



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

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

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

**Board Members Absent:** none

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

**Attorney(s) Present:** Carrie Stanton.

**1. CALL TO ORDER**

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

**2. STATEMENT FROM THE CHAIR**

Mr. Gaffney read the following statement aloud:

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

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

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

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

Mr. Gaffney called the roll.

47  
48 Mr. Chip Boyles, City Manager, stated he was located at 605 E. Main Street in Charlottesville, VA.

49  
50 Ms. Lauren Hildebrand stated she was located at 305 4<sup>th</sup> Street Northwest in Charlottesville, VA.

51  
52 Mr. Gary O’Connell stated he was located at the ACSA Offices at 168 Spotnap Road,  
53 Charlottesville, VA.

54  
55 Dr. Liz Palmer stated she was located in Albemarle County on Mechum Banks Drive,  
56 Charlottesville, VA.

57  
58 Mr. Jeff Richardson stated he was located at the County Administration Building at 401 McIntire  
59 Road in Charlottesville, VA.

60  
61 Mr. Lloyd Snook stated he was located at 408 East Market Street, Charlottesville, VA.

62  
63 Mr. Mike Gaffney stated he was located at 3180 Dundee Road in Earlysville, VA.

64  
65 Mr. Gaffney stated the following Authority staff members were joining the meeting electronically:  
66 Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David Tungate, John Hull, and  
67 Victoria Fort.

68  
69 Mr. Gaffney stated they were also joined electronically by Carrie Stanton, Counsel to the Authority.

70  
71 **3. MINUTES OF PREVIOUS BOARD MEETINGS**

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

73  
74 Dr. Palmer stated she was not in attendance, so she can not vote, but she sent in one change of  
75 name from Andrea Terry to Andrea Bowles in the minutes.

76  
77 Ms. Stanton stated those can be approved as corrected, and Ms. McIlwee can make the correction  
78 in the previous Board minutes.

79  
80 **Ms. Hildebrand moved that the Board approve the minutes of the previous meeting. The**  
81 **motion was seconded by Mr. O’Connell and passed 6-0. Dr. Palmer abstained from the**  
82 **vote.**

83  
84 **4. RECOGNITIONS**

85 There were none.

86  
87 **5. EXECUTIVE DIRECTOR’S REPORT**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

237

## 238 **6. ITEMS FROM THE PUBLIC**

239 Mr. Gaffney opened the meeting to the public.

240

241 There were no public comments.

242

243 Mr. Gaffney closed Items from the Public.

244

## 245 **7. RESPONSES TO PUBLIC COMMENT**

246 There were no public comments.

247

## 248 **8. CONSENT AGENDA**

249 *a. Staff Report on Finance*

250 *b. Staff Report on Operations*

251 *c. Staff Report on Ongoing Projects*

252 *d. Staff Report on Wholesale Metering*

253 *e. Staff Drought Monitoring Report*

254 *f. Authorization of Water Conservation Measures*

255 *g. Approval of Series 2021 Bond Issue - \$41M*

256 *h. Approval of Capital Improvement Plan Amendment – South Rivanna Reservoir to*

257 *Ragged Mountain Reservoir Pipeline, Intake, & Facilities – Water Quality Analyses*

258

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

261

## 262 **9. OTHER BUSINESS**

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

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

268

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

274

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

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

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

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

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

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

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

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

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

325  
326 Ms. Fort stated the next slide shows the additional analysis that was done. She stated the limits  
327 for disturbance for each of the sites is outlined in red. She stated they looked at all of the  
328 potential access routes and pipeline routes associated with each of those sites. She stated the  
329 cultural resources survey areas are highlighted in the yellow/orange color, the pink denotes the  
330 riparian areas, green is forested areas, red is critical slopes which RWSA is exempt from  
331 building within critical slope areas, but obviously for constructability concerns, that was worth  
332 being looked at as well.

