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4 **RWSA BOARD OF DIRECTORS**
5 **Minutes of Regular Meeting**
6 **August 28, 2018**
7
8

9 A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was
10 held on Tuesday, August 28, 2018 at 2:15 p.m. in the 2nd floor conference room, Administration
11 Building, 695 Moores Creek Lane, Charlottesville, Virginia.
12

13 **Board Members Present:** Gary O'Connell, Lauren Hildebrand, Mike Murphy, Mike Gaffney,
14 Jeff Richardson, Liz Palmer, and Kathy Galvin.
15

16 **Board Members Absent:** None.
17

18 **Staff Present:** Mark Brownlee, Phil McKalips, Katie McIlwee, Bill Mawyer, David Rhodes,
19 Lonnie Wood, Michelle Simpson, Jennifer Whitaker, Scott Schiller, Liz Coleman, Andrea Terry,
20 Dave Tungate, Tom Castillo, Victoria Fort, and Tom Freeman.
21

22 **Also Present:** Mr. Kurt Krueger, RWSA counsel, members of the public and media
23 representatives.
24

25 **1. CALL TO ORDER**
26

27 Mr. Gaffney called the regular meeting of the Board of Directors of the Rivanna Water and
28 Sewer Authority at 2:34 p.m.
29

30 *a. Welcome to new Board member, Mike Murphy, Interim City Manager*

31 Mr. Gaffney welcomed Mr. Mike Murphy as a new Board member.
32

33 *b. Nominations and Election of Board Vice-Chair*

34 **Ms. Galvin moved to elect Mr. Murphy to serve as Vice-Chair of the RWSA. Dr. Palmer**
35 **seconded the motion, which passed unanimously (7-0).**
36

37 **2. MINUTES OF PREVIOUS BOARD MEETINGS**

38 *a. Minutes of Regular Board Meeting on July 24, 2018*
39

40 There were no changes to the minutes presented.
41

42 **Dr. Palmer moved to approve the RWSA Board meeting minutes of July 24, 2018. Ms.**
43 **Galvin seconded the motion, which passed unanimously (7-0).**

44
45 **3. *RECOGNITION***

46 There were no recognitions presented.

47
48 **4. *EXECUTIVE DIRECTOR'S REPORT***

49
50 Mr. Mawyer reported that RWSA's laboratory was recently inspected by the Virginia
51 Department of General Services and the lab was recertified and qualified for sampling of
52 drinking water, and he recognized Lab Manager Dr. Bill Morris and his staff -- Patricia
53 DeFibaugh and Deborah Hoyt.

54
55 Mr. Mawyer reported that the RWSA had received a grant for \$32,800 for the Beaver Creek
56 Dam project from the Virginia Department of Conservation and Recreation, and he thanked
57 Senior Engineer Victoria Fort for preparing and submitting the application. He added that
58 Rivanna would pursue other federal funding for the project as each phase moved forward --
59 preliminary engineering, final engineering and construction.

60
61 Mr. Mawyer stated that Ms. Whitaker had given a presentation on the South Fork Rivanna dam
62 gate repairs, and if the Board concurred, he recommended that the repairs be scheduled in the
63 FY20 CIP so they could take place after July 1, 2019. He noted that it would be included in the
64 FY20 budget and if the Board wanted to move it or delay it, they could during budget
65 discussions.

66
67 Mr. Mawyer presented a slide of the Red Hill water system, which was located on Route 29 at
68 Red Hill. He explained that the local gas station had a leaking underground storage tank in the
69 early 2000s, which challenged the wells on Red Hill Road and at the elementary school there. He
70 stated that DEQ has a fund to address leaking tanks, and they funded installation of a public
71 water system. He explained that a well was developed, and he noted the location of the pump
72 house and pump station. Mr. Mawyer referenced a picture of the chemical building, noting that
73 the well was outside the building with the storage tank and emergency power generator.

74
75 He stated that the Albemarle County Service Authority currently operated the facility, although
76 the RWSA owned it. Mr. Mawyer stated that the system was located along Route 29 and down
77 Red Hill Road, serving nine houses and Red Hill Elementary. He stated that some of the
78 chemical treatment processes there needed to be added and updated, and staff felt it was
79 Rivanna's area of expertise so he and Mr. O'Connell had discussed having the RWSA be
80 operator of that system, with the ACSA continuing to have those customers.

81
82 Dr. Palmer asked if a person would have to be out there, and if so, how often.

83
84 Mr. Mawyer responded that it would need to be visited every day, but a staff person would not
85 need to stay there. He stated that there would be electronic monitoring of the chemical systems to
86 know whether the chemicals were going in as they should, and Mr. Tungate would have an

87 operator that would visit every day for a brief time. He noted that the Red Hill system would be
88 the fourth water system, with the Urban, Crozet, and Scottsville systems.

89
90 Dr. Palmer asked if DEQ still monitored this site and if the plume was getting any bigger.

91
92 Mr. O'Connell replied that there had been a number of tests on the well itself and there was no
93 contamination known. He stated that the plumes he had seen were 10-12 years old, and those
94 houses were originally given filters by DEQ, then a decision was made to have the community
95 well system.

96
97 Dr. Palmer noted that this was a long 20-year history of DEQ not necessarily communicating
98 well with the Health Department. She stated that she had asked about the plume because she
99 wondered about future additions, as that had been discussed at earlier points.

100
101 Mr. O'Connell responded that he was not aware of anyone else having issues, and the school was
102 part of the project when the well was designed and planned.

103
104 Mr. Mawyer stated that it would be Rivanna's intent to add fluoride to the system, as it currently
105 did not get fluoridated. He stated that they were discussing it with Schools and had not yet
106 communicate with the community, adding that all of the other systems had fluoride added.

