Rivanna Water and Sewer Authority

Board of Directors Meeting

March 26, 2019

2:15pm

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

BOARD OF DIRECTORS

Regular Meeting of the Board of Directors of the Rivanna Water & Sewer Authority

DATE: **March 26, 2019**

LOCATION: **Conference Room, Administration Building**
695 Moores Creek Lane, Charlottesville, VA

TIME: **2:15 p.m.**

AGENDA

1. ***CALL TO ORDER***

2. ***MINUTES OF PREVIOUS BOARD MEETINGS***
   a. *Minutes of Regular Board Meeting on February 26, 2019*

3. ***RECOGNITION***

4. ***EXECUTIVE DIRECTOR'S REPORT***

5. ***ITEMS FROM THE PUBLIC***

6. ***RESPONSES TO PUBLIC COMMENTS***

7. ***CONSENT AGENDA***
   a. *Staff Report on Finance*
   b. *Staff Report on Ongoing Projects*
   c. *Staff Report on Operations*
   d. *Purchase Order Request and Capital Improvement Plan Amendment – Piney Mountain Tank Rehabilitation*

8. ***OTHER BUSINESS***
   a. *Presentation: GAC Performance Update; Dave Tungate, Director of Operations*
   b. *Presentation: Proposed FY 2020 – 2024 CIP; Bill Mawyer, Executive Director*
   c. *Presentation: Proposed Operating Budget; Bill Mawyer, Executive Director*

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

10. CLOSED MEETING

11. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please raise your hand or stand when the Chairman asks for public comments.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Items From The Public." Each person will be allowed to speak for up to three minutes. When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

During public hearings, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion presentations may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended that you not fully repeat the comments and instead advise the Board of your agreement. The time allocated for speakers at public hearings are the same as for regular Board meetings, although the Board can allow exceptions at its discretion.

Speakers should keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. for that reason, speakers are requested to speak from the podium and wait to be recognized by the Chairman. In order to give all speakers proper respect and courtesy, the Board requests that speakers follow the following guidelines:

- Wait at your seat until recognized by the Chairman.
- Come forward and state your full name and address and your organizational affiliation if speaking for a group;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Summarize your key points and provide the Board with a written statement, or supporting rationale, when possible;
- If you represent a group, you may ask others at the meeting to be recognized by raising their hand or standing;
- Be respectful and civil in all interactions at Board meetings;
- The Board may ask speakers questions or seek clarification, but recognize that Board meetings are not a forum for public debate; Board Members will not recognize comments made from the audience and ask that members of the audience not interrupt the comments of speakers and remain silent while others are speaking so that other members in the audience can hear the speaker;
- The Board will have the opportunity to address public comments after the public comment session has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that citizens who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

The agendas of Board meetings, and supporting materials, are available from the RWSA Administration office upon request or can be viewed on the Rivanna website(s)

Rev. September 22, 2009

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

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

Board Members Present: Mike Gaffney, Mike Murphy (left at 3:26 p.m.), Liz Palmer, Kathy Galvin, Lauren Hildebrand, and Jeff Richardson.

Board Members Absent: Gary O'Connell.

Staff Present: Bill Mawyer, Katie McIlwee, Scott Schiller, Phil McKalips, David Rhoades, Liz Coleman, Michelle Simpson, Andrea Terry, Austin Marrs, Victoria Fort, and Dave Tungate

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

1. CALL TO ORDER

Mr. Gaffney called the regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:55 p.m.

2. MINUTES OF PREVIOUS BOARD MEETINGS

a. Minutes of Regular Board Meeting on January 22, 2019

There were no changes to the minutes presented.

Dr. Palmer moved to approve the RWSA Board meeting minutes of January 22, 2019. Ms. Galvin seconded the motion, which passed 6-0. Mr. O'Connell was absent from the meeting and the vote.

3. RECOGNITION

a. Resolution of Appreciation for Larry Perkins

Mr. Gaffney read the following resolution into the record:

Resolution of Appreciation for Larry Perkins

WHEREAS, Mr. Perkins has served in a number of positions, most recently as a Mechanic for the Rivanna Water and Sewer Authority and the Rivanna Solid Waste Authority since December, 2001;

WHEREAS, over the same period in excess of 17years, Mr. Perkins has demonstrated leadership in his field and has been a valuable resource to the Authority and its employees;

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

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

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

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

Dr. Palmer moved to approve the resolution as presented. Ms. Galvin seconded the motion, which passed 6-0. Mr. O'Connell was absent from the meeting and the vote.

4. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer reported that Rivanna had recently hosted safety training for confined space entry and hired a trainer from PVCC to train Rivanna staff, with City and ACSA personnel invited to attend, which some did. He stated that they would also be holding lockout/tagout training that focuses on how to shut down equipment properly when working on it so you don't get electrocuted, as well as further fall protection training.

Mr. Mawyer reported that work continued on the Birdwood waterline and presented a few pictures of the pipe installation, with the inspector telling him earlier in the day that there had been 700 feet installed thus far. He thanked Ms. Simpson for her work in keeping the project moving. He stated that Ms. Fort and other staff had been meeting with the UVA Foundation and VDOT, as well as City staff, and with the Albemarle County School Board on easements for the South Rivanna to Ragged Mountain raw water line. He noted that they would need easements for the City's properties at Ragged Mountain.

Mr. Mawyer stated that Rivanna was working with UVA Facilities on the Observatory Water Treatment Plant lease, and Mr. Krueger had worked to update the documents, which were ready to be returned to UVA for the next round of discussions and finalization of the terms and conditions of the lease. He stated this would be another 99-year lease, if approved, and there was also a lease on a pump station and an easement on all the piping on the Grounds.

Mr. Mawyer stated that staff would present the operating budget at the March meeting, with public hearings scheduled in May for the CIP and the FY20 budget.

Mr. Mawyer stated that they continued to try to have community outreach from water and sewer, and Mr. Tungate and Ms. McIlwee had taken about 60 elementary school students around the plant and showed them what wastewater was all about, with a presentation also given in Crozet.

He stated that on February 28, Rivanna would be hosting the Northwest Central Virginia Utility Managers networking meeting, spurred by the recent water incident in Louisa. He explained that Rivanna took a swath that included northwest Central Virginia, north of Richmond, and invited all the utilities in the area to come and network -- with Amherst, Augusta, Culpeper, Louisa, and other localities attending.

Mr. Gaffney requested that in future reports, Mr. Mawyer include how many people outside of Rivanna came for safety training.

Mr. Mawyer agreed to do so.

5. ITEMS FROM THE PUBLIC

There were no items from the public.

6. RESPONSES TO PUBLIC COMMENTS

There were no responses to public comments.

7. CONSENT AGENDA

a. Staff Report on Finance

b. Staff Report on Ongoing Projects

c. Staff Report on Operations

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

8. OTHER BUSINESS

(JOINT SESSION WITH THE RSWA)

The Rivanna Solid Waste Authority Board of Directors reconvened its meeting and joined the RWSA Board meeting at 3:02 p.m.

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

Ms. McIlwee reported that this was staff's third update to the Board and the first quarter update for 2019. She reminded them that the Strategic Plan had 6 goals, 12 strategies, and 78 tactics -- with the only change being that Mr. Tungate was now the sole goal champion for Operational Optimization. She stated that according to Strategy Blocks -- the software program used to track progress-- the progress was 79%, slightly behind the goal of 81%.

