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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
November 13, 2018

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, November 13, 2018 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mike Murphy, Mike Gaffney, Jeff Richardson, Liz Palmer, Kathy Galvin, Lauren Hildebrand, and Gary O’Connell.

Board Members Absent: None.

Staff Present: Phil McKalips, David Rhoades, Bill Mawyer, Katie McIlwee, Liz Coleman, Tim Castillo, Lonnie Wood, Michelle Simpson, Scott Schiller, Victoria Fort, and Austin Marrs.

Also Present: Kurt Krueger, RWSA counsel, members of the public and media representatives.

1. CALL TO ORDER

Mr. Gaffney called the regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:21 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on October 23, 2018

Mr. Mawyer noted that the date on the agenda should say “October 23, 2018.”

Ms. Galvin moved to approve the RWSA Board meeting minutes of October 23, 2018. Dr. Palmer seconded the motion, which passed 7-0.

3. RECOGNITION

There were no recognitions presented.

4. EXECUTIVE DIRECTOR’S REPORT

Mr. Mawyer reported that Rivanna had completed its draft of the Observatory Water Treatment Plant lease, which includes two leases and an easement to cover the treatment plant and the Alderman Road Pump Station shared with UVA, as well as all the raw and finished water piping

42 and storage tanks. He stated that they had surveyed plats completed and sent to UVA Facilities,
43 and Rivanna would meet with them on November 27 to receive their comments. Mr. Mawyer
44 noted that this was an effort where the old lease had the City's water and sewer rates included in
45 the lease, and everyone agreed that the two things should be separated. He clarified that it is a
46 99-year lease.

47
48 Mr. Krueger added that the advantage of this is taking a 1922 agreement that had been amended
49 almost 15 times that was impossible to piece together, and dropping it into three consolidated
50 documents.

51
52 Mr. Mawyer reported that Rivanna had executed easements for the Birdwood Water Line with
53 the UVA Foundation after working for the last month on some of the finer details, and a
54 construction contract had been awarded to E.C. Pace of Roanoke for \$2.59 million, and that
55 company was in the process of submitting its insurance and bonds. He stated that Rivanna would
56 then issue a notice to proceed to them, and they were expected to start around November 26. Mr.
57 Mawyer noted that RWSA staff would attend a Bellair Neighborhood Association meeting on
58 November 15, and they have notified the Army Corps of Engineers that they were starting the
59 construction project, as required by the permit.

60
61 Mr. Mawyer presented pictures that showed UVAF's work underway reconstructing the
62 Birdwood Golf Course, and Rivanna needed to keep up with that pace. He stated that the eastern
63 side of the property is where the waterline would go, and he noted the path of the one-mile water
64 pipeline, which would follow the tree lined edge.

65
66 Mr. Gaffney asked how the \$2.593 million differed from the original bids.

67
68 Mr. Mawyer responded that it was \$22,500 less than the original bid, and the same original low
69 bidder won the contract. He stated that the second low bidder – Garney of Chantilly, VA – was
70 also second in the rebid, with their price going up \$4,500 to \$2.6 million. He stated that the
71 winning bidder, E.C. Pace, was a family-owned business operating since 1926 and they seemed
72 to be excited about the project.

73
74 Mr. Mawyer reported that there had been several community outreach initiatives with water and
75 wastewater, showing groups around various plants, and Ms. Whitaker was helping the Town of
76 Scottsville with an emergency action plan. He stated that Mr. O'Connell and his staff, along with
77 RWSA staff, had met with Supervisor Ned Gallaway and ACSA Board member Kim Swanson to
78 review the Rivanna budgeting process and provided an overview of expenses, what they were
79 for, and how the budget was developed.

80
81 Dr. Palmer stated that she was eager to see what Scottsville ended up doing.

82
83 Ms. Whitaker stated that Scottsville had reached out to RWSA to start discussions about what
84 type of work they do.

85
86 **5. ITEMS FROM THE PUBLIC**

87 There were no items from the public.

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6. RESPONSES TO PUBLIC COMMENTS

There were no responses to public comments.