333  
334 Ms. Fort stated on the next slide, the table intends to summarize all of the data collected during  
335 the initial and supplemental analysis. She stated project costs listed in the column furthest to the  
336 right includes everything associated with the project. She stated this includes engineering,  
337 design, and construction services, permitting, construction, contingency, etc. She stated these are  
338 still preliminary costs and there is still a lot of information that is not known with the sites. She  
339 stated this is intended to be used to demonstrate the relative cost of each site as compared to one  
340 another.

341  
342 Ms. Fort stated the other columns on the chart lay out the length of new pipe needed, length of  
343 access road, impacts to the critical slopes and wooded areas, etc. that were mentioned before.  
344 She stated based on looking at all of these factors and the impacts to private property, RWSA  
345 staff felt it was most prudent to minimize the overall limits of disturbance, and thus the  
346 environmental impact of the property. She stated because of this, they have focused in on Sites  
347 #1 and 2, which are highlighted in green on the displayed slide.

348  
349 Ms. Fort stated there is a slight preference towards Site #1 based on a lower anticipated cost as  
350 compared to Site #2. She stated from constructability purposes, it's a better site in that it has a  
351 perceived lower impact to private property owners in the short term during construction.

352  
353 Ms. Fort moved to the next slide and stated this is Site #1. She stated this is the second site  
354 located as going away from the dam. She stated it will be accessed off of Brown's Gap Turnpike,  
355 adjacent to the Beaver Creek Dam. She stated what is liked about this site and Site #2 is that the  
356 pump station, access road, and pipe would all be located on Albemarle County property. She  
357 stated there would be no expectation for any permanent easements for any of these facilities from  
358 private property owners. She continued saying the new raw water line would be installed along  
359 the same alignment as the existing piping along Brown's Gap Turnpike and onto Old Three  
360 Notch Road towards the treatment plant.

361  
362 Ms. Fort stated she noted on the last slide that this site would place the pump station further  
363 away from any existing houses, which can be slightly seen in the drawing on parcel 5724. There  
364 is a house located fairly close to where Site# 2 is located. She stated they felt that would have a  
365 lesser impact during construction on the neighboring houses with Site #1.

366  
367 Ms. Fort stated lastly this site also involves only a single stream crossing, which can be seen in  
368 the road plan on the right side. She stated there is a swale that goes across where the road would



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

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

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

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

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

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

400  
401 Ms. Fort confirmed that to be true.

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

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

413

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

417  
418 Mr. Mawyer stated Site #3 also involves eight private properties or three private properties  
419 depending on the route chosen.

420  
421 Mr. O'Connell asked Mr. Mawyer if there was any Board action needed, or if this was just  
422 informational.

423  
424 Mr. Mawyer stated RWSA will be meeting with NRCS and the public to review the  
425 recommended site. He stated he would like the Board's concurrence that Site #1 is okay with the  
426 Board.

427  
428 **Dr. Palmer moved to approve Site #1 for the Beaver Creek Raw Water Pump Station. Mr.**  
429 **Snook seconded the motion. The motion passed unanimously (7-0).**

430  
431 *b. Wastewater Allocations Update; Jennifer Whitaker – Director of Engineering and*  
432 *Maintenance*

433  
434 Ms. Whitaker stated that she would address the sanitary sewer improvement program and  
435 specifically the 2020 wastewater flow allocation study that is currently underway, noting that the  
436 last time they'd really talked about the program was 2012. She stated they had gone into quite a  
437 bit of detail at the time about how a sewer system operates and what some of the issues are, and  
438 she'd like to move forward and talk about where RWSA has been since that point.

439  
440 Ms. Whitaker explained that RWSA is one system owned by three different agencies; it is all  
441 interconnected and what happens in one system affects the others. Referencing a map, she stated  
442 that the yellow is the City of Charlottesville boundary, and the pipes shown are Rivanna pipes.  
443 She stated that her next slide added the City pipes, with an interconnection system that ties into  
444 the Rivanna system at various points. She then noted the Albemarle County Service Authority  
445 pipes, which are in the urban area as well, and stated the entire urban area includes Crozet and  
446 the piping that comes from the west. She stated again, this is one system operated by three  
447 different entities, and as such, RWSA spends a lot of time cooperating on trying to evaluate and  
448 correct issues within the system.

