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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
March 26, 2019

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, March 26, 2019 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mike Gaffney, Kathy Galvin, Lauren Hildebrand, Mike Murphy, Gary O'Connell, Liz Palmer, and Jeff Richardson (arrived at 3:06 p.m.).

Board Members Absent: None.

Staff Present: Bill Mawyer, Katie McIlwee, David Tungate, Lonnie Wood, Jennifer Whitaker, Bill Morris, Betsy Nemeth, Victoria Fort, Dyon Vega, Scott Schiller, Austin Marrs, Andrea Terry, Rob Haacke.

Also Present: 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 2:15 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on February 26, 2019
There were no changes to the minutes presented.

Dr. Palmer moved to approve the RWSA Board meeting minutes of February 26, 2019. Ms. Galvin seconded the motion, which passed 5-0. Mr. O'Connell abstained from the vote, as he was not present at the February meeting. Mr. Richardson was absent from the vote.

3. RECOGNITION

There were no recognitions.

4. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer recognized new employee Dyon Vega, a civil engineer. He also stated that Rob Haacke, who has been with Rivanna for 27 years, was recently promoted to wastewater manager. Mr. Mawyer stated that Rivanna had also hired two water operators – Jesse Robillard and Carl Terrance.

Mr. Mawyer reported that Safety Manager Liz Coleman recently had four sessions of the "Lockout Tagout" training whereby Rivanna reviewed written procedures on how to safely disconnect and lockout a piece of equipment so that no one can turn it on while someone is working on it. He stated that 17 employees from the City also attended that training.

Mr. Mawyer reported that staff would not be discussing a new corrosion inhibitor for the drinking water system as planned, and would instead be presenting it in the fall. He stated they needed to do some water quality sampling and did not want to start using a new product in the water while that was ongoing. He noted that they would discuss a change from a polyphosphate corrosion inhibitor to an orthophosphate product.

Mr. Mawyer stated that Rivanna had completed about 1,300 feet of the Birdwood waterline and had met with UVA Foundation, VDOT, and the City and County School Staff regarding obtaining the remaining easements for the South Rivanna to Ragged Mountain waterline. He noted that they were also meeting with the private owners along the alignment, including Ingleridge Farm and the Wheaton Center, and would meet with everyone. He stated that Rivanna sent all property owners involved a letter to request permission to survey, and from that they would develop appraisals and make offers to acquire the easements for the waterline.

Mr. Mawyer reported that the RWSA continued to work with UVA on a new 99-year Observatory Water Treatment Plant lease and was making progress on that. He stated that the wholesale meter project in which they were putting 25 meters around the City and County to help measure how much water the localities used was underway, and testing has determined that 4 of the 25 meters were defective. He stated they started calibrating the remaining meters and found 4 more meters that were also defective.

Ms. Galvin asked if they were covered by warranty.

Mr. Mawyer responded that Rivanna terminated the contract with the contractor because he was not making progress, and they would have to explore whether or not there would be reimbursement. He noted that they were working with the meter manufacturer and the supplier, and because of the delays, the project would not be completed by March as planned – with an estimated eight-week timeframe to get the meters, which cost tens of thousands of dollars.

Mr. O'Connell commented that the ACSA appreciated Rivanna making it a priority.

Ms. Galvin stated that they should be able to get all that money back.

Mr. Mawyer emphasized that staff was working hard to try to move this along, with maintenance staff dedicated to try to help at every stage.

Ms. Galvin commented that everyone had worked so hard on the agreement, which was based on the metering, and they needed to be sure that it did the right job. She expressed serious concern that something with that level of expense would be defective.

Mr. Mawyer stated that these were supposed to be "plug and play" devices, and they were trying to sort out what the problem was.

Mr. O'Connell mentioned that they needed about a year of data from the meters, so there was essentially that amount of delay.

Mr. Mawyer reported that the Riverfest event would be held May 11, and Rivanna was participating with the City and others. He stated they were also planning with the Rivanna River Conservation Alliance to do a stream cleanup on April 22. He stated that Rivanna hosted the Northwest Central Virginia Utility Managers meet and greet event, and service authorities from Amherst, Augusta, Culpeper, Harrisonburg, Louisa, and Rockingham had participated – as well as the private Aqua Virginia firm that ran Lake Monticello's water system, and the City and ACSA managers.

Mr. O'Connell commented that it was a good idea for Rivanna to host it, and he thanked Mr. Mawyer.