7. CONSENT AGENDA

- a. *Staff Report on Ongoing Projects*
- b. *Staff Report on Operations*
- c. *Approval of Additional Employee Holidays*
- d. *Approval of Board Meeting Schedule for Calendar 2019*
- e. *Approval of Engineering Services, and Update on Award of Construction Contract – SFRR To RMR 36-Inch Raw Water Main; Phase 1 Birdwood Golf Course*

Dr. Palmer moved to approve the Consent Agenda as presented. Ms. Galvin seconded the motion, which passed 7-0.

8. OTHER BUSINESS

Joint Session with RSWA Board

- a. *Presentation: Quarterly Strategic Plan Update; Katie McIlwee, Executive Coordinator and Communications Manager*

Ms. McIlwee reported that there were 6 goals, 12 strategies, and 78 tactics for the first year of the strategic plan. She stated that overall, they were where they were expected to be, with overall plan completion at 52%. Most of the groups were in the “green,” with one group in the “yellow” and two groups in the “red.”

She stated that the Workforce Development goal team was in the green and had completed 64% of their first-year tactics. The master staffing plan was presented to the Board in August and they have been working with PVCC to develop manager training. She stated that some of the next steps were to continue reviewing the staffing master plan and develop a budget for new positions in the plan, and to continue to conduct training needs assessments for the workforce and develop a Development Plan Program for the workforce – to include things such as employee training, operators licenses, and the needs of each individual employee.

Ms. McIlwee reported that the Operational Optimization goal team was tracking slightly behind where they should be – they are in the yellow, but they can catch up quickly. She stated that they were completing the sealing of digester three and the corrosion inhibitor study, which will then be reviewed and an implementation plan will be developed.

133 Mr. Mawyer stated that it was anticipated that the corrosion inhibitor study and
134 recommendations would be presented to the Board within the next 4-6 months.

135
136 Ms. McIlwee stated that the next steps for the Communication and Collaboration goal team was
137 to analyze the website statistics, using Google Analytics, to track hits on the website and see
138 where pages needed to be streamlined, enhanced, and/or deleted. Analyzing the statistic will
139 allow us to examine what information the public was seeking from the Rivanna website. She
140 stated they needed to complete the internal employee portal to enhance internal communications
141 with all employees. Ms. McIlwee noted that this goal team also collaborates with some of the
142 other goal teams to help them achieve their objectives.

143
144 Dr. Palmer asked whether people frequently went through another point to get to the website,
145 such as the City or County website.

146
147 Ms. McIlwee responded that typically it is a Google search for terms such as “Ivy MUC,”
148 allowing the user to bypass the main page and go straight to the page returned in their search.
149 She stated that some of the highest-hit pages with information relating to are Ivy MUC, HHW,
150 and McIntire Recycling Center. She stated that pages, such as the Community Projects page, see
151 very little traffic because they are buried or are not of general interest, whereas transfer station
152 hours were more public facing.

153
154 Dr. Palmer stated that people were not really using websites anymore – they just Googled and
155 used a link to go directly to the information – and she wondered if this was sufficient to
156 disseminate all the information needed.

157
158 Ms. McIlwee explained that Rivanna would try to make the information users were searching for
159 the most easier to find, and while there was a lot of good information on the website, it might
160 crowd the more important information – so they would try to bring forward the more important
161 items. She clarified that there were approximately 100 pages on the website, and the goal was to
162 avoid having people click multiple times just to find something simple, like a fee schedule or a
163 facility phone number.

164
165 Mr. Mawyer added that they also wanted to make sure there were pages that didn’t have to be
166 updated frequently if people were not looking at it – versus other time-sensitive information.

167
168 Mr. Henry asked about the schedule for the employee portal.

169
170 Ms. McIlwee responded that it was hoped to be done by the end of the calendar year, as it was
171 mostly complete, and she needed to coordinate with HR to make sure that frequently requested
172 items and forms were on the site.