Ms. McIlwee reported that Workforce Development finished the annual staffing needs assessment and recommendations had been made to be included in this year's budget and coordination with PVCC for training for various topics such as safety and operator training

continues. She stated that they continued to draft the individual development plans, which would be rolled out next and would tie into performance reviews. She noted that they were also reviewing pay scale adjustments and the individual development plan with the leadership team.

Ms. McIlwee reported that Operational Optimization has hired a consultant to do a safety master plan; security systems at South Rivanna and Crozet Water Treatment Plants had been upgraded; and the corrosion inhibitor study had also been completed, with review of the recommendations from that study to begin along with implementation and completion of the safety master plan.

Mr. Mawyer commented that staff would have a presentation for the Board in March on the corrosion inhibitor study.

Ms. McIlwee stated that the Communication and Collaboration Goal Team recently rolled out the employee portal, which was an internal communication platform located within the website for offsite employees, which can be accessed from a computer or mobile device. The Portal provides basic information such as health insurance or leave forms. She stated that she had analyzed web statistics to get an idea of which pages got the most usage, and she also removed about 10 outdated or blank pages.

Ms. McIlwee reported that their next steps were to continue to coordinate with the City, County, ACSA, and Rivanna Conservation Alliance on the "RiverFest" festival to take place in May. She stated that the City had moved its 5K to the event, and the Alliance was doing a regatta race at the same time, which had become a much larger festival.

She stated that the IT Master Plan was wrapping up and they were looking at ways to increase internal communication platforms and possibly make the employee portal more extensive or move to a different type of platform. She stated that they would also reexamine records management protocols.

Ms. McIlwee reported that the Environmental Stewardship Goal Team added an environmental tip to the Rivanna Review, a bi-monthly employee newsletter and was looking at topics to include in the employee portal. She stated that they have also identified and requested funding for green initiatives, and were working with her to coordinate on RiverFest, as well as coordinating a Rivanna employee stream cleanup -- most likely for Moore's Creek -- in coordination with the Rivanna Conservation Alliance.

Ms. Palmer stated that one of the issues that generated complaints was haulers not covering the back of their loads, which led to a lot of roadside trash and littering concerns -- and possibly RSWA's education to haulers could include an explanation of this issue.

Ms. McIlwee reported that Solid Waste Services had completed the Master Plan, which was presented to the RSWA Board earlier in the meeting. She stated that they had reduced the tipping fees on MSW and CDD, and they have researched the possibility of being open on Mondays and after Board approval would begin implementation of the expanded operating schedule. She stated that they would begin advertising that Ivy would be open on Mondays starting March 18, 2019, and that would also include expanded recycling services at the Ivy MUC.

Ms. McIlwee reported that with Infrastructure and Master Planning, the first stages of the asset management plan had been completed -- including the awareness training and program development workshops. She stated that they had worked with the GIS coordinator to organize the current asset and information and would continue to organize it and develop a matrix to track additional master plan needs.

Mr. Henry asked for a copy of the PowerPoint.

Mr. Gaffney requested a brief update on RiverFest at their next meeting.

The Rivanna Solid Waste Authority Board of Directors closed its meeting at 3:12 p.m.

b. Presentation: Proposed CIP FY 2020–2024; Bill Mawyer, Executive Director

Mr. Mawyer presented the CIP for the next five years and thanked staff for their work, noting that Mr. Schiller, Mr. Wood, and Ms. Whitaker had worked extensively on the CIP. He stated that they had met with Mr. O'Connell several times and with Ms. Hildebrand. He stated that while this was capital improvement, they also had to draft through the operating budget to meld the two things -- because the bottom line was what the cost increases were to the two RWSA customers.

Mr. Mawyer reported that the FY20-24 CIP totaled $99.5 million and included about 39 projects to be completed during those five years, as well as three additional projects to be worked on during the five years but which wouldn't be completed as they extended to FY26. He stated that within those 42 projects, there were about 12 that would be in construction, 14 projects in design, and about 16 projects in the planning phase. He stated that with the extended projects, they extended the Avon to Pantops water main, the Beaver Creek Dam modifications, and the Beaver Creek raw water pump station -- with an oxygenation system discussed as part of the project, but deleted now for budgetary reasons. He stated that the FY20-24 CIP was $54.4 million less than the current FY19-23 CIP, with the goal of leveling costs to all customers.

Mr. Mawyer stated that the objectives in the CIP were to focus on the three largest treatment plants, to ensure they would be renovated and upgraded -- with South Rivanna and Observatory expected to go into construction around December or January and designs being finished now. He stated that they have an emphasis on existing facilities: Sugar Hollow Dam, South Rivanna Dam gate repairs, Schenk's Branch still in the plan to get the sewer line replaced, work in Crozet and the Albemarle-Berkley demolition for a small sewer facility near Albemarle High School that hadn't been used that was an eyesore and safety concern. He noted that there were also wastewater improvements and repairs on the Moore's Creek plant, with a focus on redundancy and resiliency in facilities such as the Birdwood Golf Course water main, which is a part of the South Rivanna to Ragged Mountain Reservoir pipeline -- and they continue to work on those easements. He stated there was a project to add a second crossing of the South Rivanna River and extend piping north of Route 29 to the Airport Road area, and to build the Airport Road pump station on the property acquired in 2018.

Mr. Mawyer reported that regulatory compliance was also a big part of the program and they were trying to eliminate any wastewater overflows with the Crozet Flow Equalization Tank, and they have a need at the North Rivanna Water Treatment Plant to relocate a wastewater lagoon. He stated that there were needs in Scottsville and security enhancements in many of Rivanna's facilities. He stated that they were doing a lot of master planning for the finished water system, with community water demand and safe yield from reservoirs to be completed in the current calendar year. He stated that they were working on a plan of the next phase of wastewater improvements at the Moore's Creek plant. He explained that the Albemarle Berkeley Pump Station was part of the Albemarle-Berkeley Basin, a small pump station that served Albemarle, Greer, Ivy and Jouett schools, and that needed to be replaced.

Mr. Mawyer stated that Rivanna was also looking at its total asset management software program, getting a handle on available assets and whether they needed to be maintained or replaced so they could make predictive models and budgets with good confidence of what was coming up. He noted that they were also working on an IT Master Plan, as Ms. McIlwee had mentioned, to ensure that as they acquired technology it was able to be integrated with existing technology and was open architecture so it could be used enterprise-wide.

Mr. Mawyer stated that the major projects as mentioned were included in the CIP, and there was a cost of about $43 million to renovate the three water treatment plants -- with a small amount of additional capacity, 2.3 MGD at Observatory, and it doubled the capacity at Crozet from 1 to 2 MGD in treatment capacity. He noted that there was no additional treatment capacity in the South Rivanna renovation project. He stated that the Sugar Hollow Dam gate was a rubber bladder gate at the top of the dam that was over 20 years old and needed to be replaced, and that work would likely happen in the summer of 2020, with design and planning to take place in 2019.

Mr. Mawyer stated that related to issues with the gates at the South Rivanna Dam not closing properly when they had the drought, they had a project of $900K to be planned in 2019 and executed in the summer of 2020 to repair the gates. He presented an image of the South Rivanna Water Treatment Plant, stating that they would bore under the river and install a second river crossing pipe. He stated that as they were trying to get treated water into the north zone, Forest Lakes, etc., they had one pipe that got it there -- and if that had a problem, it would present a problem in getting water to that area -- so this second pipe created redundancy.