Mr. Mawyer reported that staff had been doing a lot of things at Crozet Elementary School, with television coverage of a stream buffer plan. He stated that Rivanna had been talking with students from UVA, Greene County High School, etc. He reported that he, Mr. Tungate, and Matt Bussell had attended an America's Water Infrastructure Act (AWIA) seminar the previous week at the University of Richmond regarding resiliency and readiness. He stated that Act was requiring Rivanna to update its Risk and Resiliency Plan. RWSA was recognized at the seminar by the health department as being one of a contributing group that helped VDH develop an algae-bloom manual. Mr. Mawyer noted that they had also heard from a utility in North Carolina that was dealing with some emergency contaminants and how they would add GAC to their filtering to remove those.

Mr. Mawyer stated that he was due to make a quarterly report to City Council and the Board of Supervisors the following week, and he would bring videos showing the South Rivanna and Observatory water treatment plant upgrades.

Mr. O'Connell mentioned that he had showed the videos a the ACSA Board meeting, and the attendees were very impressed.

Mr. Mawyer reported that in April, the RWSA Board would receive a water quality report and Ms. Terry would discuss the reservoir program, raw water quality, and algae – and staff would also present on a cybersecurity program, which had been noted as the number one threat to water infrastructure per the AWIA conference. He stated that in May, the Board would have public hearings on the budget; in June, staff would present on emerging contaminants that needed to be treated for water and wastewater, as well as new regulations.

Ms. Palmer complimented staff working on the Birdwood project, as Bellair residents had a very active homeowners association – and she had only received about two emails regarding the blasting and other work going on.

Mr. Mawyer pointed out the blasting holes shown at Birdwood on pictures provided.

Mr. Mawyer also presented photos of the water flowing over the South Rivanna Dam on March 22 after some significant rains.

Mr. Tungate stated that this was about 1.5 feet over the top of the dam, and on March 21st it had peaked at about 2.7 feet over.

Ms. Galvin asked how high it had gotten during the recent May 31, 2018 floods.

Mr. Tungate responded that it was 7.1 feet over.

Mr. Mawyer reported that Rivanna had sponsored several sports teams as part of its community outreach, including a Crozet soccer team.

5. ITEMS FROM THE PUBLIC

There were no items from the public.

6. RESPONSES TO PUBLIC COMMENTS

There were no responses to public comments.

7. CONSENT AGENDA

a. Staff Report on Finance

b. Staff Report on Ongoing Projects

c. Staff Report on Operations

d. Purchase Order Request and Capital Improvement Plan Amendment – Piney Mountain Tank Rehabilitation

Dr. Palmer moved to approve the Consent Agenda as presented. Ms. Galvin seconded the motion, which passed 6-0. Mr. Richardson was absent from the vote.

8. OTHER BUSINESS

a. Presentation: GAC Performance Update

Mr. Tungate reported that he would provide an update on the granular-activated carbon (GAC) performance to see what the investment had yielded in terms of disinfection byproducts (DBPs) reduction. He stated that South Rivanna had eight 40,000-lb. contactors, or a total of 320,000 pounds – with that facility being the largest and having the most GAC. He stated that Observatory had two 40,000lb contactors, North Rivanna had one contactor with 40,000 lbs., and

Scottsville had two smaller contactors with 6,000 lbs. each; Crozet had two 20,000-lb. contactors.

Mr. Gaffney asked if South Rivanna would have more GAC when it was renovated.

Mr. Tungate responded that the option was available for South Rivanna to expand GAC, but in the plant improvements under design now, it was not slated to be expanded at this point. He confirmed that there was room for five or six additional GAC contactors. Mr. Tungate stated that they had put the contactors in service as they became available and the logic and controls worked. He noted that the first site to have operable GAC contactors was Scottsville in February 2018, and they were still using the original GAC. He stated that GAC contactors were put into service in Crozet on April 23, 2018, and the GAC was replaced in November 2018. He stated that the contactor was put into service in March 2018 at North Rivanna, and it was still in service there; they put the contactors in at South Rivanna in May, and there were eight there so it took about four weeks to fill them with GAC. He stated that the Observatory GAC contactors went into service in August 2018 and were still in service.

Mr. Tungate reported that the GAC was designed to remove DBP precursors from the water, and they were measured by total organic carbon (TOC) – so the more TOC in the finished water, the more DBPs would be formed in the distribution system. He presented a graph that showed the variability of the raw source water, with the average TOC by month and by plant. He stated that Beaver Creek was the most biologically active reservoir and had the highest TOC, with it remaining higher than the other reservoirs consistently. He stated that it was over 9 mg/l in September 2018 at Beaver Creek, with North Rivanna at about 4 mg/l – and that peak indicated that there was a lot of rain and some algae blooms in the fall.

Ms. Galvin asked what DBP was.

Mr. Tungate clarified that it was disinfection byproducts, which covered total trihalomethanes and halo acetic acids. He explained that when RWSA was finished treating the water, the final step was adding chlorine for disinfection before sending it out in the distribution system. They had to have enough chlorine to ensure the quality of water in the distribution system. He noted that the longer the water was in the distribution system, the higher the chlorine residual needed to be, and the more TOC there was in the water – which led to more DBPs.