173
174 Ms. McIlwee reported that the Environmental Stewardship goal team was in the red – they had
175 nine total tactics, with one being 100% complete and only two not started at all. She stated that
176 they had decided to include an environmental stewardship column in the bimonthly employee
177 newsletter, and that was part of the collaboration with the Communication and Collaboration
178 goal team. She noted that they were also continuing to attend external meetings with

179 environmental partners, and some of their next steps were continued coordination with the
180 Communications and Collaboration goal team, as well as identifying and planning activities to
181 engage employees in some of their green projects – which would involve development of a
182 budget.
183

184 Ms. McIlwee reported that the Solid Waste Services goal team was also red, but their main
185 barrier was the Ivy Master Plan – and once that was complete, the team could complete their
186 other items. She noted that the goal team had three tactics 100% complete and was continuing to
187 coordinate with UVA to develop the composting partnership at the Ivy MUC.
188

189 Ms. McIlwee reported that Infrastructure and Master Planning goal team was in the green and
190 was completing the Asset Master Plan Awareness Training and program development
191 workshops. She stated they were creating an inventory and analysis of all existing master plans
192 and critical assets, in addition to looking at and identifying other areas where there may be need
193 for a master plan.
194

195 Mr. Gaffney commented that he was impressed with the follow-through with the strategic plan,
196 as it wasn't one that just got shelved.
197

198 Ms. McIlwee responded that a lot of the goal teams meet regularly and keep their goals and
199 tactics in mind.
200

201 Dr. Palmer asked what “increase internal environmental engagement” meant, under the
202 Environmental Stewardship goal team.
203

204 Ms. McIlwee replied that this was Andrea Terry's goal team, and her understanding was that it
205 fed into the environmental stewardship tips in the employee newsletter and engaging the
206 workforce in some of the green initiatives and other things her team did – communicating that
207 with the rest of the workforce.
208

209 Mr. Mawyer stated that it also involved wastewater treatment and making sure it was
210 environmentally friendly, as well as managing the chemicals used, ensuring that staff understood
211 the importance of environmental stewardship.
212

213 Mr. Richardson commented that it was essentially leading by example to encourage practices
214 that were good for the environment.
215

216 Ms. Galvin stated that it seemed to be cultivating a sense of mission within the organization, and
217 at some point it would be internalized as such. She stated that in what she has read about
218 leadership, it encourages staff to become innovators.
219

220 Mr. Mawyer agreed, stating that it was becoming increasingly woven into their organizational
221 fabric, and staff was embracing it.
222

223 *The RSWA Board adjourned its meeting at 2:41 p.m.; the RWSA Board continued its meeting.*
224

225 *b. Presentation: Wet Weather Operations at Moores Creek AWWRF – David Tungate, Director of*
226 *Operations and Tim Castillo, Wastewater Manager*

227
228 Mr. Tungate reported that the RWSA had two pump stations that received the sewage at Moore's
229 Creek – the Rivanna Pump Station and the Moores Creek Pump Station. He stated that Rivanna
230 took about 65% of the flow, with Moores Creek taking about 35% of the flow. He stated that the
231 Crozet Interceptor went to Moores Creek, and Rivanna took the north half of the City and the
232 northern urban area. Mr. Tungate presented images showing the pump stations and noted their
233 locations. Additional slides showed the screens and dumpsters for solids cleaned off of the
234 screens. He brought a bag with material that came out of the chutes into the dumpster from
235 screens, noting that the dumpster was pulled about every two weeks.

236
237 Mr. Tungate explained that there was also a grit removal system new this year, which took the
238 solids – inorganic material such as sand and other grit, the size of coffee grounds – and filled the
239 dumpster at the bottom. He stated that the grit is separated from the water and is cleaned, then
240 ends up in the dumpster.

241
242 Mr. Castillo pointed out that with the previous process, the grit settled out in the EQ basins and
243 personnel would have to go in every few years and remove it manually – and it prevented
244 abrasive materials from wearing out pumps and other equipment.

245
246 Mr. Tungate stated that the waste material passed through the grit removal to the primary
247 treatments, which are shown on the side of the building, and there were covers as well as an odor
248 collection system. He noted that the odor collection system had a carbon filter, with air going
249 through the odor control with water coming down, then a final scrubber that has really helped
250 control the odors.

251
252 Ms. Galvin commented that the results had been amazing.