Mr. Mawyer stated that there was a relatively new pipe Rivanna installed with the Route 29 road improvements a few years earlier, with the North Rivanna Transmission Main taking the water from the north along Berkmar Drive and Airport Road, with a new Route 29 Pump Station to be located near the Hollymead Town Center. He stated that initially there would be a pumping station on the site, with two water storage tanks in the future at ground level, about 40 feet tall. The tanks would provide fire flow storage because as growth occurred in that area, they needed capacity to serve those customers and deal with fire requirements.

Mr. Mawyer reported that at North Rivanna Water Treatment Plant, there was a backwash lagoon so when they backwash the filters to take the sediment and other products out, it went into the lagoon -- but when they had a big storm like they did in 2018 the North Rivanna River

rose and overflowed the lagoon and washed the backwash material out. He stated that the health department was not happy with that, so Rivanna would have to rebuild the lagoon and build a tank rather than an open pond for that lagoon.

He stated that in Crozet, they had to build a wastewater flow equalization tank, and he presented an image of what it would look like with a pumping station and storage tank. He stated that when it rained and rainwater found its way into the sewer system instead of overcharging the sewer system and having overflows, it took the peaks into the tank and held them until the storm and the flow had decreased -- then they would be put back into the pipe.

Mr. Mawyer reported that they had completed a vulnerability assessment in 2017, and there was new legislation passed in 2018 -- the America's Water Infrastructure Act -- which required an updating of the assessment. He stated that this would build features into construction projects for security, such as cameras, fencing, lighting, signs, door locks, etc., to help improve security at all of their facilities.

He stated that to help balance their budget, Rivanna had extended three projects, including the Beaver Creek Dam modifications and pump station -- with $10 million in FY20-24 but $13 million pushed out of the five-year window to decrease the amount of money financed through customers in the first five years. He stated they had extended that project and had done the same with the Avon to Pantops Water Main, with $5 million in the first five years but $8 million pushed beyond that to help level the budget.

Mr. Mawyer reported that the Ragged Mountain Reservoir to Observatory Water Treatment Plant raw water line project had pipes from the reservoir to the treatment plant that were approximately 100 years old. He stated that they had planned to start work on those in 2021 and get them replaced somewhat concurrently with the renovations to Observatory Treatment Plant, but they had deferred that work until 2026, which pushed $7.5 million out of the five years.

Dr. Palmer expressed concern about this particular move because the lines were so old, stating that they would have a beautiful new treatment plant with expanded capacity, a brand new reservoir, then a 100-year-old and 70-year-old line going from Ragged Mountain to it, with two ancient pump stations. She stated that she had met with Mr. O'Connell and asked if they could have some further discussion about including some things in their budget, and he had agreed to take another look. Dr. Palmer noted that it was essentially maintenance and replacement, with a small portion being increased capacity, adding that they expected this with Observatory Treatment Plant upgrades.

Ms. Galvin asked why Rivanna thought they could defer it.

Mr. Mawyer responded that there were no customers on this line, so if they had a break it was not a crisis to get them fixed right away -- but they are 100 years old, so they were rolling the dice on how long they would really last. He added that they focused on putting money into the treatment plants in the first five years, starting out with rate increases at over 12% with the ACSA and 6% with the City, and they had asked Rivanna to look for ways to reduce the cost

increases. He noted that they had a lot of discussion with staff about priorities, and they did a great job going back and reconsidering the connectivity between different projects.

Mr. Mawyer stated they had upgraded the reservoir with a new dam, they had raw water they needed to get to the treatment plant, which was going to be upgraded. He stated that on the finished water side, they needed to upgrade piping. He added that it was a challenge to do that all at the same time, so they were trying to do pieces of the system with some strategies.

Ms. Galvin asked if they could translate this into cost per ratepayer.

Mr. Mawyer stated that Rivanna could not do that. Those costs must come from the Albemarle County Service Authority and the City.

Ms. Galvin stated that the City needed the information because there were other things the City needed in the local budget, and if they were raising taxes in other ways, it was important to know what the implications of this were.

Mr. Gaffney asked how far out they were pushing this.

Mr. Mawyer responded that completion of the project was pushed out four years from 2026 to 2030, but they were already getting the easements for the pipes and were meeting with VDOT and the University. He stated that the funding would come in the budget in 2020 and go through 2030, with this being about an $18 million project with piping and the new pump station.

Dr. Palmer asked if there was an estimate as to what was saved from bundling the treatment plant work at the same time, in terms of cost savings.

Mr. Mawyer responded that it was the strategy they had talked about with the value engineering discussion for the South Rivanna and Observatory Treatment Plants, -- and the strategy for procuring and budgeting was to do both projects/renovations at the same time from a bidding standpoint. He stated that the work would then be phased, with South Rivanna first, then Observatory. He stated that there would be the same contractor, with the project in the $30 million range and possible discounts secured from a larger contractor instead of using two different ones. Mr. Mawyer stated that they wanted to keep the treatment plant project on track and enjoy the benefits of both plant projects at once, with the heart of the system upgraded -- and if there were a problem at South Rivanna, they could still use the capacity as much as possible out of Observatory.

Mr. Mawyer mentioned that the ACSA cost increase was 8.9% currently, with 9.5% in the first year -- but every year, the cost increase would be higher than it would have been if they moved the projects back. He stated that if they put the $18 million back into the five years, it would put the ACSA into the 10% increase range, and similar for the City.

He also noted that Rivanna had talked about putting an addition on the Administrative building for additional staff who had been hired, but that project and some Moore's Creek plant projects, had been delayed. He stated that the CIP for FY20-24 was at $99.5 million, and there was a

similar amount of CIP planned for 15 years -- so there was not a huge bubble in the CIP they were working through right now, and they were trying to level for the five-year period with $254 million over the next 15 years.

Mr. Mawyer reported that within the $99.5 million is $60 million for water, $17 million for wastewater, and $22 million for non-urban projects that the ACSA funds. He stated that they had paid for $2.9 million but had $35 million to be financed with debt proceeds and $6.7 million in cash, with another $7.5 million planned for more than $13 million in reserve funds to be moved for the CIP, representing 14% of the cost and debt funding 85% of the cost.

Mr. Mawyer stated that for FY20, Rivanna projected a 3.2% increase in costs for the City based on the $99 million CIP; then for the next four years, they would vary between 6 and 7%. He stated that they projected an 8.9% cost increase for the ACSA this year, with rate increases ranging 8.5% and 8.8% for the following four years.

Mr. Gaffney asked if it was up around 12% fully funded.

Mr. Mawyer responded that they had 56 projects and a $145 million CIP when they started this year's budget, and at the time it would be 11.9% to the ACSA and 5.8% to the City. He stated that the ACSA asked them to reconsider and reevaluate strategies, so Rivanna put together six alternatives and came up with the current proposed CIP of $99.5 million -- with about 42 projects to be worked on and 14 to be deferred.

Mr. Wood stated that he had provided the same information but summarized differently, and the City had a 3.2% increase in 2020, with the ACSA having 8.9% in 2020 -- including all operating and capital increases. He stated the City costs were projected to increase from 3.2 – 6.5% over the next five years to fund the CIP as presented, and the ACSA began with 8.5%-8.8% over the period. He noted that regarding the impact of moving the projects back up into the five-year plan, the City would have a 3.9% increase in the first year but that continued to climb as the cost of the debt to fund those projects increased, ending at an 8.8% increase to ACSA. He stated that without deferring some of the projects, the increase to ACSA would go over 10%, which they had hoped to avoid, which was why they pushed them into the second and third five year periods.

