RIVANNA
WATER & SEWER AUTHORITY

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RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
December 19, 2017

A regular meeting of the Rivanna Water & Sewer Authority (RWSA) Board of Directors was held on Tuesday, December 19, 2017 at 2:15 p.m. in the 2nd floor conference room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia.

Board Members Present: Mr. Mike Gaffney – Chair, presiding; Ms. Kathy Galvin; Ms. Lauren Hildebrand; Mr. Maurice Jones; Mr. Gary O'Connell; Dr. Liz Palmer; and Mr. Jeff Richardson (arrived at 2:28 p.m.).

Board Members Absent: None.

Staff Present: Mr. Tim Castillo, Ms. Victoria Fort, Mr. Tom Freeman, Mr. Ben Fricke, Mr. Rich Gullick, Mr. Bill Mawyer, Ms. Katie McIlwee, Mr. Scott Schiller, Ms. Michelle Simpson, Ms. Andrea Terry, Ms. Jennifer Whitaker, and Mr. Lonnie Wood.

Also Present: Mr. Kurt Krueger, RWSA counsel; members of the public and media representatives; and Mr. Robert Huff, with Robinson, Farmer, Cox Associates.

1. Call to Order

The Chair called the regular meeting of the Rivanna Water and Sewer Authority to order at 2:15 p.m.

2. Minutes of Previous Board Meetings

a) Approval of Board meeting minutes - November 2017

Mr. O'Connell moved to approve the minutes of the regular board meeting of November 14, 2017. Mr. Jones seconded the motion, which passed by a vote of 5-0, with Ms. Galvin abstaining. Mr. Richardson had not yet arrived at the meeting and was absent from the vote.

3. Recognition

Mr. Gaffney mentioned that there were no recognition items on the agenda.

4. Executive Director's Report

Mr. Mawyer reported that the Observatory Water Treatment Plant lease negotiations were moving forward in a very positive way, and with the help of Mr. Krueger, Ms. Whitaker, and Mr. Wood the Authority has developed a strategy to have not one but three documents – and UVA was in agreement with that. Mr. Mawyer stated that the intent was to capture all of the facilities that Rivanna had an interest in – including pipes, plants and pump stations – and get them into a new document or several documents.

Mr. Krueger noted that their basic premise was to try to get the basic facilities related to the plant in a lease, and if the lease was ever terminated for the plant, those facilities would stay with the plant – but everything else needed irrespective of the plant for the urban water system would be in a permanent easement.

Dr. Palmer expressed surprise that the water treatment plant had never been in a permanent easement.

Mr. Krueger stated they had not really broached the idea, but were operating under the assumption that UVA would not want to transfer a fee simple interest in the plant to Rivanna, so they would do another 99-year lease for the plant and its associated facilities but everything else was going into a permanent easement status.

Mr. O'Connell asked if the South Fork Rivanna to Ragged Mountain pump station would be on UVA property.

Mr. Mawyer responded that it could be on the UVA Foundation property, but not on UVA property. Rivanna considered that if they needed more property it would be a good time to capture it within the lease along with other properties. He stated that the site had not been specifically selected, and it was in the process now with Baker Engineering – which was doing the alignment determination, including the pump stations at each end. Mr. Mawyer noted that because the facility would not be on University property, it would not be a candidate for this lease or easement.

Dr. Palmer mentioned that with respect to the pipeline from South Fork to Ragged Mountain as it goes across Birdwood, UVA has been coming to the County stating that they have been doing work on their master plan, so she hoped Rivanna staff had been working well with the University.

Ms. Whitaker responded that the University has six or seven projects on that property currently, and Ms. Fort had been working with them.

Mr. Mawyer reported on the drinking water infrastructure plan for Crozet, which was intended to look at whether there was adequate water supply, as well as being cognizant of water treatment capacity and distribution for Crozet. He stated that Rivanna had been working with County staff to gather data on the demand side, and the consultant was also looking at the supply side and how much water came into the Beaver Creek reservoir, along with safe yield levels. Mr. Mawyer noted that Rivanna staff had gone to Richmond and met with DEQ staff and had given them a preliminary report – and they were positive about Rivanna's findings and generally they think

there is adequate capacity. He explained that with a new withdrawal permit required due to water treatment plant expansion from 1 MGD to 2 MGD, the minimum instream release requirement would come into effect, as Rivanna must account for how much should be released. Mr. Mawyer stated that they would go back to the DEQ in February and have a pre-application meeting with state and federal environmental and permitting agencies and give them a presentation. He noted that they would also be going to the Crozet community in January to give them an update.