107
108 Mr. Mawyer stated that Water Resources Manager, Andrea Terry, had presented to the ACSA
109 Board about the reservoir water quality program. He stated that he had spoken in North Garden
110 with the Cove Garden Ruritan Club about the water supply plan and solid waste facilities, and
111 there was a meeting scheduled with the Beaver Creek Sculling Club and Western Albemarle
112 Rowing Club. Mr. Mawyer added that he, Mr. O'Connell, Lauren Hildebrand, and Alison Faroli
113 of the Emergency Operations Center, along with ACSA, City, and RWSA Staff had a post-storm
114 debrief about the May 30th storm and things that went well, as well as needed areas of
115 improvement.

116
117 Mr. Mawyer reported that he and Ms. Hildebrand had met with Chris Engel regarding City of
118 Charlottesville's Economic Development Authority, and he would also meet with the Albemarle
119 County Economic Development Authority in September.

120
121 Mr. Mawyer stated that there had been a project to get communication lines to facilities in Sugar
122 Hollow, and that was a joint effort with the community, which also wanted to hook into
123 communication lines -- and that project had been substantially and successfully completed.

124
125 **5. ITEMS FROM THE PUBLIC**

126
127 Mr. Richard Collins addressed the Board, stating that he had lived in Charlottesville since 1971
128 and had followed the planning process for the urban water supply. He stated that he supported
129 the pooled single financial plan with the Virginia Resources Authority, with one exception: if
130 they removed the Birdwood section for the pump-back, it could be done easily and without great
131 expense. Mr. Collins stated that the question was that Mr. O'Connell had indicated that the
132 ACSA Board gave him direction on the issue of timing, and that was what he considered this to

133 be. He stated that it was shovel-ready, and he supported the financial plan but wanted the
134 Birdwood aspect removed. He stated that he also felt that it should not be renamed the “urban
135 finished water supply plan” without that funding -- and the word “finished” should be removed.
136 He stated that it would be advisable to have the bathymetric studies completed before they
137 committed to something so physically and financially significant. Mr. Collins welcomed Mr.
138 Murphy. He stated that it was important to have the City hold a convening meeting to be updated
139 on these aspects of the plan, so that Council would have a chance to specify more clearly what
140 the plan would do, the issue of timing, and how it would be bonded.

141

142 **6. RESPONSES TO PUBLIC COMMENTS**

143

144 Mr. Mawyer stated that Rivanna had a presentation on the Birdwood waterline to discuss the
145 timing and planning, as well as the funding, and Mr. Wood could include the project in the VRA
146 bond borrowing at the Board’s discretion.

147

148 Dr. Palmer asked him to comment on the word “finished.”

149

150 Mr. Mawyer explained that finished water was treated water, and treated water was provided to
151 customers versus raw water such as what the Ragged Mountain pipeline conveyed -- but it did all
152 tie together.

153

154 Dr. Palmer stated the concern seems to be related to “finished” meaning that the plan was
155 finished.

156

157 **7. CONSENT AGENDA**

158

159 *a. Staff Report on Finance*

160

161 *b. Staff Report on Ongoing Projects*

162

163 *c. Staff Report on Operations*

164

165 *d. Capital Improvement Plan Amendment – Rt. 29 N Water Pump Station Site Acquisition*
166 *Project*

167

168 *e. Capital Improvement Plan Amendment – Scottsville Water Treatment Plant Finished Water*
169 *Metering Improvements*

170

171 **Dr. Palmer moved to approve the Consent Agenda as presented. Ms. Galvin seconded the**
172 **motion, which passed unanimously (7-0).**

173

174 **8. OTHER BUSINESS**

175

176 **The Board entered into a joint meeting with the Rivanna Solid Waste Authority Board at**
177 **2:50 p.m.**

178

179 *a. Presentation of Quarterly Strategic Plan Update; Katie McIlwee, Executive Coordinator*
180 *and Communications Manager*

181 Ms. McIlwee reminded the Board that under the Strategic Plan there were six goal teams and the
182 only change was that Scott Schiller was now the goal champion for the Infrastructure and Master
183 Planning Goal Team.

184
185 She stated that when she presented to the Board in April, they had just developed how they
186 would move forward and implement the Strategic Plan. She stated that within the six goals, there
187 were a total of 21 strategies, which had been narrowed down to 12 priority strategies with the
188 help of Raftelis consulting -- and from those they developed 78 total tactics. Ms. McIlwee stated
189 that the tactics were how they would accomplish strategies, which in turn were how they would
190 achieve goals. She presented the top strategies that each goal team selected, and they were also in
191 the strategic plan update handouts provided to the Board.

192
193 Ms. McIlwee reported that Rivanna was 36% complete with its plan and she noted the completed
194 items versus the goal items. She stated that the Infrastructure Team was ahead of schedule, and
195 the other Goal Teams were slightly behind or right on schedule.

196
197 Ms. McIlwee reported that new pay scales were implemented on July 1 for Workforce
198 Development; the Operational Optimization group completed an Authority-wide survey; the
199 Communications team started to develop a records management policy and an employee portal is
200 underway to increase internal communication. She stated that Environmental Stewardship team
201 has created a standing employee environmental committee; Solid Waste Services has defined
202 existing services and practices and is continuing to develop a list of organizations and POCs to
203 partner with; and Infrastructure Master Planning has developed and advertised an asset
204 management RFP, as well as identified needs for additional master plans.

205
206 Ms. McIlwee stated that next steps for Workforce include finalizing the master staffing plan;
207 now that the new safety manager is in place, Operational Optimization, will begin to develop and
208 implement some of their findings; Communication and Collaboration needs to complete and
209 implement the records management plan and complete the employee portal; Environmental
210 Stewardship will continue to coordination with other goal teams; Solid Waste Services will
211 continue to work towards completing the master plan and communicate those services to the
212 public; and Infrastructure and Master Planning will begin to finalize the asset management plan,
213 put a committee together, and work with the consultant to kick off that project.