449  
450 Ms. Whitaker stated that in 2006, RWSA completed a regional sanitary sewer capacity study—  
451 which revealed some fairly substantial issues within the system, with areas where there were  
452 capacity concerns during both dry and wet weather. She stated they found a lot of aging  
453 infrastructure, there were significant amounts of inflow and infiltration (I&I), which is  
454 stormwater making its way through various means into the system. She stated they were having  
455 fairly routine sanitary sewer overflows throughout the system, grease and root problems, and  
456 identified some pretty significant capital needs.

457  
458 Ms. Whitaker reported that at the time, it was obvious to everyone involved that there were some  
459 problems that needed to be addressed, and she referenced a slide showing the history from 2006-

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

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

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

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

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

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

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

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

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

510  
511 Ms. Whitaker explained that the top of the table shows the work that was done in 2015 and 2016.  
512 She stated that in 2015, RWSA projected that the wet weather flows in the ACSA system would  
513 be about 20 MGD, and the wet weather flows in the City system would be 46 MGD—for a total  
514 coming into Moores Creek of 78 MGD. She stated these numbers were fairly large, and at the  
515 time there was great concern about the ability to convey that water through the collection system,  
516 the interceptor system, and the pump stations—as well as the ability to treat that amount of water  
517 at Moores Creek.

518  
519 Ms. Whitaker stated there have been upgrades and improvements completed throughout the  
520 system to try to handle that number. She stated the good news is that, as seen at the bottom of the  
521 displayed table, there has been a 13% reduction in 2020 in the amount of flow from ACSA  
522 during wet weather and a 41% reduction in flow coming in from the City. She stated instead of  
523 46M, that number is closer to 27 MGD; the total system flow coming to the Moores Creek  
524 facility is now in the 55 MGD range, which is about 30% less than the original 78 MGD.

525  
526 Ms. Whitaker stated she also provided a table that projects not only the current flows but future  
527 flows, future use, and future demand. She stated they are also seeing reductions in what is  
528 projected for the future—with a 2% reduction in ACSA's wet weather flow, despite 50 years of  
529 growth, and the City seeing a 30% reduction in their wet weather flow. She stated the total flow  
530 has seen a reduction from 82 MGD down to 67 MGD, even during wet weather.

531  
532 Ms. Whitaker reported that there has been a very large reduction in current and projected future  
533 wet weather flows: about 13% for the Service Authority and over 40% for the City, with total  
534 system reductions at more than 30%. She stated another finding is that routine rainfalls no longer  
535 induce sanitary sewer overflows, which is significant. She stated RWSA would routinely send  
536 people out to look for overflows if there was more than  $\frac{3}{4}$  of an inch of rain, and now it is very  
537 rare for RWSA to have any type of overflow at all.

538  
539 Ms. Whitaker noted that these lower future projected flows would most likely delay some fairly  
540 costly upgrades of the collection system, the interceptor system, and especially the Moores Creek  
541 plant. She stated they may be able to delay the hydraulic capacity upgrade at the plant by well  
542 over a decade, and there are some very real cost savings that accompany all of this.

543  
544 Ms. Whitaker asked rhetorically how the RWSA was able to get to the point where they were  
545 able to achieve such dramatic results. She explained that since 2009, the City and Service  
546 Authority have invested in their sewer monitoring and sewer rehab program. She referenced a  
547 slide and stated that the City has spent over \$21M on sewer rehab alone, with close to 47 miles  
548 of sewer line either lined or replaced in entirety. She stated 197 manholes have been removed  
549 and replaced, with an additional 5,400 vertical feet being rehabilitated. She stated all of that  
550 equals about 27% of the City's total sewer system renewed during this time period.

551

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

556  
557 Dr. Palmer asked what the hydraulic capacity is currently.