Mr. Mawyer reiterated that the three major treatment plants and other projects were the CIP priorities, and there had been a lot of enthusiasm over the past several years about identifying the Authority's needs. He stated that they were still doing a lot of work within the $99 million over five years, and $254 million over the next 15 years total.

9. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

There was none presented.

10. CLOSED MEETING

There was no closed meeting held.

11. ***ADJOURNMENT***

Dr. Palmer moved to adjourn the meeting. Ms. Galvin seconded the motion, which passed 5-0. Mr. O'Connell was absent from the meeting and the vote. Mr. Murphy was absent from the vote.

The RWSA Board adjourned its meeting at 3:40 p.m.

RIVANNA WATER & SEWER AUTHORITY
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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **EXECUTIVE DIRECTOR'S REPORT**

DATE: **MARCH 26, 2019**

STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT, OPERATIONAL OPTIMIZATION

Lockout / Tagout Safety Training

We recently coordinated and hosted 4 sessions to train staff in safe Lock-Out / Tag-Out procedures. Instruction was provided by our Engineering consultant, Arcadis. These sessions also included 17 employees from the City's Department of Utilities. We will offer Fall Protection training in April.

STRATEGIC PLAN GOAL: OPERATIONAL OPTIMIZATION

Corrosion Inhibitor Study

With our consultant, we have been completing a laboratory evaluation of a new product to inhibit metals, including lead, from leaching out of piping and faucets into our drinking water distribution systems. Last month, I indicated we would present information about the performance of the new product to the Board in March. However, we have decided to have a presentation and implementation of the new corrosion inhibitor in the fall after we complete required water quality testing this summer.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

Birdwood Water Line

Pipe installation is ongoing, with 1300 of 6100 LF completed. Staff is participating with UVAF staff in a monthly project update meeting with the residents of the Bellair subdivision.

South Rivanna to Ragged Mountain Water Line

Meetings are in progress with the UVA Foundation, VDOT, City staff and Albemarle

School Board staff about locations for the water line easements. We have also been in contact with private property owners along the alignment, and anticipate making offers to acquire easements in late May.

Observatory Water Treatment Plant Lease

Meetings are underway with UVA staff to finalize updated lease and easement documents. Our goal is to complete these documents and obtain signatures this summer.

STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION; ENVIRONMENTAL STEWARDSHIP

RiverFest

The first annual RiverFest event will be held on Saturday, May 11, 2019 at Darden Towe Park and is a joint collaboration between Rivanna Conservation Alliance, Rivanna River Company, the Lewis and Clark Exploratory Center, the City of Charlottesville, Albemarle County Service Authority, and Rivanna Water and Sewer Authority. It is a family-friendly event that is intended to connect everyone to the Rivanna River and Charlottesville environment. The event will feature the City's Fix-a-Leak 5k and Rivanna Conservation Alliance's regatta race. Exhibits, water monitoring demonstrations, and other kids' activities will be at Darden Towe Park from 10am to 1pm, and then the festivities transferred to Rivanna River Company for live music, food trucks, and further celebration from 1pm to 5pm.

Earth Day Cleanup Event

Staff will participate in a stream clean-up with the Rivanna Conservation Alliance on Earth Day, April 22. Final plans are being made, and the site will likely be Moores Creek. All trash collected will be sorted for recycling

Community Outreach

On February 28, 2019, Rivanna hosted a NW Central Virginia Utility Managers meeting. Managers from Amherst County Service Authority, Augusta Service Authority, Culpeper County, Culpeper Town, Louisa Water Authority, Harrisonburg-Rockingham Service Authority, Aqua Virginia Water, Charlottesville and the ACSA attended and provided an overview of their organization. This networking meeting was very productive, and we plan to make it an annual event.

Mr. David Tungate, Director of Operations, along with Mr. Rob Haacke, Wastewater Department Manager, Mr. Steven Minnis Jr., Plant Operator, and Katie McIlwee, Communications Manager, gave a tour of the Moores Creek Advanced Water Resources Recovery Facility to a group of fifth grade students from Crozet Elementary School.

Mr. Dave Tungate also provided a tour of Moores Creek to two Civil Engineering classes from the University of Virginia.

Ms. Jennifer Whitaker, Director of Engineering and Maintenance, gave a presentation on the Community Water Supply Plan to the Lifetime Learning Class at UVA.

Mr. Dave Tungate and Katie McIlwee traveled to Greene County High School to provide a presentation on water and wastewater treatment to several environmental science classes.

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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION**

REVIEWED: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **FEBRUARY MONTHLY FINANCIAL SUMMARY – FY 2019**

DATE: **MARCH 26, 2019**

Urban Water flow and rate revenues are 4% under budget estimates for the first eight months of this fiscal year, and Urban Wastewater flow and rate revenues are 41% over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	$ 4,580,963	$ 7,271,628	$ 1,440,888	$ 13,293,479
Expenses	(5,283,860)	(5,516,690)	(1,515,854)	(12,316,404)
Surplus (deficit)	$ (702,897)	$ 1,754,938	$ (74,966)	$ 977,075
Debt Service				
Revenues	$ 4,280,046	$ 5,828,700	$ 779,322	$ 10,888,068
Expenses	(4,268,219)	(5,741,358)	(775,651)	(10,785,228)
Surplus (deficit)	$ 11,827	$ 87,342	$ 3,671	$ 102,840
Total				
Revenues	$ 8,861,009	$ 13,100,328	$ 2,220,210	$ 24,181,547
Expenses	(9,552,079)	(11,258,048)	(2,291,505)	(23,101,632)
Surplus (deficit)	$ (691,070)	$ 1,842,280	$ (71,295)	$ 1,079,915

Despite overall operating revenues being $1.95 million higher than budget estimates, operating expenses are running $1.05 million over budget as well resulting in a net surplus of $977,000 for the operating category. This is mostly related to the significant amount of flow resulting from record amounts of rainfall and the related revenues from Urban Wastewater, as noted above. Overall, debt service revenues are higher than projected due to interest earnings being greater related to the rising interest rate environment causing a net surplus of $116,300 for the debt service category.

A. Professional Services (Urban Water, Scottsville Water, Urban Wastewater – pages 2, 4, 5) – The Urban Water rate center incurred some unbudgeted expenditures for Engineering and Technical Services related to safe yield modeling. This rate center has also spent

$24,000 more than the annual budget for legal fees related to the Observatory plant lease. Scottsville Water has exceeded the prorated budget for work done for Engineering and Technical Services for the Red Hill Community Water System, but ACSA is being billed for these costs. Urban Wastewater paid $45,900 for an analysis of the Moores Creek AWRRF Cogeneration System that was not budgeted.

B. Other Services & Charges (Urban Water, Urban Wastewater, Engineering – pages 2, 5, 11) – Urban Water and Urban Wastewater are over budget on the cost of hauling biosolids to Waverly, Virginia to be composted. Urban Wastewater is also over budget on odor control costs for the Crozet Interceptor/Pump Stations, and utilities are running high. The Engineering department is over budget due to late posting of an ACSA invoice for modeling services for the quarter ending in June 2018.