253
254 Staff clarified for Dr. Palmer that the cost had been \$10 million.

255
256 Mr. Tungate pointed out the four secondary clarifiers were uncovered as shown and could be
257 seen as you were driving out of the site, and the sand filters were by the Rivanna Pump Station
258 on the left before you get to the bridge. He explained that they disinfected the water with UV
259 disinfection before it went back into Moores Creek, and the effluent flume went into the creek
260 with water that had been through the system and was aerated. Mr. Tungate noted that the outfall
261 was visible to the left as you went over the bridge.

262
263 Mr. Mawyer commented that this was where the measured how much water was treated, and that
264 was how they billed out.

265
266 Mr. Tungate noted that in the process of the primary and secondary, they did accumulate sludge
267 – so there were centrifuges in the solids handling building, then the trailer got hauled to Waverly,
268 VA for composting.

269
270 Dr. Palmer asked if they were reselling it, as she was thinking about the controversial biosolids.

271
272 Mr. Mawyer responded that they composted our solids by mixing it with food products and sold
273 it at McGill Environmental Facility in Waverly, VA.
274
275 Mr. Castillo clarified that they created a “premium compost product,” which was printed on the
276 bags – and when staff visited there, the composting officials stated that the Washington Redskins
277 used that material as their field base.
278
279 Dr. Palmer asked if it was heat-treated first.
280
281 Mr. Castillo responded that it did get heated.
282
283 Mr. Tungate stated that in addition to the wastewater solids, McGill Environmental also
284 composts with the water treatment plant residuals from South Rivanna.
285
286 Mr. Castillo pointed out that the location of the screens and grit removal system, stating that all
287 the flow from Moores Creek and Rivanna pump stations came to a point and joined – going
288 through a screening process and also the flow equalization basins if they were online. He noted
289 that there had been four million gallons of raw waste there, referencing an older picture where
290 they were not covered, and into a biological treatment process – a modified Bardonpho process
291 designed for removal of nitrogen and phosphorus. He stated that it then went into secondary
292 clarifiers where the bugs dissolve the nutrients.
293
294 Mr. Castillo stated that they then slow the velocity down and the microorganisms settle out to the
295 bottom, leaving clear water that then can be discharged. He stated that they return the biological
296 population back to the aerobic process, where they then meet up with raw nutrients and continue
297 to be processed. He noted that the normal treatment level is 20 million gallons per day. He stated
298 that on July 31, there was a storm squall that deposited more than 4.75 inches of rainfall in a very
299 short period of time, and that then infiltrated into the sewer collection system and came into the
300 treatment facility. He referenced statistics on the rainfall events around the region, which ranged
301 from 4-5 inches.
302
303 Mr. Castillo stated that there was a lot of flow coming into pump stations, so they made sure the
304 screens were on manual at high speed to make sure they were screening and not blocking
305 anything up, and along the roadway there was pipe that went to holding ponds – so anything
306 above a 40 MGD flow rate was designed to go to the holding ponds. He noted that they operated
307 with a 20/30/40 rule for operators: at 20 MGD, it is the normal biological process; anything from
308 20-30 MGD could be treated with three clarifiers, which was known as step feed and bypassed
309 part of the biological process – and the wastewater was diluted and less concentrated in nutrients.
310 He noted that this was part of the plant’s design in 2010, rather than having multiple basins all
311 doing the Bardonpho process, which still met permit requirements but was less expensive. He
312 stated that it didn’t require as much time and also saved the biological population of nitroifiers
313 and phosphorus-consuming microorganisms.
314
315 Mr. Castillo stated that at 40 MGD, they had to put their fourth clarifier into service, and
316 anything over 40 MGD goes into the holding basins.

