RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
434.293.8858
www.rivanna.org

RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
December 17, 2024

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, December 17, 2024, at 2:15 p.m. at the Rivanna Administration Building, (2nd Floor Conference Room), 695 Moores Creek Lane, Charlottesville, VA 22902.

Board Members Present: Mike Gaffney, Jeff Richardson, Sam Sanders, Ann Mallek, Brian Pinkston, Quin Lunsford, Lauren Hildebrand.

Board Members Absent: None

Rivanna Staff Present: Bill Mawyer, David Tungate, Lonnie Wood, Jennifer Whitaker, Betsy Nemeth, Scott Schiller, Austin Marrs, Victoria Fort, Dyon Vega, Leah Beard, Annie West, Deborah Anama, Jacob Woodson.

Attorney(s) Present: Micah Schwartz.

1. *CALL TO ORDER*
Mr. Gaffney convened the December 17, 2024, regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:15 p.m.

2. *AGENDA APPROVAL*
There were no comments or questions on the agenda.

Ms. Mallek moved the Board to adopt the agenda. Mr. Sanders seconded the motion, which carried unanimously (7-0).

3. *MINUTES OF PREVIOUS BOARD MEETING*
a. *Minutes of Regular Board Meeting on November 19, 2024*
AS AMENDED: Line 620 - Change "State Water Control Board" to "State Water Commission"

Mr. Gaffney stated that Ms. Mallek had requested one change. He stated that in the new agenda, line 620 should be changed from "State Water Control Board" to "State Water Commission".

Ms. Mallek moved the Board to adopt the minutes from the meeting held on November 19, 2024, as amended. Mr. Pinkston seconded the motion, which passed unanimously (7-0).

4. *RECOGNITIONS*
There were none.

5. *EXECUTIVE DIRECTOR'S REPORT*
Mr. Mawyer stated that they were pleased to wrap up a successful year and looked forward to 2025. He stated that they had faced several challenges early in 2024, including submergence of

the Rivanna Pump Station and deflation at the Sugar Hollow Reservoir bladder. He stated that staff, along with their contractors and consultants, had worked hard to overcome these issues.

Mr. Mawyer stated that they were now about to begin a new project at Sugar Hollow, which Ms. Fort would likely discuss in more detail next month. He stated that the goal of this project was to install new connections to improve the piping system for the pneumatic system. He stated that previously, they had used a rubber sleeve, which separated in January when temperatures were very low. He stated that to prevent this, they would be installing welded flange connections that were bolted together, ensuring a more reliable system.

Mr. Mawyer stated that they had a good year in 2024 and appreciated the support they received from the Board. He stated that he would also like to take a moment to acknowledge the reappointment by the County and the City of Mike Gaffney, who would serve another two-year term.

Mr. Gaffney stated that he believed it would be his 23rd and 24th year.

Mr. Mawyer stated that as part of the strategic plan priority of employee development, he would like to recognize several staff members who have obtained training certifications. He stated that in the mechanical and electrical trades, David Heintges, Richard McElfresh, Perry Herring, Tyrone Hughes, Garrett Carver, and Matt Walker all completed training at ValleyVoTech. He stated that they would like to recognize their efforts.

Mr. Mawyer stated that the entire management team participated in a diversity awareness workshop last week, led by a facilitator from the Diversity Training Group. He stated that the three-hour session was informative and effective, and he believed they all learned a great deal. He stated that he attended the Virginia Biosolids Council annual meeting in Richmond last week, where they shared concerns about proposed regulations on PFAS and their impact on the land application of biosolids.

Mr. Mawyer stated that they shipped their biosolids to Waverly, Virginia, where they were made into compost and were not land applied. He stated that the Biosolids Council was closely monitoring legislation at both the federal and local levels due to the ongoing PFAS issue in drinking water, wastewater, and biosolids.

Mr. Mawyer stated that Brian Haney, Wastewater Manager, gave a tour of the plant to students from Monticello High School, and Betsy Nemeth, Director of Administration and Communications, had been coordinating and presenting topics to the UVA School of Public Health. He stated that they were interested in seeing the work the students would produce in this regard.

Mr. Mawyer stated the “Imagine a Day Without Water Art Contest” was wrapping up with ACSA and the City. He stated the winning submissions included work from students in various grades and schools throughout the area. He stated that the students demonstrated exceptional skill and artistry in their descriptions of the topic related to water. He stated that the theme was, "What’s your drop in the bucket?"

Mr. Mawyer stated that they continued to monitor drought conditions, and this map shown was the latest update from the state on December 15. He stated that the red boxes caught his attention, indicating an emergency warning for precipitation. He stated that although they had had received some recent precipitation, they were hoping it would continue in the coming weeks. He stated that groundwater levels were at normal levels, and the state reported that stream flows were also within normal ranges.

Mr. Mawyer stated that reservoir levels were under a watch status, but the Authority's reservoirs were in good shape. He stated that Ragged Mountain was down about a foot and a half and Sugar Hollow was intentionally lowered by five feet to facilitate a piping project inside the dam. He stated that they deflated the bladder to access the pneumatic controls in the gatehouse. He stated that the reservoir water quantity and quality were otherwise in good shape.

Mr. Mawyer stated that they had a productive meeting with Ann Wall, Deputy County Executive, to discuss the Upper Schenks Branch sewer pipe project. He stated they discussed whether the County would grant an easement for the pipeline or if they would have to install the pipeline in McIntire Road. He stated that they updated Ms. Wall on the project's status and provided her with the data about the project.

Mr. Mawyer stated that they lowered the water level at Sugar Hollow by five feet. He stated they met with the informal subcommittee to review the FY2026-2030 Capital Improvement Plan, which proposed 76 projects worth approximately $523 million over the next five years. He stated that they could imagine that most of those dollars were related to the water supply projects, including piping from Ragged Mountain to Observatory, Observatory to Free Bridge through the Central Water Line, and then from Rivanna to Ragged Mountain, as the larger of the projects. He stated that they were implementing some of the changes suggested by the committee and planned to introduce it to the Board in February.

Mr. Mawyer stated that as of yesterday, they were notified by the Virginia Department of Health that they would receive an additional $1 million for emerging contaminants removal, thanks to the Bipartisan Infrastructure Law funding. He stated that this funding supported the Crozet Water Treatment Plant GAC additions project, and over the last several years, they had received a total of $7.24 million through this program.

Mr. Mawyer stated that they were excited to receive these funds this year, designated as FY25 by the state, and they were also applying for more funds next year. He stated that this program dedicated a portion of the funds to disadvantaged communities and the other portion to non-disadvantaged communities, and they had been successful in the latter category.

Ms. Mallek asked if staff would brief the Board or send them an email with a brief update on the status of the Mechums Pump Station prior to the February CIP discussion. She stated that she had previously assumed it was included in the CIP, but she may be incorrect. She stated that she would appreciate an update on the recent activity at the pump station, particularly the high velocity coming through the small gap in the dam, which appeared to be causing erosion along the banks downstream.

