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4 **RWSA BOARD OF DIRECTORS**
5 **Minutes of Regular Meeting**
6 **February 28, 2017**
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9 A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held
10 on Tuesday, February 28, 2017 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:** Mr. Mike Gaffney – Chair, presiding, Ms. Kathy Galvin, Mr. Maurice
14 Jones, Mr. Gary O’Connell, Dr. Liz Palmer and Mr. Doug Walker.
15

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

18 **Staff Present:** Mr. Mark Brownlee, Mr. Tim Castillo, Ms. Victoria Fort, Dr. Richard Gullick,
19 Ms. Teri Kent, Mr. Doug March, Ms. April Marshall, Mr. Bill Mawyer, Mr. Philip McKalips, Mr.
20 Scott Schiller, Ms. Michelle Simpson, Ms. Jennifer Whitaker and Mr. Lonnie Wood.
21

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

25 **1.0 Call to Order**
26

27 The regular meeting of the RWSA Board of Directors was called to order by Mr. Gaffney on
28 Tuesday, February 28, 2017 at 2:43 p.m., and he noted that a quorum was present.
29

30 **2.0 Minutes of Previous Board Meeting**
31

32 *a) Minutes of the Regular Meeting of the Board on January 24, 2017*
33

34 Mr. Gaffney asked if there were any changes or comments to the minutes. There were none
35 provided.
36

37 **Mr. O’Connell moved to approve the minutes of December 20, 2016 as presented. Mr.**
38 **Walker seconded the motion, which passed 6-0.**
39

40 **3.0 Recognition**
41

42 a) *Board Chair Appointment – Mike Gaffney*

43

44 Mr. Mawyer noted that at the RSWA meeting, Mr. Gaffney had been reappointed to his eighth
45 term as chair of the Rivanna Authorities boards.

46

47 b) *Resolution of Appreciation for 27 years of service – Judith M. Mueller*

48

49 Mr. Gaffney read the following resolution into the record:

50

51 **Resolution of Appreciation for Judith M. Mueller**

52

53 WHEREAS, Ms. Mueller has served as a member of the Rivanna Water & Sewer
54 Authority Board of Directors since 1985 and Rivanna Solid Waste Authority since 1990; and

55

56 WHEREAS, over that same period in excess of 27 years Ms. Mueller has demonstrated
57 leadership in the water and sewer field; the solid waste and recycling field; and has been a valuable
58 resource to the Board of Directors and to the Authorities; and

59

60 WHEREAS, Ms. Mueller’s understanding of the water, sewer, and solid waste operations
61 of the City of Charlottesville as well as the Rivanna Water & Sewer Authority and Solid Waste
62 Authority has facilitated a decision-making process that considered not only the benefits to the
63 customers served by the City of Charlottesville but also to the community as a whole; and

64

65 WHEREAS, the Rivanna Water & Sewer Authority and Solid Waste Authority Board of
66 Directors are most grateful for the professional and personal contributions Ms. Mueller has
67 provided to both Authorities and to the community; and

68

69 WHEREAS, the Rivanna Water & Sewer Authority Board of Directors is additionally
70 grateful for Ms. Mueller’s strong support of the process, alternatives, and execution of the
71 community water supply plan which resulted in a successful community water supply for the next
72 50 years; and

73

74 NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water & Sewer Authority and
75 the Rivanna Solid Waste Authority Board of Directors recognizes, thanks, and commends Ms.
76 Mueller for her distinguished service, efforts, and achievements as a board member of both
77 Authorities, and presents this Resolution as a token of esteem, with their best wishes in her
78 retirement.

79

80 BE IT FURTHER RESOLVED that this Resolution be entered upon both the permanent
81 Minutes of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority.

82

83 **MOTION:** Ms. Galvin moved to adopt the resolution as read. Mr. O’Connell seconded the
84 motion, which passed 7-0.

85

86 c) *New Board Members – Doug Walker, Interim County Executive*

87

88 Mr. Mawyer introduced Mr. Doug Walker, who has served as an Assistant County Executive for
89 several years. He also stated that Lauren Hildebrand was expected to be appointed to the RWSA
90 Board in April as Ms. Mueller's replacement, but the Rivanna Water & Sewer Authority charter
91 needed to be revised to allow the City's Director of Public Utilities to be an appointee to the RWSA
92 Board. He noted that the City and County would be taking action on that, which should be finished
93 in April, and he welcomed her to the meeting.

94

95 **4.0 Election**

96 *a) Board Secretary-Treasurer*

97

98 **MOTION:** Dr. Palmer moved to nominate Doug Walker as Secretary-Treasurer for the RWSA
99 Board. Mr. Jones seconded the motion, which passed 7-0.