Mr. Mawyer added that chlorine and organics created the disinfection byproducts.

Dr. Palmer asked if Beaver Creek was high because of farmland drainage.

Mr. Tungate responded that Rivanna had worked with DiNatale Consultants on this, and they believed there was a large amount of phosphorous in the reservoir. He stated that the water sat in the reservoir longer, versus the river flow at South Rivanna and a detention time of just three or four days.

Ms. Terry mentioned that the detention time at Crozet was several months, so what flowed in stayed in.

Mr. O'Connell asked if that caused the algae issue.

Mr. Tungate responded that they were able to address the algae issues, and about 5-7 days after a rain event, they knew there would be an algae bloom if there was warmer weather and sunshine.

Mr. Mawyer noted that in general, there was higher TOC in warmer weather.

Mr. Tungate stated that the finished water was what was leaving the plant after final disinfection, and the GAC was quite effective at removing TOC levels.

Ms. Galvin asked if there was anything that compared to what it used to be.

Mr. Tungate responded that they had pre-GAC data, but Scottsville had just started in February and that was the first site. He stated that typically there were lower TOCs in late winter and early spring before reservoir water turnover got started. He also noted that at South Rivanna, they had replaced the GAC in early December because the TOC kept going up. He stated that TOC was over nine mg/l in Beaver Creek on average for the month of September, and in comparison they were just over one mg/l after treatment with GAC.

Mr. Gaffney asked what the federal mandate level was for TOC.

Mr. Tungate responded that it was a recommendation to remove at least 50% of TOC, but there was no federal mandate. He stated that this was never Rivanna's issue, as the problem was what happened in the distribution system to DBP levels when the water was chlorinated.

Mr. O'Connell stated that the DBPs were regulated, and if TOC levels were high more disinfection products needed to be used, and therefore the DBPs in the finished water system would also be high.

Mr. Tungate stated that the big change that started the process was Stage 2 DBP Rule, and Stage 1 DBP Rule was a running annual average – so the Crozet system had a running annual average, the urban system had a running annual average, and all the sites in those systems were averaged. He explained that the Stage 2 DBP Rule stated they had to average each individual site, so there were now locational running annual averages. He stated that in Crozet, testing was completed at Brownsville Market, so there was the locational running annual average of the Brownsville Market site and a site at theFox Chase subdivision; in the urban system, they had the Pantops EZ Shop site and alsohad a site at the Old Oaks subdivision in Ivy. He stated that each site had its own locational running annual average,

Ms. Hildebrand asked how many sites there were total.

Mr. Tungate responded that there were about 15-20 sites total.

Mr. Tungate presented the halo acetic acid locational running annual averages, noting the redline maximum contaminant level (MCL) of_60 mg/l as the number they could not exceed. He stated

that even before GAC, from February 2017 to February 2019, the locational running annual average was never over 60 mg/l. He stated that the blueline denoted when GAC went in service, so in August and November of 2018, as well as February 2019, DBP levels dropped. He commented that as they continued to get quarters with GAC-treated water, that locational running annual average would continue the downward trend. He stated that at North Rivanna, the blueline was when the GAC went in service – and comparing May 2017 to May 2018, DBP levels were lower; and August 2017 to August 2018 and November 2017 to November 2018 also saw reductions.

Ms. Galvin asked what the implications of that were and whether they would need to add less chlorine.

Mr. Tungate responded that they were adding slightly less chlorine, and they were seeing higher chlorine residuals in the distribution system instead of DBPs, which was a positive development for Rivanna and for the system – with a better water quality for consumers.

Mr. Mawyer reiterated that the DBPs were lower.

Mr. Tungate stated that higher chlorine residuals in the system provided better protection against pathogens for customers.

Ms. Galvin asked how they determined the locations of the testing sites.

Mr. Tungate responded that the sites were established about 10 years ago, and they were representative sites for the water distribution system. They would expect to get lower chlorine residual levels from sites further from the treatment plant. He stated that Ivy Oaks by Meriwether Lewis School was near the end of the system and was a worst-case scenario testing sites, noting that these sites were approved by the EPA and had to be justified with a distribution system study.

Ms. Hildebrand noted that they had to meet certain criteria.

Mr. Mawyer confirmed this, stating that they wanted to represent some of the potentially worst water quality conditions to ensure that's where you were testing – not the most optimum.

Mr. Tungate stated that Scottsville was a smaller system but had a very dramatic decrease in DBPs between November 2017 and November 2018, when GAC had been in service. He stated that there was a test site in Fluvanna County near Scottsville that was a laundromat.

Mr. O'Connell noted that there were periods in hot weather when TOC was up fairly high.