Mr. Gaffney asked if there would be enough capacity now and then when they have to release water with a new permit, they wouldn't have enough water.

Mr. Mawyer responded that this was what they were calculating, ensuring that there is enough water for the people in the community as well as the environment in the release. He stated that Rivanna felt this was the case but had to get the environmental agencies to agree with their approach.

Mr. O'Connell noted that the stream downstream was fairly small.

Mr. Mawyer confirmed that it went to Mechums River, which made its way to the South Fork Rivanna Reservoir.

Mr. Mawyer stated that generally it was a positive finding thus far, because if there hadn't been enough water, they would potentially have to raise Beaver Creek Dam. He stated that they also wanted to address dam safety issues to get both requirements in one design.

Mr. O'Connell asked if the Crozet meeting had been confirmed for January 11.

Mr. Mawyer replied that it would be January 11 or 18, and they were trying to determine which one they were going to select, with the goal of capturing as many organizations in Crozet at one time, and a quasi-public meeting that DEQ would recognize to help meet their requirements. He agreed to have staff inform the Board as to the confirmed meeting date.

Mr. Mawyer reported that several staff members had completed some technical and management training, including Ben Fricke – who got his FAA remote pilot certification so that he can now operate a commercial drone; Travis Goode – who got his ACI concrete field testing technician certification and was implementing that at the Ivy Transfer Station; and Jim Barton – who had received a construction manager-in-training certification. He stated that Rivanna had talked with several groups from PVCC, Johns Hopkins, and St. Anne's Bellfield about environmental issues such as wastewater treatment. Mr. Mawyer noted that in January, staff would have a discussion with the Board regarding the South Fork to Ragged Mountain pipeline and pump stations and would review the project, including timeline and CIP impact.

Mr. Mawyer thanked the Board for all their support in 2017, stating that Rivanna had a good year and had moved a lot of capital projects forward, including the Rivanna Pump Station, odor control project, and granular-activated carbon. He stated that they had also completed the strategic plan and added three additional staff members.

Dr. Palmer and Ms. Galvin thanked Rivanna for a good year.

5. Items from the Public

There were no items from the public presented.

6. Responses to Public Comments

There were no responses, as there had been no comments the previous month.

7. Consent Agenda

a) Staff Report on Finance
b) Staff Report on Ongoing Projects
c) Staff Report on Operations
d) Recommendation to Award Engineering Services Contract, Crozet Flow Equalization Tank and Pumping Station Upgrade - Greeley & Hansen Engineers
e) Request for Additional Construction Administration and Inspection Services for the granular activated carbon (GAC) Improvements at Various RWSA Water Treatment Plants – Hazen and Sawyer Engineers

Mr. O'Connell moved to approve the Consent Agenda items as presented. Dr. Palmer seconded the motion, which passed by a vote of 6-0. Mr. Richardson had not yet arrived at the meeting and was absent from the vote.

8. Other Business

a) Comprehensive Annual Financial Report Fiscal Year Ending June 30, 2017

Mr. Robert Huff addressed the RWSA Board and stated that they had no disagreements with management and no opinion shopping, and all recommendations were followed, as well as the required communication with governance. He stated that the four sections in the report were self-explanatory, including anything they wished to know about the Authority. Mr. Huff stated that Rivanna's net position increased in a similar amount as the year before, as shown on their basic financial statement. He noted that his firm's primary objective as an auditor was to provide an unmodified opinion, and he mentioned that pension notes comprised a significant part of the report. Mr. Huff noted that liability can move up or down because it is a projection based on 7%. He stated that this was an excellent and reliable report.