100

101 **5.0 Executive Director's Report**

102 Mr. Mawyer reported that the RWSA had been working hard on the odor reduction program at
103 Moores Creek, and he thanked Dr. Gullick and Tim Castillo for their efforts, noting that they had
104 a temporary chemical system in place, with ferric chloride injected into the wastewater flow on
105 February 6. He stated that preliminary results indicate that the sulfide levels are decreasing in the
106 wastewater, and he hoped that would translate into a much lower odor issue in the nearby
107 community. Mr. Mawyer said they are continuing to adjust the chemical level to try to get the
108 dosage just right. Mr. Mawyer noted that every day, Rivanna transfers biosolids from the
109 centrifuge building and hauls them to the east side where they are stored, then takes a tractor and
110 puts them in a transfer facility that takes them to Waverly. He stated that this process creates odors,
111 so there is more than one issue with odors – and while it could be the wastewater, it may not be.
112 He stated that for the long term, one of the new primary clarifiers now has a partial cover on it,
113 which is part of the long-range odor reduction program. Mr. Mawyer said the new vendor started
114 work on the Crozet system the previous day, and they are using bioxide, which should improve
115 odor issues in that area.

116

117 Mr. O'Connell asked how soon that would be in operation.

118

119 Mr. Mawyer responded that it was in operation now, but it may take a while before it starts having
120 an effect. They can remotely monitor the sulfide levels and make adjustments.

121

122 Mr. Mawyer reported that Rivanna continues to transfer water from Sugar Hollow to Ragged
123 Mountain, and as long as there is some rain, they expect to have the reservoir filled by May –
124 transferring about 4 millions of gallons per day. 1 million gallons per day of that is treated at the
125 Observatory Treatment Plant.

126

127 Mr. Mawyer stated that Mr. Castillo and Ms. Kent conducted a tour of the Glenmore Wastewater
128 Treatment Plant for 11th and 12th graders from the Tandem Friends School, as part of Rivanna's
129 community outreach.

130

131 Mr. Mawyer stated that regarding reporting of the annual maximum daily water production, staff
132 has added in the operations report the maximum day for the month of January and was doing some
133 quality assurance on the historical annual data, which they expected to have in March. He noted

134 that this would apply to any capacity increases considered in some of the projects, such as the CIP.
135 Mr. Mawyer stated that Rivanna staff and Lauren Hildebrand have a meeting with UVA staff on
136 Monday to discuss the lease for the Observatory Treatment Plant.

137
138 Mr. Mawyer mentioned that recently there had been a “do not drink, do not use” directive to 83,000
139 customers in the Chapel Hill, North Carolina area because the locality had put too much fluoride
140 in its system and simultaneously had a water break. He stated that the health department restricted
141 all drinking water use, so that system was shut down for 24 hours. Mr. Mawyer also mentioned
142 issues with the Lake Oroville Dam in California, where water was flowing over the regular dam
143 and ripping up the auxiliary spillway made of concrete, then overflowing the earthen dam and
144 started causing erosion. He noted that they evacuated over 188,000 people to make sure they didn’t
145 have a catastrophe, and stated that Lake Oroville is 1,000 times larger than the Ragged Mountain
146 Reservoir with a dam that is 70 feet tall. Mr. Mawyer stated that these things can happen to any
147 water utility, and Rivanna staff works diligently to make sure they are doing the right things in
148 terms of operations, maintenance, and management.

149
150 Mr. Mawyer thanked Mr. Krueger for cleaning up property acquisitions and getting condemnations
151 finalized, some of which have been in the courts for a number of years.

152
153 Mr. Gaffney commented that getting news updates from other places and how it translates to this
154 community is very helpful, noting that a lot of RWSA Board members got questions when Flint,
155 Michigan’s situation happened, as to whether it could happen here.

156
157 Mr. Gaffney also asked for clarification of the maximum day for the month.

158
159 Mr. Mawyer responded that it was 9.6 million gallons on January 20th in the urban area, and he
160 noted those statistics are provided in the staff report. He stated that they were researching the
161 annual maximums and would present a graph of the information in March 2017.

162

163 **6.0 Items from the Public**

164 Mr. John Martin of Free Union addressed the Board and stated that in the Sunday paper, the County
165 published an open letter to City and County residents regarding the Ragged Mountain Reservoir
166 and the proposal to add bike rails at the reservoir. He stated that he did not understand the purpose
167 of the letter and what the County wants citizens to do or respond to, although he does understand
168 that there is a dispute between the City and the County, which they are working out. Mr. Martin
169 said he wasn’t sure why it was written, but he wanted to set that aside and clarify what would be
170 important to him regarding the reservoir and bike trails there. He stated that it would be important
171 to him and other citizens to get more information about the environmental impact or lack of impact
172 that bike trails would have on the Ragged Mountain Reservoir. Mr. Martin noted that the
173 community has invested an enormous amount in the reservoir, and Rivanna is uniquely qualified
174 to provide some additional information about the impact on the reservoir. He stated that the City
175 has scheduled a tour of the reservoir for the coming week, with a map of the trails and opportunity
176 to see where the trails are proposed, and that may be a good opportunity for Rivanna to be present
177 and gather some more information. Mr. Martin pointed out that there are some tributaries that run
178 into the reservoir, and he questions whether the trails would cross the tributaries – which have
179 fairly low flow, but perhaps not all the time. He said that all the conversation has been based around

180 the present pool level of the reservoir, but it would go up 12 feet someday and he does not know
181 if that is an issue. He emphasized that Rivanna has done a wonderful job on the reservoir, and they
182 have all the skill and capability to go onsite and see if there would be some kind of impact on the
183 reservoir from these trails. Mr. Martin stated that in terms of the dispute between the City and the
184 County, it would need to be worked out, but having information about potential impact would help
185 resolve those issues.