Mr. Mawyer stated that it was in the CIP for demolition, but they had removed it because they had the potential to use it for water supplies benefiting Crozet. He stated that they were currently exploring this option.

Ms. Mallek stated that if the timeline was 2060, then something needed to be done in the meantime to get the obstructions out. She stated that it was also helping to fill up South Fork.

Mr. Mawyer stated that they had coordinated with Dr. Palmer this week and provided her with the necessary information regarding that topic. He stated that she had also raised the same question.

6. *ITEMS FROM THE PUBLIC*

Matters Not Listed for Public Hearing on the Agenda

There were none.

7. *RESPONSES TO PUBLIC COMMENTS*

There were no comments from the public, therefore, there were no responses.

8. *CONSENT AGENDA*

a. Staff Report on Finance

b. Staff Report on Operations

c. Staff Report on CIP Projects

d. Staff Report on Administration and Communications

e. Staff Report on Wholesale Metering

f. Staff Report on Drought Monitoring

g. Approval of Engineering Services – South Rivanna Reservoir Intake and Pump Station: Design, Bidding, And Construction Phase Services – Kimley-Horn Engineers

h. Amendment of the Capital Improvement Plan FY 25-29 – South Rivanna Water Treatment Plant – Sodium Permanganate System Improvement

Ms. Mallek moved the Board to adopt the consent agenda. Mr. Sanders seconded the motion, which carried unanimously (7-0).

9. *OTHER BUSINESS*

a. *Presentation and Vote on Acceptance: FY 24 Audit Report*
Matthew McLearen, CPA, CFE, Managing Director, Robinson, Farmer, Cox Associates

Matt McLearen, Managing Director of Robinson, Farmer, Cox Associates, stated that he would present the results of the FY24 audit and answer any questions the Board may have about the audit or the audit process. He stated that before he reviewed the Annual Financial Report, he would like to briefly review a separately issued letter that addressed communication with those charged with governance. He stated that this letter highlighted key responsibilities under the audit, including testing documents, controls, and financial statements.

Mr. McLearen stated that the auditee, the Authority, also had a responsibility to present records sufficient for the audit and maintain internal controls sufficient for audit purposes. He stated that the next item discussed in this letter was accounting estimates. He stated that these were a normal part of an audited financial report and included estimates such as the depreciable lives of long-term assets, infrastructure, buildings, vehicles, and other items. He stated that these estimates were used in computed depreciation expense.

Mr. McLearen stated that the second most significant estimate was related to pension and OPEB liabilities, which were measured annually, and the actuaries provided a document included in the annual financial report. He stated that the next item discussed was any difficulties encountered during the audit process. He stated that he was pleased to report that they encountered no difficulties in forming the audit.

Mr. McLearen stated that corrected and uncorrected misstatements were a normal part of the audit process, and they were required to disclose any uncorrected misstatements. He stated that those were audit adjustments proposed to the finance staff and management. He stated that they reported that there were no uncorrected misstatements. He stated that finally, they were required to disclose that management had sought a second opinion, such as a consultation with other auditors. He stated that they had no knowledge of management seeking a second opinion regarding the FY24 audit.

Mr. McLearen stated that the document contained two reports with the CPA firm's letterhead. He stated that the first was the independent auditors' report. He stated that the independent auditors' report was the official opinion on the accuracy and material accuracy of the financial statements. He stated that it was issued with an unmodified or clean opinion, without modification, for the FY24 audit.

Mr. McLearen stated the statement of net position was Exhibit 1, and it spanned two pages and listed the equity or net position for the Authority, which was $183 million as of June 30, 2024. He stated that the second statement was the statement of revenues, expenses, and changes in the net position, similar to an income statement. He stated that it reported the increase or decrease in the net position number, which was $10.2 million for the Authority for the year ending June 30, 2024.

Mc. McLearen stated that the third and final financial statement was the statement of cash flows. He stated that while there was a lot of information on this page, he would

like them to focus on the $46.9 million figure, which was the ending net cash position for the Authority as of June 30, 2024.

Mr. Mawyer asked if that included the cash that was borrowed.

Mr. McLearen stated that was correct. He stated that upon closer inspection, one would see that there was actually a decrease in cash. He stated that this was a normal occurrence when borrowing cash to fund capital expenditures. He stated that the decrease in cash of $14.1 million was largely driven by the increase in capital additions, which included the capital projects. He stated that the number was $23.7 million for the year ending of June 30, 2024, representing the expenditure of that cash, including the bond proceeds that were accumulated for that purpose, as reported on the statement.

Mr. McLearen stated that the second and final report was the independent auditor's report on internal controls. He stated that this report documented and disclosed significant deficiencies or material weaknesses that were discovered during the audit process. He stated that as part of the audit process, they were required to test those controls to report any significant deficiencies or failures in the internal control structure. He stated that they had not identified any significant deficiencies or material weaknesses during the FY24 audit.

Mr. Pinkston asked how many years the firm had been in operation and how long Mr. McLearen had been an auditor.

Mr. McLearen stated that he had been an auditor for maybe 12 years.

Mr. Gaffney stated that the firm had been in operation for at least 75 years.

Mr. McLearen stated that the firm had been in operation since the early 1950s.

Mr. Gaffney asked if there was a motion to accept the financial report.

Ms. Mallek moved the Board to adopt the Annual Comprehensive Financial Report for FY 2024. Mr. Pinkston seconded the motion, which carried unanimously (7-0).

b. *Presentation: Rivanna Conservation Alliance's Rivanna Restoration Projects and Water Quality Monitoring*
Lisa Wittenborn, Ph.D., Executive Director
Claire Sanderson, Ph.D., Monitoring Program Manager

Lisa Wittenborn, Executive Director of Rivanna Conservation Alliance (RCA), stated that RCA was formed in 2016 through the merger of Streamwatch and Rivanna Conservation Society. She stated that their mission was to work with the community to conserve the Rivanna River and its tributaries through monitoring, restoration, education, and advocacy. She stated that as a relatively small staff of five, they were able to accomplish a lot due to their strong partnerships in the community, including

with the Authority. She stated they also had a large and engaged group of volunteers who helped them in all of their program areas.

Ms. Wittenborn stated that they focused on six main areas, and one highlight was their education program, which took every sixth grader in the County and every seventh grader in the City on watershed field trips. She stated that these trips not only taught students about the importance of the Rivanna River, but also introduced them to various career paths in the field. She stated that they also organized stream cleanups. She stated that these events allowed people to explore and appreciate the river as an important part of their community.

Ms. Wittenborn stated that they also hosted various community events, such as the Rivanna River Fest, and engaged in advocacy. She stated that before she dove into their current restoration projects, she would like to highlight some of the significant benefits that came from these initiatives. She stated that the removal of the dam at the North Fork Water Treatment Plant was currently being considered or in conversation. She stated she wanted to show them what happened when the Woolen Mills Dam was removed.

