was outlined in the contract documents. The actual bid award amount was revised to \$4,916,940. The Engineer also verified the qualifications and references of the contractor and the horizontal directional drill

subcontractor and recommended award of this contract to Faulconer Construction Company.

RWSA has successfully worked on multiple projects with Faulconer Construction Company Incorporated and they were one of the first contractors on the scene to assist us with the Rivanna Pump Station malfunction in January 2024. Faulconer Construction also is one of our On-Call Maintenance Construction Services Contractors. The current Capital Improvement Plan (CIP) budget for this project is \$7,300,000 and this award will be within the budget.

Board Action Requested:

Authorize the Executive Director to execute a construction contract with Faulconer Construction Company Incorporated for \$4,916,940 for the South Fork Rivanna River Crossing 24" Water Main project, and any additional change orders not to exceed 10% of the original contract amount.



MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: APPROVAL TO INCREASE CONSTRUCTION CONTINGENCY –
MCAWRRF 5kV ELECTRICAL INFRASTRUCTURE
IMPROVEMENTS – PYRAMID ELECTRICAL CONTRACTORS**

DATE: SEPTEMBER 24, 2024

This request is to authorize an increase in the construction contingency from 15% to 30% (from \$585,750 to \$1,171,500 = an increase of \$585,750) due to Change Orders required to address unforeseen conditions and other necessary changes which have utilized the majority of the 15% contingency. The most significant impact is due to an unforeseen condition which required installation of an additional electrical duct bank to the Sludge Pumping Building to allow the existing 5kV cable to be replaced as intended. The value of this and other additional minor changes in the Work will exceed the original 15% amount and require an increase in the construction contingency. This increase is within the total approved CIP project budget of \$6.2 M.

Background

On February 22, 2022, the Board of Directors approved award of a Construction Contract to Pyramid Electrical Contractors, LLC for the MCAWRRF Electrical Infrastructure Project in the amount of \$3,905,000 including any change orders not to exceed 10% of this original contract amount. Since the project began, various Change Orders have been issued to account for scope changes and unforeseen conditions which ultimately necessitated modification of the originally approved 10% contingency value to 15%. As Pyramid has continued progressing through the project into some of the more challenging components, namely replacement of 5kV cable, additional unforeseen conditions have been encountered. Most importantly, the existing duct bank to the Sludge Pumping Building at MCAWRRF was found to have an excessive number of bends and was determined to be unusable for the purposes of installing the new 5kV cable. A completely new duct bank was required to be provided to this facility to safely replace the cable and complete the necessary scope of work.

Board Action Requested:

Authorize an increase in total Construction Contingency from 15% to 30% of the original contract amount of \$3,905,000 for the MCAWRRF 5 KV Electrical Infrastructure Improvements Project.



MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: APPROVAL OF ENGINEERING SERVICES – RIVANNA PUMP
STATION RESTORATION – HAZEN AND SAWYER ENGINEERS**

DATE: SEPTEMBER 24, 2024

This request is to authorize a work authorization with Hazen and Sawyer (Hazen) totaling \$855,044 to provide design, construction administration and field services to complete the Rivanna Pump Station Restoration project.

Background

The Rivanna Wastewater Pumping Station (RVWWPS) is a 53-mgd rated firm capacity wastewater pumping station at the Moores Creek Advanced Water Resource Recovery Facility (MCAWRRF). The pumping station was constructed in 2017. On January 9, 2024, the area served by the MCAWRRF experienced heavy rain, with a local rain gauge recording more than 3-inches of rain. Over the course of the day, the RVWWPS received increasing flows coupled with various mechanical and instrumentation failures that caused the pump station to experience numerous alarms culminating in an inundated wet well, dry wells, and stairwells. Upon discovery of the flooded RVWWPS, RWSA staff began implementing a bypass pump set up using contractor emergency pumping equipment to handle incoming sewer flows.

Staff will utilize two design consulting engineers for the reconstruction & improvements effort. Hazen is tasked with multiple design engineering disciplines, including mechanical, structural, HVAC, plumbing, electrical, instrumentation, and others as required. Short Elliot Hendrickson (SEH) is tasked with design of the controls systems, including local control panels, Programmable Logic Controllers (PLC), Supervisory Control and Data Acquisition (SCADA), and programming services. MEB Contracting will construct the project via a separate term services contract.

