RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
June 26, 2018

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, June 26, 2018 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mr. Mike Gaffney, Chair; Ms. Kathy Galvin; Ms. Lauren Hildebrand; Mr. Maurice Jones; Dr. Liz Palmer; and Mr. Jeff Richardson.

Board Members Absent: Mr. Gary O'Connell.

Staff Present: Mr. Mark Brownlee, Mr. Matt Bussell, Mr. Tim Castillo, Ms. Victoria Fort, Mr. Tom Freeman, Mr. Kenny Lawhorne, Mr. Austin Marrs, Mr. Bill Mawyer, Ms. Katie McIlwee, Mr. Philip McKalips, Mr. Bill Morris, Ms. Teresa Napier, Ms. Betsy Nemeth, Mr. Scott Schiller, Ms. Michelle Simpson, Ms. Andrea Terry, Mr. David Tungate, Ms. Jennifer Whitaker, and Mr. Lonnie Wood.

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

1. CALL TO ORDER

Mr. Gaffney called the regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:32 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS
   a. Minutes of Regular Board Meeting on May 22, 2018

Mr. Mawyer mentioned that staff would like to amend certain parts of page 7 of the minutes, and he provided clarifications as to the changes.

Ms. Galvin moved to approve the minutes of May 22, 2018 with the amendments proposed by Mr. Mawyer. Mr. Richardson seconded the motion, which passed 5-0-1. Dr. Palmer abstained from the vote as she had been absent from that meeting. Mr. O'Connell was absent from the meeting and the vote.
3. RECOGNITION
   a. Resolution of Appreciation for Carol Sue Wiles

Mr. Gaffney read the following recognition into the record for Carol Sue Wiles:

   WHEREAS, Ms. Wiles has served as an Administrative Assistant for the
   Rivanna Water and Sewer Authority since July of 1997; and

   WHEREAS, over the same period of 21 years, Ms. Wiles has demonstrated
   leadership in her field and has been a valuable resource to the Authority and its
   employees; and

   WHEREAS, Ms. Wiles’ understanding of the Authority’s operation and
   dedication and loyalty to the Authority has positively impacted the Authority, its
   customers and its employees; and

   WHEREAS, the Rivanna Water and Sewer Authority Board of Directors is most
   grateful for the professional and personal contributions Ms. Wiles has provided to the
   Rivanna Water and Sewer Authority and to its customers and its employees; and

   NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer
   Authority Board of Directors recognizes, thanks and commends Ms. Wiles for her
   distinguished service, efforts and achievements as a member of the Rivanna Water and
   Sewer Authority, and presents this Resolution as a token of esteem, with its best wishes
   in her retirement.

   BE IT FURTHER RESOLVED that this Resolution be entered upon the
   permanent Minutes of the Rivanna Water and Sewer Authority.

Dr. Palmer moved to adopt the resolutions of recognition as presented. Ms. Hildebrand
seconded the motion, which passed unanimously (6-0).

Mr. Mawyer announced that Teresa Napier had been hired to replace Ms. Wiles and had started
on June 25.

   b. Resolution of Appreciation for Frederick A. Lanzon

Mr. Gaffney read the following recognition into the record for Frederick A. Lanzon:

   WHEREAS, Mr. Lanzon has served as a Wastewater Operator for the Rivanna
   Water and Sewer Authority since July of 1997; and

   WHEREAS, over the same period of 21 years, Mr. Lanzon has demonstrated
   leadership in his field and has been a valuable resource to the Authority and its
   employees; and
WHEREAS, Mr. Lanzon’s understanding of the Authority’s operation and
dedication and loyalty to the Authority has positively impacted the Authority, its
customers and its employees; and

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors is most
grateful for the professional and personal contributions Mr. Lanzon has provided to the
Rivanna Water and Sewer Authority and to its customers and its employees; and

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer
Authority Board of Directors recognizes, thanks and commends Mr. Lanzon for his
distinguished service, efforts and achievements as a member of the Rivanna Water and
Sewer Authority, and presents this Resolution as a token of esteem, with its best wishes
in his retirement.

BE IT FURTHER RESOLVED that this Resolution be entered upon the
permanent Minutes of the Rivanna Water and Sewer Authority.

Dr. Palmer moved to adopt the resolutions of recognition as presented. Mr. Jones seconded
the motion, which passed unanimously (6-0).

c. Resolution of Appreciation for Richard Graham Bond

WHEREAS, Mr. Bond has served as a Water Operator for the Rivanna Water
and Sewer Authority since August of 1978; and

WHEREAS, over the same period of almost 40 years, Mr. Bond has
demonstrated leadership in his field and has been a valuable resource to the Authority and
its employees; and

WHEREAS, Mr. Bond’s understanding of the Authority’s operation and
dedication and loyalty to the Authority has positively impacted the Authority, its
customers and its employees; and

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors is most
grateful for the professional and personal contributions Mr. Bond has provided to the
Rivanna Water and Sewer Authority and to its customers and its employees; and

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer
Authority Board of Directors recognizes, thanks and commends Mr. Bond for his
distinguished service, efforts and achievements as a member of the Rivanna Water and
Sewer Authority, and presents this Resolution as a token of esteem, with its best wishes
in his retirement.