186

187 There being no further speakers, the Chair closed the items from the public.

188

189 **7.0 Responses to Public Comments – No Responses This Month**

190 Dr. Palmer stated that she would like for Mr. Martin to come to a Board of Supervisors meeting
191 and ask that question, but the letter was intended for information so the public understood what
192 the County was doing and why. She again encouraged Mr. Martin to come to their March 1 meeting
193 and ask that question.

194

195 Ms. Galvin mentioned that during Mr. Frederick’s tenure, Rivanna stated that there would be no
196 impact to the reservoir by having bicycles – and at that time, dogs – on the trails. Ms. Galvin stated
197 that he and Rivanna staff indicated that there would be no consequences to water quality, and she
198 did not know what additional work needed to be done to confirm that. She added that it would be
199 helpful to know what needed to be done, in terms of a certified letter or verification, but it has been
200 iterated several times and was read into the Minutes. Ms. Galvin noted that there have also been
201 questions asked of Mr. Mawyer about this, and he has said there was no impact on the water quality
202 itself by having those types of uses.

203

204 Mr. Mawyer responded that Rivanna feels the recreation is not a concern for water quality, but has
205 never gathered any scientific data or objective data to reflect that – it has been more of a subjective
206 consideration. He said there are 1.5 billion gallons of water in the reservoir, and dogs and bike
207 traffic exist around all of the community’s reservoirs, and treatment plants remove any pollutants
208 – and Rivanna is comfortable with that. Mr. Mawyer stated that staff could talk with Mr. Martin
209 regarding his ideas and see if there are additional measures to be taken.

210

211 Ms. Galvin commented that specificity would be helpful, but she is not sure what level of analysis
212 would need to be done.

213

214 Dr. Palmer stated that the Board of Supervisors is interested in the legal question, in terms of who
215 has jurisdiction.

216

217 Ms. Galvin said that helps a lot, because it is not a matter of analysis that would be taking staff
218 time at the RWSA – and they need to be clear about what the issue is.

219

220 Mr. O’Connell asked if the County Board of Supervisors was taking this up at its March 1 meeting.

221

222 Dr. Palmer responded that the Board is not taking it up at that meeting, but they have asked very
223 clearly for a facilitated discussion with the City to deal with the legal issues, then would go from
224 there.

225

226 Mr. Krueger emphasized that for the public’s purpose, the legal issue is between the City and the
227 County because it is City-owned property in the County, subject to the County’s zoning
228 regulations. He stated that from the Rivanna Water and Sewer Authority’s perspective, it is only a
229 matter of what their rights and obligations are as the RWSA, under the lease to manage the facilities
230 – which is basically under the Four-Party Agreement. Mr. Krueger added that Rivanna does not
231 control recreation at the reservoir or make recreational decisions, so the legal issue is not within
232 the Authority; it is between the City and the County.

233
234 Mr. O’Connell stated that the fishing and boating that goes on does not seem to be an issue.

235
236 Mr. Walker clarified that in the County’s zoning ordinance, there are activities that are permitted
237 and activities that are not permitted because they are by exclusion – and activities allowed by
238 permit from Rivanna.*

239
240 Dr. Palmer said that the County would work on that clarification.

241
242 **8.0 Consent Agenda**

- 243
- 244 *a) Staff Report on Finance*
- 245
- 246 *b) Staff Report on Operations*
- 247
- 248 *c) Staff Report on Ongoing Projects*
- 249
- 250 *d) Contract Award – Real Estate Acquisition Services*
- 251
- 252 *e) Contract Award – Sanitary Sewer Evaluation Engineering Services*
- 253
- 254 *f) Work Authorization for Additional Construction Management Services – Route 29 Watermain*
255 *Betterment*
- 256
- 257 *g) Work Authorization for Additional Construction Management Services - Wholesale Metering*
258 *Project*
- 259
- 260 *h) Purchase Order Award – SRWTP Filter Press Rehabilitation*

261
262 **Dr. Palmer moved to approve the Consent Agenda as presented. Mr. Jones seconded the**
263 **motion, which passed by a 6-0 vote.**

264
265 Mr. O’Connell commented that he liked the new format of the Consent Agenda, and noted the
266 “time to fill the reservoir” information.