214
215 Mr. Gaffney commented that it was nice to see the progress here, as a strategic plan will often sit
216 on a shelf.

217
218 Ms. McIlwee responded that the teams continue to meet monthly, and as they get further into
219 their implementation, the updates will become more robust as measurable metrics begin to
220 develop; she stated that there were measures and metrics developed in the strategic plan
221 framework that will be related to tasks and accomplishments.

222
223 Dr. Palmer asked about the "green roadshows" mentioned in the item related to Environmental
224 Stewardship.

225
226 Ms. Terry explained that she and Ms. McIlwee already have a roadshow ready that they take to
227 events such as Imagine a Day Without Water, and the City's Fix-a-Leak 5K, which is mostly
228 conservation oriented. She stated that they would also like to upgrade their display to have more
229 information that would allow them to participate in other community events.

230
231

232 *b. Presentation of FY 2020 – 2025 Six-Year Staffing Plan; Lonnie Wood, Director of*
233 *Administration & Finance*

234
235 Mr. Wood stated that one of the strategies under the Strategic Plan's Workforce Development
236 goal was to put together a multi-year staffing plan, similar to a CIP that projects out several
237 years. He stated that a staffing plan was meant to be a living document just like the CIP – looked
238 at every year, reviewed, and revised. Mr. Wood stated that as they worked through projects in the
239 CIP, there would be changes in technology, changes in treatment, new facilities, regulatory
240 changes and demands, and customer expectations.

241
242 Mr. Wood stated that the Red Hill Water System would come online before the fiscal year began,
243 and a Water Operator was needed for part of that effort – a half FTE would be needed for a
244 Water Operator to visit that site seven days a week, varying depending on maintenance needs.
245 He stated that the rest of the time, the water operator would be floating to non-urban plants, as
246 they have only one operator per shift. Mr. Wood stated that sometimes there was a maintenance
247 item, operational item, or safety item related to both of those where it was good to have two
248 operators onsite to do a major maintenance task. He noted that it was currently being handled by
249 managers, assistant managers, and supervisors.

250
251 Mr. Wood stated that the Construction Inspector represented a change in how Rivanna was doing
252 its construction inspection program, and Ms. Whitaker had presented to the Board about a year
253 earlier on the cost savings of bringing this program in house. He stated that previously, they
254 completed through hired consultant engineers, which can be expensive. Mr. Wood noted that the
255 second Construction Inspector was planned for 2021.

256
257 Mr. Wood reported that for Solid Waste in 2020, the attendant at McIntire was a new full-time
258 position but would replace two part-time positions, so it was a net zero of FTEs and would be
259 more cost for benefits. He stated that it was a challenge to staff that center with part-time
260 employees, and consistency was an issue – so it would be better to have a full-time person at
261 McIntire. He noted that if the Ivy recycling plans worked out, that would require an additional
262 full-time attendant, and the Paper Sort has had volumes increase over the years primarily due to
263 cardboard coming in. He stated that if the site came on board, there might be more material
264 coming in that way. Mr. Wood stated that there were currently 0.25 FTEs at the site, so there was
265 a net gain of 0.75, and they were using an operator at Ivy to fill in the gaps.

266
267 Mr. Wood explained that they were trying to get the Lab Technician in for this year, and there is
268 a reservoir plan and sampling that has been underway for the last several years, which was new
269 to the lab department and had put an unprecedented demand on them for laboratory analysis. He
270 stated the rest of the positions were a combination of IT backlog needs, with the Enhanced

271 Nutrient Removal (ENR) system put in for wastewater treatment about 10 years ago, which
272 increased the needs at this plant by about 500 instruments with thousands of data entry points –
273 so it was time to maintain and replace those. Mr. Wood noted that every time they added
274 something like GAC, it increased networking and IT needs to the infrastructure, as well as
275 administration that had not been enhanced for 15-20 years.
276

277 He stated the volume of transactions and complications had increased over that time, and
278 Rivanna was also now handling all of its enrollment for four different healthcare systems,
279 previously managed by the City of Charlottesville. He noted that VRS also used to be simple and
280 was now a hybrid system, and short-term disability also had its own sick leave policy, all
281 requiring administrative attention.
282

283 Mr. Wood emphasized that this was just a plan and did not require action, but was just an
284 introduction for the next budget cycle.
285

286 Mr. Gaffney noted that some of these things would save money, such as the two construction
287 inspectors.
288

289 Mr. Wood confirmed this.
290

291 Mr. O’Connell asked why the Lab Technician positions were bumped out to 2021 since they
292 were a current need.
293

294 Mr. Mawyer stated that they had been struggling with water quality results and were concerned
295 that the myriad of ways they collected samples was contributing to that, but they have been able
296 to align that over the last six months and had not had many positive total coliform samples. He
297 stated they had also increased chlorine in some systems to help combat any irregular testing, and
298 Dr. Morris from the lab anticipated the number of samples collected to accommodate the
299 growing population, to show the health department that all areas were covered. Mr. Mawyer
300 stated that there was one more year before they needed that position.
301

302 Mr. Henry asked if they did the reservoir testing onsite.
303

304 Ms. Terry clarified that they did some lab analysis onsite but also sent out algae samples for
305 analysis.
306

307 Mr. Henry asked if there was a way to leverage to Rivanna resources for parks and recreation
308 testing, which was currently being sent out.
309

310 Mr. Mawyer responded that it might be possible to take on that testing.
311

312 Ms. Terry stated they did the sampling themselves and did a lot of the reservoir testing in house,
313 sending out two parameters (algae counts and cyanotoxins), but she had been discussing this
314 with the County and staff – but not in terms of what Mr. Henry had suggested.
315

316 Mr. Mawyer stated that staff would bring to the Board next month a construction contract
317 recommendation to upgrade the Crozet Water Treatment Plant, and next year they would have a
318 recommendation to start construction on a project for South Rivanna and Observatory all in one
319 contract. He noted that they reshuffled the previous year's plan to get the construction inspectors
320 in an adjusted time delivery capacity so they would be available when needed.