b) Urban Water Supply Strategy Overview

Mr. Mawyer reported that after Rivanna got the South Fork Rivanna Reservoir full and it started overflowing on November 1, their attention turned to trying to get Ragged Mountain refilled. He stated that they fill Ragged Mountain from Sugar Hollow, and that has spurred a few questions from the RWSA Board and the community about the depth of decline in Sugar Hollow. Mr. Mawyer reported that there were three urban reservoirs that supply the urban water system: South Fork Rivanna, Sugar Hollow, and Ragged Mountain. He stated that South Fork contained about 900 million gallons of usable storage, Ragged Mountain had 1.5 billion gallons, and Sugar Hollow had 339 million gallons. He stated that Ragged Mountain had the smallest watershed at two square miles, which was why Rivanna had to pipe water from Sugar Hollow to fill it, as it would not fill from rainfall.

Mr. Mawyer presented a graphic showing Sugar Hollow in Whitehall, stating that they pipe water about 13.5 miles to the Ragged Mountain Reservoir, with the pipe being about 100 years old. He noted the location of the South Rivanna Water Treatment Plant and the Observatory Water Treatment Plant. Mr. Mawyer referenced a slide in the Board packets that had been done the previous week but updated to be current as of December 19. He stated that South Rivanna continued to overflow at the dam, as it was 100% full; Ragged Mountain was 80% full and about 5¾ feet below the normal pool, with the normal depth being 57 feet; Sugar Hollow was 45% full, 15½ feet below the top of the dam out of 50 feet normal depth. Mr. Mawyer noted that collectively, the urban reservoirs were currently 82.3% full, and there were 4 million gallons of day coming out of the Sugar Hollow Reservoir and emptying into the Ragged Mountain Reservoir. He presented a picture of the outfall tower at Ragged Mountain, noting a line of the normal pool at 671, which was about 6 feet down.

Mr. Mawyer reported that the strategy that staff wanted to review with the Board today included dividing the year into two time periods – winter and summer – and over the last several months, staff had been meeting and discussing what their strategy would be, including meeting with a hydrologic consultant and holding an informal discussion with DEQ regarding how they would operate the reservoirs. He presented a matrix showing the transfer process involved in filling Ragged Mountain Reservoir when Sugar Hollow was overflowing, which involves the transfer of 4 million gallons per day from Sugar Hollow to Ragged Mountain. Mr. Mawyer noted the intent was to stop the transfer when Sugar Hollow was down to about 19 feet from the top of the dam, which uses all but about 30% of the usable storage for the water in the Sugar Hollow Reservoir. He noted that staff also minimized the use of the Observatory Water Treatment Plant at about 1 million gallons per day and maximized the South Rivanna Water Treatment Plant at approximately 9 million gallons per day.

Mr. Mawyer stated that when the South Fork Rivanna Dam stops overflowing, they focus on keeping that reservoir full, so they terminate any transfer from Sugar Hollow to Ragged Mountain and any overflow out of Sugar Hollow went to South Fork. He noted that minimum instream release requirements kick in at this point, and they were required to release at least 70% of all water coming into the South Fork Rivanna Reservoir, which had a ceiling of 20 million gallons per day. He explained that with the summer period, they first evaluated whether South Fork was overflowing, and if it was they started or continued the transfer at Sugar Hollow, but the intent was to stop the transfer when it was 10 feet below the dam, rather than 19 feet – still minimizing use of Observatory WTP and maximizing use of South Rivanna WTP. Mr. Mawyer noted that the 10 feet was trying to recognize that there were three components of use for Sugar Hollow: water supply, environmental protection and having an instream release, as well as having the recreational community amenity that Sugar Hollow provided. He stated that in the summer, they would stop the transfer when it got under 10 feet below the dam, recognizing that the instream release from Sugar Hollow continued and the water level could decline further due to evaporation and transpiration by plants. He noted that if South Fork was not overflowing, they would terminate any transfer from Sugar Hollow to Ragged Mountain and maximize use of Observatory WTP, while minimizing use of South Rivanna WTP.

Mr. Mawyer stated that Sugar Hollow was a functional facility intended for water supply and held 339 million gallons, used primarily to fill Ragged Mountain, which held 1.5 billion gallons.