RWSA entered into a term agreement with Hazen on April 22, 2024, for Professional Wastewater Engineering Services. Under this Contract, Hazen would provide Professional Engineering Services for the Rivanna Pump Station Restoration effort to include preliminary engineering & analysis, design, construction administration, field services & inspection, and commissioning.

Engineering staff has negotiated an initial scope of work based on the above to include:

- Workshop lead, attendance and notes for station pumps, reconstruction and improvements.
- Preliminary Engineering includes pump analysis, HVAC, electrical and instrumentation analysis for reconstruction and improvements.
- Drawings as required
- Specifications as required
- Construction administration services
- Construction field and inspection services
- Startup and commissioning documents
- Punch List
- O&M manual documentation
- Record Drawings

Board Action Requested:

Authorize the Executive Director to execute a work authorization with Hazen and Sawyer for professional services to complete the Rivanna Pump Station Restoration project totaling \$855,044 and any further amendments needed to complete the tasks identified above, not to exceed 25% of the original contract amount, provided the resulting total cost is within the approved project budget.



MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: APPROVAL TO INCREASE DESIGN CONTINGENCY –
MCAWRRF 5kV ELECTRICAL INFRASTRUCTURE
IMPROVEMENTS – HAZEN AND SAWYER ENGINEERS**

DATE: SEPTEMBER 24, 2024

This request is to authorize an increase in the Hazen and Sawyer engineering contingency from 25% to 45% (from \$160,493 to \$288,887 = an increase of \$128,394) based on the original work authorization amount of \$641,971. This increase in contingency is requested to provide additional construction administration services associated with significant material delivery delays and unforeseen construction changes which extended the project. The project remains within the total approved CIP project budget of \$6.2 M.

Background

Through the Moores Creek Facilities Master Plan, it was identified that several areas of the Moores Creek Advanced Water Resource Recovery Facility, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, the Duty Station, and the Administration Building, are all still connected to the original 5kV switchgear in the Blower Building. This cabling, switchgear, and several Motor Control Centers around the facility were installed around 1980. Electrical equipment of this nature has a useful life expectancy of 20-30 years; thus, prompt replacement of the equipment was recommended.

Given the safety, reliability, and resiliency concerns associated with the aging electrical infrastructure, staff negotiated a scope, fee and schedule with Hazen and Sawyer under the firm's term contract to perform final design, permitting, bidding, construction administration, and construction inspection services following board approval in August 2020. Since the project began, substantial material delivery delays have hampered the project because of the COVID-19 pandemic. While the Contractor continued to perform work on the site, progress was much slower than originally anticipated due to excessive equipment lead times. To date, the duration of the project has increased by approximately 14 months from what was initially anticipated. Most significantly, the existing duct bank to the Sludge Pumping Building at MCAWRRF was found to have an excessive number of bends and was determined to be unusable for the purposes of installing the new 5kV cable. A completely new duct bank was required to be provided to this

facility to safely replace the cable and complete the necessary scope of work.

Board Action Requested:

Authorize an increase in Hazen and Sawyer's total engineering work authorization contingency from 25% to 45% of the original contract amount of \$641,971 for the MCAWRRF 5kV Electrical System Upgrade Project.

SAFETY PROGRAM

RSWA & RWSA BOARD OF DIRECTORS

SEPTEMBER 24, 2024

GEORGE CHEAPE, SAFETY MANAGER



BACKGROUND AND EXPERIENCE

- 35 years construction experience
- +29 years experience in Water/Wastewater Treatment and Maintenance
- EMS/Fire Experience
 - Former Volunteer Firefighter
 - Former EVOG certified Rescue Squad Driver
- License Held
 - Class 2 Water and Class 2 Wastewater Operator License
 - Master Electrician and Master Plumber License
 - Class A CDL License
 - Previous OSHA 10-hour & 30-hour Instructor
 - Former Adjunct Professor with PVCC
 - Experience Contracting and Consulting

WHY AND HOW ARE WE DOING THIS?

- **Culture of Safety**
 - We Want All Rivanna Personnel and Contractors Thinking and Practicing Safety at All Times
- **Hands on, Helpful approach**
 - Be Present!
 - In Departments and on Jobsites
 - Build Relationships
 - Effective Communication
 - Regular conversations with Contractors and Staff on what they need and how we can help them accomplish their work in an efficient and safe manner
- **Enforcement of Safety Standards**
- **Ultimate Goal is Zero Accidents!**



SAFETY:

A CONTINUOUS IMPROVEMENT PROCESS THAT PROTECTS STAFF AND REDUCES THE NUMBER OF WORKPLACE DEATHS, INJURIES, AND ILLNESSES.