BE IT FURTHER RESOLVED that this Resolution be entered upon the
permanent Minutes of the Rivanna Water and Sewer Authority.
Dr. Palmer moved to adopt the resolutions of recognition as presented. Mr. Richardson seconded the motion, which passed unanimously (6-0).

Mr. Mawyer commented that the three retiring employees represent a total of 82 years of service to the authorities, and replacements for all three had been hired.

4. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer reported that Kenneth Lawhorne had recently completed 8,000 hours of apprenticeship work and had obtained his journeyman certification as a maintenance mechanic.

Mr. Mawyer noted that Board members had suggested that Rivanna put together a video of facilities, and staff was in discussions with Shurtleff Photography about creating some narrative short films on the Observatory, South Rivanna, and Crozet water treatment plants. He stated that they may also add a drone video of the Rivanna to Ragged Mountain water pipeline alignment as proposed. Mr. Mawyer noted that the videos would be 3-5 minutes each and would provide some history and commentary of the projects.

Mr. Mawyer reported that the granular-activated carbon (GAC) update is included in the operations report but is provided again, and the graph demonstrated that GAC was helping water quality. He noted the disinfection byproducts that were removed from drinking water, noting that in comparing May 2017 to May 2018 results from Scottsville, 70% more of byproducts were removed from the water; Crozet was in the 40% range; North Rivanna was over 70% for haloacetic acids and 40% on trihalomethanes; and Observatory was not in the graph because the GAC material had not been put in the contactors due to access issues with the road. Mr. Mawyer emphasized that this data was a testimonial to the fact that GAC filters reduced the disinfection by-product precursors, which in turn reduced the disinfection byproducts and improved the water quality.

Ms. Galvin thanked staff for monitoring the impact of GAC in the water system.

Mr. Mawyer responded that staff would provide updates as more data became available.

Mr. Mawyer presented that he had provided an overview to City Council on the Rivanna-Ragged Mountain waterline project on June 4, including benefits and challenges, and also presented four option timelines as presented to the RWSA Board in January. He stated that City Council voted to approve options B and C as the preferred options. Mr. Mawyer noted that Rivanna staff had met with County administration staff and Board of Supervisors members Diantha McKeel and Ned Gallaway regarding the pipeline alignment and had met with Albemarle County Schools facility staff about it, as well as held a community information meeting on June 19 to provide an overview of the project and proposed water line alignment.

Mr. Mawyer referenced a map as presented to the RWSA Board that showed multiple route options, but Rivanna had since eliminated some of the candidates and was focusing on a route up Woodburn Road, Rio, and Hydraulic -- then down Lambs Road behind Albemarle High School behind the school's bus facility and behind Greer Elementary, across VDOT property behind
Ingerider Farm. He explained that it then crossed Barracks Road at Colthurst Farm, going down Colthurst Drive to Birdwood across Route 250 en route to Reservoir Road. He stated that they have a second alternative that traverses the front of the school property, but that was much less preferred.

Ms. Galvin asked for a summary of comments from the School Board and Supervisors, as Albemarle County residents had come to City Council meetings and expressed concern about the impact of the pipeline pathway to County schools.

Mr. Mawyer responded that the construction would take place from 2030-2040 and thus was in the somewhat distant future, but going down Lambs Road would put the route over 100 feet from the high school and 700 feet away from Greer Elementary. He noted that their intent would be to do the work in the summer to avoid conflict with school operations, emphasizing that staff felt the preferred route encountered less conflict. He noted that the school facilities personnel were in favor of this route, but the School Board had not yet approved it. Mr. Mawyer noted that they had discussed creating a trail as part of the project through the easement, making it an amenity to the schools for the track team, etc. He stated that going around Georgetown Green would impact the viewshed there and was a tight fit, so the Lambs Road route was viewed as less conflicting.

Dr. Palmer stated that in 2005 or 2006, there was a series of community meetings held at Albemarle High School regarding the pipeline route, with a lot of comments provided at that time that paralleled the current input. He asked Ms. Whitaker for clarification of that timeframe.

Ms. Whitaker confirmed that the timeframe Dr. Palmer had recalled was correct.

Mr. Mawyer reported that Rivanna had also been meeting with the University of Virginia Foundation about the alignment through Birdwood and trying to coordinate efforts, but at this point the Foundation had not yet received a commitment to move forward with the area of the golf course where the pipeline would go.