Mr. Tungate noted that the other component of the DBPs was trihalomethanes, and if a locational running average was over 80 mg/l, this would be a significant problem operationally. He stated that after GAC went in service, there was a downward trend in trihalomethane concentrations in all of the distribution systems – so the investment yielded the intended results.

Mr. O'Connell asked if any other locality in the country was using GAC for this purpose.

Mr. Tungate responded that it was not uncommon, and Cincinnati had the largest GAC treatment system in the country.

Mr. Mawyer commented that it was an expensive system.

Ms. Galvin stated that on "Safe Water Day," she was telling someone recently about constituents saying they were not going to drink the water unless it was safe.

Mr. O'Connell mentioned that GAC also removes other components – in concentrations measured in parts per trillion that were not even being tested in some cases – so they were improving water quality in many ways.

Dr. Palmer stated that it also gave people trust in the water they drank, especially in light of stories in the media.

Mr. Tungate noted that Pepsi, Coors, and Miller were big users of GAC also, as they treated the water they used to brew. He pointed out the decrease in halo acetic acids (HHAs) and trihalomethanes, and in comparing February 2018, when there was no GAC, to February 2019, there was an almost 60% reduction in HAAs in South Rivanna and an almost 80% reduction in Scottsville. He stated that these were significant reductions and this was a proven technology, with the system now reaping the benefits of the investment.

Mr. Tungate stated that the strategy was to put all the water possible through the GAC contactors until February 2019, and at that point they changed their operations for operational optimization. He stated that Rivanna had a discussion internally to optimize the use, as there was a finite life on the GAC in the contactors. He stated that now after seeing three quarters of results, they decided to make the change. He mentioned that they were using powder activated carbon (PAC), and early on in the project they had talked about eliminating it but they were still using it at all five facilities daily.

Ms. Galvin asked what the alternative was.

Mr. Tungate responded that the alternative was to eliminate PAC, and they were using similar activated carbon products but they did not work the same way, as the PAC was added at the head of the plant then settled out. He stated that if they kept all the water going through the vessels 100% of the time, they were on schedule to replace the GAC each twice per year (200%), so with 492K pounds of GAC in the system, it would equal about $1.4 million in operational costs to keep it compliant with their strategy. He stated that going into FY20, their strategy was to replace 125% of the GAC.

Mr. Tungate stated they had discussed at a town hall meeting the opportunity to regenerate the GAC, and they would be trying that going forward. He explained that they take the GAC away to a kiln and reactivate it – and they get about 80% of the GAC media back, then the GAC would be put back in contactors at South Rivanna. He stated that new unused carbon was $1.46 a pound

deliveredand the regenerated carbon was $1.00-$1.10 a pound, so there was a significant opportunity for savings. He stated that the drawback was that Rivanna's used GAC could only be regenerated for use at Rivanna sites and regenerated GAC could not be exchanged among localities, as the potential chemical reactions were uncertain.

Mr. Gaffney asked if it would only be 80% effective.

Mr. Tungate replied that early on in the process, he was under the impression that you would never get as good a performance from the regenerated GAC as the original, but more recent literature going back as far as 2010 stated that wasn't the case. He stated that Cincinnati officials were seeing as good absorption with the reactivated GAC as the new, so Rivanna would be trying regenerated GAC at South Rivanna. He stated that Cincinnati did this so often, they had their own kiln, whereas Rivanna had to send theirs out and it got transported, reactivated, and shelved until it was called for. Mr. Tungate noted that during the regeneration process, you lost 10-15% of the carbon so that was substituted with new carbon – so after five processes, there would be about half new carbon.

Mr. O'Connell asked if it was burned up.

Mr. Tungate stated he asked that question and was informed it was burned it up during regeneration. Regenerating it was another opportunity for us to optimize our operation.

Mr. Murphy asked if the $1.4 million cost for GAC was compared to when no GAC was used and it was the chemical solution.

Mr. Tungate responded that the chemical solution, which is using chloramines, was much more cost-effective.

Mr. O'Connell noted that there were capital costs as well as operational costs.

Dr. Palmer recalled $3 million, but perhaps that was just for the urban system.

Mr. Tungate stated they needed a storage reservoir and some chemical feed equipment for the chloramines, as there were many concerns about ammonia.

Mr. O'Connell mentioned that at the public meetings, people stated it was worth the expense to avoid the use of chloromines, and the bulk of the expenses was operational.

Dr. Palmer stated that during the public meetings, people were saying Rivanna had overestimated the cost of the GAC – but in hindsight, that was not the case.

Mr. Mawyer noted that it had been $29 million for design and construction of the GAC facilities.

Mr. Tungate presented a picture taken by a drone that showed the Crozet system under construction, and the GAC contactor vessels were in the background. He noted the location of

the chemical feed room, which was part of the GAC building, and the location of two sodium hypochlorite tanks.