He presented a graphic depicting the Sugar Hollow Reservoir, noting that on November 1 it was only 2.75 feet below the top of the dam – and by December 12, it had dropped 10 feet. He noted that at the same time, Ragged Mountain had only filled from 6.0 to 6.6 feet, so just over half a foot. Mr. Mawyer emphasized that the only way to fill Ragged Mountain was from the small reservoir of Sugar Hollow, so it took a long time to get 4 million gallons a day to fill it, and this is what they were trying to balance when they brought the Sugar Hollow water level down.

Dr. Palmer asked what happened when demand exceeded 10 MGD when South Fork was not overflowing in the summertime.

Mr. Mawyer responded that currently, they would have to get the higher demand out of the South Rivanna Water Treatment Plant and the South Fork Rivanna Reservoir, because it has greater treatment capacity. He explained that they were maximizing Observatory WTP out at 5 MGD, and in the CIP there is a plan to get its capacity up closer to 10 MGD, then those numbers could shift and they may be able to supply all of the urban area if piping is done from Observatory.

Dr. Palmer asked about the timeline from completion of that project.

Mr. Mawyer replied that it would be five or six years, and he confirmed that whenever any of the reservoirs got too low, they may have to enact water restrictions.

Dr. Palmer asked if he would review the basis for the 19 feet at Sugar Hollow.

Mr. Mawyer responded that Rivanna's consultant had done a study, which clarified the useable water storage as 37 feet, and they recommended not using all of it because of the impact of stream release and evaporation. He noted that 19 feet below the top of the dam represents 70% of the usable storage and were trying to balance between the environment and human use. Mr. Mawyer stated that if they got into an emergency situation with water restrictions, they would go into the remaining 30% and use it.

Mr. O'Connell asked how instream flow requirements worked and whether they had been discussing a change with DEQ.

Mr. Mawyer responded that they had an informal discussion with DEQ regarding these operating procedures, and if the RWSA Board felt this was acceptable, Rivanna would finish its hydrologic modeling and go back to DEQ to say it was going to work for the community – then see how DEQ would change the permit, particularly related to instream release. He noted that currently this was based on the amount of water collectively in the three reservoirs, which could be misleading as they experienced over the previous summer. Mr. Mawyer stated that those minimum instream releases were developed by the community and presented to DEQ, and he hoped that DEQ would be receptive to discussion of a proposed reduction.

Dr. Palmer mentioned that it was based on hydrologic modeling.

Mr. Mawyer agreed, adding that it was also the Nature Conservancy's recommendation. He clarified that Hydrologics was working with Rivanna to come up with a model and projections,

which might require an amendment to the permit. Mr. Mawyer stated that Rivanna's hope was that they wouldn't amend the permit but would instead allow for operational rules that got them where they wanted to go as far as maintaining an adequate water supply. He stated that in the permit, the lower the reservoirs go, the less the release has to be. Mr. Mawyer stated that the release requirement when the reservoirs are collectively at 1.5 billion gallons is 70%, but when Ragged Mountain drops to 1.08 billion gallons the stream release requirement drops down to 50%, so the release requirement declines as total reservoir water levels decline.

Mr. Krueger asked if that was true of Sugar Hollow.

Mr. Mawyer responded that they had to release 100% of inflow until Ragged Mountain dropped below 1.08 billion, and then it may go down.

Ms. Whitaker clarified that the maximum release requirement decreases when the total water stored declines.

Ms. Terry stated that the release at Sugar Hollow is dictated by the amount of water in Ragged Mountain, whereas the release at South Rivanna is dictated by the total storage of the Urban Reservoirs.

Dr. Palmer mentioned that she could not find that on the website and would like to have it.

Ms. Whitaker responded that it was there, but Ms. McIlwee could provide it in an email also.

Mr. O'Connell noted that it was also in the water supply plan documents.

Mr. Mawyer reported that if the usable storage in Ragged Mountain was equal to or greater than 1.08 billion gallons, the total downstream flow must be 100% of the inflow to Sugar Hollow or 10 MGD, whichever is less. He stated that if the storage was less than 1.08 billion gallons, the downstream releases must be 100% or 2 MGD, whichever is less, so as the total in Ragged Mountain drops below 1.08 billion gallons, the release from Sugar Hollow can decline but is still 100% of the natural inflow.