Ms. Wittenborn stated that in 2006, a graduate student at UVA and other state officials conducted a fish survey. She stated that this study used a series of dots shown on the map, with the size of the dot representing the number of fish of a particular species. She stated that the results showed six species and 67 fish when the dam was still in place. She stated that a follow-up survey in 2019 revealed a significant difference, with 32 species of fish and over 1,000 individual fish. She stated that the removal of the dam made a substantial impact on water quality and habitat in the river.

Ms. Wittenborn stated that her conversation with a colleague in 2019, while standing in Darden Towe Park, sparked an idea. She stated that they noticed the exposed sewer line and the severe erosion on the riverbank. She stated that the RWSA team quickly stabilized the area, but they did not want the entire riverbank to resemble riprap. She stated that they decided to conduct a study to determine the worst areas of erosion in the river corridor, so they could address potential problems proactively.

Ms. Wittenborn stated that the study's results, funded by a grant from the National Fish and Wildlife Foundation, showed five miles of the river with relative erosion rates along those stretches. She stated that as part of the grant, they proposed an area for restoration. She stated that they examined various factors that could impact the success and benefits of the restoration project, and they decided that Riverview Park would be the best location for them to propose a project.

Ms. Wittenborn stated that Riverview Park was facing significant erosion. She stated that the restoration of this area would provide numerous benefits for water quality and habitat stabilization. She stated that they chose Riverview Park for its community benefits, as it was the most used park in the City and a beloved destination with many amenities, including a playground and the Rivanna trail. She stated that the park was also the City's only public access point to the river, making it a crucial location for their

community. She stated that they decided to propose a restoration project there and were able to secure a planning grant to explore the feasibility of the project.

Ms. Wittenborn stated they worked with Ecosystem Services, a firm that conducted hydrology, hydraulic analysis, and surveys to determine the most effective type of restoration that would be stable in the long term. She stated that they wanted to ensure that their proposed restoration would be effective and stable. She stated that while Ecosystem Services focused on the technical aspects, RCA handled community engagement, as this project was their initiative and not mandated by the City.

Ms. Wittenborn stated that they conducted public meetings, distributed forms for community input, and engaged with hundreds of people through online forums and in-person events. She stated that the overwhelming response was positive, with the community expressing a strong desire to see the project move forward. She stated they incorporated the community's input and the engineering work to create a proposed design for the restoration project.

Ms. Wittenborn stated that they were fortunate to receive a $500,000 grant from National Fish and Wildlife Foundation for implementation. She stated that when they submitted the proposal, the total project cost was slightly over $800,000, but since then, the costs had increased significantly due to the rising construction costs. She stated they had already secured private foundation funding, and they had a large grant proposal pending with the state's local stormwater assistance fund, a CIP request submitted to the City through the Parks Department, and they were also seeking contributions from ACSA and RWSA.

Ms. Wittenborn stated that one of the reasons this project would be of interest to RWSA is that it involved stormwater outfall restoration. She stated that the erosion was dramatic. She stated that the channel was very deep and wide, and every time the river came up, it ate away another chunk of it. She stated that this was quickly moving towards the ACSA line and then the RWSA sewer line. She stated that as part of their project, they aimed to fill this channel and stabilize it with step pools to protect the existing infrastructure.

Ms. Wittenborn stated another aspect of the project was to improve access for the community. She stated that currently, there was only one set of stairs that everyone had to use to get in and out of the river, which could be quite hazardous, especially during the summer with boats and children. She stated that to address this, they planned to create a low slope access area with a nice path down, which would serve as a floodplain bench. She stated this area would allow the river to expand while also providing a safe access point for the community. She stated that the boat ramp would be relocated further downstream, and they would also install more informal access points upstream.

Ms. Wittenborn stated that a significant part of the project would be replanting native vegetation, which would help regrade the banks and hold them in place long-term. She stated that they were excited about the plan, and construction was expected to start about

a year from now. She stated that she would briefly summarize their current project focused on forest health in the Rivanna River Corridor. She stated that despite efforts to plant new trees, they were allowing existing trees to be taken down by invasive vines.

Ms. Wittenborn stated that to address this, they had formed a partnership with various organizations and conducted assessments of 134 acres of forest in three parks: Riverview, Darden Towe, and Pen Park. She stated that they had identified areas with high levels of invasive cover and native trees, with the goal of preserving the canopy. She stated that they had compiled data, prioritized these areas, and hired a contractor to begin invasive management in January.

Ms. Wittenborn stated that they would be backfilling with new trees where necessary. She stated that this project involved significant volunteer engagement and was expected to have a long-term impact. She stated that for reference, she included some invasive cover maps, which showed the extent of vine coverage in Riverview Park. She stated that these images demonstrated the prevalence of invasive species, with nearly all trees in certain areas covered in vines.

Ms. Mallek stated that she was wondering, for plants like native grapevines, if it was possible to simply cut the root and stem off at the ground, allowing the plant to die, or if the roots needed to be completely ripped out. She stated that that was probably a considerable amount of what was in those trees.

Ms. Wittenborn stated that they were attempting to minimize the impact on the native species as much as possible. She stated that their focus was on eradicating the invasive species, and many of these would return if herbicide was not applied to the cut end of the stump. She stated that this required a precise application of herbicide on the cut stem, and this work was not done by volunteers. She stated that they were working with Parks Department staff to ensure that this treatment was applied correctly.

Mr. Gaffney asked if it worked for Russian olive.

Ms. Wittenborn stated that it did work for autumn olive. She stated that their first volunteer workday in Riverview was focused on autumn olive removal.

Claire Sanderson, Director of Monitoring at RCA, stated that she would like to briefly discuss their water quality monitoring programs. She stated that they had two main volunteer-supported programs: one for bacteria and one for benthic or biological samples. She stated that approximately 80 trained volunteers contributed to collecting data across both programs annually.

Ms. Sanderson stated that both programs had been certified as level three by VDEQ, the highest level of certification for a volunteer-supported program. She stated that this certification ensured that the data collected by their volunteers was of the highest quality, comparable to data collected by VDEQ itself. She stated that as a result, they can utilize this data for essential environmental decision-making purposes, such as

identifying impaired waters, evaluating Total Maximum Daily Loads (TMDLs), and informing local partners and community members.

Ms. Sanderson stated that the bacteria monitoring program has been in operation for the past 12 years, with volunteers collecting water samples at 22 sites in and around Charlottesville. She stated that they test for E. coli and turbidity to determine the recreational water quality for these sites. She stated that to achieve this, they had three different sampling schedules. She stated that first, they collect samples once a month from March to November, providing a general overview of the situation. She stated that they can then conduct additional monitoring if necessary.