Dr. Palmer asked how much extra it cost for maintenance of the GAC than what was budgeted, noting that the carbon had to be replaced because of how much rain had occurred.

Mr. Tungate stated that they had seen a big uptick in the TOC numbers on the raw water side, and that had an influence on what they were loading on the GAC vessels. He stated that the system itself did not have any maintenance other than some of the pumps that were involved, and the cost for replacement of the GAC depended on the market because it was a commodity. He noted that the price now was higher than it was in December because utilities were preparing for the May DBP season.

Ms. Galvin asked if it could be purchased while the price was low and stored.

Mr. Mawyer responded that staff was intending to do a public procurement to see what the lowest price was to provide the needed GAC and try to get the best market price – as well as a bid for regeneration – but they had not yet contemplated storing it. He stated that using GAC did create testing work for the laboratories, so one of the reasons for asking for a new chemist was because they were doing over 500 samples per month for the GAC program to monitor what was happening within the contactor vessels.

Ms. Galvin stated she also recalled that there were problems with chemicals and their reactions with the piping network system itself, and they did not have lead problems because they didn't have galvanized piping like they did in D.C. She asked if this led to greater longevity for the distribution system.

Mr. Tungate responded that when they brought the GAC online, the VDH asked them to evaluate the corrosivity of the water before and after GAC – and it was found that the water was not more corrosive after GAC, so it didn't really change the chemistry.

Dr. Palmer recalled that they were told the water chemistry here would work relatively well with chloramines.

Mr. Tungate stated that he did not remember that.

b. Presentation: Proposed FY 2020 – 2024 CIP

Mr. Mawyer reported that he had introduced the CIP to the RWSA Board in February, and there was discussion about bringing back the Ragged Mountain Reservoir to Observatory Treatment Plant pipeline and pump station projects, so staff reshuffled and brought the projects back to where they were in the earlier CIP and pushed some other projects out to keep the rates generally the same.

He stated that the new proposed CIP was $97.2 million, compared to the previous figure of $99.5 million provided in February. He stated there were still 42 projects in the program, with 37 to

complete this year and 5 split between the 2020-2024 CIP versus the 2025-2029 CIP to try to get the costs spread out further.

Mr. Mawyer stated that there were some major projects at Crozet, South Rivanna and Observatory treatment plants; the Sugar Hollow Dam rubber gate, slated to begin this year with replacement next summer; repairs to the South Rivanna Dam gates, which were discussed when they had the drought; the second pipe crossing under the Rivanna River and transmission main on Route 29 North, which would then hook into the new Route 29 Pump Station on Airport Road; a project at the North Rivanna Water Treatment Plant to relocate the lagoon that was flooded when they had the May 31, 2018 storm – with regulators requiring the lagoon to be moved; the Crozet Wastewater Flow Equalization Tank; security enhancements; and Ragged Mountain to Observatory water line and pumping station pulled back into 2022. He stated that this meant that $3.8 million of the total $18 million was funded within the first five years.

Mr. Mawyer presented information on a project first discussed with the Board in February, noting a dotted line on a map showing the new pipe from the Ragged Mountain Reservoir to the Observatory Water Treatment Plant and two older raw water pump stations that would also be replaced. He stated that this was an $18 million project, brought back to 2022 and extended to 2027 for completion. He stated that Rivanna was talking with UVA and VDOT about an alignment to get the pipe to the Observatory Treatment Plant, including easements.

Mr. Mawyer reported that they had already extended Beaver Creek Dam rehabilitation project schedule, with $13 million extended in the second five years, and for the Avon to Pantops water main, $2.7 million was pushed into the second five years. He stated they delayed rehabilitation of the gas storage vessel at Moore's Creek and the Berkley Sewer Pump Station near Albemarle High School. He stated the Berkley was a new project in the CIP, and both projects would start in 2025. He noted that they also deferred an addition to the Rivanna office building for staff space, along with work on biosolids thickeners at the Moores Creek wastewater treatment plant.

Mr. Mawyer reiterated that the proposed CIP for the next five years was $97.2 million. He stated they planned to use about $14 million in cash and $44 million in new debt. He stated that the ratio for the five-year plan would be 85% debt, 15% cash. He presented a payback schedule for the City that looked at 10 years of construction projects, noting that the rate increase would be 3.4% for this year and about 6% for the following four years – which was less than what staff had reported in February. He stated that the ACSA would have a 9% increase this year and would have about 7% each year of the following four years, which were also less than what was originally reported.

Mr. Mawyer summarized that the 2020-2024 CIP was $97.2 million with 37 projects in the five years plus five more projects that would be partially completed in that timeframe and finished in the second five years, representing a $56 million decrease from what the CIP was last year.

Dr. Palmer asked if the 15% cash was typical.