267
268 *Note: Signs posted at the reservoirs and the Rivanna.org website state that RWSA allows non-gas powered boats on
269 South Fork Rivanna, Ragged Mountain, Beaver Creek, and Totier Creek without a special permit.

270
271
272 **9.0 Other Business**

273
274 *a) Presentation by Rivanna Conservation Alliance*
275 Ms. Robbie Savage addressed the Board and stated that she is the Executive Director of the
276 Rivanna Conservation Alliance. She explained that the Rivanna Conservation Society was created
277 in 1990, and Stream Watch was created in 2002 – and those entities merged on January 1, 2016.
278 Ms. Savage said that they just finished their first year and she would report on their progress. She
279 introduced Ms. Susan Kessel, who was most recently with the Southwest Florida Water
280 Management District.

281
282 Ms. Savage presented the “Rivanna River Stewards’ Report,” comprised by the two stewards who
283 paddle the Rivanna, and she noted the boundaries of the Rivanna watershed and how it fits into
284 the larger Chesapeake Bay watershed. She mentioned that the watershed goes all the way to New
285 York and includes Pennsylvania, Delaware, West Virginia, and Virginia – so it’s a big drainage
286 area that goes into the bay, including Albemarle County, Charlottesville, Greene County and
287 Fluvanna County. Ms. Savage noted the location of sub-watersheds and stated that the RCA
288 monitors them through the Stream Watch program. She referenced a graphic illustrating the types
289 of uses that take place in the watershed. Ms. Savage stated that the RCA spends a lot of time
290 monitoring for benthic water quality, with 50 sites throughout the watershed and about 120
291 monitors certified at Level 3 – which is the highest level of monitoring obtained from DEQ. She
292 said that they are at Level 2 with bacteria, and most of those 15 sites in the urban ring, so there is
293 data available for the community as to whether water is safe to swim in. Ms. Savage also referenced
294 water quality data for Moores Creek.

295
296 Ms. Savage reported that human activities within the Rivanna watershed are increasing, placing
297 pressure on the environment, the natural habitat, water quality and water quantity. She noted that
298 all of the communities in the watershed are growing, and the RCA’s vision is a healthy, thriving
299 community that values its rivers and streams – a message that is heard regularly from the League
300 of Women Voters and other groups throughout the community. Ms. Savage stated that in addition
301 to their board of directors, the RCA has a science advisory committee to assist with monitoring
302 and ensure that data is accurate, with most members coming from the University of Virginia. She
303 presented a list of the RCA’s staff members, noting that she is the only full-time paid staff member,
304 with the remainder being part-time employees – but most of them have been with her for the last
305 seven or eight years. Ms. Savage stated that the organization performs advocacy and education,
306 with kiosks up and down the river, and new panels being installed that contain the history of each
307 location that describe where people are in the watershed. She mentioned that they also have a new
308 GIS program that enables them to do a lot more mapping and monitoring for bacteria and benthic
309 levels, and also have river guardians who are volunteers that walk the rivers and the watersheds
310 picking up trash, and caring for the place they live.

311
312 Ms. Savage reported that the RCA has a river access project, a collaborative effort with the City
313 and the County to upgrade the put-ins and pull-outs, with some of them being very dangerous for
314 people, and one would be done at Free Bridge at a site where people were falling in, as well as one
315 at Milton/Shadwell to improve that river access. She stated that the RCA has 100 acres in Fluvanna
316 with three miles of trails, and they are building an education center, which has been in the works
317 since she joined the organization. Ms. Savage reiterated that there are 50 benthic sites and 15
318 bacterial sites. She stated that Level 2 as indicated is for advisory purposes, and with benthic data,

319 RCA simply notifies the RWSA because it is at a level that equates government officials' reporting
320 of data. Ms. Savage stated that the RCA wants to elevate its Level 2 bacteria monitoring, and if
321 that happens, the organization will be the only nonprofit in the country having Level 3 for both
322 bacteria and benthic. She added that this seems like a great opportunity for the community, and
323 they will not have to send people to follow up and it will not be advisory – as the data can be used
324 for both benthic and bacteria. Ms. Savage stated that this process is not cheap, but waters can be
325 delisted and put on the 303D list, as well as taken off. She said that it is used by the feds for the
326 EPA's 305B reports – and if current trends continue, they will probably have less monitors and
327 will be depending a lot more on communities to do a lot of the work previously being done by
328 organizations like the USGS. Ms. Savage noted that they will have to get a qualified plan and
329 standards of operation, which would not be easy but would be very important.