321
322 Mr. O'Connell asked if this was the big staffing change since the earlier plan.

323
324 Mr. Mawyer responded that it was, noting that they had reduced some of the water operators,
325 with the Board granting three operators over the last two years, and now one more was needed
326 with the next need expected in 2024. He stated that the alliance with the upgrades to the water
327 treatment plants might require another operator, with a greater capacity and more instruments to
328 manage.

329
330 **The RSWA Board adjourned its meeting and left the joint meeting at 3:07 p.m.**

331
332 *c. Presentation and Request for Capital Improvement Plan Amendment: Water Line Project on*
333 *the Birdwood Property*

334 Mr. Mawyer reported that this project tied in with the community water supply plan that was
335 completed in 2002-2012, and the plan stated that in order to provide a 50-year water supply for
336 the community, a waterline would need to be built from the South Rivanna Reservoir to the
337 Ragged Mountain Reservoir. He stated that this presentation would involve just the section that
338 crossed the edge of the Birdwood Golf Course property.

339
340 Mr. Mawyer explained that in the 2006 permit application submitted to the Army Corps of
341 Engineers and the DEQ, it was envisioned that this pipeline would be somewhere on University
342 Foundation property at the golf course. He stated that the original plan was for the pipeline to go
343 around the western edge of the course, but in recent years, staff had determined that a better
344 alignment would be the eastern edge of the course adjacent to the Bellair subdivision.

345
346 He stated that they renewed discussions with the University Foundation in August 2017, with
347 Rivanna staff meeting with the Foundation staff involved with planning the reconstruction of the
348 golf course, and there have been many meetings with UVA Foundation regarding how Rivanna
349 could coordinate with them and put a pipe in before remodeling and reconstructing the golf
350 course. Mr. Mawyer stated that the scope of the work was to put in just over a mile of 36-inch
351 ductile iron pipe, which would be raw water pipe, and this would connect the two reservoirs but
352 was only one out of nine total miles of pipeline required to connect the reservoirs. He noted that
353 the UVA Foundation plans to start in October 2018 and finish between May and October of
354 2019, with Rivanna trying to get on the same schedule with the pipeline.

355
356 Mr. Mawyer stated that Rivanna had received several emails in the last 24 hours indicating that
357 this was a new tact by staff to move the project forward, but the minutes of RWSA Board
358 meetings show that on December 19, 2017, they talked about the Birdwood section of the
359 pipeline. He stated that Dr. Palmer mentioned the pipeline from South Fork to Ragged Mountain
360 and its route across Birdwood, with UVA coming to the County and stating they had been doing

361 work on their master plan, and she had commented that she hoped Rivanna staff would work
362 well with the University.

363
364 Mr. Mawyer stated that in March 2018, Rivanna staff reported to the Board that they had met
365 with staff of the UVA Foundation to coordinate installation of this section of the pipeline and
366 were working on the design because at the time, the UVA schedule to rework the golf course was
367 July 2018 through April 2019. He stated that in April, he, Mr. Gaffney, and other staff had met
368 with Tim Rose, head of the UVA Foundation, to discuss issues of coordinating the easement and
369 logistics, which was reported in the April 24, 2018 RWSA minutes. He stated that also in in
370 April 2018, Rivanna requested and the Board approved Engineering Services to do final
371 construction design plans for this section of the waterline, with construction to start in July 2018.

372
373 Mr. O'Connell asked what date that was approved.

374
375 Mr. Mawyer responded that it was April 24, 2018 and included approval of the design contract
376 for final design. He stated that the June 26, 2018 minutes reflect that there was a report of RWSA
377 meeting with the Foundation and coordinating the installation of the pipeline with their projects.
378 He added that he had mentioned in July that there was no plan for the entire pipeline to be
379 shovel-ready, but he should have mentioned this particular section of the pipeline.

380
381 Mr. Mawyer stated that the project budget was \$7 million to complete the construction, easement
382 acquisition, and administrative costs to pursue the project. He stated that the reason they wanted
383 to do this now is because the UVA Foundation was reconstructing the golf course and it would
384 be a decision to put the Rivanna pipeline in ahead of their work. Mr. Mawyer stated that this
385 would reduce construction costs versus doing the project through a finished golf course. He
386 added that Dominion Power was also running a powerline in the same area Rivanna wanted to
387 run the pipe, so they would be teaming up for land disturbance activities in that area and
388 avoiding some costs and environmental impacts. Mr. Mawyer stated that if they did that project
389 in the future, Rivanna would probably have to ask Birdwood to close at least a section of the golf
390 course while they did their work.

391
392 Mr. Mawyer stated that it had been asked whether it would be bad for the pipe to be in the
393 ground for a while prior to using it, and the answer was no. He stated they had checked with the
394 Ductile Iron Pipe Research Association, and their representatives commented that it would not be
395 detrimental to the pipe and they have a protective polyethylene they can wrap it in, demonstrated
396 by other similar projects wherein pipes were not put in service for years.

397
398 Mr. Mawyer stated that the pipeline would help increase safe yield to the system and also
399 supported community values of redundancy and resiliency and environmental protection, with
400 environmental improvement of the South Rivanna Reservoir and Moormans River when the
401 project is finished. He noted that this section represented just over 10% of the pipeline, and
402 Rivanna was requesting the Board's consideration so they could coordinate with UVA
403 Foundation.

404
405 Ms. Michelle Simpson provided a map and noted the location of Canterbury Road and the
406 entrance to Bellair subdivision. She pointed out the RWSA's proposed alignment and stated it

407 would run along the edge of the golf course up the eastern boundary and up to the point they can
408 patch into it and cross Route 250 in the vicinity of the John Deere store. Ms. Simpson showed
409 the location of the future golf course plan and pointed out specific elements, noting the four
410 proposed holes for construction, which are in the boundaries of some of the tee boxes.