Mr. Wood responded that it was usually about 10%, as policy stipulated, and sometimes they would fall below but this year they were higher.

Mr. Mawyer added that staff would be bringing a cash reserves policy to the Board in late summer or fall, so they would know in the future how much to contribute to offset capital costs.

Mr. Gaffney asked if they had looked out 10 years for the CIP.

Mr. Mawyer replied that they actually projected out 15 years, but the rates were based on the next 10 years, and they were trying to make the rates relatively consistent.

Mr. Wood noted that in 2020, wastewater allocation shifted one percentage point from the City to the ACSA, so the costs based on flow were split 51%/49%, and the shift of 1% amounted to about $110K from the City to the ACSA.

Mr. O'Connell asked if the 15-year program was $250 million.

Mr. Mawyer confirmed this.

Mr. O'Connell stated that this was a big number.

Mr. Wood stated that it was also a 100% increase in assets.

Mr. Murphy asked for confirmation that with the Ragged Mountain to Observatory project, there were no expenses prior to 2022.

Mr. Mawyer responded that there were some, as they would be determining alignment and acquiring easements.

Ms. Galvin stated these were preconstruction costs.

Mr. O'Connell noted that there were those for Birdwood too.

Mr. Murphy stated that for City-owned parcels within the County, they should consider those impacts before committing.

Mr. Mawyer stated that they would get the available easements and go from there, and a lot of those were in VDOT right of ways. He noted that there were three City parcels that may be involved but not too many private parcels.

Mr. Murphy stated that they were also going through the 144 acres just acquired by the City.

Ms. Whitaker confirmed this.

Mr. Mawyer stated that no action was required at this time, and the budgets would be approved in May.

Mr. Krueger pointed out that the debt service for FY20 CIP was built into the operating budget, so the preliminary rates to be approved included all the projects for 2020.

c. Presentation: Proposed FY20 Operating Budget

Mr. Mawyer reported that the proposed FY20 operating budget was $36,167,000 – a $2.9 million or 8.7% increase over FY19, with $1.7 million in operating increase, and GAC representing $900K of that, and a debt service increase of $1.2 million. He stated that this translated to an increasing cost of $491K or 3.4% to the City over FY19, and $1.5 million or a 9% increase to the ACSA over FY19. He noted that Rivanna was using $667K from reserves to help offset expenses in the budget, but this could not be done perpetually, and it was almost all for GAC.

Mr. Mawyer explained that the budget continued to be dominated by debt service, with 47% of the budget being debt service; $8.5 million for personnel costs – salaries and benefits; the General Services costs included professional fees paid to consultants, utility costs, insurance, and permits. He stated that $6.6 million was for Operations and Maintenance, including chemicals for water treatment and GAC, building repairs, equipment repairs, and technology. He stated that Rivanna was debt-heavy with $200 million, with 47% in revenues paid out in debt service.

Ms. Galvin asked at what point they might consider getting staff instead of outside consultants and if 11% for General Services was a typical figure.

Mr. Mawyer responded that only $500K of the $4 million for General Service was for outside consultants.

Ms. Galvin noted that the cost of outside consultants periodically became an issue in the City's budget.

Mr. Mawyer stated that staff had met with him the previous day about wanting a new position, but this would also mean another office, more parking, more vehicles, computers, etc. – so the cost must include all of that. He stated that the way to evaluate it was whether it was a need they had all the time, or only twice a year for a week , and so forth – and they tried to use consultants if it wasn't a typical ongoing need, or a need that required regularly updated training and equipment that didn't make sense to budget.

Mr. Mawyer referenced a graph that showed the split between operating and debt service, with 53% operating and 47% debt service for the last three years consistently. He stated that they were able to accelerate the design, bidding and easement acquisition for the Birdwood waterline project and worked that all out, and thanked Michelle Simpson and George Cheape for managing that process. He stated they also started an instrumentation maintenance and calibration program, with an instrument tech position added in FY19 that has helped get that program launched. He stated that they were also starting the wholesale metering system and maintenance of existing meters in water plants and sewer pipes, and this program ensures that they were calibrated, with dependable information.

Mr. Mawyer stated that the RWSA had helped VDH prepare guidelines to manage harmful algae blooms, and Ms. Terry had led that effort. He noted that Ms. Whitaker had spent a lot of time on

the Route 29 pump station site acquisition with Mr. Krueger and others to decide how much they should pay for it. He added that they had completed the bathymetric/volume studies of the South Rivanna and Ragged Mountain reservoirs, and Ms. Terry would report on that in April. He stated that they finished the Crozet finished water pumping station, which helped pump water from the treatment plant into the distribution system. Mr. Mawyer stated that Ms. Nemeth and her staff have done a good job in recruiting for 19 positions since July 1, 2018.