Ms. Sanderson stated that in the spring, nine potential recreational sites were sampled weekly for 10 weeks to see if they meet Virginia's water quality standards for recreation. She stated that in the summer, they performed weekly tests at three high recreational sites, Darden Towe Park, Riverview Park, and the Palmyra boat launch. She stated this was done in partnership with the James River Watch. She stated that the data was posted on the James River Watch's website, as well as the swim guide app, allowing the public to make informed decisions about recreation in the water.

Ms. Sanderson stated that they also conducted extra monitoring when needed and source tracking when they saw unusually high levels of E. coli. She stated that in the stream health report, they publish the results every year, and they report on the data from the previous year. She stated that the 2023 bacteria monitoring results were available as shown. She stated that a map of all 22 sites was provided, color-coded according to the percentage of samples with E. coli levels under Virginia's water quality standard for recreation, which was 410 counts of E. coli per 100 ml of water.

Ms. Sanderson stated that for example, the three highly popular sites had high percentages of samples meeting the recreational water quality standard. She stated that the numbers were higher than they were in 2022. She stated that the biological monitoring program had been in operation since 2002, with volunteers collecting benthic macroinvertebrates. She stated that these organisms had different levels of tolerance to pollution, and by collecting and identifying them, they could determine the water quality at each location.

Ms. Sanderson stated that they had 50 long-term monitoring sites throughout the Rivanna River watershed, which were depicted on the map as pink hexagons. She stated that they sampled twice yearly, once in the spring and once in the fall. She stated that due to the variability in benthic scores caused by weather and seasonal fluctuations, when analyzing the results for the report, they considered the last three years of data. She stated that the results focused on the benthic results from 2021 to 2023. She stated that the map displayed all the long-term monitoring sites, which were color-coded according to the stream health score. She stated that sites with scores above 60 were considered to be meeting Virginia's water quality standard for aquatic life.

Mr. Pinkston asked what the major causes for low scores were.

Ms. Sanderson stated that there were numerous factors at play. She stated that increasing sediment could significantly impact the organisms, particularly those with sensitive gills that could become clogged. She stated that pH changes, temperature fluctuations, and exposure to pesticides, herbicides, and other pollutants also contributed to the issue. She stated that variations in weather and rainfall patterns affected them.

Ms. Sanderson stated that in this year's report, 70% of their sites failed to meet Virginia's water quality standard for aquatic life, which may seem alarming, but it represented a 4% improvement from last year. She stated that further information related to the report was available on their website.

Ms. Mallek asked, when in the small percentage where it failed, because 87% passed, what kind of notice was provided to the public to prevent people from using the river for recreation.

Ms. Sanderson stated that they did not typically make public announcements. She stated that the river usually had high E. coli levels after heavy storms. She stated that they instructed people on their website and elsewhere to not use the river after storms and to wait 48 to 72 hours after heavy rain. She stated that when they experienced elevated levels that persisted, they worked closely with the City. She stated that if the site was within the City's jurisdiction, they would issue public notices, and the City would also issue their own notice as well.

Ms. Wittenborn stated that at all river access points, they had a kiosk with a QR code that directed users to their current bacteria results page. She stated that this allowed visitors to view the most recent results.

Ms. Mallek left the meeting at 2:57 p.m.

Mr. Gaffney stated that at Moores Creek, they were proud of the quality of water that came out of the plant. He stated that the readings from the two reports were concerning, and he noticed that Pollock's Branch and Lodge Creek, which were upstream, also had low readings. He stated that he was wondering if the issues contributing to Moores Creek's low readings were related to broader issues in the City and the County.

Ms. Sanderson stated that the Moores Creek site was generally considered good. She stated that it tended to exceed the 410 level during heavy rainfalls. She stated that it may also be affected by rainfall from other locations. She stated that they had been experiencing ongoing issues at Pollock's Branch, which had resulted in elevated E. coli levels. She stated that overall, the site was fairly good, but heavy rainfall could cause it to spike and lead to exceedances.

Mr. Mawyer asked if they sampled on a regular schedule or in relation to the river's quality level. He asked if they would wait if there was heavy rainfall even if it was the sample day.

Ms. Sanderson stated that if that was their sample day, they would still sample if it was safe to do so and if the volunteers felt comfortable doing so. She stated that if not, they would either wait a day or skip the sampling altogether.

Mr. Mawyer asked if they waited until normal water clarity to sample.

Ms. Sanderson stated that they did not.

Ms. Wittenborn stated that the revised Virginia Water Quality Standard required taking a sample on a regular schedule, every week, regardless of the conditions.

Mr. Pinkston asked if they covered the entire Rivanna watershed.

Ms. Sanderson stated that they did. She stated that it was approximately 766 square miles, which was their area of work.

Mr. Pinkston asked if there were any partner agencies in the adjacent areas.

Ms. Sanderson stated that they partnered with several organizations. She stated that there were numerous water quality monitoring groups throughout Virginia. She stated that they stood out, however, as the only group to hold both level three certification for their benthic and bacteria monitoring. She stated that in contrast, many groups that analyzed benthic data typically held level two certification.

Ms. Wittenborn stated that if one examined a map of Virginia, it was possible to identify the Rivanna watershed due to the high concentration of monitoring sites they had. She stated that their partners at the VDEQ informed them that this concentration of sites enabled them to concentrate their efforts in other areas where they did not have similar groups.

Mr. Pinkston stated that they also mentioned the possibility that the Authority might partially fund the work at Riverview Park.

Ms. Wittenborn stated that was the hope. She stated that when they submitted the grant proposal for the implementation grant two years ago, RWSA returned a letter stating it would support the project, but the letter did not include a specific dollar amount.

Mr. Gaffney asked what the Authority's current annual contribution was.

Ms. Wittenborn stated that the Authority contributed $20,000 to support the program work.

Mr. Mawyer stated that he would like to know if they could provide an estimate of the additional contribution they would request.

Ms. Wittenborn stated that she believed they had initially estimated $20,000. She stated that ACSA was also asked to make an in-kind contribution.

Mr. Pinkston asked if the request was enough to cover the project costs.

Ms. Wittenborn stated that it would not be enough if they did not secure additional funding. She stated that it was a complex puzzle of bringing all the pieces together.

Mr. Pinkston stated he thought it would be beneficial to have conversations outside of this meeting about the numbers they were discussing. He stated he believed the numbers seemed relatively low.

Mr. Mawyer stated that they were currently working on the budget, and he would discuss an appropriate amount with Ms. Wittenborn and bring it up for discussion in March.

Mr. Pinkston stated that this project seemed to have the potential to unlock opportunities for many different people. He stated that he believed they could contribute more than the proposed amount.

Ms. Wittenborn stated that she hoped that the City budget would be announced soon.

Mr. Gaffney stated that he believed the City could increase its contribution.

Mr. Pinkston stated that he did not disagree.

Ms. Wittenborn stated that they should hear about the largest remaining pot of money, the Stormwater Local Assistance Fund, which was expected to be announced in February. She stated that if they received CIP funds, they would be in a good financial position, unless construction costs increased significantly this year.

Mr. Sanders asked if the request would come through the Parks Department.