330
331 Ms. Savage presented a map showing the benthic sites, which is a pretty good range of the sites
332 throughout, and some of these are not easy for monitors to get to – but they do it. She said that in
333 the 40+ years she has been doing this work, all monitoring is needed – benthic, chemical, and
334 biological – to get a sense of what is going on in the watershed. Ms. Savage reported that trained
335 volunteers go out and collect the data and go through a very rigorous process to be certified, with
336 an introductory session to be held the following week for new benthic monitors. She pointed out
337 that most of the activity and issues for bacteria are in the urban ring, although there are some sites
338 in Fluvanna: a beach at Pleasant Grove where monitoring is done, and a project at Cunningham
339 Creek where they did physical, chemical and biological monitoring for a TMDL. She stated that
340 they had 10-12 year old data, so before they launched into a full TMDL, they wanted up to date
341 data – so RCA monitors went out and did the work pro-bono, which concluded that a full TMDL
342 is probably not needed.

343
344 Ms. Savage stated that RCA starts monitoring within the next week and will do monthly
345 monitoring until the summer season starts, which means they will have to back it up – and then
346 weekly at urban sites such as Riverview Park, Darden Towe, etc. She said that RCA currently
347 operates a laboratory across from Ace's Barbecue, with equipment to be installed at a \$10,000
348 cost. Ms. Savage explained that their Level 2 monitoring system is fairly basic, with a sample
349 taken and reagents added, then placement in an incubator – counting of particles after 24 hours.
350 She stated that counts can sometimes be off, and their new CUL Alert system takes away a lot of
351 that guesswork. Ms. Savage said that she is very enthusiastic about the two river stewards, who
352 provide a lot of information about what is going on with the river, similar to the River Keepers
353 program, which this area is not quite big enough to be a part of.

354
355 Ms. Savage referenced a copy of the RCA's report, noting that it provides all the data needed to
356 make a good assessment of water quality. She said there are also volunteer river guardians, who
357 last year took about 300 tires out of the river between Darden Towe and Fluvanna, with a particular
358 location near an auto shop. She noted that care must be taken not to create more turbidity when
359 they are removed, but it was an important effort. Ms. Savage commented that all the RCA's
360 volunteers work really hard, with most being in the City and County but some being in Fluvanna
361 and a few in Greene. She mentioned the new steps at Riverview Park, where there is a sign in both
362 English and Spanish giving a number to call if there is a problem. Ms. Savage said that a child
363 drowned at Darden Towe Park two years ago, with part of the issue being that the family did not
364 speak English – and there was no information about who to call and what to say. She explained

365 that RCA worked with CARS and the Lake Monticello Water Rescue, who suggested including
366 911 and the number for water rescue.

367
368 Ms. Savage stated that the RCA is requesting an increase in funding from the RWSA from \$10,000
369 to \$15,000, which they consider to be a one-time increase for equipment.

370
371 Dr. Palmer commented that they all appreciate how professional the RCA is and what an incredible
372 job they do for the community, and she hoped the RWSA Board would discuss it as part of its
373 budget consideration.

374
375 Mr. Mawyer said that would take place in March.

376
377 Ms. Hildebrand asked if the RCA is also considering just monthly sampling of bacteria when going
378 to Level 3 monitoring.

379
380 Ms. Savage responded that they would be doing it monthly and during the spring and summer
381 season when people are out swimming – with up to five selected sites at swimming holes. She said
382 that DEQ has indicated that as soon as there is money to buy equipment, they will be out and will
383 train monitors and get them certified, likely within 30 days. Ms. Savage stated that there are a
384 number of scientists on RCA’s staff, and DEQ thinks they can get them trained by the time people
385 are swimming at Riverview, Darden Towe, and other locations.

386
387 Dr. Palmer commented that this is another example of how many well-educated people there are
388 in the community who offer their services as volunteers.

389
390 *b) Introduction of Proposed FY 2017-2021 Capital Improvement Program (CIP)*

391 Mr. Mawyer reported that the CIP totals \$135.9 million, a 1.9% increase from last year’s five-year
392 CIP, and Rivanna continues to try to be strategic in the way it develops projects, focusing on three
393 key programs: state and federal regulations, renewal of facilities, and increasing capacity of
394 facilities.

395
396 Ms. Whitaker reported that she would fill them in on last year’s work with the CIP, adding that
397 most Board members have seen the format previously, but there are a few new members. She
398 stated that she would review the proposed CIP budget, the new projects proposed within the
399 budget, some previously approved projects and a few that are currently underway. Ms. Whitaker
400 reported that the proposed CIP budget is a \$2.6 million or 1.9% increase over last year’s CIP, with
401 six new projects – one of which is relatively small – so she would focus on the five larger projects.
402 She stated that the first was the South Fork Water Treatment Plant, which Mr. Mawyer had been
403 updating to the Board, along with the Observatory Treatment Plant – and both have limiting
404 conditions in the facilities. Ms. Whitaker stated that in South Fork, the current alum storage facility
405 has three tanks storing about 9,000 gallons, which can last only three to five days during a storm
406 event. She said that the issue is that every week, they are juggling how to keep enough chemical
407 on hand to meet the next storm event, and the idea is to expand to about 20 days of capacity storage
408 – an increase of about 250%. Ms. Whitaker said they would also do some structural improvements
409 in this building to handle the additional chemical storage capacity. She stated that the RWSA is
410 also proposing an increase in filter capacity at South Fork, referencing a photo showing the current

411 four filters, with a current plant capacity of 12 MGD; two additional filters would take the filtering
412 capacity to 18 MGD, which would allow them to have filters come on and off line during peak
413 demand period. Ms. Whitaker said that this offers them additional capacity within this one part of
414 the process at the plant, but also offers redundancy during peak demands.