Mr. Mawyer reported that they had about $275 million capital assets facilities, which included the five reservoirs, and there were six water treatment plants, wastewater plants, pump stations, and miles of pipe – as well as storm water management with the Lickinghole Creek Basin to diversify Rivanna's portfolio. He noted that they would do a bathymetric study of that basin in FY20.

Dr. Palmer asked when the Lickinghole Creek Basin would be dredged.

Mr. Mawyer responded that it would be informed by the bathymetric study and would have similar considerations as South Rivanna did.

Dr. Palmer commented that it was smaller but there were still people downstream who would be interested in the outcome of that study.

Ms. Whitaker stated that there was sediment coming in from upstream that was fairly significant, and she did not think the sediment in the basin was coming out from the dam as it was likely sediment being carried from upstream to downstream.

Ms. Galvin asked if this was being exacerbated by the excessive rain.

Dr. Palmer noted that the creek had changed its course a bit further down.

Mr. Mawyer noted that the facility was set up as a regional storm water retention area, so it was doing its job but required regular maintenance.

Dr. Palmer stated that she couldn't recall how Rivanna was charged with retaining a storm water retention area.

Ms. Whitaker stated that they owned and operated dams and thus seemed like a good candidate to own and operate a dam that removed sediments from the South Fork, as she recalled.

Mr. Mawyer stated that some budget drivers included replacement of the GAC at $900K and professional services for permits and study at $500K. He noted that the AWIA of 2018 required all utilities to do a risk and resiliency assessment, which was due in March 2020, and an emergency plan. He stated that Rivanna staff had done a study with a consultant a year or two ago and had a large part of the risk and resiliency assessment already completed but needed to fill in some gaps.

Mr. Mawyer noted that this was on the heels of the September 2001 bioterrorism act in New York, and the EPA had required all utilities to do a vulnerability assessment for bioterrorism. He stated that the EPA was now updating this to include more than just bioterrorism, as it should be for overall risk and resiliency and should consider natural disasters and manmade threats – so it was taking the baseline data but expanding it. He stated that Rivanna was required to complete this by March and certify to the EPA that they had completed it, so they were starting the process now.

Mr. Mawyer reported that Ms. Whitaker's team did annual dam inspections that the Department of Conservation and Recreation required, and even though there was a water withdrawal permit from the South Rivanna Reservoir, they were required to update the permit and submit it by 2022. He stated that the RWSA would get it started around January to update the withdrawal permit, and this was tied to the Community Water Supply Plan. He noted that there was also an internal agreement between the parties that every five years Rivanna would do a wastewater allocation measurement, with meters put in sewer pipes to see where the sewer was coming from in terms of City and ACSA – and costs were allocated based on those findings.

Mr. Mawyer reported that there were personnel costs in terms of staff salary merit increases, health insurance premiums increase, and two additional positions that he would discuss in more detail. He stated that biosolids disposal was a significant cost, and all of the biosolids coming out of the wastewater treatment process were put on a truck and shipped to Waverly, where they were made into compost – and that cost was about $600K annually. He stated that they were also working on maintenance of instruments and meters, and allocation of wastewater costs was also an issue in the current budget because it shifted 1% from the City to the ACSA and changed their contributions to those costs based on the retail wastewater flows as reported by those entities.

Ms. Galvin asked if the increased silt in rivers affected the longevity of the GAC.

Mr. Mawyer responded that there would likely be more organics when the water was turbid, and the filter would get dirty more quickly.

Mr. Mawyer reported that the operating expense increase was $1.7 million, with chemicals proposed to increase $1.1 million – with $900K just for replacing GAC material, which would have amounted to $1.5 million had they decided to replace it all twice. He stated they were still looking for the right mix with hybrid water and still achieve good results with DBP reductions. He stated that personnel merit increases represented about $164K or a 3% increase, with two additional positions: a construction inspector, who would help with the project at the Crozet Water Treatment plant, renovation at the South Rivanna Treatment Plant, and the Observatory Treatment plant, and building the Crozet Flow Equalization tank early in 2020; and a chemist in the laboratory to help with the 500-per-month samples for GAC-related items. He stated that healthcare premium increases were benchmarked at a 2% increase or $29K. He stated that the biosolids increase reflected the current year's costs of more than $600K to get next year's budget closer to actual. Mr. Mawyer stated that the same was true with the Rivanna Pump Station utilities and maintenance cost, now that the facility has been in operation for a year. He stated that other expenses included meter calibration, with an additional 25 meters brought into the program through the wholesale meter project.

Mr. Mawyer explained that the laboratory currently had three positions – Dr. Morris, one chemist, and one lab tech – and the new budget would add a second chemist; there were three inspectors in engineering, and the new budget would add another inspector. He stated they did not only construction inspection but the Miss Utility location projects. He stated that this would take the RWSA from 91 to 93 positions.