C. Equipment Purchases (Urban Water, Scottsville Water – pages 2, 4) – Scottsville Water spent $50,000 in October for the unbudgeted purchase of a replacement flocculator, and Urban Water is $35,900 over the prorated budget in this category.

D. Operations & Maintenance (Urban Water, Crozet Water, Scottsville Water, Urban Wastewater, Glenmore Wastewater, Lab, Maintenance, Engineering – pages 2-6, 9-11) – Urban Water paid about $200,000 for last June's North Rivanna Waterline emergency repairs, and the annual lease payment for the Observatory WTP property ($32,313) was paid in September. Urban Water has spent $388,000 more than the prorated budget for chemicals, related to underbudgeting for GAC chemical purchases. Chemical cost overages for chemical algae treatments of the Beaver Creek Reservoir and for the purchase of GAC chemicals are the main reason Crozet Water is $145,200 over budget in the Operations & Maintenance expense category. Urban Wastewater is $113,000 over the prorated budget for chemical purchases related to the significant flows for the year, and Glenmore Wastewater went over the prorated budget on pump repairs. The January payment to renew annual service contracts for instrumentation pushed Urban Wastewater over its annual budget for instrumentation costs by $10,000 and the Lab department by $5,000. The Lab, Maintenance and Engineering departments are over the prorated budget on vehicle and equipment repairs. Scottsville Water purchased unbudgeted instrumentation equipment for the Red Hill Community Water System in October for about $10,000, which pushed this category over the annual budget, but this cost has been billed to ACSA and recorded as revenue for this rate center.

E. Communications (Urban Water – page 2) -The annual payment to the County of Albemarle for Rivanna's share of the radio system maintenance cost ($20,567) was made in September.

Attachments

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019
Fiscal Year 2019

Consolidated Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 16,387,174	$ 10,924,783	$ 12,726,092	$ 1,801,309	16.49%
Lease Revenue		100,000	66,667	69,157	2,491	3.74%
Admin., Maint. & Engineering Revenue		462,000	308,000	330,086	22,086	7.17%
Other Revenues		528,084	352,056	466,707	114,651	32.57%
Interest Allocation		28,050	18,700	31,523	12,823	68.57%
Total Operating Revenues		**$ 17,505,308**	**$ 11,670,205**	**$ 13,623,565**	**$ 1,953,359**	**16.74%**
Expenses						
Personnel Cost		$ 8,429,784	$ 5,541,417	$ 5,218,327	$ 323,090	5.83%
Professional Services	**A**	710,250	473,500	657,970	(184,470)	-38.96%
Other Services & Charges	**B**	2,814,735	1,876,490	2,241,506	(365,016)	-19.45%
Communications	**E**	143,105	95,403	113,568	(18,165)	-19.04%
Information Technology		341,450	227,633	194,567	33,066	14.53%
Supplies		43,920	29,280	34,046	(4,766)	-16.28%
Operations & Maintenance	**D**	3,719,660	2,479,773	3,301,765	(821,992)	-33.15%
Equipment Purchases	**C**	459,400	306,267	322,739	(16,472)	-5.38%
Depreciation		843,000	562,000	562,000	-	0.00%
Reserve Transfers		-	-	-	-	
Total Operating Expenses		**$ 17,505,304**	**$ 11,591,764**	**$ 12,646,489**	**$ (1,054,725)**	**-9.10%**
Operating Surplus/(Deficit)		**$ 4**	**$ 78,442**	**$ 977,076**		

Debt Service Budget vs. Actual

Revenues						
Debt Service Rate Revenue		$ 14,852,531	$ 9,901,687	$ 9,901,680	$ (7)	0.00%
Use of Reserves for 2016 Bond DS		300,000	200,000	200,000	-	0.00%
Septage Receiving Support - County		109,440	72,960	109,441	36,481	50.00%
Buck Mountain Surcharge		118,600	79,067	65,600	(13,467)	-17.03%
Buck Mountain Lease Revenue		1,600	1,067	-	(1,067)	-100.00%
Trust Fund Interest		46,400	30,933	111,835	80,902	261.54%
Reserve Fund Interest		344,000	229,333	499,511	270,177	117.81%
Total Debt Service Revenues		**$ 15,772,571**	**$ 10,515,047**	**$ 10,888,067**	**$ 373,020**	**3.55%**
Debt Service Costs						
Total Principal & Interest		$ 12,295,400	$ 8,196,933	$ 8,196,933	$ -	0.00%
Reserve Additions-Interest		344,000	229,333	499,511	(270,177)	-117.81%
Debt Service Ratio Charge		725,000	483,333	483,333	-	0.00%
Reserve Additions-CIP Growth		2,408,175	1,605,450	1,605,450	-	0.00%
Total Debt Service Costs		**$ 15,772,575**	**$ 10,515,050**	**$ 10,785,227**	**$ (270,177)**	**-2.57%**
Debt Service Surplus/(Deficit)		**$ (4)**	**$ (3)**	**$ 102,840**		

Summary

Total Revenues	$ 33,277,879	$ 22,185,253	$ 24,511,632	$ 2,326,379	10.49%
Total Expenses	33,277,879	22,106,814	23,431,717	(1,324,903)	-5.99%
Surplus/(Deficit)	**$ 0**	**$ 78,439**	**$ 1,079,915**		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Urban Water Rate Center
Revenues and Expenses Summary

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual						
Revenues						
Operations Rate Revenue		$ 7,034,788	$ 4,689,859	$ 4,488,468	$ (201,391)	-4.29%
Lease Revenue		70,000	46,667	48,787	2,120	4.54%
Miscellaneous		-	-	30,316	30,316	
Interest Allocation		12,000	8,000	13,392	5,392	67.40%
Total Operating Revenues		**$ 7,116,788**	**$ 4,744,525**	**$ 4,580,963**	**$ (163,562)**	**-3.45%**
Expenses						
Personnel Cost		$ 1,903,779	$ 1,252,613	$ 1,177,863	$ 74,750	5.97%
Professional Services	**A**	329,250	219,500	423,752	(204,252)	-93.05%
Other Services & Charges	**B**	582,700	388,467	409,345	(20,878)	-5.37%
Communications	**E**	64,200	42,800	53,624	(10,824)	-25.29%
Information Technology		65,300	43,533	39,247	4,287	9.85%
Supplies		5,000	3,333	5,704	(2,371)	-71.12%
Operations & Maintenance	**D**	1,570,660	1,047,107	1,539,909	(492,803)	-47.06%
Equipment Purchases	**C**	106,600	71,067	106,991	(35,924)	-50.55%
Depreciation		300,000	200,000	200,000	-	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 4,927,489	$ 3,268,420	$ 3,956,435	$ (688,015)	-21.05%
Allocation of Support Departments		2,189,298	1,441,169	1,327,425	113,745	7.89%
Total Operating Expenses		**$ 7,116,787**	**$ 4,709,589**	**$ 5,283,860**	**$ (574,271)**	**-12.19%**
Operating Surplus/(Deficit)		**$ 1**	**$ 34,936**	**$ (702,897)**		
Debt Service Budget vs. Actual						
Revenues						
Debt Service Rate Revenue		$ 5,863,271	$ 3,908,847	$ 3,908,848	$ 1	0.00%
Trust Fund Interest		18,000	12,000	38,359	26,359	219.66%
Reserve Fund Interest		184,000	122,667	267,238	144,572	117.86%
Buck Mountain Surcharge		118,600	79,067	65,600	(13,467)	-17.03%
Lease Revenue		1,600	1,067	-	(1,067)	-100.00%
Total Debt Service Revenues		**$ 6,185,471**	**$ 4,123,647**	**$ 4,280,046**	**$ 156,398**	**3.79%**
Debt Service Costs						
Total Principal & Interest		$ 4,190,796	$ 2,793,864	$ 2,793,864	$ -	0.00%
Reserve Additions-Interest		184,000	122,667	267,238	(144,572)	-117.86%
Debt Service Ratio Charge		400,000	266,667	266,667	-	0.00%
Reserve Additions-CIP Growth		1,410,675	940,450	940,450	-	0.00%
Total Debt Service Costs		**$ 6,185,471**	**$ 4,123,647**	**$ 4,268,219**	**$ (144,572)**	**-3.51%**
Debt Service Surplus/(Deficit)		**$ -**	**$ -**	**$ 11,827**		