558  
559 Ms. Whitaker replied that the wastewater treatment plant is sized to handle the 85 MGD peak  
560 hour to come into the plant. She stated they designed the wet weather program about a decade  
561 ago to handle that peak capacity, which now gives the operation staff relief in handling the wet  
562 weather flows. She noted that it also prevents the system from backing up in the collection  
563 system and overflowing before it gets to the plant.

564  
565 Dr. Palmer thanked her and stated clearly the comment should be, “Great job.” She stated she’s  
566 watched this over the years, and it is really wonderful and heartening to listen to this report.

567  
568 Mr. Snook asked about the data for 2020, noting that he is leery right now of trying to draw any  
569 conclusions about anything from 2020 data. He asked how certain Ms. Whitaker feels that this  
570 shows a real trend and not just a Covid-related anomaly.

571  
572 Ms. Whitaker explained that the data was collected in 2019, and there are several independent  
573 pieces of information. She stated there are permanent sewer flow meters that have been in the  
574 ground about 12-13 years, with daily data supplied from those. She stated on the Rivanna part of  
575 the system, there are eight permanent flow meters, and on the Moores Creek side, there are six—  
576 for a total of 14. She stated those are operating every day of every year of every decade. She  
577 stated they used the temporary flow meters that were in the ground from April to December of  
578 2019, then completed the study in 2020. She stated that staff believes, as do the consultants, that  
579 this is pre-Covid data that fairly represents what’s going on in the collection system.

580  
581 Mr. Snook asked what she attributes the 30% drop to.

582  
583 Ms. Whitaker responded that as a pipe system ages, there are more opportunities for water to  
584 penetrate into that system—whether it runs across asphalt and drops through holes in the  
585 manhole lid, infiltrates through leaky manholes, or any other number of ways it can get into the  
586 system. She stated it is not unusual for older systems to have very high inflow numbers. She  
587 stated in 2006 when they started to look at the system, it was determined to be important to keep  
588 investing in the system to keep elements from becoming leaky. She noted that Rivanna feels—  
589 and she thinks the City and Service Authority agree— that those numbers are real and are based  
590 on the entities’ very aggressive programs to identify the worst areas and do extensive  
591 rehabilitation and replacement.

592  
593 Ms. Hildebrand thanked Ms. Whitaker for talking about the success stories. She commented that  
594 in looking at sewer rehab across the country, it’s amazing what has been able to be achieved in a  
595 little over 10 years. She stated in the City system, it was long ignored up until probably 14 years  
596 ago. She stated then it was realized how much work there was—and still is, but they have been  
597 able to take advantage of some of the low-hanging fruit.

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

610  
611 Dr. Palmer stated it should also be mentioned that Rivanna has put a lot of money into the sewer  
612 system, which is not reflected in the numbers provided for the City and the County, and she  
613 asked if there is a number for that.

614  
615 Ms. Whitaker responded that in the 2012 presentation, Rivanna had completed the majority of  
616 the big-dollar capital infrastructure, which was close to \$100M at that point. She stated she  
617 certainly can put that number together, but some of it was for plant upgrades that needed to  
618 happen (specifically for wet weather), as well as two major pump station upgrades. She stated  
619 when that is done, along with some of the piping projects, it was a fairly large number. She  
620 added that she can provide a more definitive number with more recent information in it.

621  
622 Dr. Palmer stated she does not necessarily need Ms. Whitaker to go to a lot of trouble, but she  
623 recalled Ms. Mueller getting up and saying that the sewer infrastructure was going to cost more  
624 than the water supply plan. She stated one of the first things she heard about when she got on the  
625 ACSA Board in 2006 was the Meadow Creek Interceptor. She added that she thinks everyone  
626 has done a phenomenal job.