Mr. Mawyer stated that Rivanna had been working with its hydrologics consultant regarding safe yield but had not yet completed the study. He noted that preliminarily it was estimated that the waterline would increase the urban safe yield by approximately 3.1 million gallons per day, raising the Ragged Mountain Reservoir level by 12 feet and would add 2.6 MGD and completing both the water line and raising the water level 12 feet would add a collective total of about 5 MGD in safe yield. Mr. Mawyer noted that they were still working to finalize the effort and planned to give the board an update in August, including the impact of droughts on the reservoir water levels.

Mr. Mawyer reported that Rivanna had been studying the Crozet drinking water system for the past year to determine whether there was an adequate long-term water supply to accommodate the growth of that community. He noted that preliminarily, they felt there was adequate water for Crozet, and Rivanna had held a meeting the previous week with the Crozet Community Advisory Committee (CCAC). Mr. Mawyer stated that prior to that, staff had meet with the County to review the findings that there should be adequate water until 2075, or over 50 years.
He stated that with that in mind, Rivanna was combining several projects: the water supply study and what improvements needed to be made to the Beaver Creek Dam, due to the Department of Conservation and Recreation’s requirement that the dam must be upgraded pursuant to its reclassification from a “significant hazard dam” to a “high hazard dam.” Mr. Mawyer noted that he had met with the County and reviewed several alternatives, explaining that the preferred alternative presented to the CCAC was the labyrinth spillway going right through the dam and leaving the park area of the existing spillway unaffected and filled in. He stated that they would relocate the existing raw water pump station and would put in the hypolimnetic system -- the bubble diffuser system -- that mixed the water and improved water quality in the Beaver Creek Reservoir.

Dr. Palmer asked how deep the drop was off the labyrinth spillway.

Ms. Whitaker responded that it was fairly tall -- between 10 and 20 feet tall.

Dr. Palmer asked if the park setting made this more dangerous, as there was more surface area for people to be on.

Ms. Whitaker responded that these spillways were becoming more prevalent across the U.S., particularly in the Southeast, and she had not heard of that being an issue. She noted that there were some aspects to the Ragged Mountain Dam that she thought might have that potential as well, with the other side of that being that from a dam safety perspective, they must execute some kind of project. She added that this involved posting it, putting up fencing up where appropriate, and deciding what type of signage was needed.

Mr. Gaffney asked about the information in the staff report that noted “two-stage labyrinth where crest elevation 5.5, 1.4, and 2.3,” and asked if that meant it was not one foot.

Ms. Whitaker responded that she did not have that information in front of her, but she knew it was not a one-foot spillway. She noted that she would review the specs and send them through email.

Ms. Galvin asked what the advantage of a labyrinth design was.

Mr. Mawyer explained that it provided more linear surface area over which more water could pass, noting a comparison of about 200-300 feet versus 50 feet for a straight line, allowing more water volume in a shorter section without raising the height.

Ms. Whitaker stated that there were two ways to pass more water over spillways: to have the water be deeper, or to have the weir be longer. She noted that a combination of the two allowed the same amount of water to pass in a smaller footprint, which also made it less costly.

Ms. Galvin commented that this may also make it safer because people couldn’t access it.

Ms. Whitaker responded that it would be under the bridge.
Mr. Mawyer pointed out that there was already a fishing pier, but he was not aware of any problems that had occurred. He noted that the project was $20 million total, but staff felt that it protected the park, achieved dam safety requirements, and minimized the amount of property used. He noted they would have to acquire more property at the foot of dam and would move the pump station to the side of the reservoir and put in the hypolimnetic system. Mr. Mawyer noted that they were planning to begin design this year, with construction scheduled to commence in 2021.

Mr. Mawyer reported that Rivanna had been monitoring its reservoirs for algae content and had added treatments to Beaver Creek, while coordinating with the County to address their concerns at Chris Greene Lake. He stated that Mr. Tungate had worked with the 5th grade elementary school class at Crozet Elementary in creating a public service announcement regarding water quality and monitoring efforts, and he presented a video featuring the PSA.

5. ITEMS FROM THE PUBLIC

Mr. Gaffney opened the floor to items from the public.

Mr. Brendan Hassler, resident of Albemarle County, addressed the RWSA Board and explained that in listening to a presentation of the waterline route at a City Council meeting, he asked that the board consider routes further away from Albemarle County High School. He stated that it was difficult for students to focus when there was construction activity nearby, but he felt better knowing that it was recommended to take place in the summer -- while also holding some doubts as to whether that timeline could be contained in terms of drilling and disruption. Mr. Hassler noted that if parents and teachers were accepting of the route on Lambs Road, he would accept it, but otherwise he would advocate for the second option closer to Hydraulic. He noted that a jackhammer going through pavement produced a noise of about 110 decibels at a one-foot distance, and they would have to get to about 300-500 feet away before it was at a level that it wouldn’t be audible over someone in a classroom talking.