Rate Center Summary

Total Revenues	$ 13,302,259	$ 8,868,173	$ 8,861,009	$ (7,164)	-0.08%
Total Expenses	13,302,258	8,833,237	9,552,079	(718,842)	-8.14%
Surplus/(Deficit)	**$ 1**	**$ 34,936**	**$ (691,070)**		
Costs per 1000 Gallons	2.09		2.44		
Thousand Gallons Treated	3,397,700	2,265,133	2,168,342	(96,791)	-4.27%
or					
Flow (MGD)	9.309		8.923		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Crozet Water Rate Center
Revenues and Expenses Summary

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual						
Revenues						
Operations Rate Revenue		$ 957,384	$ 638,256	$ 638,256	$ -	0.00%
Lease Revenues		30,000	20,000	20,370	370	1.85%
Interest Allocation		1,700	1,133	1,894	761	67.16%
Total Operating Revenues		**$ 989,084**	**$ 659,389**	**$ 660,521**	**$ 1,132**	**0.17%**
Expenses						
Personnel Cost		$ 288,389	$ 189,760	$ 177,921	$ 11,839	6.24%
Professional Services		30,000	20,000	1,925	18,075	90.37%
Other Services & Charges		126,960	84,640	85,943	(1,303)	-1.54%
Communications		4,450	2,967	3,966	(1,000)	-33.70%
Information Technology		14,200	9,467	320	9,147	96.62%
Supplies		620	413	1,082	(668)	-161.65%
Operations & Maintenance	D	261,150	174,100	319,322	(145,222)	-83.41%
Equipment Purchases		26,450	17,633	9,095	8,539	48.42%
Depreciation		30,000	20,000	20,000	-	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 782,219	$ 518,980	$ 619,573	$ (100,593)	-19.38%
Allocation of Support Departments		206,863	136,178	125,438	10,739	7.89%
Total Operating Expenses		**$ 989,082**	**$ 655,158**	**$ 745,012**	**$ (89,854)**	**-13.71%**
Operating Surplus/(Deficit)		**$ 2**	**$ 4,231**	**$ (84,491)**		
Debt Service Budget vs. Actual						
Revenues						
Debt Service Rate Revenue		$ 995,568	$ 663,712	$ 663,712	$ -	0.00%
Trust Fund Interest		1,800	1,200	3,914	2,714	226.19%
Reserve Fund Interest		6,700	4,467	9,932	5,465	122.35%
Total Debt Service Revenues		**$ 1,004,068**	**$ 669,379**	**$ 677,558**	**$ 8,179**	**1.22%**
Debt Service Costs						
Total Principal & Interest		$ 426,071	$ 284,047	$ 284,047	$ -	0.00%
Reserve Additions-Interest		6,700	4,467	9,932	(5,465)	-122.35%
Reserve Additions-CIP Growth		571,300	380,867	380,867	-	0.00%
Total Debt Service Costs		**$ 1,004,071**	**$ 669,381**	**$ 674,846**	**$ (5,465)**	**-0.82%**
Debt Service Surplus/(Deficit)		**$ (3)**	**$ (2)**	**$ 2,712**		
Rate Center Summary						
Total Revenues		$ 1,993,152	$ 1,328,768	$ 1,338,079	$ 9,311	0.70%
Total Expenses		1,993,153	1,324,539	1,419,858	(95,319)	-7.20%
Surplus/(Deficit)		**$ (1)**	**$ 4,229**	**$ (81,779)**		
Costs per 1000 Gallons		5.02		5.53		
Thousand Gallons Treated		196,946	131,297	134,689	3,392	2.58%
Flow (MGD)		0.540		0.554		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Scottsville Water Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 443,328	$ 295,552	$ 295,552	$ -	0.00%
Red Hill		-	-	32,978	$ 32,978	
Interest Allocation		750	500	850	350	70.02%
Total Operating Revenues		**$ 444,078**	**$ 296,052**	**$ 329,381**	**$ 33,329**	**11.26%**
Expenses						
Personnel Cost		$ 153,885	$ 101,266	$ 93,871	$ 7,395	7.30%
Professional Services	**A**	20,000	13,333	21,770	(8,437)	-63.28%
Other Services & Charges		28,680	19,120	22,623	(3,503)	-18.32%
Communications		3,210	2,140	2,885	(745)	-34.81%
Information Technology		7,000	4,667	6,986	(2,319)	-49.70%
Supplies		750	500	-	500	100.00%
Operations & Maintenance	**D**	66,570	44,380	51,559	(7,179)	-16.18%
Equipment Purchases	**C**	14,000	9,333	59,846	(50,513)	-541.21%
Depreciation		20,000	13,333	13,333	(0)	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 314,095	$ 208,073	$ 272,874	$ (64,801)	-31.14%
Allocation of Support Departments		129,988	85,581	78,903	6,678	7.80%
Total Operating Expenses		**$ 444,083**	**$ 293,654**	**$ 351,777**	**$ (58,123)**	**-19.79%**
Operating Surplus/(Deficit)		**$ (5)**	**$ 2,398**	**$ (22,396)**		

Debt Service Budget vs. Actual

	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 129,280	$ 86,187	$ 86,184	$ (3)	0.00%
Trust Fund Interest	400	267	1,118	852	319.38%
Reserve Fund Interest	3,300	2,200	4,972	2,772	125.99%
Total Debt Service Revenues	**$ 132,980**	**$ 88,653**	**$ 92,274**	**$ 3,621**	**4.08%**
Debt Service Costs					
Total Principal & Interest	$ 129,680	$ 86,453	$ 86,453	$ -	0.00%
Reserve Additions-Interest	3,300	2,200	4,972	(2,772)	
Reserve Additions-CIP Growth	-	-	-	-	
Total Debt Service Costs	**$ 132,980**	**$ 88,653**	**$ 91,425**	**$ (2,772)**	**-3.13%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ 849**		