411
412 Ms. Simpson mentioned that Dominion Power's project involved an electric line behind all of
413 the homes in Canterbury and had overhead electric on poles along Birdwood's and on Route 250.
414 She stated that Dominion was planning to underground all of that while the golf course was
415 closed, along with Rivanna.

416
417 Ms. Simpson reported that there were multiple project challenges, the first being access to the
418 site. She noted that this was a very linear project, which typically involves access at each end and
419 the whole easement really being the access road. She stated that they were looking at having an
420 access off of Route 250 at one end of the project, with the other access being down at the end of
421 Canterbury, going into a wooded section that is a UVA Foundation parcel that Rivanna would
422 use for a staging area and entrance road from that end -- so construction traffic could enter at one
423 end or the other. She added that Dominion would be using the same access points, and they
424 would both be working in the linear path along the edge of the golf course, and Rivanna has
425 already begun coordinating with Dominion on sharing the easement area.

426
427 Ms. Simpson reported that there would be impacts to the adjacent neighborhood and pit blasting
428 would be required, so outside of the normal construction nuisances such as noise and additional
429 truck traffic and 6,000 feet of pipe to be installed, with hauling of soil and stone. She stated that a
430 lot of the homes can see right onto the golf course, and Rivanna was also clearing some trees so
431 that would open up views to construction to those neighbors for about a year.

432
433 Dr. Palmer pointed out that they would see that with the golf course.

434
435 Ms. Simpson agreed, stating that it was a challenge but worked well while Dominion and the
436 golf course and Rivanna were working together simultaneously -- which caused the additional
437 noise and traffic but got all the construction for all parties out of the way at one time instead of
438 Rivanna coming back later and prolonging the issues for another year. She emphasized that it
439 was definitely beneficial to coordinate and plan together, and the three parties could work
440 together on phasing, with project meetings and coordination in advance on the timing of
441 construction elements.

442
443 Ms. Simpson mentioned that there were a lot of creek crossings and wetlands in the area, and
444 there were a lot of water features on the golf course that would also be coordinated, with impacts
445 minimized as much as possible by avoiding wetlands and crossing under existing water pipes so
446 there weren't any impacts to streams. She noted that all of the tree clearing was expected to be in
447 the fall and winter, which worked well with the new Birdwood schedule, so they were not
448 interrupting the April to September Indiana bat roosting season.

449
450 Dr. Palmer commented that this was in her district and she wanted to find out a lot more about
451 the negative impacts, so she would be following up with staff on this.

452

453 Mr. O'Connell asked if it made sense to put an authorization on the table since Ms. Galvin had to
454 leave the meeting early.

455
456 Mr. Mawyer stated that Rivanna was waiting for the UVA Foundation to provide final approval
457 to start the project, which the Foundation indicated they would do by the end of the month. He
458 stated that he had spoken with the Foundation yesterday, and they had high confidence that they
459 would have the funding to do their project so Rivanna could do its project.

460
461 Mr. Richardson asked what the neighborhood backing up to the golf course knew at this point.

462
463 Mr. Mawyer asked staff if Rivanna had talked to Bellair.

464
465 Ms. Simpson stated that they were at the public meeting.

466
467 Dr. Palmer noted that they had a regular meeting every month with Bellair to go over all the
468 plans of projects, including the golf course, and she recognized how much coordination had been
469 going on.

470
471 **Dr. Palmer moved to approve the amendment to the FY19 CIP to add \$7 million to this**
472 **project and authorize installation of the waterline across the Birdwood Golf Course**
473 **property. Ms. Galvin seconded the motion.**

474
475 Ms. Galvin stated that the water supply plan had been in place since 2012, and staff had been
476 keeping the Board informed of the project since spring, so this was no surprise. She commented
477 that it was refreshing to see a coordinated project that was trying to minimize disruption to the
478 adjacent neighborhood as much as possible. She stated that it would be myopic not to realize that
479 issuing bonds now made more sense now than later, especially in light of interest rates, so from a
480 standpoint of good coordination, minimizing construction, and taking advantage of an open
481 ditch, this was the most logical approach. Ms. Galvin emphasized that this was in keeping with
482 the water supply plan, and they would be irresponsible if they didn't take advantage of this
483 opportunity.

484
485 Mr. Gaffney stated that if they did not do it now, they risked the chance of having to condemn
486 the Birdwood property -- and he wasn't even sure that was possible, but regardless there would
487 be a lot of ramifications.

488
489 Mr. Mawyer noted that Rivanna was working on an appraisal for the easement and should have it
490 next week, then would talk to the UVA Foundation about acquisition of the easement.

491
492 The Board thanked staff for their work on this project.

493
494 Mr. Murphy stated that he did not have enough information but he had received a lot of material
495 from Mr. Mawyer. He stated that he did not fully understand the history of their discussions
496 about whether they were closer to the 10-year end of this or the 40-year end of needing the pipe.
497 He added that he did have some concern about the June 4th City Council discussion, which
498 endorsed moving forward 8-10 years from now, and questions regarding how this section of

499 6,000 feet could be approved if the easements for the other sections had not been secured, as well
500 as how it would synch up properly on either side.

501
502 Ms. Galvin stated that her understanding of the spring vote was making sure they wouldn't be
503 going to the last phase, and on the advice of Rivanna, they would be going to the middle two
504 phases -- but this was not conducting or beginning the entire project. She stated that this was still
505 the overlapping of Schedule A and Schedule B, so it was taking advantage of an opportunity that
506 would ultimately save resources in the end. She added that she did not think it was out of line
507 with the overall intention of what Council voted for, and this was a situation in which they had a
508 segment they could do now to get them ahead, with B scheduled in earnest. Ms. Galvin
509 emphasized that she did not see these as mutually exclusive.