Dr. Rich Gullick addressed the RWSA Board and stated that he was former RWSA Director of Operations and wanted to discuss the reservoir pipeline project. Dr. Gullick submitted a copy of his comments, a flyer, an evaluation of the 2017 reservoir drop, an extensive fact-checking report, a statement he had made to the RWSA Board, and his water supply plan proposal. He stated that Rivanna had a history of trying to solve problems that weren’t really problems, while leaving other problems unidentified or unaddressed. Dr. Gullick commented that this was demonstrated by Rivanna’s decision to complete the water pipeline project before it was actually needed.

Dr. Gullick stated that there had been a tremendous amount of misinformation disseminated by the Authority’s leadership regarding the project, and noted that he had done his best to work with Mr. Mawyer to correct this information -- but without success. He noted that he resigned his position with Rivanna in protest of the misinformation campaign. Dr. Gullick stated that the pipeline was not needed anytime soon and would not be necessary until sometime well after 2062, and it was not needed to prevent a repeat of Fall 2017’s low water scare in the South Fork Rivanna Reservoir. He pointed out that it had rained more from August 1--September 20, 2017
than it did any of the three previous years, and Rivanna had let the water drain out through the reservoir through leaking dam gates -- dropping 17 MGD in late September, but immediately stopping when the gates were plugged with cat litter and garden mulch.

Dr. Gullick emphasized that the proof was irrefutable, but Rivanna’s officials still claimed that even if the gates had not been leaking, they would have needed mandatory conservation and water restrictions anyway. He noted that the reality was that had the gates not been leaking, the reservoir would have remained full or nearly full all along. Dr. Gullick stated that it was one thing to not admit the severity of mistakes but another thing to “cover up what happened,” and something else to spread falsehoods about this self-induced emergency to create fear in the community and rally support for this unrelated and unnecessary pipeline. He noted that fearmongering had no place in a public water utility, and not correcting the information was the equivalent of covering up from the public the true facts about the lack of need for the pipeline.

Dr. Gullick asked at what point the deception was considered conspiracy or malfeasance, adding that the recent push for the pipeline was primarily the result of political pressure from one single Rivanna Board member, who wanted to see more flow in the Moorman’s River. He stated that once the pipeline was completed, Rivanna would actually be allowed by its permit to discharge less water from Sugar Hollow for most of the time than they were required to discharge now -- including any time the discharge was at its lowest, specifically 2.22 MGD. Dr. Gullick noted that this had been an absolute debacle, and no responsible or competent water utility would approach projects in this manner.

Dr. Gullick urged the RWSA Board to reverse course and start working now to continue filling Ragged Mountain to increase raw water storage, base the timing of the pipeline in actual need as determined by engineering analyses, and change the permit when the time came for the pipeline so that water continued to be transferred from Sugar Hollow directly to Ragged Mountain.

6. RESPONSES TO PUBLIC COMMENTS

Dr. Palmer thanked Mr. Hassler for coming in and assured him that the RWSA Board would be discussing the route options with Albemarle High School officials and listening to their concerns.

Ms. Galvin asked Mr. Mawyer to report when the School Board had been contacted about this issue, as they were the elected body to represent the parents and children of the County.

Mr. Mawyer confirmed that the School Board would have to grant the easements to go on that property.

Mr. Gaffney commented that Dr. Gullick had provided the board with handouts, and the board and staff would be reviewing them.

Dr. Gullick thanked them for listening and for their patience.

7. CONSENT AGENDA
a. Staff Report on Finance

b. Staff Report on Ongoing Projects

c. Staff Report on Operations

d. Approval of FY 2019-2023 Capital Improvement Program

e. Approval of Resolution of Official Intent to Reimburse Expenditures with Proceeds of a Borrowing

Mr. Jones moved to approve the Consent Agenda as presented. Ms. Galvin seconded the motion, which passed unanimously (6-0). Mr. O'Connell was absent from the meeting and the vote.

8. OTHER BUSINESS

a. Presentation of Storm Impacts on May 31, 2018: Jennifer Whitaker, Director of Engineering & Maintenance and David Tungate, Director of Operations

Ms. Whitaker reported that staff would report on the RWSD’s activities over the previous three weeks, noting that there had been some long days for staff pursuant to the May 30 and 31 storms. She stated that the storm had created a dynamic situation with 8-10 inches of rainfall, with the intensity of this event making it different from other types of storms typically hitting the area.

Ms. Whitaker presented graphs showing a 24-hour total of almost 10 inches. She stated that for 5-7 hours, portions of the drainage area -- especially those between Sugar Hollow and the South Fork Rivanna Dam -- received 9-10 inches of rain.