Ms. Wittenborn stated that it was a $250,000 request through the Parks Department.

c. *Presentation and Vote to Consider Award of Construction Contract and Amendment to the CIP for the Crozet Wastewater Pump Stations Repairs Project – Waco, Inc.*
Dyon Vega, P.E., RWSA Civil Engineer

Dyon Vega, Civil Engineer, stated that he was presenting on the Crozet wastewater station repairs project for the construction award and CIP amendment. He stated that the Crozet service area flowed by gravity to Crozet Pump Station 4 and was then pumped to the urban area, where it flowed by gravity and was treated at Moores Creek.

Mr. Vega stated that the pump stations, constructed in the 1980s, had reached their useful life. He stated that along with the pump stations, they would be replacing the

pumps, including 11 new pumps. He stated that at Pump Station 4, they had a flow equalization tank that dampened peak flows to the urban service area during high storm events. He stated that the Crozet flow equalization tank, which was recently constructed, served to trim peak flows to the urban service area. He stated that during a storm event, it filled up and, after the storm, it drained and flushed automatically. He stated that it held 1 million gallons of wastewater, and it was designed to handle a two-year storm event.

Mr. Pinkston asked if the tank was filled by pump or gravity.

Mr. Vega stated that it was filled by pump. He stated that it was equipped with two pumps that could fill the tank and also convey wastewater downstream. He stated that the current budget for the project was $10.9 million. He stated that the engineer's estimated construction cost was $7.8 million, and the only bidder came in at $10.3 million. He stated that they had discussions with the contractor to reduce the price, and they were able to reduce the cost by $760,000.

Mr. Vega stated that the modifications and cost-saving measures they implemented included the unique design of Crozet Pump Station 3, which resembled a chicken coop. He stated that unlike the other pump stations, this pump station was designed differently at the request of the original property owner. He stated that they were able to eliminate the enclosure, saving a significant amount of money by not replacing it. He stated that they were also able to reduce the cost of temporary bypass pumping by modifying the system with the contractor.

Mr. Pinkston stated that the Waco bid included two temporary diesel generators. He stated that it was unclear whether this was temporary during the construction phase.

Mr. Vega stated that one pump would be used as a temporary bypass pump, and one pump would be placed on standby in case the primary bypass pump failed. He stated that these pumps would only be used during the construction process.

Mr. Pinkston stated they would use an electric generator and a diesel generator. He asked what an electric generator was serving.

Mr. Vega stated that it was an electric pump for the bypass process during construction, so they were saving on fuel costs.

Mr. Mawyer asked if the pump would use the pump station’s electric service.

Mr. Vega stated that it would use the pump station service.

Mr. Gaffney stated that he had a question regarding the Lickinghole Creek impoundment. He stated that he did not know if the water level typically got lowered before a significant storm.

Mr. Mawyer stated that the impoundment was substantially full of silt, but they did not lower it before a storm. He stated that they had a project in the long-range CIP to dredge the stormwater impoundment. He stated that the basin was losing capacity, and it was designed and built to protect the Rivanna River from development when Crozet expanded.

Mr. Gaffney asked what they would do with the silt.

Jennifer Whitaker, Director of Engineering & Maintenance, stated they would probably search for a suitable disposal site, similar to some of the investigations they had conducted for South Fork reservoir many years ago.

Mr. Pinkston stated that they received only one bid. He asked if there was consideration given to re-bidding the project.

Mr. Mawyer stated that they wanted to complete the work as soon as possible, but they had conducted a thorough review of the bid totals with the engineer. He stated that they were able to bring the estimate down to within $1.7 million of their original estimate, which seemed reasonable compared to pricing received on other recent projects. He stated that he believed the cost was fair and reasonable.

Mr. Mawyer stated that if a contractor was extremely anxious to be competitive, re-bidding could potentially lead to a lower bid. He stated that there was also a risk that no contractors may bid on the project, resulting in a zero-bid scenario.

Mr. Pinkston stated that this aligned with the engineer's opinion.

Mr. Mawyer stated it did. He stated that they were familiar with Waco Construction, having worked with them previously.

Mr. Pinkston asked if this was only for one pump station.

Mr. Vega stated that it was for all four pump stations in Crozet. He stated that there were eleven total pumps to be replaced.

Mr. Gaffney stated that ACSA was covering 100% of the costs.

Mr. Mawyer stated that wastewater from Crozet was conveyed to Moores Creek for treatment through the 4 pump stations. He stated that in the past, when they experienced odor complaints, the issue was often reported in the valley near the Ivy Store. He stated that they had a turnkey contract in place to address odors, which involved the use of chemicals to minimize them. He stated that the company monitored the sulfides present in the wastewater and adjusted the levels with chemicals, including a bioxide chemical, to reduce odors.

Mr. Richardson moved the Board to authorize the Executive Director to award a construction contract to Waco Construction Company in the total amount of $9,583,350 and to approve any change orders to the construction contract as necessary for the completion of the work, not to exceed 10% of the original construction contract award. Mr. Pinkston seconded the motion, which carried unanimously (6-0). (Ms. Mallek was absent)

Mr. Sanders moved the Board to amend the FY 25 – 29 CIP for the Crozet Wastewater Pump Station Repairs project to increase the budget by $1,450,000. This amendment would bring the total budget for the project to $12,350,000. Mr. Pinkston seconded the motion, which carried unanimously (6-0). (Ms. Mallek was absent)

Mr. Richardson left the meeting at 3:15 p.m.

d. *Presentation: Dam Safety Program Update*
Victoria Fort, P.E., Senior Civil Engineer

Victoria Fort, Senior Civil Engineer, stated that she would provide an overview of the Dam Safety Program and its various components and contributors. She stated that after Hurricane Helene's residual rainfall, the Beaver Creek Reservoir water surface elevation peaked at more than six feet higher than the normal pool. She stated that the dam was designed to handle such flows, but it was the highest she had seen the water.

Mr. Mawyer asked what would happen if the water level continued to rise.

Ms. Fort stated that eventually, the water would reach an elevation where it would activate the auxiliary spillway. She stated that most of the water flowing from the lake into the stream below passed through a pipe, which was visible along the road. She stated that the primary spillway was the pipe, and when the capacity of that spillway was reached and the water continued to rise, the auxiliary spillway came into play to carry the water around the dam, preventing it from overtopping. She stated that an auxiliary spillway structure was a safety feature commonly included in earthen dams, and it was designed to divert water away from the dam.

Ms. Fort stated that looking at the United States as a whole, there were over 92,000 dams, with an average age of more than 60 years, according to a figure from last year. She stated that as dams aged, they became more prone to safety issues. She stated that in Virginia, there were approximately 3,700 known dams, with about 1,700 of those classified as an unknown hazard. She stated this lack of information made it difficult for the state to understand the potential impacts of dam failures downstream.