Dr. Palmer asked if this information could be procured from the website.

Ms. Whitaker responded that staff could send a link.

Mr. Mawyer stated that he had heard some discussion as to whether the reservoir would be taken down to the level it was at 2015, and he presented a picture from September 2015, when Sugar Hollow was 37 feet below the top of the dam, noting that the pipe in the photo was the fish release pipe. He also presented an image of the reservoir when it was 12½ feet down, and at 19 feet they were far from being 37 feet down.

Ms. Terry stated that however the operating rules were set, the RWSA followed the minimum instream flows dictated by the permit – the permit conditions are different than in the distant past when they were releasing 400K gallons per day consistently. She stated that now they mimic

natural stream flow, and it's based on what they were predicting was coming into the watershed. Ms. Terry noted that t currently they were releasing 2.2 MGD out of Sugar Hollow into the river, which differs slightly from the 2.6 MGD used when staff made this presentation.

Ms. Terry discussed lake ecology and the sampling done to learn about the ecology of each reservoir. She stated that in the summertime, lakes become stratified and the sun warms the top layer, which is called the epilimnion. She stated that there is a section in the middle called the metalimnion, with the biggest difference between the surface and the bottom being the availability of dissolved oxygen. Ms. Terry stated that the upper parts of the reservoir were where the fish live during the summer, and the dissolved oxygen stayed in the epilimnion and metalimnion, with the fish moving around there and colder water at the bottom. She stated that in the summer, the epilimnion heats up and dissolved oxygen starts to decrease. Ms. Terry noted that Rivanna staff went out very regularly and ran water quality tests from the top to the bottom of the reservoir, which provides a good picture as to what things look like at any given time and the difference between each reservoir.

Ms. Terry explained that the water got hotter in the summer and cooled down in the fall, with colder water being denser and shifting occurring – which is a different process and timing that ends up being unstratified. She stated that Sugar Hollow was destratified in the winter, whereas Ragged Mountain was not as it was 80 feet deep. Ms. Terry stated that in the wintertime, fish could move up and down throughout the entire water column, and in the summer they were stuck in the upper epilimnion and metalimnion – so the concern might be taking water out and the impact on the fish.

Dr. Palmer noted that there was less volume to work with.

Ms. Terry confirmed this, stating that there was very little hypolimnion in South Rivanna, but it was more significant in Sugar Hollow, depending on the reservoir and the temperature and how it was moving.

Dr. Palmer asked at what level they took the water out.

Ms. Terry explained that there were two gates operable at Sugar Hollow – one at 12 feet and one at about 37½ feet from the top to the bottom. She stated that staff was proposing going to 19 feet, and in most cases the 12 feet would be in the epilimnion, with the lower one in the hypolimnion. Ms. Terry stated that the water with low dissolved oxygen levels sent downstream re-oxygenated very quickly when it hit the basin and moved into the stream itself. She stated that when the levels were down 19 feet in the winter, the fish would probably be fine because it was fairly thoroughly oxygenated throughout – but in the summer, going down 10 feet, it would likely mean that the epilimnion, metalimnion, and hypolimnion would all shift down. She mentioned that Rivanna had coordinated with the Department of Game and Inland Fisheries (DGIF) in 2015 about what was happening at the reservoir, and she has again reached out to them for coordination.

Mr. Mawyer stated that since Sugar Hollow was at 15½ feet down, Rivanna projects that within a week or so they will reach the 19-foot level, although there is a weekend rain forecast. He

stated that once they reached 19 feet, they would close the gate, with the first consideration being water supply and plenty of water held at Ragged Mountain, particularly for 2018.

Mr. O'Connell asked if they could envision transfers on and off through the winter, depending on the weather.

Mr. Mawyer responded affirmatively, stating that if it dropped below 19 feet and was turned off at that level, they would let it refill up to 10 feet below the top of the dam, then turn it on again. He stated that they would temper this with weather prediction, because with a major storm coming they were confident that there would be a lot of rain and water that would refill Sugar Hollow reasonably quickly. Mr. Mawyer stated that they were going to try to get the transfer open to try to capture the rain and get Ragged Mountain as full as possible.