PART OF OUR STRATEGIC PLAN GOAL OF OPERATIONAL OPTIMIZATION INCLUDES SAFETY.

“TO EFFICIENTLY, RELIABLY, AND SAFELY PROVIDE HIGH QUALITY SERVICES, ASSURING THE BEST VALUE FOR OUR CUSTOMERS.”

Safety Goal Strategies

Enhance our culture of safety

Protect our workforce and the public through continually growing a culture of safety

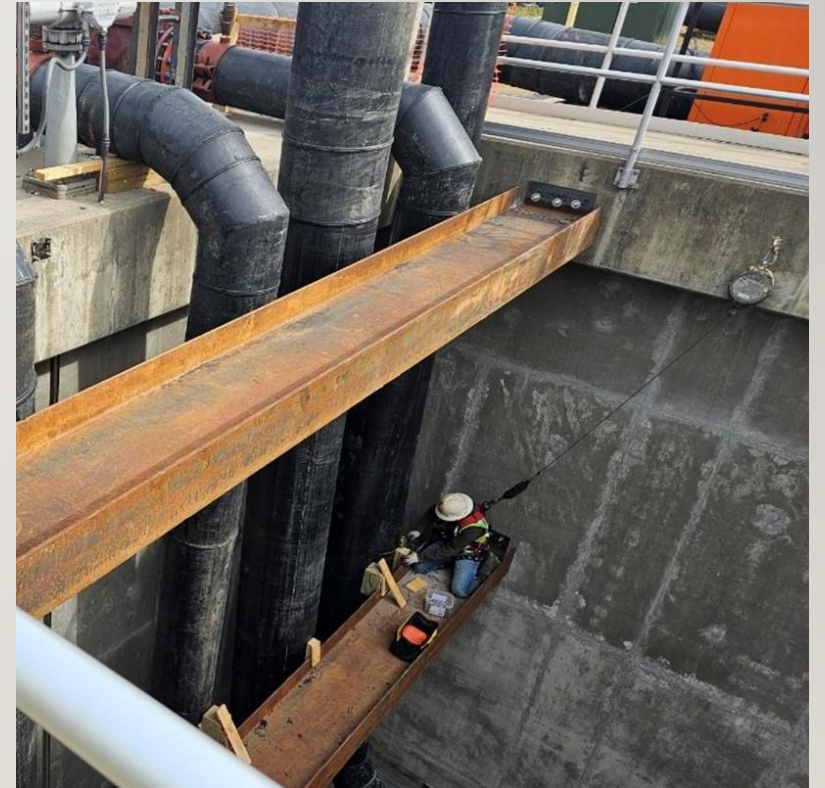


FIELDWORK – DRIVING A WORK SAFETY CULTURE

- **Site visits with RSWA/RWSA Maintenance and Operations in the field**
 - Communication to improve safety while still maintaining efficiency within tasks and projects.
- **Rivanna Pump Station**
 - Ongoing safety coordination for rehabilitation of the pump station.
- **Primary Clarifiers 1 & 2**
 - Coordination meetings for safety of RWSA Maintenance and contracted personnel when entering and working inside the clarifiers.
- **Site safety inspections and meetings - Airport Rd Pump Station**
 - SRWTP & OBWTP
 - 5KV Project

RIVANNA PUMP STATION

- Dual role as Engineering Inspector and Safety Manager for the Installation of the 36-inch Emergency Bypass.
- Worked with RWSA Staff along with Consulting Engineers and Contractors to facilitate the safe installation of more pumps and piping including collaboration on appropriate and effective fall protection as seen in this picture.
- Ensured the drywell areas were safe for entrants to perform the initial root cause analysis inspections.
- Coordinated with contractors to have the drywell, mezzanine, and stairwell areas of the pump station cleaned and disinfected once inspections were completed.



SAFETY ADMINISTRATION

- **2024 VRSA Safety Grants**

- RWWSA \$4,000
 - 43 ANSI Class 3 Hi Vis Safety Vests (Company Wide)
 - 3 New 4 gas monitors (Maintenance)
 - 6 Chemical rain suits (Wastewater)



- RSWA \$2,000
 - \$2,000 applied to the fabrication and installation of a gate to close the Ivy Transfer Station tipping floor to vehicular traffic during cleaning.