415
416 Ms. Whitaker referenced a photo showing the sludge pump station, which is a submarine hatch
417 type of facility that has a pump station and electrical system down in the “hole.” She said there
418 have been a few close calls in the past, which turns a small failure into a catastrophic one, which
419 can flood the facility and threaten the electrical gear – so the plan is to bring the electrical facilities
420 above grade to prevent future catastrophic failure. Ms. Whitaker referenced a photo of the raw
421 water pump station, noting that there have been constant speed pumps at the location, with four
422 pumps at this location – meaning the operators must be very specific about what they turn on and
423 off in order to match demand. She stated that the additional variable frequency drive would allow
424 pumps to ramp up and down, and currently only one pump has this drive, so this adds one to
425 another pump. Ms. Whitaker noted that this provides flexibility and allows for maintenance
426 because this pump station runs 24/7, 365 days a year. She said that the last improvement at South
427 Fork is for the office and storage space, as the operators, lab and staff currently all work within a
428 small area of functional space in the plant, so this would create more use-specific space.

429
430 Mr. O’Connell asked if those improvements increased capacity at all.

431
432 Ms. Whitaker responded that the capacity increases are related directly to the filters, so those would
433 have an increased capacity, but overall the plant would remain a 12 MGD plant – but over time as
434 different parts are modified, there would be increased capacity. She commented that it is an
435 incremental step, with the filters within the current CIP based on their recent discussions.

436
437 Ms. Whitaker stated that the next item is the Sugar Hollow Dam Rubber Crest Gate Replacement
438 Repair and Intake Tower Repair. She explained that at Sugar Hollow prior to 1998, there were
439 mechanical gates out on the dam – but the 1995 landslide presented some structural issues to the
440 dam and gates, as well as some flooding issues. She said that when the dam was upgraded in 1998,
441 it was replaced with a rubber bladder, which has a service life of about 20 years, so they are
442 basically in the planning process to replace it – with some concrete repair work to be done while
443 they are on the site.

444
445 Dr. Palmer asked for more information about the concrete repair work.

446
447 Ms. Whitaker explained that the concrete work is not structural, and there has been some water
448 seeping into the tower so they are wanting to make repairs to the intake tower and seal off the
449 water when needed. She said that this is done with a diver, with some of the work on the inside,
450 and some of it on the outside. Ms. Whitaker noted that there is an entire industry of divers – many
451 of whom are retired Navy SEAL divers – who specialize in bridges, dams, etc. and use equipment
452 underwater.

453
454 Dr. Palmer said that years ago, there was supposedly a crack in the dam, but it was of no
455 consequence that the crack was there.

456

457 Ms. Whitaker confirmed that this is a seam in the old concrete form that needs to be repaired so
458 there is no water seeping into the intake towers, and there is no structural concern on the dam at
459 all.

460
461 Mr. O’Connell asked if the bladders could get longer life than just 20 years, as that did not seem
462 very long.

463
464 Ms. Whitaker responded that you can, but with the rubber material, the service life of the rubber
465 depends on how much exposure it has to UV rays, how dry it is, and how hot the weather is. She
466 stated that Bridgestone is no longer in this business, but recommends that they are replaced every
467 20 years. She noted that there was a failure of one of these rubber dams in Tempe, Arizona – which
468 never had water running over it as intended, so it sat out in the desert with no cooling mechanism.
469 Ms. Whitaker stated that there is no concern for the local dam, and manufacturers are all
470 comfortable that their products last for 20 years, but do recommend replacement before issues
471 arise. She confirmed that this is kept inflated all of the time, and said it operates automatically
472 when there is a storm event – so when the water level comes up, it slightly deflates to try to hold
473 the water level steady, and it has only been down about five times in the 13 years she has been
474 here, mostly for maintenance reasons.

475
476 Ms. Galvin asked if it rotates so it stays wet on all sides.

477
478 Ms. Whitaker explained that it is shaped like a teardrop, so the water goes over it and rolls down
479 to the bottom side, which makes it a self-cooling type mechanism.

480
481 Dr. Palmer mentioned that there are months where no water is going over it, at least in the middle.

482
483 Ms. Whitaker responded that there are times of the year that is true, but the product is designed to
484 accommodate for that.

