



**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
856 Respectfully submitted,

857
858
859
860



Mr. Sam Sanders
Secretary - Treasurer