Rate Center Summary

Total Revenues	$ 577,058	$ 384,705	$ 421,655	$ 36,949	9.60%
Total Expenses	577,063	382,307	443,202	(60,895)	-15.93%
Surplus/(Deficit)	**$ (5)**	**$ 2,398**	**$ (21,547)**		
Costs per 1000 Gallons	23.70		32.90		
Thousand Gallons Treated	18,738	12,492	10,692	(1,800)	-14.41%
or					
Flow (MGD)	0.051		0.044		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Urban Wastewater Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 7,277,082	$ 4,851,388	$ 6,854,088	$ 2,002,700	41.28%
Stone Robinson WWTP		28,084	18,723	14,668	(4,055)	-21.66%
Septage Acceptance		410,000	273,333	283,794	10,460	3.83%
Nutrient Credits		90,000	60,000	104,060	44,060	73.43%
Miscellaneous Revenue		-	-	891	891	
Interest Allocation		12,500	8,333	14,127	5,794	69.53%
Total Operating Revenues		**$ 7,817,666**	**$ 5,211,777**	**$ 7,271,628**	**$ 2,059,850**	**39.52%**
Expenses						
Personnel Cost		$ 1,282,792	$ 843,639	$ 797,652	$ 45,986	5.45%
Professional Services	**A**	54,000	36,000	53,049	(17,049)	-47.36%
Other Services & Charges	**B**	1,816,225	1,210,817	1,566,878	(356,061)	-29.41%
Communications		10,430	6,953	8,474	(1,521)	-21.87%
Information Technology		57,250	38,167	27,804	10,363	27.15%
Supplies		2,700	1,800	919	881	48.92%
Operations & Maintenance	**D**	1,408,900	939,267	1,105,431	(166,165)	-17.69%
Equipment Purchases		74,500	49,667	41,339	8,327	16.77%
Depreciation		470,000	313,333	313,333	(0)	0.00%
Reserve Transfers		-	-	-	-	
Subtotal Before Allocations		$ 5,176,797	$ 3,439,642	$ 3,914,880	$ (475,238)	-13.82%
Allocation of Support Departments		2,640,868	1,738,552	1,601,810	136,743	7.87%
Total Operating Expenses		**$ 7,817,665**	**$ 5,178,195**	**$ 5,516,690**	**$ (338,496)**	**-6.54%**
Operating Surplus/(Deficit)		**$ 1**	**$ 33,583**	**$ 1,754,937**		

Debt Service Budget vs. Actual

Revenues						
Debt Service Rate Revenue		$ 7,854,820	$ 5,236,547	$ 5,236,544	$ (3)	0.00%
Use of Reserves for 2016 Bond DS		300,000	200,000	200,000	-	0.00%
Septage Receiving Support - County		109,440	72,960	109,441	36,481	50.00%
Trust Fund Interest		26,200	17,467	68,331	50,865	291.21%
Reserve Fund Interest		148,000	98,667	214,384	115,717	117.28%
Total Debt Service Revenues		**$ 8,438,460**	**$ 5,625,640**	**$ 5,828,700**	**$ 203,060**	**3.61%**
Debt Service Costs						
Total Principal & Interest		$ 7,539,261	$ 5,026,174	$ 5,026,174	$ -	0.00%
Reserve Additions-Interest		148,000	98,667	214,384	(115,717)	-117.28%
Debt Service Ratio Charge		325,000	216,667	216,667	-	0.00%
Reserve Additions-CIP Growth		426,200	284,133	284,133	-	0.00%
Total Debt Service Costs		**$ 8,438,461**	**$ 5,625,641**	**$ 5,741,358**	**$ (115,717)**	**-2.06%**
Debt Service Surplus/(Deficit)		**$ (1)**	**$ (1)**	**$ 87,342**		

Rate Center Summary

Total Revenues	$ 16,256,126	$ 10,837,417	$ 13,100,328	$ 2,262,910	20.88%
Total Expenses	16,256,126	10,803,835	11,258,048	(454,213)	-4.20%
Surplus/(Deficit)	**$ (0)**	**$ 33,582**	**$ 1,842,280**		
Costs per 1000 Gallons	2.31		1.73		
Thousand Gallons Treated	3,390,400	2,260,267	3,193,890	933,623	41.31%
or					
Flow (MGD)	9.289		13.144		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Operating Budget vs. Actual						
Revenues						
Operations Rate Revenue		$ 372,720	$ 248,480	$ 248,480	$ -	0.00%
Interest Allocation		600	400	692	292	73.12%
Total Operating Revenues		**$ 373,320**	**$ 248,880**	**$ 249,172**	**$ 292**	**0.12%**
Expenses						
Personnel Cost		$ 94,490	$ 62,143	$ 58,964	$ 3,179	5.12%
Professional Services		3,000	2,000	-	2,000	
Other Services & Charges		39,510	26,340	24,978	1,362	5.17%
Communications		2,600	1,733	2,121	(387)	-22.35%
Information Technology		3,350	2,233	-	2,233	100.00%
Supplies		100	67	-	67	100.00%
Operations & Maintenance	D	121,450	80,967	87,222	(6,255)	-7.73%
Equipment Purchases		2,900	1,933	1,600	333	17.24%
Depreciation		5,000	3,333	3,333	0	0.00%
Subtotal Before Allocations		$ 272,400	$ 180,750	$ 178,218	$ 2,532	1.40%
Allocation of Support Departments		100,915	66,452	61,302	5,150	7.75%
Total Operating Expenses		**$ 373,315**	**$ 247,201**	**$ 239,520**	**$ 7,682**	**3.11%**
Operating Surplus/(Deficit)		**$ 5**	**$ 1,679**	**$ 9,653**		
Debt Service Budget vs. Actual						
Revenues						
Debt Service Rate Revenue		$ 1,586	$ 1,057	$ 1,056	$ (1)	-0.13%
Trust Fund Interest		-	-	-	-	
Reserve Fund Interest		1,000	667	1,499	832	124.78%
Total Debt Service Revenues		**$ 2,586**	**$ 1,724**	**$ 2,555**	**$ (1)**	**-0.08%**
Debt Service Costs						
Total Principal & Interest		$ 1,586	$ 1,057	$ 1,057	$ -	0.00%
Reserve Additions-Interest		1,000	667	1,499	(832)	-124.78%
Total Debt Service Costs		**$ 2,586**	**$ 1,724**	**$ 2,556**	**$ (832)**	**-48.25%**
Debt Service Surplus/(Deficit)		**$ -**	**$ -**	**$ (1)**		
Rate Center Summary						
Total Revenues		$ 375,906	$ 250,604	$ 251,727	$ 1,123	0.45%
Total Expenses		375,901	248,925	242,075	6,850	2.75%
Surplus/(Deficit)		**$ 5**	**$ 1,679**	**$ 9,652**		
Costs per 1000 Gallons		8.60		6.38		
Thousand Gallons Treated		43,412	28,941	37,554	8,613	**29.76%**
or						
Flow (MGD)		0.119		0.155		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

Operating Budget vs. Actual

	Notes	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues						
Operations Rate Revenue		$ 301,872	$ 201,248	$ 201,248	$ -	0.00%
Interest Allocation		500	333	566	233	69.91%
Total Operating Revenues		**$ 302,372**	**$ 201,581**	**$ 201,814**	**$ 233**	**0.12%**
Expenses						
Personnel Cost		$ 94,515	$ 62,160	$ 58,964	$ 3,196	5.14%
Professional Services		2,000	1,333	-	1,333	100.00%
Other Services & Charges		28,400	18,933	14,549	4,384	23.15%
Communications		2,630	1,753	2,705	(952)	-54.28%
Information Technology		2,350	1,567	-	1,567	100.00%
Supplies		100	67	446	(379)	-568.27%
Operations & Maintenance		57,850	38,567	31,953	6,613	17.15%
Equipment Purchases		3,200	2,133	2,250	(117)	-5.47%
Depreciation		18,000	12,000	12,000	-	0.00%
Subtotal Before Allocations		$ 209,045	$ 138,513	$ 122,867	$ 15,646	11.30%
Allocation of Support Departments		93,328	61,454	56,678	4,776	7.77%
Total Operating Expenses		**$ 302,372**	**$ 199,967**	**$ 179,545**	**$ 20,422**	**10.21%**
Operating Surplus/(Deficit)		**$ (0)**	**$ 1,614**	**$ 22,269**		