510
511 Mr. Mawyer stated that regarding connection to the ends of the pipe once they install this, the
512 Board does have the authority to condemn if necessary, but a lot of the property is not private
513 and when they come up Woodburn Road and Rio Road, that is public easement. He added that
514 going behind Albemarle High School, Jack Jouett, and Greer Elementary puts this on County
515 School Board property. He stated that Ingleside farm would be private, but then they cut across
516 and go in the public right of way through Colthurst Drive, then back on UVA Foundation
517 property with Birdwood. Mr. Mawyer emphasized that there were only a few private property
518 owners, and it was hoped that Rivanna could deal with them amenably -- but ultimately the
519 Board had the authority to condemn if necessary.

520
521 Mr. O'Connell noted that from the ACSA perspective, their Board had recommended Option B,
522 which was fairly close in terms of capital project timing. He stated they had to resolve that period
523 of 2027 or 2032, but they were pretty close together on that part of it.

524
525 Ms. Galvin responded that Council had approved B or C -- not C only -- and the project had
526 already essentially started. She stated that the coordination with UVA and Dominion only made
527 sense and would be imprudent for them not take advantage of that situation. She stated that it
528 wasn't completing the project ahead of schedule.

529
530 **The motion passed 5-0-1, with Mr. Murphy abstaining.**

- 531
532 *d. Presentation and Request for Capital Improvement Plan Amendment: Urban Water Supply*
533 *Program Update*
534 *i. Work Authorization: Urban Water Demand & Safe Yield Study: Hazen & Sawyer Engineers*
535 *ii. Work Authorization: Urban Water Infrastructure Master Plan; Baker Engineering*

536
537 Mr. Mawyer reported that when talking about the urban water supply, it included an area with all
538 of Charlottesville and some of the developed areas of the County such as Glenmore, Forest
539 Lakes, Ivy, and some of the southside. He stated that Ragged Mountain Reservoir supplied water
540 to the Observatory Treatment Plant and received its water from the Sugar Hollow Reservoir
541 through a pipeline all the way to Ragged Mountain. Mr. Mawyer stated that the South Rivanna
542 Treatment Plant served by the South Rivanna Reservoir, and collectively most of the water in the
543 urban system came from those two plants and those series of three reservoirs.

545 Mr. Mawyer stated that RWSA was currently doing task one, and he noted that safe yield was
546 the amount of water that could safely be removed from reservoirs during a drought of record
547 without draining the reservoirs. He stated that they would also discuss the bathymetric studies
548 and two engineering tasks to calculate future water demand or estimated and safe yield, as well
549 as the finished (treated) water master plan -- and they would discuss with DEQ the withdrawal
550 permit that renewed in 2023.

551
552 Mr. Mawyer explained that Rivanna looked at several alternatives related to the community
553 water supply plan, specifically the South Rivanna to Ragged Mountain Reservoir waterline. He
554 stated that they looked at four alternatives and can report from Hydrologic's work that currently
555 there was about 16.4 million gallons per day safe yield for the community, which used about 9.5
556 million gallons per day, or just under 60% using the safe yield available. Mr. Mawyer stated the
557 question was raised about how much the waterline from Rivanna to Ragged Mountain reservoirs
558 would add in terms of safe yield, and the estimate was about 3.1 million gallons per day. He
559 stated that similarly, if they were going to add 12 feet of water in Ragged Mountain Reservoir as
560 stipulated in the community water supply plan -- but without the pipeline to provide it -- that
561 would add about 2.6 MGD. Mr. Mawyer stated that both options would bring a net of about 5
562 MGD in additional safe yield.

563
564 Mr. O'Connell asked what safe yield meant to the community.

565
566 Mr. Mawyer responded that it means how much drinking water is available every day without
567 draining the water supply, even in a drought of record -- which was 18 months from mid-June
568 2001 until November of 2002. He stated that during that period, weather data is taken and
569 forecasted forward to assess safe yield relative to the water available in three reservoirs: the
570 South Rivanna Reservoir, which has about 900 million gallons; Ragged Mountain, which is 1.5
571 billion gallons; and Sugar Hollow, which has just under 400 million gallons. Mr. Mawyer stated
572 that they look at how that water can refill during a drought of record, and how long reservoirs
573 can withstand a demand of 8-10 MGD to supply the community. He stated that this was currently
574 16 MGD, even during the drought of record.

575
576 Dr. Palmer asked for confirmation that this took into consideration the interim period in the
577 permit that also took into consideration all the releases as specified by DEQ.

578
579 Mr. Mawyer confirmed this.

580
581 Dr. Palmer stated she also wanted to mention that Rivanna must think about its permit with each
582 stage they go through.

583
584 Mr. Mawyer agreed, stating that the DEQ protected the community but also protected the
585 environment and stipulated that the community could not have all the water and must release
586 some to the waterways. He stated that in calculating safe yield, it considered the minimum
587 instream releases that must be made.

588
589 Dr. Palmer stated that they must stipulate how much they would provide for the rivers as well as
590 the people, and that balance was a core issue in the development of the water supply plan.

591
592 Mr. Mawyer stated that Rivanna had started a bathymetric study of the South Rivanna and
593 Ragged Mountain reservoirs, as required by the Ragged Mountain Agreement to have an update
594 of South Rivanna beginning in 2020 and taking place every 10 years after to assess how much
595 safe yield was in the urban water supply system. He stated that Draper Aden was in the process
596 of measuring how much water was in the South Rivanna and Ragged Mountain reservoirs, and
597 Sugar Hollow had been surveyed in 2017 so there would be data available from all three of the
598 urban reservoirs.

599
600 Dr. Palmer stated that this was happening now so it would take into consideration the previous
601 summer with a lot of rain and flooding, so it was a question of timing, and she asked if it was
602 heavier in rains and storms that brought more sediment.