Ms. Fort stated that Albemarle County had 240 dams, the highest number in any single county in the state. She stated that Bedford County also had several dams. She stated that in Albemarle, there were 20 high-hazard dams, which, if they were to fail, would result in loss of life. She stated that 118 of the dams in the County were classified as an

unknown hazard potential, making it challenging to assess the downstream risks. She stated the state was investing significant time and resources into addressing these concerns, and they hoped to see improvements in these numbers.

Ms. Fort stated that according to the ASDSO Dam Incident Database, there were 31 recorded dam incidents in Virginia since 2019, with 12 of those classified as dam failures. She stated that these incidents highlighted the need for continued vigilance and understanding of the hazards associated with dams, particularly in their community. She stated that dam failures could have catastrophic flooding consequences, including loss of life and significant economic damage.

Ms. Fort stated one of the most common forms of dam failure was overtopping due to extreme rainfall. She stated that as storms continued to intensify and become more frequent, their infrastructure, particularly their dams, became increasingly at risk.

Ms. Fort stated she wanted to discuss dam incidents and the importance of dam safety, particularly in relation to Rivanna. She stated that as they had previously discussed, in January, a malfunction of the rubber bladder at the Sugar Hollow Dam had occurred. She stated that although they were fortunate that there was no major damage downstream, the potential for injury or loss of life was present. She stated that they responded quickly, and Albemarle County Fire Rescue and Police also responded quickly. She stated that to increase the safety of the facility, they were taking several steps.

Ms. Fort stated that although their facility at Sugar Hollow was in compliance with state standards and well-maintained, these types of emergency events could still occur. She stated that being prepared for them was crucial for ensuring public safety. She stated that in response to the recent failure, they were moving forward with air piping modifications. She stated that the rubber dam was currently deflated and out of service until the work was completed in the next few months.

Ms. Fort stated that they were also working on installing additional sensors and had implemented a number of additional alarms at the facility. She stated that they were considering the installation of an audible warning system, or siren system, to alert downstream neighbors who may not have cell service or other means of communication in the event of a dam emergency. She stated that these measures were aimed at protecting public safety, building on the lessons learned from the January incident.

Mr. Pinkston asked for clarification about failures from overtopping.

Ms. Fort stated that this was primarily related to earthen dams. She stated that the Beaver Creek Dam featured an embankment with a pipe through it as its primary spillway. She stated that there was also an auxiliary spillway or emergency spillway located to the side, as the last thing they wanted was for the dam to overtop. She stated that this could lead to erosion and failure. She stated that a rapid increase in water level, which caused overtopping, was one of the most common forms of failure.

Ms. Fort stated that rainfall that exceeded a dam's design was a common failure point. She stated that they had seen this at Clover Dam, for example. She stated that in May 2018, the dam overtopped due to a sudden rise in water level, causing erosion. She stated that another significant event this year was Hurricane Helene, which brought heavy rainfall to the East Coast, including Virginia. She stated the storm caused catastrophic flooding, landslides, and widespread damage, affecting several dams in North Carolina and potentially Tennessee.

Ms. Fort stated that these types of storms did occur in the region, and it was essential for them to anticipate them, maintain their facilities, and be prepared for emergencies. She stated that a recent incident in Greene County involved the Greene Mountain Lake Dam, which was partially breached and was currently under a potential failure watch. She stated the state was closely monitoring the situation.

Ms. Fort stated that in Virginia, dam safety was overseen by the Department of Conservation and Recreation (DCR), which ensured that dams had proper and safe design, construction, operation, and maintenance to protect public safety. She stated that all dams in Virginia were subject to regulations except for certain situations. She stated that dams under a certain size were exempt. She stated that dams owned or licensed by the federal government, such as those regulated by FERC, were exempt from state regulations. She stated that dams operated for mining, agriculture, or canals were exempt from any kind of regulation in Virginia. She stated that mining and canals may fall under different jurisdictions.

Ms. Fort stated she oversaw the dam safety program, but it involved a large team, including senior management, administration, engineering, operations, maintenance, IT, and many others who worked daily to ensure their dams were safe. She stated that this included monitoring them with instrumentation, having professionals inspect them, and maintaining permitting and regulatory compliance. She stated that they also had internal dam safety policies, which they updated regularly. She stated that they updated, trained on, and did exercises for their emergency action plans. She stated that they invested significant funding in maintaining vegetation at all their facilities, which helped protect the dams from rodents and root intrusion and allowed for proper inspections and repairs.

Ms. Fort stated that there was also an aspect of public safety and outreach, as they posted signs at all facilities, ensuring they remained visible and communicated the risks to the public. She stated they participated in Rivanna Riverfest annually, educating the public about dam safety and risks. She stated that they completed studies and reports as needed for regulatory compliance, conducted regular inspections and surveys, and had operators perform daily safety checks at most facilities.

Ms. Fort stated that they inspected all dams monthly and annually with professional engineer inspections as required. She stated that many of their dams were monitored remotely with instrumentation or through site visits on a regular basis. She stated that as

these were drinking water storage facilities, they were an integral part of their daily operations.

Ms. Fort stated that she had included a list of all their facilities, including RWSA and RSWA. She stated that they had four high-hazard dams, including the South Rivanna Dam, currently under the jurisdiction of FERC, the Ragged Mountain Dam, the Sugar Hollow Dam, and the Beaver Creek Dam. She stated that they had three dams classified as low hazard, the Totier Creek Dam, the Lickinghole Creek Dam, and the Buck Mountain Dam.

Ms. Fort stated that they also had three dams that were not subject to state regulation but were still considered impounding structures, the North Fork Rivanna Low Head Dam, the Mechums River Low Head Dam, and the Ivy SWRC Pond Dam. She stated that the South Fork Rivanna Dam was currently regulated by FERC, but they were in the process of transitioning it to state jurisdiction. She stated that they had decommissioned the hydropower facility, which was built in the 1980s, and they were awaiting final approval from FERC before transferring it to the state.

Ms. Fort stated that the original dam, constructed in the 1960s, was a 700-foot-long, 54-foot-tall concrete gravity dam with a full overflow spillway. She stated that it should have at least a lifespan of 100 years or more. She stated that they maintained the facilities regularly and performed concrete and steel repairs to address what were mostly cosmetic issues. She stated that they conducted regular inspections to ensure they remained safe. She stated that as long as this maintenance continued, it was expected to meet safety standards for the foreseeable future.

Mr. Pinkston asked how tall the dam was.

Ms. Fort stated that from the top of the crest to the stilling basin, it was about 30 feet. She stated that when discussing the overall height of a dam, they were referring to the top of the dam, which was the top of the abutment. She stated that the Sugar Hollow Dam was similar in this regard. She stated that when talking about the height of the dam, they were not referring to the spillway, but rather the abutments. She stated that the height of the dam was the point at which the water would need to rise to start eroding the earth on either side.