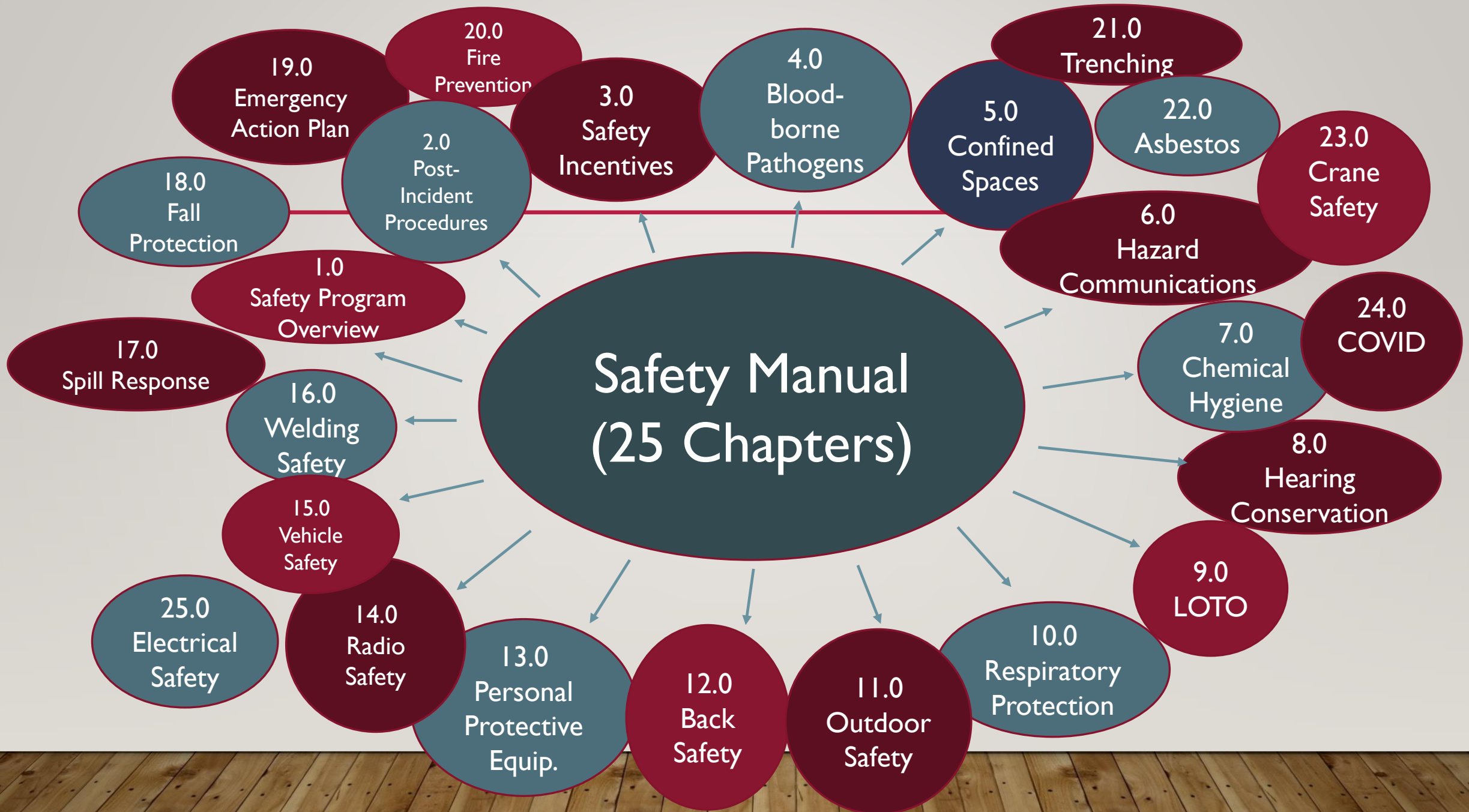
- **Created New Electrical Safety Chapter for the Safety Manual**

- Collaborated with UVA Facilities Management

- **Attended meetings with counterparts and other officials with Albemarle County, the City of Charlottesville, UVA, and CUA 911**

- Sugar Hollow Dam
- CUA911





WHAT'S NEXT?