Ms. Whitaker commented that the 2015 drought at 37 feet down filled in 36 hours, as there was a very steep drainage basin that had the potential to fill very quickly.

Mr. Mawyer confirmed that this was the case with a high enough rainfall.

Mr. Mawyer stated that if the Board was comfortable with this plan and 19 feet was the target level wherein they were balancing as much of the usable storage as possible without taking it down unreasonably and creating a negative situation – but at the same time they need to get water to Ragged Mountain. He stated that in the summer, they would only take it down 10 feet, giving more consideration to the community amenity aspect and other factors that will draw on the water. Mr. Mawyer presented an image of Sugar Hollow in 2015 when the level was 37 feet down, emphasizing that they would not be going anywhere near that low. He stated that the Middle James area, which includes Albemarle County, continued to be in a drought watch, with a watch for precipitation and groundwater level, and stream flows in the warning stage. Mr. Mawyer noted there is a State committee that meets every few weeks to update the information, and Rivanna follows it online. He stated that precipitation in November was much lower than normal – 1½ inches instead of the usual 3½ – and the committee predicts a drier than normal winter.

Mr. Richardson asked for clarification of how quickly Sugar Hollow filled after the weekend of heavy rain in 2015.

Ms. Whitaker clarified that it filled from 37 feet down in about 36 hours, and that rain was over a 3-4 day period, with 3-4 inches of rain – but that timeframe was not considered a drought.

Mr. Mawyer noted that this was when they were filling the new Ragged Mountain Reservoir.

Dr. Gullick stated that they filled it quicker than they might have, in hindsight, but there seemed to be a rush at the time.

Ms. Whitaker reiterated that Sugar Hollow responded very quickly to rain.

Mr. O'Connell stated that this was because of the size of the basin and the sheer volume of water that was being captured and dumped into the reservoir.

Ms. Whitaker stated that it was also due to the very steep topography there, because the water did not have time to soak into the ground – particularly when the leaves were off the trees.

Dr. Palmer noted that the same thing was true with the South Fork Rivanna Reservoir.

Mr. Gaffney mentioned that what they knew in 2002 was that they had plenty of water but not enough storage, which was why Ragged Mountain was constructed.

Mr. O'Connell asked about the percentage full at Beaver Creek in Crozet, in terms of drainage basin area and how fast it would fill if it rained, as he had seen it be fairly steady all along.

Mr. Mawyer responded that it was 80% full today, with about 400 MG the total storage capacity of Beaver Creek.

Mr. O'Connell clarified that he was looking for how fast it would refill.

Ms. Terry responded that it had a watershed of about 30 square miles.

Ms. Whitaker stated that as Rivanna had been doing a drinking water infrastructure plan, they actually created a model that was more specific to Crozet – and all the work Hydrologics was doing to refine inflow calculations had been done at Crozet. She stated that it was an interesting watershed in that during dry times it had a tendency to be slightly drier than Mechums, and during wet times it had a tendency to be a little bit wetter. Ms. Whitaker stated that staff was proposing to DEQ that they scale the gauge based on seasonality or by month, noting that at Beaver Creek in Crozet everything was holding steady. She commented that this was because they were on the dry side of median stream flows, and that reservoir in particular had a tendency to be even drier than the Mechums gauge showed.

Dr. Gullick stated that the intake structure was somewhat unique in that water flowed out of the reservoir and went to the side in a wet well, so it was flowing past as they were trying to grab some of it. He stated that they could not stop that water from being released or reduce it because they need to have it running fully past the intake valves, so Rivanna would likely be proposing a new pump station that would resolve this and provide control over what was released to the stream. He added that when they have minimum instream flow requirements, they might be releasing less than they are now when they are operating the plant. Dr. Gullick stated when they were not operating 20 or more hours a day, the operators would go down and shut off the valve that reduced the water down and hold it in the reservoir. He explained that the goal was to try to keep as much water in the reservoir as possible.