Ms. Fort stated that the Ragged Mountain Dam, built between 2012 and 2014, was an earth-filled dam that stood 125 feet tall and 785 feet long, making it their largest earthen dam. She stated that this dam would impound an additional 12 feet of water, which it was built to accommodate. She stated that the project would move forward next year, allowing them to store an additional 700 million gallons.

Ms. Fort stated that the Sugar Hollow Dam, built in the 1940s, was upgraded in the late 1990s and early 2000s following significant damage from a 1995 flood. She stated it was a concrete gravity dam with a rubber crest gate, a five-foot-tall rubber tube that spanned the top of the dam, allowing them to control the water level behind it. She

stated that the bladder was originally installed in the early 2000s and replaced in 2021. She stated that the dam was 480 feet long and 96 feet tall.

Ms. Fort stated that the Beaver Creek Dam, the last of their high-hazard dams, was built in 1963. She stated it was an earth-filled dam, 530 feet long and 60 feet tall, and it also served as an Albemarle County Park, offering various recreational activities. She stated that the Browns Gap Turnpike ran along the crest of the dam. She stated that this project was currently in the design phase for upgrades to the spillway.

Ms. Fort stated the auxiliary spillway played a crucial role in managing water levels in the reservoir, particularly during heavy rainfall events. She stated that originally built as a significant hazard dam in the 1960s, the facility had undergone upgrades due to changes in regulations and development downstream, resulting in it being classified as a high-hazard dam. She stated that this classification increased the amount of storm runoff the facility must manage. She stated that the auxiliary spillway was undersized to handle the full capacity, known as the Probable Maximum Flood (PMF).

Ms. Fort stated that to address this, they planned to fill in the auxiliary spillway and install a new spillway through the dam. She stated that the new spillway would feature a labyrinth weir, an accordion-shaped structure that could efficiently manage a large amount of water with a minimal footprint. She stated that this design would enable them to quickly release water from the reservoir during heavy rainfall events.

Ms. Fort stated that the project would also involve relocating the raw water pump station, currently situated at the dam's toe, to a site on the reservoir. She stated that the Natural Resources Conservation Service was funding 100% of the design for eligible components of the project, and they planned to apply for funding for construction next year.

Ms. Fort stated that Totier Creek Dam and Lickinghole Creek Dam were two low-hazard dams. She stated that Totier Creek Dam was an earth-filled dam constructed in the 1970s, measuring 277 feet in length and 35 feet in height, making it a smaller-scale structure compared to some of their other earthen dams. She stated the Lickinghole Creek Dam was built in the 1990s and served as a sediment storage basin within the South Rivanna River watershed. She stated that it prevented sediment from the Crozet area from entering the South Rivanna basin. She stated the dam was 458-foot-long and approximately 32 feet tall.

Mr. Pinkston asked if the whole purpose of the Lickinghole dam was to capture sediment.

Ms. Fort stated that was correct. She stated the dam did not have a water supply storage purpose, instead, it protected the water supply by preventing contamination. She stated that the Buck Mountain Property Dam was classified as a low-hazard dam, built in the early 1980s, and was acquired by Rivanna as part of the Buck Mountain Property

purchase. She stated it did not provide any water supply function, and it was situated on property that will eventually be part of any future Buck Mountain Reservoir.

Ms. Fort stated the dam was an earth-filled structure, measuring 190 feet long and 33.5 feet tall. She stated that recent studies revealed that the primary spillway conduit, a pipe that ran through the dam, had reached the end of its useful life due to significant corrosion. She stated that as a result, the dam will likely require either extensive repairs or removal to address these deficiencies. She stated the issue was being programmed into the CIP, and they will continue to monitor the dam's condition to ensure its integrity. She stated that if they noticed any degradation in the dam's condition, they will likely drain the pond until they can secure funding to address the issue.

Ms. Fort stated that the size of the dam impoundment was substantial enough that they would need to lower the dam height by approximately two-thirds to bring it below regulatory size. She stated that fortunately, it was considered a low-hazard dam, and they would not expect any major damage or loss of life in the event of a failure.

Ms. Fort stated that they had three unregulated dams, including the North Rivanna Low Head Dam, which served as the intake for the North Rivanna Water Treatment Plant. She stated that the plant was slated for decommissioning in the near future, and at the same time, the dam will be removed. She stated that they were collaborating with the U.S. Fish and Wildlife Service on this project, which will take over the design, permitting, and construction of the dam removal. She stated that this partnership was a great asset, and they hoped to secure the necessary funding.

Ms. Fort stated that the Ivy SWRC Pond Dam was being upgraded with a dry hydrant, which provided a fire suppression function. She stated that they had previously lowered the pond a few years ago to bring it below regulatory size and reduce the potential impoundment. She stated that the Mechums River Low Head Dam was currently not in operation for water supply, but it was being kept in place until they determined the longer-range water supply needs.

Ms. Fort stated that their approach to dam emergencies was to design them with a high level of conservatism to minimize the potential for failure in emergency situations. Even though these events were considered low-probability, they could have extremely high and severe impacts on downstream communities. She stated that potential causes of dam emergencies and failure included rainfall in excess of what the dam was designed to handle, material failure, vandalism, or terrorism. She stated that they would also consider an accident or public safety type event at a dam to be a dam-related emergency.

Ms. Fort stated that the dams were categorized by the severity of the consequences from their failure, which did not necessarily reflect the dam's condition. She stated that they used other categories to discuss the condition of a dam.

Ms. Fort stated that a high hazard dam meant a likely loss of life and severe economic damage. She stated that a significant hazard dam meant potential loss of life, possibly

some economic damage. She stated that a low hazard dam meant no expected loss of life, no significant economic damage upon failure. She stated that the hazard potential dictated the design criteria, so the higher the dam's hazard classification, the more water and severe rainstorm the dam must be designed to handle. She stated that the Beaver Creek project was an example of a significant hazard dam. She stated that once they upgraded it, the dam had to be able to handle twice the storm it was originally built for.

Ms. Fort stated she usually included a slide on probable maximum precipitation (PMP), which was the theoretically greatest depth of precipitation for a given duration that was physically possible over a particular drainage area at a certain time of year. She stated that this essentially meant the most rain that an area would ever possibly see if the meteorological conditions aligned for a perfect storm. She stated that dams in Virginia with high hazard potential must be designed to pass at least 90% of the flood runoff that results from the PMP.

Ms. Fort stated that they had internally decided that their dams would pass 100% of the PMP, allowing for more severe storms in the future and providing a cushion in case regulations changed. She stated that to give a sense of what a PMP storm actually looks like, it was tailored to every watershed. She stated that in some watersheds, the PMP might be 25 inches of rain in 24 hours. She stated that in other areas, it may be in excess of 30 or 35 inches for a 24-hour period.

Mr. Lunsford asked if the Ragged Mountain PMP would be higher than the South Rivanna PMP.

Ms. Fort stated that was correct. She stated that South Rivanna was a large watershed, so a storm would be distributed more widely. She stated that in general, larger watersheds tended to have smaller rainfall values, whereas smaller watersheds required a storm to pass directly over them, resulting in higher rainfall amounts.