603
604 Mr. Mawyer responded that they would not necessarily know whether a heavy rain washed more
605 out or brought more into a reservoir, but the bathymetric study would help inform them. He
606 stated that the South Rivanna Reservoir was last surveyed in 2009 and provided the volume data
607 used today, but in 2006 when Gannett Fleming did the joint permit application, they indicated
608 that about 15 million gallons a year in storage could be lost from the South Rivanna Reservoir.
609 Mr. Mawyer stated that nine years later, the process would give a check on how much volume
610 remained and how much silt and sediment had washed in.

611
612 He stated that the bathymetric study was looking at the topography under the water, with volume
613 calculated and the stage storage curve that showed water volume and access. Mr. Mawyer stated
614 that when the Beaver Creek Reservoir was full, it had 499 million gallons, and in looking at all
615 the normal reservoirs and establishing water levels, they went into the curves and examined axis
616 points to determine the volume at that level. He emphasized that it was not a uniform shape on
617 the bottom of the reservoir, so the bathymetric study measured the topography and surveyed the
618 bottom of the reservoir, as well as enabled calculation of how much volume is available at each
619 increment as the reservoir water level goes down.

620
621 Mr. Mawyer explained that the survey used an aerial survey with a system called Lidar and a
622 sonar water survey done on boats. He stated that on Ragged Mountain, they would measure the
623 bathymetry if the 12 feet of additional water is added and how much volume they would have, so
624 they were looking at the land survey as well as underwater. Mr. Mawyer stated the data on
625 reservoir volume should be available by December, which was about half the equation, so they
626 needed to make sure they had enough water to meet the demand.

627
628 Ms. Whitaker stated that the third task contemplated water demand and safe yield, and with the
629 2012 Agreement on water supply, one of the things the community decided to do was to look at
630 demand on a routine interval and would go back and reassess demand patterns, growth,
631 development patterns, employment patterns, and water use patterns. She stated that Rivanna
632 would embark on a detailed water demand study, which was based off of the AECOM study
633 from 2011, a community-wide study to evaluate growth patterns and water demands, as well as
634 future projections. Ms. Whitaker commented that this was a fairly comprehensive process and
635 the plan was to continue that, but the intent was to also take it one step further.

636

637 Ms. Whitaker stated that the RWSA had recently completed and reported an update of Crozet
638 projections out to the Crozet community for the drinking water infrastructure master plan,
639 working with Albemarle County Community Development and businesses to analyze what was
640 happening in that area. She stated that they were looking at how water was used and what they
641 could expect to see over the 50-year planning horizon. Ms. Whitaker pointed out that water
642 usage over the last 10 years in this country had changed dramatically, and she wouldn't argue
643 whether it was good or bad but would say that it had changed. She noted that people who did this
644 type of work were looking at the changing patterns and observations about them, regardless of
645 the root causes, and they needed to project the true need going forward.

646
647 Ms. Whitaker reported that the other item underway was the safe yield analysis based on the new
648 bathymetry, and evaluation of a water system included looking at demands, safe yield, the
649 intersection of those elements, and assurance that there would not be a deficit. She stated that in
650 this case they were looking at the demand patterns going forward, and they would look at
651 bathymetry work and updated modeling work, then look at safe yield compared to demands to
652 help inform future projects. She added that this work was anticipated to be done by June 2019.

653
654 Ms. Whitaker stated that regarding task four, the finished water master plan was tied in because
655 it was part of the spectrum of water supply master planning discussed in their strategic
656 framework for the strategic plan, but it was not on the raw water or treatment side and was
657 geared toward what was needed for storage tanks and what was needed for transmission in the
658 system currently, and what was needed for fire flow -- as well as how to best move water
659 throughout the system given development in the area.

660
661 Ms. Whitaker stated that the master plan was originally planned for year 2023, however
662 questions recently about how water is moved between the two treatment plants made it clear the
663 plan should be completed now. She stated that the ACSA, RWSA, and the City of Charlottesville
664 all felt that it was important to do the master plan first and pause on some of the other projects,
665 then move forward with needed improvements to the distribution system. She stated that work
666 was anticipated to be done by November 2019, with the fees being approximately \$230K.

667
668 Ms. Whitaker reported that the last piece of the Plan included a meeting with VDEQ, with
669 ongoing discussions happening with them. She stated that last month she presented on Rivanna's
670 work on the dam -- the gates and downstream work. Ms. Whitaker stated that Hydrologics had
671 been doing analyses on the inflow calculations and how gauges were corrected, and they had
672 come back with the conclusion that there is a better way to do this, with slight tweaks as to how
673 to calculate inflows and get better information on what was coming into the reservoir. She stated
674 that the question and discussion with DEQ related to the appropriate time to revisit how to
675 calculate these inflows, with a permit renewal due in 2023 and that being the best time to go
676 through that process, present the information, and incorporate it into the new permit renewal.

677
678 Ms. Whitaker emphasized that RWSA staff agreed that there was a better way to estimate inflow
679 to the reservoir, and this used the Moormans and Mechums gauges in a slightly different way
680 than what was currently done to calculate inflow -- not a dramatic impact but enough to estimate
681 inflows. She stated that the last item related to the discharge meter for the minimum instream
682 flows and the correlation curve created to better use that meter going forward, as well as working

683 with the hydrology arm of DEQ to get the permanent stream gauge put in the South Fork
684 Rivanna River so they can calibrate the discharges coming from the reservoir and the system.

685
686 Mr. O'Connell commented that this was quite comprehensive.

687
688 Mr. Mawyer stated that they were looking at water supply in the reservoirs, water treatment by
689 upgrading the water treatment plants, and water distribution with the finished water master plan -
690 - with all three components needing to be in place for customers to be able to get the volume and
691 quality they expected out of their taps. He stated that staff were asking for approval of two tasks:
692 one with Hazen and Sawyer engineers to do the urban water demand and safe yield study in an
693 amount not to exceed \$140K; and the other with Baker Engineering for the finished water master
694 plan, not to exceed \$230K.