Ms. Whitaker presented the USGS stream gauges for the Mechums, the Moorman’s, and the North Rivanna River, and staff observed that the Mechums River had jumped from 5 to 17 feet in less than 7.5 hours; the week prior to this storm, about 120 cubic feet per second went down the river, and at the peak of the storm that had jumped to over 8,000 cubic feet per second. She noted that staff believes the gauge may have actually pegged out, as opposed to that being the max. Ms. Whitaker stated that at the Moorman’s, they went from 4 to 15 feet in 5.5 hours, and the cubic feet per second jumped from 90 to 8,000 -- with similar concerns about that being an artificial maximum due to gauge limits. She noted that at the North Fork Rivanna near Earlysville, the level went from 2 to 18 feet in 8 hours, going from 120 to 20,000 cubic feet per second -- with the gauge again probably not registering the maximum.

Ms. Whitaker stated that the South Fork Rivanna Dam water level prompted calls from staff and she credited the operator who was working that night, as he had many other things to deal with but immediately called out. She explained that when the water levels approach 6.5 feet, staff is supposed to activate an emergency action plan, which alerts everyone that there is a weather event. She stated that the South Fork Rivanna Dam peaked out at just over 7 feet, which was the highest flow she was aware of since the dam was built. She explained that Beaver Creek was about 2.75 feet.
Dr. Palmer asked what would constitute a dam safety issue.

Ms. Whitaker responded that it was a level over 18 feet. She noted that the South Fork Rivanna Dam passed more than 40,000 cubic feet of water per second over the dam at peak.

Ms. Whitaker reported that Ragged Mountain had jumped to 1.75 feet, with Sugar Hollow staying at 0.25 feet, which she would explain later in her report. She stated that Rivanna immediately initiated onsite inspection and had staff start monitoring the conditions of the dams.

Ms. Whitaker presented images of Beaver Creek, noting that the intake was flooded and pointing out the volumetric effects of the water coming out on the downstream end. She presented images of Sugar Hollow, stating that the five-foot bladder on top of the dam was actually programmed, and as inflow came up, it started lowering the inflation pressure to hold the water level steady.

She noted that the dam reacted exactly as it was supposed to and the water level did not rise to great heights, it stayed steady as it passed over the dam. Ms. Whitaker pointed out the arc of the water versus a straight trajectory, which was caused by the dam inflating because of the drop in water levels.

Ms. Whitaker reported that Ragged Mountain looked fine and was capable of handling storm events, other than Reservoir Road washing out, with the intent to raise the water level 12 feet at a future point. She mentioned that Sugar Hollow Road had also flooded. Ms. Whitaker presented images of the South Fork Rivanna Dam, noting the levels when there was about 4 feet of water passing over the spillway and peak flows over 7 feet. She pointed out the location of a roller bucket that guided the water to the center of the stream channel, noting that there was a hydraulic there that caused some damage and the water was all the way up to the hydropower facility.

Ms. Whitaker stated that there had been no structural dam safety issues, and the emergency action plan had worked exactly as intended, with many staff members awake and aware of the situation. She noted that the South Fork Rivanna Dam had since been inspected by the dam safety consultant, and FERC had inspected the dam pursuant to their regularly scheduled annual inspection.

Mr. Tungate shared with the board a sample of water with 2,100 NTU (Nephelometric Turbidity Units), which measures how dirty the water is, and he noted the sample had been taken the morning of June 1 -- with the previous highest level at 300 NTUs. He stated that there were typically about 75,000 pounds of residuals processed in a week, with solids settling out of the water as it was treated, processed through a belt presser for dewatering -- and since May 31, they had been doing about 175,000 pounds per week. Mr. Tungate noted that the Brian Balsley was the operator on duty that night at 12:45 a.m. when he made the call, and at that point the level was at 6.8 feet. He mentioned that Rivanna was very proud of this response, as they did a lot of drills and practice exercises in anticipation of these types of events.

Mr. Tungate reported that there were benefits resulting from the GAC process, including upgrade of the lime feed system at South Rivanna. He noted that the existing system that was in place before that project could feed 530 grams per minute of dry lime product, and this event precipitated a need for 1,930 grams per minute of lime -- and the existing system prior to GAC
could not have done that. Mr. Tungate emphasized that the decisions the board had made to
upgrade the lime feed system at South Rivanna had helped the community have a treated water
supply.

Dr. Palmer noted that this was one of the things that had been mentioned by the public as a
“problem that didn’t exist.”

Mr. Tungate noted that there was a tremendous advantage in being able to meet demand, adding
that there had been a tremendous strain on resources but they were able to meet it with the new
equipment in place.