Ms. Fort stated that for comparison, for the Sugar Hollow watershed, a two-year storm was approximately 3.6 inches of rain in 24 hours, a 100-year storm was 9.12 inches, and the PMP was 34 inches. She stated that in the 1960s, Nelson County received over 27 inches of rain overnight from Hurricane Camille, 81% of the PMP. She stated that Madison County received 25 to 30 inches of rain in 16 hours in 1995, or 86% of the PMP. She stated that there was a history of extreme rainfall events, which emphasized the need for preparedness.

Mr. Gaffney asked if those percentages were based on the current PMP.

Ms. Fort stated that they were.

Mr. Gaffney asked if the PMP in the 1960s and 1990s was lower.

Ms. Fort stated that it was likely slightly higher. She stated that a 2015 state study of the PMP in Virginia found that in some areas, the numbers increased slightly, while in

others, they decreased slightly. She stated that in their area, the trend had been a decrease, which was why their previous design work had been more conservative than it would have been otherwise. She stated that with the new regulations and the new PMP study in Virginia, the requirements for designing their dams did not change significantly. She stated that the study did highlight areas where it increased, such as coastal areas.

Ms. Fort stated that moving on to their dam emergency action plans (EAPs), these were mandatory for all high-hazard dams in Virginia and served as a set of pre-planned actions to minimize or alleviate emergency conditions at a dam. She stated that these plans contained procedures and information on issuing early warning notifications to minimize loss of life and property damage during an emergency event.

Ms. Fort stated that effective coordination among the Virginia Department of Emergency Management, local emergency communications center, police, fire rescue, VDOT, media, local government, and themselves was required. She stated that they currently maintained EAPs for each of their four high-hazard dams. She stated they were working on updating them to a format more similar to their regional partners' dams, with the updated versions expected to be distributed in 2025.

Mr. Sanders asked when the last time they tested the EAPs was.

Ms. Fort stated that they held a tabletop exercise on the Sugar Hollow and Beaver Creek dams in October, bringing together regional emergency managers, police, fire rescue, VDOT, ACSA, the City, and other local communication staff, such as Albemarle County's communication team. She stated that the exercise allowed for a diverse range of perspectives and ideas to be shared. She stated that they also ran through several scenarios during the exercise.

Ms. Fort stated that building on this, they planned to conduct a similar activity next fall for the South Rivanna Dam and the Ragged Mountain Dam. She stated that in addition to these tabletop exercises, they conducted internal drills. She stated they had experienced enough significant rainfall in the area that they typically activated at least one of their EAPs every year. She stated that during Hurricane Helene, they activated two EAPs due to non-failure type emergencies. She stated this heightened awareness, allowing them to notify others of the situation and continue monitoring.

Ms. Fort stated the EAPs assigned responsibilities for various parties, and Rivanna was responsible for assessing and verifying the conditions at the dams. She stated that they would notify participating emergency management agencies and provide status reports to control the flow of information and ensure accurate information reached the public. She stated that if corrective action was needed at the facility, such as building a filter to prevent further erosion, they would take that action. She stated that once the emergency had subsided, they would declare it to the community, informing them that the situation had resolved.

Ms. Fort stated the role of outside agencies in the EAPs included County and City governments, fire rescue, VDOT, and other relevant parties. She stated that they would receive status reports from Rivanna and be responsible for notifying the public. She stated that they were equipped with the necessary tools, training, and resources, and they could quickly respond to the situation. She stated that they would coordinate and conduct evacuations, if necessary, from inundation areas downstream of the dam. She stated they would provide mutual aid and resources, if requested and able to do so.

Ms. Fort stated that in the event of an evacuation, external agencies would be responsible for designating shelter locations for families, arranging transportation, and providing necessary resources. She stated that this would enable Rivanna to focus on the dam facility. She stated that the EAP notification charts outlined various emergency scenarios, from non-failure to failure. She stated that each chart explained the emergency scenario, outlined the necessary steps, and included contact information for key personnel. She stated that it also included written prompts to ensure clear and concise communication during emergency situations.

Ms. Fort stated that all EAPs included Dam Breach Inundation Maps, which provided essential information on what areas would flood, buildings that would be impacted, and the estimated time it would take for water to reach those areas. She stated the maps indicated the water surface elevation, including whether roadways were overtopped and by what amount. She stated this information was particularly valuable for emergency services, as it enabled them to allocate resources efficiently and identify the time available for action to protect people downstream of these facilities.

Ms. Fort stated that the CIP had several ongoing dam projects. She stated that recently completed or underway, they had the hydropower facility decommissioning, which was now complete and awaiting final approval for transfer to the state jurisdiction. She stated that they also had the air piping modifications at Sugar Hollow Dam, which were anticipated to begin next month and were expected to be completed by February or March.

Ms. Fort stated that in the planning and design phase, they were upgrading the spillway at Beaver Creek Dam, for which design was currently underway with NRCS funding and was expected to be completed sometime in the middle of next year. She stated that they were also conducting inspections and concrete and steel repairs at the facilities, primarily cosmetic or surface-level repairs to aging concrete. She stated that they were exploring the implementation of an audible warning system at Sugar Hollow and potentially other facilities, with the goal of rolling it out as needed.

Ms. Fort stated that they were developing public safety plans and signage designs for facilities that did not already have them, primarily for public safety purposes. She stated that the Buck Mountain Property Dam remediation and removal project was scheduled for the later years of the CIP.

Ms. Fort stated that they consistently performed annual maintenance and permitting, including monthly tree and brush clearing, seasonal clearing of brush and stream channels, instrumentation maintenance, calibration, and remote monitoring. She stated that staff dedicated significant time to ensuring these facilities could be monitored remotely. She stated that they had an EAP tabletop exercise planned for 2025 for the Ragged Mountain and South Rivanna dams, which would allow them to practice implementing the EAPs for those facilities.

Mr. Sanders asked if Rivanna would host the EOC during an emergency.

Ms. Fort stated that it would most likely be hosted by the jurisdiction where the emergency was occurring. She stated that depending on the situation, they might want to be stationed close to the dam, which would influence the location of their setup.

Mr. Pinkston asked where the EAPs were kept.

Ms. Fort stated that they had digital copies and physical copies, which they distributed to everyone on the call list.

Mr. Pinkston asked if the University of Virginia was included.

Ms. Fort stated that they were included where appropriate.

10. *OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA*

There were no items to discuss.

11. *CLOSED MEETING*

There was no reason for a closed meeting.

12. *ADJOURNMENT*

At 3:51 p.m., Mr. Sanders moved the Board to adjourn the meeting of the Rivanna Water and Sewer Authority. Ms. Hildebrand seconded the motion, which passed unanimously (5-0). (Ms. Mallek and Mr. Richardson were absent)

Respectfully submitted,

Mr. Samuel Sanders
Secretary-Treasurer

SEAL