c) Crozet Interceptor Flow Equalization Tank Siting Study Results

Mr. Schiller reported that he would present the results of the siting study, stating that Crozet was on the west edge of the full wastewater collection area of the Rivanna system, with four consecutive pump stations that send the flow from Crozet to the Moores Creek plant. He stated

that in 2016, they updated the sanitary sewer model for the systems and identified that they still have some inflow and infiltration (I & I) to get out of the Crozet system to ensure they have the capacity for future peak flow as the area grows and more wastewater is contributed to the system. Mr. Schiller stated that in order to handle the I & I, it was determined that construction of a flow equalization tank was more feasible and cost effective than trying to actually remove stormwater from the system. He stated that the concept behind the tank is that as flow in the system increases during a wet weather event, a pump station will shave off the peak of the wet weather flow and send it into the tank, then once the flows go down, it will flow by gravity back into the interceptor, and go to the Moores Creek Treatment Plant. Mr. Schiller stated that staff had determined that the tank in that system would need to be designed to handle a two-year design storm.

Mr. Schiller reported that as part of the siting study, Rivanna performed draw-down tests at all four of the Crozet pump stations to confirm the capacities of those stations, then updated the model again based upon those revised capacities. He stated they looked along the interceptor to try to identify potential locations for the tank, and as part of that process also evaluated environmental and cultural issues at some of those locations. He stated that based on the sites selected, they developed some conceptual site layouts and associated cost estimates, eventually forming recommendations. Mr. Schiller referenced a picture of one of the flow equalization tanks in the Henrico County system, which was similar to what Rivanna wanted to do locally. He stated that to handle a two-year design storm, they determined that the tank would need a volume of a million gallons. Mr. Schiller stated they were looking at concrete for that tank and approximate dimensions of 72 feet in diameter and 36 feet tall. He referenced an image showing a close-up of the interceptor system in Crozet, stating that the further upstream they went in the system, the less flow would be accepted – so they would be trying to collect the most flow from the system by Pump Station 4 and shave more of the peak.

Mr. Schiller reported that Greeley-Hansen had performed the siting study for Rivanna and had analyzed several locations and parcels along the interceptor, coming up with four for additional analysis. He stated that sites 1 and 2 were located adjacent to Crozet Pump Station 4, and sites 3 and 4 were further down the interceptor. Mr. Schiller noted that the process itself required a pump station to pump the flow into the tank, then gravity flows back out, so pump capacity was required for this process. He added that by having it down by the pump station, they had alternative approaches of retrofitting the existing station instead of building a new station, which had a large cost impact.

Mr. Schiller referenced a summary of the different locations, stating that 1 and 2 were adjacent to Pump Station 4 – and the A option under each was to retrofit the current station, which results in a very significant cost differential. He stated that after meeting with the ACSA, they concluded that Site 1A would be the preference, and he noted that this remained within the 2017 CIP budget of $3.7 million. Mr. Schiller added that this also provided advantages in terms of needed improvements at Pump Station 4. He presented an aerial view of the site and conceptual layout of the facilities design, stating that they would be siting a 1-million-gallon tank as well as enough space on the property for a second tank. Mr. Schiller mentioned that the plan also shows a new access road coming off the access road to Licking Hole Creek Dam, as well as an exterior building for the odor control – which could also be built into the tank itself. He noted that the site

was about a mile west of the 240/250 split, and stated the tank would be at a lower elevation and thus would be less visible, especially during the summer when foliage was fuller.

Mr. Schiller stated that the property is owned by the group developing the Fairhill Estate development adjacent to the site, and Rivanna was in conversations with them as a preliminary step prior to site acquisition. He confirmed that the road shown is the access road to the dam at Licking Hole Creek. The road is not owned by Rivanna, so in addition to the acquisition of the site, additional access easement could be necessary– which were minimal when compared to the costs of the new sites.

Dr. Palmer asked where the development was going in, in relation to this.

Mr. Schiller responded that the property developing now was to the west and south, and other properties were being considered for conservation easements, but it was a large development and the pump station would be 30 to 40 feet down from the development.

Dr. Palmer asked if they would be discussing the potential for odor control.

Mr. Schiller responded that they would have it as part of the design, so the odor control would be designed along with the tank and would be an enclosed system to pull air out, treat it, and exhaust it. He noted that odors were not as big of an issue for Crozet as they were further down in the system where chemicals are provided for odor control treatment. Mr. Schiller pointed out that there are a number of environmental and cultural issues in the area, with site 1A minimizing the impact on those, and they would continue to identify wetland delineations and other issues going forward.