485
486 Ms. Whitaker stated that the next project for the CIP is the Crozet Water System Master Plan, and
487 explained that there is increased demand – particularly during peak summer days – in that area,
488 with peak days of 80% or more of treatment capacity. She stated that this project focuses on raw
489 water capacity, safe yield in reservoirs, and dam improvements that are required from a regulatory
490 standpoint, with others possible as needed. Ms. Whitaker said they are looking at raw water supply,
491 piping and pumping, treatment plant capacity, finished water storage, and conveyance. She stated
492 that this project looks at DEQ permitting, as well as public engagement and discussion regarding
493 needs and how to accomplish objectives.

494
495 Ms. Whitaker said that the Sugar Hollow Control Valve project is relatively small, and currently
496 staff has taken historical measurements and adjusted the valve with approximation of 4 MGD
497 being transferred – and this would allow for installation of an automated valve as well as a flow
498 meter in this location so they would know what volume of water was being transferred at all times,
499 and also be able to control it remotely. She stated that because the pipeline is so long and is aging,
500 there is a very specific process done to protect the infrastructure, and it takes hours to open the
501 valve. She said that this improvement would allow them to automate the process so that staff was
502 not required to do it manually.

503
504 Dr. Palmer commented that the pipeline was now about 90 years old.
505
506 Ms. Whitaker said that part of it was 97 years old, built in 1920, and some of it was actually 109
507 years old, and the CIP includes a description of which pipes are which ages.
508
509 Ms. Whitaker reported that the last CIP project is a raw water line interconnect, and just
510 downstream from the Ragged Mountain Dam coming into town, there are two parallel 18-inch
511 mains that are currently not interconnected except at the dam and at the water treatment plant. She
512 stated that because they occasionally have line breaks on the pipes, they would like the opportunity
513 at the midpoint to redirect water from one pipe to the other and one pump station to another, which
514 provides interoperability and reliability of raw water pump stations. Ms. Whitaker noted that this
515 is in the area of Fontaine Research Park.
516
517 Mr. O’Connell asked if they served any day-to-day purpose.
518
519 Ms. Whitaker responded that there are two raw water pump stations, including the Royal Pump
520 Station – which does not have a backup generator and is a fixed-speed pump, and Stadium Road
521 – which is a much more modern pump with a backup. She said that this improvement would allow
522 Rivanna to take water from either side of the system and run it through the more advantageous
523 pump station under most conditions, so it provides better flexibility regardless of variables in each
524 pipeline. She stated that typically pipelines fail in streams, so they have to go through the Army
525 Corps permitting process to rebuild and repair them in those areas – so there is some time involved
526 in ensuring that compliance.
527
528 Ms. Whitaker reported that a few projects have changed, including the Observatory Treatment
529 Plant, which Mr. Mawyer has discussed previously. She said that the plant was built in the 1950s
530 and much of the infrastructure is original, including the sand and filters. Ms. Whitaker stated that
531 they would be taking a somewhat antiquated facility with very high quality water coming into it
532 and bringing it up to modern standards. She referenced a graphic prepared by Dr. Gullick that
533 illustrates the issue the plant has, explaining that the South Fork plant provides water into the heart
534 of downtown, east to Pantops; the Observatory Plant provides water over the southern corridor.
535 She stated that hydraulically, Pantops and Avon are not well interconnected, so the system
536 struggles to get water from one side of the system to the other, as it basically “screams” through
537 the City pipes. Ms. Whitaker said that in the late 1980s, a connector pipe was established to connect
538 Pantops and Avon in the urban area, and the pipeline is about 24 inches in diameter and 15,000
539 linear feet. She stated that they have put the beginnings of the funding in the CIP, but it will take
540 longer than the five-year CIP timeframe, and the cost estimate is \$13 million – but it does complete
541 the system hydraulically and allows the system to serve the entire community from either water
542 treatment plant under all circumstances.
543
544 Dr. Palmer asked what she meant by “screams” through the City system.
545
546 Ms. Whitaker explained that if there is a higher demand in Avon, for example, and they want to
547 push water from South Fork to Avon, they basically fill Pantops’ tank until it “locks out,” and that
548 increases the pressure in that portion of the system and pushes the water through the pipe at higher

549 pressure. She said the inverse was also true, and if they need to produce more water at Observatory,
550 they bring the pressures up high, which forces a pressure gradient through the system. Ms.
551 Whitaker stated that the piping in the southeast quadrant of the City sees higher pressures and
552 velocities, and although the City has replaced the piping over the years, the increased pressure has
553 resulted in some line breaks – particularly at Free Bridge. She said that this project would allow
554 the system to maintain lower operational pressures and much more easily serve the system from
555 both water treatment plants. Ms. Whitaker said that the first phase would be a routing study and
556 easement acquisition, and about a third of the alignment is on the wastewater plant, going along
557 the highway.

558
559 Ms. Whitaker reported that they have talked about the Upper Schenks Branch project, and the CIP
560 includes phase two – which is about 1,200 linear feet and is about 20-25 feet deep. She stated that
561 there are two alignments being reviewed – one on County property, and one on McIntire Road –
562 and somewhere along those alignments would be a connection from the end of Schenks Branch to
563 the City’s 14th/15th Street collector. Ms. Whitaker noted that they are anticipated a significant
564 amount of rock in this alignment, which would need to be broken out.