317
318 Mr. Gaffney asked if it was completely untreated water going into the holding ponds.
319
320 Mr. Castillo responded that the untreated wastewater was held for treatment at a later time, and
321 he confirmed that it was less concentrated. He stated that it may be clean rainwater infiltrating
322 into the sanitary sewer system, but once it's combined with wastewater it cannot be separated.
323
324 Mr. Mawyer added that the rainwater was not supposed to be in the sewer pipe at all.
325
326 Dr. Palmer asked Mr. Castillo to point out where the 30-40 MGD were expected to go.
327
328 Mr. Castillo pointed it out and stated that the additional secondary clarifier at a 40 MGD flow
329 rate took the biologically treated wastewater and mixed it with clean water. He stated that 20
330 MGD went to primary treatment, over that it went into the step-feed bypass portion.
331
332 Mr. O'Connell asked how much the holding ponds held.
333
334 Mr. Castillo responded that it was 17 MG of total storage.
335
336 Mr. O'Connell asked if there was a larger number that was a maximum.
337
338 Mr. Castillo replied that storms generally came in as short-term storms, so the levels drop back
339 down – but this particular event raised the level from 14.5 MGD to 80 MGD within just about
340 two hours. He stated that the operators needed to quickly respond to make sure the various
341 valves and tanks were open, and they also were monitoring the pump stations. He stated that
342 there were control issues with one pump because the flow was coming in so fast, and they ended
343 up having to put Rivanna Pump Station into manual with all pumps running. He noted that it was
344 registering 120 MGD over a four-hour period of time.
345
346 Mr. Castillo pointed out that the operators opened up the step feed and the discharge line from
347 the Rivanna Pump Station, and sent wastewater to the holding pond. He stated that as the Moores
348 Creek Station was close to coming up, they sent some of that flow as well and ended up putting
349 the flow equalization basins into service – which each store 4 MG. Mr. Castillo stated that
350 because they were filling up the equalization basins, they were saving room in the holding ponds,
351 and there was a tremendous amount of operational flexibility in the facility.
352
353 Mr. Castillo explained that when things started to stabilize, levels dropped from 60 MGD to 40
354 MGD, and at around 6 p.m., they started returning wastewater from the holding ponds back into
355 the treatment facility to treat it throughout the day because they knew there would be more rain
356 coming within 24 hours. He noted that the hydrograph worked exactly like this but stopped at 85
357 MGD. He stated the Rivanna Pump Station was being inundated so they decided to put the sixth
358 pump in and put everything back within the channels – preventing further backups upstream
359 within the collection system.
360
361 Dr. Palmer asked if they reached the capacity of this system with this storm event, without
362 backups into the rest of the system.

363
364 Mr. Castillo confirmed that they did, noting that they only had approximately 18 inches of
365 freeboard in the holding ponds at 6 p.m.
366
367 Ms. Galvin asked if they anticipated having to build a new holding pond.
368
369 Mr. Castillo responded that he didn't think so, as the facility was able to handle the event even
370 though it was a big storm. He recounted some historical storm events, noting that in August
371 2008, a 5-10 inch rainfall caused overflows at Meadowcreek, Shenk's Branch, and Moores Creek
372 – and the facility took in 24 MGD. Mr. Castillo stated that there was a 4.2-inch rainfall on July 7,
373 2008 and the sewer took in approximately 15 MG, with major overflow at Shenk's Branch. He
374 stated that on May 8, 2008, there was a 2.4-inch rainfall event and the facility took in 25 MGD,
375 with a major overflow at the Meadowcreek Interceptor.
376
377 Mr. Castillo reported that on May 18-19, 2018, there was a 6.1-inch rainfall event – with
378 approximately 40 MG of wastewater taken in to be treated, with no overflows. He stated that the
379 July 31 event, there was a 4.8-inch rainfall and the system treated 32 MG total, with no
380 overflows. He stated that as they start investing in the infrastructure, they are removing
381 bottlenecks so they are able to take in more wastewater – and he noted that one operator stated he
382 had never seen levels that high in his 26 years of service. Mr. Castillo stated that the former peak
383 at Rivanna Pump Station was a 25 MGD pump station, and they were now capping at 63 MGD.
384 He stated that his goal was not to have any sanitary sewer overflows.
385
386 Dr. Palmer stated that there didn't seem to be as much rain with the May 30-31 event as there
387 was in the western part of the County.
388
389 Mr. Castillo responded that they saw more flowing into the Moores Creek Pumping Station than
390 they did on the Rivanna side.
391
392 Mr. Gaffney commented that it would be good to get an update on what has been accomplished
393 on inflow and infiltration (I&I) in the City and what they have moving forward.
394
395 Mr. Mawyer responded that staff was working on that data, but anecdotally there had not been
396 any overflows since making the infrastructure improvements.
397
398 Dr. Palmer stated that years ago they did the sewer master plan and figured out how much I&I to
399 get out of the system, and she wondered how often that process needed to be repeated.
400
401 Ms. Hildebrand stated they were continually monitoring that.
402
403 Mr. Castillo added that the operators were always evaluating that, and it was less expensive to
404 invest in the collection infrastructure than the treatment facilities.
405
406 Ms. Whitaker stated that the improvements started because they were having overflows and
407 infrastructure issues, so the 2004-2006 study generated the first major regional agreement –
408 which also encouraged a process that included master plan updating every 10 years, with the off-