Mr. Mawyer reported that debt service was projected to increase $1.2 million to support the Birdwood waterline, Observatory Plant upgrade, South Rivanna Plant upgrade, the Ragged Mountain to Observatory pipe and pump station, the Crozet Water Treatment Plant under construction, Beaver Creek Dam work planned, and the Crozet flow equalization tank under the urban wastewater program, along with other projects in the CIP.

Mr. O'Connell asked for confirmation that debt service was increase $1.2 million and operations increase was $1.7 million.

Mr. Mawyer confirmed this.

Mr. Mawyer reported that the total budget was $36.167 million, an increase of $2.9 million over FY19, with the $1.7 million driven largely by the GAC material at $900K, and $1.2 million for debt service to cover planned projects. He noted that Mr. Wood distributed the costs between the City and ACSA, and there would be just an overall 1.2% increase in the water rate because $667K in reserves was being used to offset the water expenses, which was a cash reserve Rivanna had accumulated in anticipation of GAC being a cost issue.

Ms. Galvin asked if the reserves were replenished by the tap fees.

Mr. Mawyer responded that they were not, although Rivanna did get part of ACSA connection fees to help pay back the Buck Mountain loan.

Mr. O'Connell noted that it only amounted to about $40K.

Mr. Wood stated that the total was about $82K for two years.

Ms. Galvin asked if their connection fees were too low.

Mr. Mawyer clarified that this was just the contribution to RWSA for the connection fees, not the total amount.

Mr. O'Connell noted that the customers reaped the benefits of that.

Mr. O'Connell asked about other budgetary decisions that affected the increases, as at one point they had $1 million a year for GAC replacement.

Mr. Wood explained that they never really had $1 million built into the budget, and they started gradually increasing the expense side of the chemical budget and putting that money into

reserves, and they had built into the budget to reserve $450K; in the urban budget, they had $270K in the chemical budget, and that was based on running the GAC system in a hybrid approach with not all of the raw water passing through the GAC filters. He stated they had discussed last year the possibility of GAC regeneration and not having to change it out as often, so the operating conditions definitely changed but it was never built up to $1 million.

Mr. Mawyer stated that the costs were based on the results from actually having operated the GAC, and they were trying to create a strategy to optimize when DBPs started elevating unacceptably and avoid a diminishing return.

Dr. Palmer noted that it was costing $600K to dispose of the biosolids, and she would like to find out what it would mean to do this at Ivy – even though she knew it was highly controversial – as they were already composting other materials.

Mr. Mawyer responded that Mr. Tungate was working on an assessment of different alternatives for disposal of the biosolids, and that could be one item considered if there were the political will, as they had the technology to do it.

Dr. Palmer commented that Ivy had a lot of land there, and she would just like to know the options – as it would be more environmentally friendly to truck it only as far as Ivy.

Mr. Tungate stated they still disposed about 150 tons of biosolids a week, and he didn't know if the Ivy facility could handle it.

Mr. Mawyer stated that they had also been talking with McGill's at Waverly about bringing compost back, but it was made of biosolids – and if they could bring something back, perhaps it would help the cost.

Ms. Galvin asked who was buying biosolids.

Mr. Mawyer responded that landscaping companies, golf courses, parks, etc. were buying it.

Dr. Palmer stated that a lot of people around here spread biosolids on their farms, which was controversial, and they were selling it before they were trucking it down to Waverly. She asked if it was heat treated.

Mr. Mawyer responded that it was, noting that it needed to be heated to a higher temperature to get it to a class that humans could deal with.

Dr. Palmer stated her understanding was that the Class A was highly sought after.

Mr. Rob Haake responded that when they had the compost yard here, the demand was such that they couldn't keep it onsite – and traffic would be backed up to the gate on Saturdays.

Mr. O'Connell asked if it was sold in bagged form as well at McGill's.

Mr. Tungate responded that they were getting away from bagged form, but there was still some available.

Dr. Palmer stated that Ivy could be a potential site for that.

Dr. Palmer moved to adopt the preliminary rate resolution, which proposed rates for next year that supported the budget, and to set a public hearing on May 28 to adopt the rates. Mr. O'Connell seconded the motion, which passed unanimously (7-0).

Mr. O'Connell thanked staff for their hard work and flexibility in the budget process, as well as efforts to lessen impacts on customers.

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

There was none presented.

10. CLOSED MEETING

There was no closed meeting held.

11. ***ADJOURNMENT***

Ms. Galvin moved to adjourn the meeting. Mr. O'Connell seconded the motion, which passed unanimously (7-0).

The RWSA Board adjourned its meeting at 3:37 p.m.

Respectfully submitted,

Mr. Jeff Richardson
Secretary-Treasurer