- **New Incident Reporting System**
 - Utilizing the current Paychex system
 - More efficient and data collection
- **LOTO (Lock Out Tag Out)**
 - Working with staff on streamlined forms and system for review and approval
 - This will be integrated into the CityWorks Asset Management System to make documents readily available in the field
- **Several Major Construction Projects**
 - Pre-Construction Meetings
 - On Site Safety Inspections

Site: <i>Glenmore Wastewater Treatment Plant</i>		Lockout Tagout Procedure: <i>Ultraviolet Light Unit</i>							
Equipment Details	Equipment Name: UV System 1	Description: Device used to sanitize outgoing water from the treatment plant.							
Site & Procedure Information	Dept: Wastewater	Building: N/A	Location: Outside						
Shut Down Steps & Return to Service Summary									
The following section provides a high level summary of the 8 Key Steps for conducting a LOTO.									
Step	Procedure								
Step 1:	PREPARE FOR SHUTDOWN: <ul style="list-style-type: none"> - Understand the applicable procedures. Determine associated equipment. - Acquire protective materials (i.e. locks, tags, lock adapters). - Assess consequences of shutdown. 								
Step 2:	NOTIFICATION OF PERSONNEL: <ul style="list-style-type: none"> - Personnel who may be affected shall be notified prior to the LOTO application and after the removal of lockout devices or tagout devices. - Personnel may include operators, technicians, engineers or area managers. 								
Step 3:	SHUTDOWN: <ul style="list-style-type: none"> - Operations and/or Maintenance (LOTO Authorized Employees) shall shut down the equipment and place it in a position that allows access. This includes setting to the lowest position, blocking items that may move and safely relieving stored energy (e.g. hydraulic pressure). 								
Step 4:	ENERGY ISOLATION: <ul style="list-style-type: none"> - Identify and shut off all energy source disconnection/shut off points. - Carefully ventilate system pressures by following equipment manufacturer recommendations (e.g. opening vent valves slowly, disconnecting lines, or installing flange blanks). 								
Step 5:	LOCKOUT TAGOUT: <ul style="list-style-type: none"> - Each LOTO Authorized Employee shall attach his/her Individual LOTO Red Lock and filled out Red Tag on each point of disconnect, shut off, blank and/or vent. Verify that all above is complete. 								
Step 6:	CONTROL STORED ENERGY: <ul style="list-style-type: none"> - Assess that all stored potentially hazardous energy has been relieved, dissipated, restrained, drained or otherwise controlled (i.e. electrical capacitor), batteries, hydraulic accumulators & surge tanks, mechanical springs and gravity). 								
Step 7:	VERIFY ISOLATION: <ul style="list-style-type: none"> - Extremely important! Do not assume the posted shutdown procedure is accurate - Immediately report any inaccuracies to your EHS Representative for resolution. - Each authorized employee performing work shall verify that the equipment is fully LOTO and that all energy is zero. - Zero energy tests shall include: <ul style="list-style-type: none"> - LOTO Authorized Employees shall attempt to operate the equipment by the start controls, after which the controls are returned to the off position. - Verify by meter/gauge operation. Verify zero energy at disconnect and work points. - Blocking, wedging and grinding to protect against stick/slip movement, leaking valves, capacitors, and automatic controls action. 								
Step 8:	RETURN TO SERVICE: <ul style="list-style-type: none"> - Assess that the area is clear of tools, all guards are in place and operating controls are in the off position. - Notify affected persons that energy is to be restored. - Each worker removes their tag/locks after which their points are returned to their operational position. - Operations and/or Maintenance assess that the equipment is functioning safely and properly. 								
IF SYSTEM CANNOT BE LOCKED OUT OR IF SYSTEM FAILS VERIFICATION CONTACT YOUR SUPERVISOR.									
Machine-Specific LOTO Procedure									
Equipment Diagram									
Caution									
<i>Caution: Only LOTO Authorized Employees who have received specific training and demonstrations are allowed to perform lockout on this system or process.</i>									
Lockout Tagout Procedure									
BEFORE WORKING ON EQUIPMENT COMPLETE THESE STEPS									
Step	Label / ID	Source	Magnitude	Device	Location	Method	Method Check	Complete	Initials
1	17 - UV 1 21 - UV Controls	E1	Electric 120 V	Breaker Covers	At control panel in main building electrical room.	Place breakers in the off position. Cover and tag.	Verify zero voltage with voltmeter/voltage tester at equipment or disconnect.		



QUESTIONS?