409 cycle 5 years including an evaluation of the flow meters. She stated that they received monthly
410 flow meter data and were evaluating the systems through the annual CIP process.

411
412 Mr. Murphy stated that if he was interpreting the data correctly, they could normally process
413 about 6-6.5 times what they typically did in a whole day, and he wondered how long they could
414 do that for and whether it would break if they exceeded a certain amount of rainfall.

415
416 Mr. Castillo responded that there was 18 inches of freeboard left at 6 a.m. during the major storm
417 event, which covered about 12 hours of flow at that extremely high rate – and the equalization
418 basins had about a foot of freeboard as well. He stated that they would then have to go to the
419 front gate of the Rivanna Pump Station and start manual back up to protect the system.

420
421 Mr. Krueger stated there was about a two-hour window in which they exceeded the 120 MGD
422 level, so that averaged to about 10 MG coming in the plant during that two-hour period. He
423 asked what the outflow was when they were treating water, in terms of discharge of treated water
424 to Moores Creek.

425
426 Mr. Castillo replied that the maximum rate was 120 MGD.

427
428 Mr. Krueger noted that you would divide that by 24 to get an hourly rate.

429
430 Ms. Whitaker commented that when they did the plant upgrades for wet weather capacity, the
431 idea was for an 85 MGD peak flow rate as what the plant could ideally handle and survive.

432
433 Mr. Mawyer stated that when they have normal flow and no rain, they run it through the whole
434 plant and treat it – and when they have high rain that gets in the sewer system and doubles or
435 triples flow, they have to divert it to the holding ponds. He stated that when the rain subsides,
436 they then bring it back to the head of the plant and run it through.

437
438 Mr. Castillo stated that the subsiding happens much faster now that the I&I work on the various
439 basins has been done.

440
441 Mr. Mawyer stated that some of the same theory applied in Crozet would mean a flow
442 equalization tank would take it out of the pipes stored in the tank, then when the flow subsides it
443 is released out of the tank back into the pipe.

444
445 Mr. Castillo stated that in 2016, there was 37-inches of rainfall over a 12-month period at
446 Moores Creek; in 2017, there were 44 inches; and so far in 2018, there have been 69.74 inches of
447 rainfall. He also stated that the Board had commended the operators for dealing with the flow
448 event, and he wanted to note that the operators were out in the storm manually opening and
449 closing valves to ensure everything was operating as it should.

450
451 Mr. Krueger commented that the highest rainfall in the parts of the system with the worst I&I
452 would be the worst-case scenario.

453
454 **9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**

455 There were none presented.

456

457 **10. CLOSED MEETING**

458 There was no closed meeting held.

459

460 **11. ADJOURNMENT**

461
462 **Dr. Palmer moved to adjourn the meeting. Ms. Galvin seconded the motion, which passed**
463 **7-0. The RWSA Board adjourned the meeting at 3:18 p.m.**

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465

466 Respectfully submitted,

467

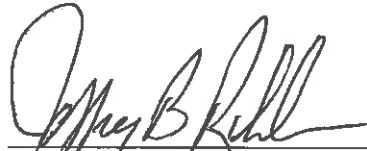
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Mr. Jeff Richardson
Secretary-Treasurer