565
566 Dr. Palmer asked if tunneling was being considered, or if it was much more expensive.

567
568 Ms. Whitaker responded that typically a tunnel boring machine is not used for anything less than
569 6-8 feet in diameter, so a 36-inch pipe, there isn’t really equipment made to work at that size. She
570 said there are several different ways to approach it, but the rock undulates between dirt and rock,
571 and open cutting is the most predictable way to access it.

572
573 Mr. Mawyer added that they could get to the pipe to repair it if there were a leak or a problem, but
574 that is more challenging if there is a tunnel.

575
576 Ms. Whitaker stated that historically where systems fail is when trees come down on an aerial
577 crossing of a pipe, so dropping piping deeper makes the system more resilient.

578
579 Mr. Mawyer said that this is a compromise for not having more sewer pump stations, and they
580 wouldn’t have to go as deep with more stations – but that’s an expense in itself.

581
582 Ms. Whitaker stated that they are very fortunate in that most of the system is gravity.

583
584 Ms. Whitaker reported that the last project in the CIP is the Crozet Wastewater Flow Equalization
585 Tank, which addresses peak shaving and wet weather flows coming from the Crozet area and is a
586 cost avoidance project. She said that at some point they would have to upgrade all four pump
587 stations and the piping coming into Crozet for the wastewater system, but this project allows delay
588 of that for decades and also includes odor control measures. She added that this will allow them to
589 peak shave during wet weather events and also allows them to take the rest of the infrastructure
590 offline for maintenance, which they currently can’t do very well.

591
592 Ms. Whitaker noted that four projects underway include the Route 29 pipeline installation, which
593 realizes \$2 million in saving by doing it while the road is being build. She said that this is about
594 10,500 linear feet of pipe, and they are about 80% completed and expect to be done by April. Ms.

595 Whitaker stated that the Rivanna Pump Station and tunnel are almost complete, with the pump
596 station itself functioning and almost ready to start up, with several months of and testing and an
597 expected summer completion. She noted that the project would take them up to 53 MGD peak
598 capacity on the eastern side of town.

599
600 Mr. O’Connell asked what the tunnel looks like now.

601
602 Ms. Whitaker explained that it really looks like the inside of a pipe, but it is a 60-inch pipe with
603 supports that it sits on. She said that it was installed so that every so many feet, there is a support
604 that goes 360 around the pipe and braces it against the wall of the tunnel, with the pipe loaded into
605 the tunnel and concrete grout placed around it.

606
607 Ms. Whitaker stated that the last project is the Odor Control Project, and explained that over the
608 last few weeks they have been putting covers onto the primary clarifiers – with the interior of those
609 clarifiers prepped. She referenced a photo of the new covered trailers that would have sludge
610 loaded directly in so it would not be hauled around the plant, creating odors. Ms. Whitaker stated
611 that the conveyors needed inside the solids handling building to use the trailers are currently under
612 construction and should be ready to go in the next few months. She noted that this ties into the
613 second centrifuge project and includes all other work at the plant, including the foul air lines and
614 odor scrubbing facility.

615
616 Mr. Mawyer mentioned that Rivanna had reviewed the CIP with Mr. O’Connell and Ms.
617 Hildebrand several weeks ago to give them an overview, so they saw it on behalf of the Board. He
618 explained that for March, staff would bring any comments into the plan, but otherwise would
619 request approval of the CIP from the Board, and would begin the operating budget process. Mr.
620 Mawyer stated that in April, they would advertise the rates for the year and would finalize the total
621 operating budget in May.

622
623 Ms. Galvin asked for explanation of the increase from the \$6.67 million existing to the \$9.01
624 million proposed for the Upper Schenks Branch Interceptor.

625
626 Ms. Whitaker responded that the project had been built by three or four VDOT projects, a City
627 road project, a Rivanna project, and the last stretch underway. She said there has been a capital
628 account that has been sitting for some time, so they are completing the lower portions that are
629 actually finished construction ready to be capitalized and keeping money in the upper section. Ms.
630 Whitaker said that adding those two together yields the higher number, and they also added some
631 funding to address the rock found in the last section. She agreed to provide the specifics of this to
632 the Board.

633
634 Mr. Mawyer mentioned that there is \$4 million in new funding in FY18 and FY19 for that project.

635
636 **10.0 Other Items from Board/Staff not on Agenda**

637
638
639 **11.0 Closed Meeting**

640

641 There was no closed meeting held.

642

643 **12.0 Adjournment**

644

645 **Mr. Jones moved to adjourn the RWSA Board meeting. Mr. O'Connell seconded the motion,**
646 **which was approved by a vote of 6-0.**

647

648 There being no further business, the meeting adjourned at 3:58 p.m.