695
696 **Mr. O'Connell moved to approve authorization to contract with Hazen and Sawyer**
697 **engineers to do the urban water demand safe yield study in an amount not to exceed**
698 **\$140K, and with Baker Engineering for the finished water master plan, not to exceed**
699 **\$230K. Mr. Richardson seconded the motion, which passed 6-0. Ms. Galvin had left the**
700 **meeting and was not present for the vote.**

701
702 *e. Presentation and Request for Authorization: Series 2018 Bond Issuance; Lonnie Wood,*
703 *Director of Administration & Finance*

704 Mr. Wood reported that Rivanna had reached a point on several projects where they were having
705 to issue debt to finance these projects, and the approved CIP in May 2018 contemplated about
706 \$96.9 million in additional debt to fund the CIP. This Bond is funding about \$31 million of \$96
707 million in addition to the \$7 million for the new Birdwood pipeline project. He stated that what
708 the Board had before them was fairly standard, and the RWSA had gone this route with VRA
709 (Virginia Resources Authority) several times.

710
711 Mr. Wood stated there was a resolution authorizing the bond issue itself, authorizing staff and
712 the Board's secretary-treasurer to execute the documents at closing, scheduled sometime for
713 November. He stated that there was also a supplemental trust agreement that was basically
714 saying they were issuing bonds and would make them equal to all other bonds already
715 outstanding, so they did not have special standing and assigned Bank of New York as trustee.

716
717 He stated that the last document was the VRA finance document, which basically stated VRA
718 agreed to buy Rivanna's bonds and become a member of a larger bond pool, and Rivanna in turn
719 agreed to pay the debt service with certain terms and conditions. He stated all the documents had
720 been reviewed by Mr. Krueger, bond counsel, bond counsel for the VRA, and RWSA's financial
721 advisors.

722
723 Mr. Wood stated that the documents were before the Board today for approval, but would change
724 slightly as to form. He stated that the resolution itself had language indicating the amount should
725 not exceed \$41 million, and page 2 of the memo detailed what some of that was. Mr. Wood
726 stated that the net bond proceeds needed after closing totaled \$38 million, which would be
727 deposited into a construction fund -- then they draw funds out of it as they executed the projects.

728 He stated they also needed to build into the bond issue an allowance for a discount bond issue,
729 which meant they had to issue slightly more par value to get a net \$38.3 million.

730
731 Mr. Wood stated that they were currently in a premium situation that allowed issuance of a
732 smaller amount to get more money out of it, and with an election nearing, the bond market and
733 interest rates could fluctuate significantly. He noted that there was also an item for capitalized
734 interest, and accounting rules stated that interest during a construction period when a project was
735 funded had to be considered part of the project cost, just like engineering fees. Mr. Wood stated
736 that this was money to capitalize that portion of the interest payments, with the other part being
737 issuance costs for engineering certifications, attorney's fees, financial advisors, and underwriters.
738 He stated that the recommendation was to have a bond issue in an amount not to exceed \$41.85
739 million, with that number fluctuating but not exceeding that amount.

740
741 Mr. Gaffney asked what the interest rates were currently.

742
743 Mr. Wood responded that he had estimated 5% as a maximum, and that would total annual
744 payments of about \$2.75 million over 30 years.

745
746 Mr. O'Connell noted that VRA issued bigger bonds that were pooled with bigger projects.

747
748 Mr. Wood confirmed this and stated they could have 20 or 30 different localities involved in a
749 pool, with RWSA being a small part of that pool, and in comparing doing it alone, there was a
750 slight advantage in going for the VRA because of the backing from the Commonwealth.

751
752 Mr. Krueger commented that the VRA did this as a service to authorities, and there were a lot of
753 authorities in the state that participated in spring and fall bond pools, which saved underwriting
754 fees to localities.

755
756 Mr. Richardson asked if it was typical for the Authority to take on 30-year debt instead of 20-
757 year debt.

758
759 Mr. Wood responded that they have done a combination, with wastewater projects leveraging a
760 special lending program from the DEQ's Water Quality Improvement Fund, which typically
761 issued 20-year debt; and Rivanna had also done a 20-30 year bank-qualified loan recently. He
762 mentioned that the reason these projects were recommended for 30 years was because they were
763 anticipated to have a long asset life, and it was ideal to align them.

764
765 Dr. Palmer moved that the Board adopt the resolution authorizing the issuance and sale of the
766 Series 2018 revenue bonds in an amount not to exceed \$41.85 million; and to authorize the
767 Director of Finance and Administration and Executive Director to take other necessary steps to
768 fulfill the RWSA requirements of the attached Finance Agreement to properly close on or about
769 November 14, 2018, as set forth in the resolution presented in the RWSA Board packet; and to
770 authorize the Director of Finance and Administration to accept minor and non-substantial
771 changes to the attached drafts of the bond documents should they be necessary to prior to
772 closing, in consultation with the Authority's general counsel. Ms. Hildebrand seconded the
773 motion.

774
775 **Mr. Krueger took a roll call vote: Mr. Gaffney – aye; Ms. Galvin – absent; Ms.**
776 **Hildebrand – aye; Mr. Murphy -- aye; Mr. O’Connell -- aye; Dr. Palmer -- aye; and Mr.**
777 **Richardson -- aye.**

778
779
780 **9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

781
782 There were no other items presented.

783
784 **10. CLOSED MEETING**

785
786 There was no closed meeting held.

787
788 **11. ADJOURNMENT**

789
790 **Mr. Richardson moved to adjourn the meeting. Dr. Palmer seconded the motion, which**
791 **passed 6-0. Ms. Galvin had left the meeting and was not present for the vote.**

792
793 **The RWSA Board adjourned the meeting at 4:03 p.m.**

794
795 Respectfully submitted,

796
797
798
799
800
801



Mr. Jeff Richardson
Secretary-Treasurer