Mr. Schiller stated that with the Board's approval of the consent agenda earlier in the meeting, staff can now move forward with Greeley & Hansen for preliminary engineering, design, bidding, and construction assistance. He added that they would also move on with property acquisition issues and public notification, with an expectation for the item to be brought to the Board for award of a construction contract by December 2018, with issuance of a notice to proceed in February 2019 and substantial completion of the tank in 2020.

Mr. Gaffney asked if odor control measures would be implemented at the same time.

Mr. Schiller responded that they would.

Ms. Hildebrand asked if the design storm was a current design, or out toward 2020.

Mr. Schiller replied that it was a two-year design storm for now, based on precipitation and collection, and it was a standard used for I & I in the system added onto whatever the base was.

Ms. Whitaker clarified that the facility was sized out through 2075.

Mr. O'Connell noted that it was part of the comprehensive sewer study and its projections, incorporating how Crozet was expected to grow.

Dr. Palmer asked what might happen when there was a 10-year storm, and where the sewage would go.

Mr. Schiller responded that they were not designed to handle a 10-year storm.

Mr. Mawyer stated that it would drain to the lowest manhole in the area.

Mr. Gaffney noted that the consultant was showing a future tank inflow.

Mr. Schiller confirmed that if things changed in the future, they would have the space to put in a second tank if necessary.

Mr. Mawyer commented that this was why it was important to maintain pipes throughout the distribution system, as this was how most of the infiltration entered – through old pipes that are cracked and carrying storm water they were not originally designed to carry.

d) Request for the Approval of the Strategic Plan

Mr. Mawyer stated that Raftelis and Rivanna staff had presented the strategic plan, and he would now ask for Board approval of the plan. He reviewed that the process had begun in May with an RFP, with Mr. Gaffney serving on the selection committee that secured Raftelis. He stated that every month from June to December they held some kind of work session to move the process forward, and this was the schedule established back in June – with each goal and deadline met.

Mr. Mawyer expressed his appreciation for the work of Board and staff to move this along, noting that they came up with a strategic framework and vision: "To serve the community and be recognized as a leader in environmental stewardship." He stated they also determined the values of integrity, teamwork, respect, and quality. Mr. Mawyer stated that they also created a mission: "To serve the community by providing high-quality water treatment, which included wastewater, refuse, and recycling services – all in a financially and environmentally responsible manner." He noted that they had developed six strategic goals to work on over the next five years: workforce development, operational optimization, communication and collaboration, environmental stewardship, solid waste services, and infrastructure and master planning.

He stated the next steps were to take the six staff goal teams and hold implementation workshops to move the strategies forward, with prioritization of activities, assignment of accountability, identification of resource needs, and establishment of a realistic schedule. Mr. Mawyer stated they would then put it all together into a single annual strategy implementation plan, which would be brought back to the Board in April or May, with details on projects and necessary resources. He stated that the Board would then provide feedback, with staff developing a progress reporting process for quarterly reports back to the Board. Mr. Mawyer stated that after a year, they would go back to the beginning and establish the tactics for the next year, with the hope of completing the six goals within the five years.

Ms. Galvin commented that she thought it was fantastic to have vision, goals, measures, and strategies all on one 11x17" page.

Mr. Mawyer responded that they would be enlarging it and displaying it prominently so that staff could become familiar with it, and they were eager to move forward with the details.

Mr. Jones moved to approve the strategic plan as presented. Dr. Palmer seconded the motion, which passed by a vote of (7-0).

Mr. Mawyer mentioned that they would be bringing the item before the RSWA Board in February.

9. Other Items from Board/Staff not on Agenda

There were none presented.

10. Closed Meeting

There was no closed meeting held.

11. Adjournment

Mr. Jones moved to adjourn the Board meeting. Dr. Palmer seconded the motion, which passed by a vot of (7-0).

There being no further business, the meeting adjourned at 3:24 p.m.

Respectfully submitted,

Mr. Jeff Richardson
Secretary-Treasurer