Dr. Palmer asked if it was necessary to take water out of the South Fork Rivanna when the water
was contaminated during high flood situations like this.

Mr. Tungate confirmed this.

Mr. Mawyer commented that they would be strategic on when they pumped water from Rivanna
to Ragged, and when Rivanna water versus Ragged was used, so if the pipeline was in when the
muddy water was going across Rivanna, they could have transferred water from Ragged -- which
was full -- and treated it at the South Rivanna Treatment Plant as well as Observatory. He noted
that this provided water quality flexibility as well as volume flexibility.

Mr. Gaffney stated that the water going over the reservoir would be going over for quite some
time, so it would settle out and be clean and be more conducive to pumping.

Mr. Mawyer noted that if the water flow had caused some sort of structural problem and
impacted the reservoir or the dam with the pipeline, they would have had the flexibility to bring
water from Ragged Mountain to Rivanna and treat it.

Mr. Tungate presented images of North Fork Rivanna under normal conditions and on the day
after the storm, stating that it had also overflowed its banks on June 22. He noted that at 4:45
a.m., a team of staff members had come in to address the situation, deciding to close the valve at
the Camelot subdivision -- with everything north of the river being able to use what was left in
the Piney Mountain tank. He mentioned that there is a pipe that runs from the water treatment
plant, follows the river bank, then ties in at the confluence of Route 29 and the Rivanna River,
with the water going south under the river and north up the Piney Mountain tank.

Mr. Tungate noted that there wasn’t a big break, but it was enough of a break to drain all the
water. He stated that Ms. Whitaker’s group and engineering ended up relocating 190 feet of the
water main and used restrain joint pipes, which was a more secure fitting. Mr. Tungate explained
that once they had the leak isolated, they mobilized the temporary pump to the Kohl’s facility
and took water from the South Rivanna and pumped it up into North Rivanna.

Mr. Mawyer stated that this was where they have plans for a new permanent pump station so
they don’t have to have a pump truck-hauled to connect the northern and southern parts of the
system.
Ms. Whitaker mentioned that they had brought a crew of 12 men in at 4:30 a.m. to haul the pump and set it up.

Mr. Mawyer noted that Rivanna had condemned property to obtain the correct parcel, and there was a temporary pump that hooked the two parts of the system where it was disconnected.

Mr. Tungate added that the pressure was higher at North Rivanna distribution system than at the South Rivanna Observatory system.

Mr. Mawyer clarified that this was located at Meeting Street north of Kohl’s, where the radio tower was located, and Rivanna now owned the property.

Mr. Tungate presented pictures of the construction project, stating that they were using 200 feet of 14-inch pipe moved further away from the bank to prevent this type of situation or at least slow it down.

Mr. Tungate also presented images of waste lagoons at the North Rivanna plant under normal operations, noting that the river rose so high that it put river water in the lagoons. He stated that to put the plant back online, they had to pump out the lagoons -- which hold 200,000 gallons each. He pointed out the damage to the pump station fence from the water and debris. Mr. Tungate presented a photo of Steve Ketch, Drinking Water Inspector with the Virginia Department of Health, who had come out to look at the situation and the response.

Mr. Tungate reported that on May 31, Tim Castillo had come into work and made decisions about the treatment plant. Mr. Tungate stated that moving the Rivanna pump station onto the property and increasing its capacity allowed them to meet storm demand and prevent sanitary sewer overflows from this event. He presented images that Mr. Castillo had taken of the Glenmore pump station at 6 a.m. and 9 a.m., noting the overflow of Carroll Creek.

Mr. Tungate presented images of the Ivy Materials Utilization Center, noting that more than 94,000 gallons of storm-related leach had been hauled from Ivy to Moores Creek, and the entire road to the leach pod had to be regraded, with 225 tons of gravel added. He stated that 39 tons of storm-related debris had been collected, and the resiliency of employees and the organization had helped tremendously during the event.

Ms. Whitaker reported that there were about 100 employees working for Rivanna, with the entire maintenance crew working odd hours, operators working the plants, engineering staff inspecting dams, and wastewater staff responding to the events.

Ms. Galvin and board members expressed their gratitude to Rivanna staff, adding that excellent technology and equipment can extend the value and effectiveness of their expertise.

Ms. Whitaker reported that structurally, South Fork was in good shape, but there was quite a bit of damage to some of the aprons and rock faces to the aprons, as well as apron construction joints. She noted that on the far side, the river had created a secondary channel, with “rock dams”
of debris that would need to be removed by Rivanna, with the permission of the Army Corps of
Engineers. She presented pictures of the river bank that had been eroded, noting that they would
also work to reestablish the river corridor to prevent future damage to the dam.

Ms. Whitaker reported that the storm event had required expenditures for labor and equipment,
even repair of the North Rivanna waterline -- with Faulconer Construction
responding on call to the emergency and getting that back in service. She stated that there was an
estimated $200,000 in grouting and concrete repairs, stream and restoration work to be done.