627  
628 Mr. Gaffney stated that it may be hard to fathom, but in the mid-2000s right after the drought,  
629 Rivanna was further behind in wastewater than they were in water. He stated that Rivanna, as  
630 well as the City and the ACSA, have done a phenomenal job over the last 20 years catching up.  
631 He stated he thinks it would be great if Ms. Whitaker could put some dollars on the Rivanna  
632 infrastructure, all of the interceptors that were rebuilt, the pump stations, and the Moores Creek  
633 facility, so the community can see what has happened over the last 20 years.

634  
635 Ms. Whitaker stated that she had just pulled up the 2012 presentation, and as of that time, there  
636 was \$125.2M between the three agencies. She stated it is probably close to \$150M now, but she  
637 would pull the exact details for the Board.

638  
639 Mr. Gaffney stated that would be helpful and informative.

640  
641 Dr. Palmer stated they were told very early on that \$220M would be needed to go into the sewer  
642 system, which was very shocking to her.

643

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

645

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

648

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

653

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

661

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

666

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

671

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

676

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

679

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

685

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

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

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

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

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

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

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

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



736  
737 Mr. Tungate presented another picture of South Rivanna in a different phase of construction. He  
738 asked the Board if there were any questions about the information he had covered.

739  
740 Mr. O'Connell stated it was a great tour and thanked Mr. Tungate.

741  
742 Dr. Palmer asked if there were 11 houses that had/have an option of connecting to the Red Hill  
743 Plant but only nine connected.

744  
745 Mr. Tungate responded that there are nine homes and the school currently being served, and two  
746 residential units that could tie in, so there are essentially two unused connections. He noted that  
747 this treatment plant and distribution system was put in due to a contamination event.

748  
749 Dr. Palmer stated that was what she thought she remembered, as there were two rental properties  
750 that never connected.

751  
752 Mr. Snook asked if there were any issues in any of these facilities for things like metals, heavy  
753 metals, or other things that they sometimes hear reports about.

754  
755 Mr. Tungate responded that they are very fortunate in Rivanna that they have little to no industry  
756 in their watersheds and no wastewater treatment plant discharges upstream of the intakes. He  
757 stated they do regular monitoring for heavy metals and have little to no detections. He explained  
758 that they are at reduced monitoring for those constituents because after they were tested initially,  
759 the state and EPA stated it is not essential for them to look every year and can instead do that  
760 every two to three years.

761  
762 Mr. Tungate reported that RWSA has four wastewater treatment plants that the wastewater  
763 department operates. He stated there is the Moores Creek facility, a small package plant at the  
764 Stone Robinson School on Rt. 250, the Glenmore facility that serves that subdivision and  
765 Rivanna Ridge, and a wastewater treatment plant in Scottsville.

766  
767 Mr. Tungate presented a drone view of the Moores Creek facility and noted the grit removal  
768 system that was installed in the last five years. He stated the grit removal system takes inert  
769 solids out of the sewage flow and puts them in a dumpster to haul away for disposal. He stated  
770 everyone can remember what two flow equalization basins looked like when they had grit built  
771 up, and this facility now takes the grit out of the flows—with band screens that remove more of  
772 the finer grit material like ground plastics.

773  
774 Mr. Tungate stated that the image also shows the primary treatment covers and the odor control  
775 system for the primary clarifiers. He stated the five aeration basins can also be seen, along with a  
776 series of four secondary clarifiers that finish off some of the treatment process. He noted the  
777 location of the holding ponds, which were cleaned out earlier in the year and were able to get rid  
778 of a lot of grit and materials. He stated these are the holding ponds used to take care of high-flow  
779 events during wet weather.

780  
781 Mr. Tungate presented a slide with a view driving into the facility, noting the location of the

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

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

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

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

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

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

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

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Dr. Palmer thanked him for the great overview.

Mr. Gaffney asked if flushable wipes are not flushable.

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

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

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

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

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

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

There are none.


**11. CLOSED MEETING**

There was no reason for a closed meeting.

**12. ADJOURNMENT**

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

Respectfully submitted,

  
\_\_\_\_\_  
Mr. Chip Boyles  
Secretary - Treasurer