Dr. Palmer asked if it helped that the state had declared an emergency.

Mr. Mawyer responded that Rivanna was coordinating with Allison Farole about the region’s
cost, and she was handling that and would let them know about reimbursement.

Dr. Palmer stated that she had advocated for having Mr. Mawyer and staff to come to the Board
of Supervisors to provide a report on this, as she felt it was very important, but she was not sure
yet when that might be on an agenda.

Mr. Mawyer clarified that he had an abbreviated version of this report for the Board of
Supervisors meeting the following week.

Ms. Galvin noted that Mr. Mawyer had just presented to City Council before this event.

Dr. Palmer mentioned that the two people who had died with the Ivy Creek flood were Bob and
Carol Gilges, and they had been very involved with the water supply plan, as well as being active
with the Friends of the Moorman’s.

Ms. Galvin noted that this was a personal loss for Dr. Palmer.

Mr. Mawyer stated that staff wanted to give the presentation about the storm to show how the
board’s involvement with CIP and master planning, redundancy, facilities, and staffing had come
together in responding to this event.

Ms. Galvin commented that she would like to have this shared with City Council, as it helped
officials and the public understand why it was imperative to invest in infrastructure.

b. Presentation of 10-Year Financial Model: Lonnie Wood, Director of Finance &
Administration, Michael Maker, MFSG and Ed Donahue, MFSG

Mr. Wood reported that in late 2017, Rivanna had hired Municipal Financial Services Group
(MFSG) to work on a 10-year revenue model projection that could be used going forward, with
the ability to plug in CIP, financial policies, etc.

Mr. Michael Maker addressed the board and stated that MFSG had been working on a financial
model, built in Excel with assumptions and scenarios added. Mr. Maker stated that the guiding
principles and objectives of the study are that the water and wastewater systems must each be
self-supporting so that one is not subsidizing the other; the Authority should maintain reserves to
provide contingencies and unplanned expenses; water and wastewater rates should be kept as
low as possible over time; the Authority should invest annually in regular planned maintenance,
rehab, and replacement of infrastructure. He noted that the objective was to ensure operating
rates and debt service charges were stable through sound financial management and system
maintenance and did so by reviewing the funds and preparing a long-term plan to support capital
investments.

Mr. Maker reported that some of the factors affecting rates and charges for any water utility
across the country were operating and maintenance expense changes, with the option in the
model to introduce inflation rates; the CIP and debt service -- both existing and future; customer
and flow changes, with conservative parameters being used in this model and allocations being
shifted more to the County as it grew; miscellaneous revenue charges other than operating and
debt charges. He stated that the model recommends at least 90 days of operating expenses in a
rainy day fund, and a 1.25 ratio debt service coverage, which did not meet the board’s 1.5 goal
but was still favorable among rating agencies.

Mr. Maker stated that the revenue requirements included operating and maintenance expenses,
such as salaries, benefits, materials, and service supplies; two capital pieces -- outstanding debt
and debt issuance, and upcoming capital projects that would be either reserve or debt funded. He
noted that in the model, they have adopted these for all cost centers -- urban water, urban
wastewater, and split between City and County, as well as non-urban rate centers. Mr. Maker
stated that the first revenue requirement building block was operating and maintenance expenses,
and he presented a pie chart for both water and wastewater. He noted that urban water for the
City constituted 43% of water, with urban water for the County being the second highest, then
Crozet and Scottsville. He stated that on the wastewater side, it was the City, County, then
Glenmore and Scottsville. Mr. Maker noted that in forecasting those forward for 10 years,
varying inflation rates included 4% increase for the FY19 budget for water, with 8% for
wastewater.

Mr. Maker reported that the current debt payments for water were about $5 million per year, with
wastewater at about $7-8 million per year, split between the City and County based on either
flow or fixed amount agreements. He stated that the entire 10-year plan for water and wastewater
showed that water had the bulk of the projects, with the majority to be debt funded. Mr. Maker
noted that the total debt payments reflected issuance costs assumed at 5% of principal and 5.5%
interest rate, with a maturity of 30 years.

Mr. Maker pointed out the revenue at current rates in charges, which would be covered in FY19
and FY20, but would have a slight shortfall in FY21 -- and expenses would not be covered as
new debt was added. He presented revenues and proposed rates and charges, noting that this
factored in debt service coverage of 1.25 by 2028. He stated that the wastewater expenses were
lower but were still affected by debt and would need to be covered by FY21. Mr. Maker noted
that one of the two financial ratios target was the operating and maintenance reserved, combined
for water and wastewater, which factored in operating cash on hand (current cash divided by
operating expenses times 365 days). He noted the target cash on hand for 90 days versus the
current cash on hand. Mr. Maker stated that debt coverage reflected a combined
water/wastewater financial ratio.

Mr. Maker presented the projected rates and charges broken down by City and County, the
operating rate per 1,000 gallons, and the debt service charge as a fixed charge per month. He
compared current rates and charges to those projected for FY19 through FY28. Mr. Maker also
presented the total revenue generated, how much would be brought in, and the dollar and
percentage increases.

Mr. Maker stated that MFSG’s conclusions and recommendations show that the Authority
needed to increase rates and charges over the planning period to ensure that revenues covered
expenses, and they recommended adopting a five-year plan to find the operating reserves and
debt service coverage, to be revisited every year or so. He commented that Rivanna was doing a
good job and he commended them for doing projection studies.

Mr. Mawyer pointed out that the Rivanna to Ragged Mountain pipeline construction was not in
these numbers because it was beyond the planning timeline of 2028.

Mr. Gaffney noted that current debt was not decreasing much by 2028, and he wondered when it
started to decline.

Mr. Wood responded that it would be about 2030.

Mr. Maker stated that the model went out 10 years, but the current debt sheet went out until it
was exhausted.

Dr. Palmer commented that the Albemarle County Service Authority would also be working with
MFSG to ensure that the finances meshed.

Mr. Maker noted that MFSG had done rate studies for both the City and the County, and they
had used projections from that in this information.

Mr. Gaffney stated that it would be hard for them to adopt a five-year rate plan because the City
and County would be shifting its percentages.

Mr. Mawyer noted that with this model, they could go beyond 10 years and run the model to
show what the impact would be on rates -- but the further they projected, the less clear it would
be.

Dr. Palmer asked about master planning for the urban area, as they had done for Crozet.

Mr. Mawyer responded that it was in the CIP to do a finished water master plan, but it was
several years out -- and Mr. O’Connell had suggested doing it sooner. He noted that people like
Ms. Whitaker may have a master plan in mind, but it would help to get it on paper.
Ms. Whitaker stated that Rivanna had a wastewater master plan that they started 10 years earlier, with updates every 5 years, but they needed to do this on the finished water side as well.

Mr. Mawyer commented that this dovetailed with their strategic plan.

Ms. Hildebrand asked if there were utilities that did more than a yearly rate in place.

Mr. Maker responded that five years was the maximum, but there were other authorities that set the rates -- with a clause allowing them to change that if necessary.

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

There were no other items presented.

10. CLOSED MEETING

There was a joint closed meeting held with the Rivanna Solid Waste Authority.

Mr. Krueger read the following resolution into the record:

RESOLVED that the Board of Directors of the Rivanna Water and Sewer Authority enter into a joint closed meeting with the Rivanna Solid Waste Authority Board to discuss confidential personnel matters as permitted by Section 2.2-3711.A.1 of the Code of Virginia.

Dr. Palmer moved to adopt a resolution to enter the joint closed session. Ms. Galvin seconded the motion, which passed unanimously (6-0). Mr. O'Connell was absent from the meeting and the vote.

The board entered a closed meeting at 3:35 p.m.

Mr. Krueger read the following resolution into the record:

WHEREAS, the Rivanna Water and Sewer Authority has convened a joint closed meeting with the Rivanna Solid Waste Authority on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, Section 2.2-3712.D of the Code of Virginia requires a certification by the Rivanna Water and Sewer Authority that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby certifies that, to the best of each member’s knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the executive meeting to which this certification resolution applies, (ii) only such public business matters as were identified in the motion convening the closed meeting were heard, discussed or considered by the Rivanna Water and Sewer Authority.
Mr. Richardson moved to adopt a resolution for the RWSA to reenter and open meeting.
Dr. Palmer, which passed by a roll call vote of 5-0. Mr. O’Connell was absent from the
meeting and the vote. Mr. Gaffney had left the meeting and was not present for the vote.
The board reentered into an open meeting at 4:38 p.m.
Dr. Palmer moved for the RWSA to authorize a 5% raise for Mr. Mawyer, bringing his
annual salary from $183,712 to $192,897.60, and will also reimburse a moving expense tax
reimbursement of $1,950. Ms. Galvin seconded the motion, which passed 5-0. Mr.
O’Connell was absent from the meeting and the vote. Mr. Gaffney had left the meeting and
was not present for the vote.

11. ADJOURNMENT
Dr. Palmer moved to adjourn the meeting. Mr. Jones seconded the motion, which passed 5-0.
Mr. O’Connell was absent from the meeting and the vote. Mr. Gaffney had left the
meeting and was not present for the vote.
The RWSA Board adjourned the meeting at 4:41 p.m.
Respectfully submitted,

Mr. Jeff Richardson
Secretary-Treasurer