Debt Service Budget vs. Actual

	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Revenues					
Debt Service Rate Revenue	$ 8,006	$ 5,337	$ 5,336	$ (1)	-0.02%
Trust Fund Interest	-	-	112	112	
Reserve Fund Interest	1,000	667	1,487	820	123.02%
Total Debt Service Revenues	**$ 9,006**	**$ 6,004**	**$ 6,935**	**$ 931**	**15.50%**
Debt Service Costs					
Total Principal & Interest	$ 8,006	$ 5,337	$ 5,337	$ -	0.00%
Reserve Additions-Interest	1,000	667	1,487	(820)	
Estimated New Principal & Interest	-	-	-	-	
Total Debt Service Costs	**$ 9,006**	**$ 6,004**	**$ 6,824**	**$ (820)**	**-13.66%**
Debt Service Surplus/(Deficit)	**$ -**	**$ -**	**$ 111**		

Rate Center Summary

	Budget FY 2019	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
Total Revenues	$ 311,378	$ 207,585	$ 208,749	$ 1,164	0.56%
Total Expenses	311,378	205,971	186,369	19,602	9.52%
Surplus/(Deficit)	**$ (0)**	**$ 1,614**	**$ 22,380**		
Costs per 1000 Gallons	15.14		8.38		
Thousand Gallons Treated	19,966	13,311	21,427	8,116	**60.98%**
or					
Flow (MGD)	0.055		0.088		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Administration

Operating Budget vs. Actual

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Payment for Services SWA		$ 460,000	$ 306,667	$ 306,667	$ (0)	0.00%
Miscellaneous Revenue		2,000	1,333	7,639	6,306	472.92%
Total Operating Revenues		**$ 462,000**	**$ 308,000**	**$ 314,306**	**$ 6,306**	**2.05%**
Expenses						
Personnel Cost		$ 1,796,150	$ 1,179,507	$ 1,137,934	$ 41,573	3.52%
Professional Services		228,000	152,000	149,222	2,778	1.83%
Other Services & Charges		140,980	93,987	67,244	26,743	28.45%
Communications		20,280	13,520	14,734	(1,214)	-8.98%
Information Technology		138,500	92,333	87,477	4,857	5.26%
Supplies		21,000	14,000	17,882	(3,882)	-27.73%
Operations & Maintenance		60,400	40,267	24,878	15,388	38.22%
Equipment Purchases		27,500	18,333	8,333	10,000	54.55%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 2,432,810**	**$ 1,603,947**	**$ 1,507,704**	**$ 96,243**	**6.00%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,970,810)**	**$ (1,295,947)**	**$ (1,193,398)**	**$ (102,549)**	**7.91%**
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 867,157**	**$ 570,217**	**$ 525,095**	**$ 45,121**	
Crozet Water	4.00%	**$ 78,832**	**51,838**	**47,736**	**4,102**	
Scottsville Water	2.00%	**$ 39,416**	**25,919**	**23,868**	**2,051**	
Urban Wastewater	48.00%	**$ 945,989**	**622,055**	**572,831**	**49,223**	
Glenmore Wastewater	1.00%	**$ 19,708**	**12,959**	**11,934**	**1,025**	
Scottsville Wastewater	1.00%	**$ 19,708**	**12,959**	**11,934**	**1,025**	
	100.00%	**$ 1,970,810**	**$ 1,295,947**	**$ 1,193,398**	**$ 102,549**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Maintenance

Operating Budget vs. Actual

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Miscellaneous Revenue		-	-	1,534	1,534	
Total Operating Revenues		**$ -**	**$ -**	**$ 1,534**	**$ 1,534**	
Expenses						
Personnel Cost		$ 1,304,247	$ 857,351	$ 774,367	$ 82,984	9.68%
Professional Services		-	-	-	-	
Other Services & Charges		17,500	11,667	12,675	(1,009)	-8.64%
Communications		17,325	11,550	13,759	(2,209)	-19.13%
Information Technology		6,500	4,333	3,025	1,308	30.19%
Supplies		2,000	1,333	361	973	72.95%
Operations & Maintenance	D	64,300	42,867	55,834	(12,967)	-30.25%
Equipment Purchases		105,650	70,433	66,276	4,157	5.90%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 1,517,522**	**$ 999,535**	**$ 926,298**	**$ 73,237**	**7.33%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,517,522)**	**$ (999,535)**	**$ (924,763)**	**$ (71,703)**	**7.17%**
Allocations to the Rate Centers						
Urban Water	30.00%	**$ 455,256**	**$ 299,860**	**$ 277,429**	**$ 22,431**	
Crozet Water	3.50%	**53,113**	**34,984**	**32,367**	**2,617**	
Scottsville Water	3.50%	**53,113**	**34,984**	**32,367**	**2,617**	
Urban Wastewater	56.50%	**857,400**	**564,737**	**522,491**	**42,246**	
Glenmore Wastewater	3.50%	**53,113**	**34,984**	**32,367**	**2,617**	
Scottsville Wastewater	3.00%	**45,526**	**29,986**	**27,743**	**2,243**	
	100.00%	**$ 1,517,522**	**$ 999,535**	**$ 924,763**	**$ 74,771**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Laboratory

Operating Budget vs. Actual

	Notes	*Budget FY 2019*	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
N/A						
Expenses						
Personnel Cost		$ 301,100	$ 197,907	$ 190,984	$ 6,923	3.50%
Professional Services		-	-	-	-	
Other Services & Charges		14,230	9,487	1,695	7,792	82.13%
Communications		800	533	1,494	(961)	
Information Technology		2,500	1,667	-	1,667	100.00%
Supplies		2,150	1,433	549	884	61.69%
Operations & Maintenance	D	53,500	35,667	54,002	(18,335)	-51.41%
Equipment Purchases		72,100	48,067	11,085	36,982	76.94%
Depreciation		-	-	-	-	
Total Operating Expenses		**$ 446,380**	**$ 294,760**	**$ 259,809**	**$ 34,952**	**11.86%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (446,380)**	**$ (294,760)**	**$ (259,809)**	**$ (34,952)**	**11.86%**
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 196,407**	**$ 129,695**	**$ 114,316**	**$ 15,379**	
Crozet Water	4.00%	**17,855**	**11,790**	**10,392**	**1,398**	
Scottsville Water	2.00%	**8,928**	**5,895**	**5,196**	**699**	
Urban Wastewater	47.00%	**209,799**	**138,537**	**122,110**	**16,427**	
Glenmore Wastewater	1.50%	**6,696**	**4,421**	**3,897**	**524**	
Scottsville Wastewater	1.50%	**6,696**	**4,421**	**3,897**	**524**	
	100.00%	**$ 446,380**	**$ 294,760**	**$ 259,809**	**$ 34,952**	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2019

Engineering

Operating Budget vs. Actual

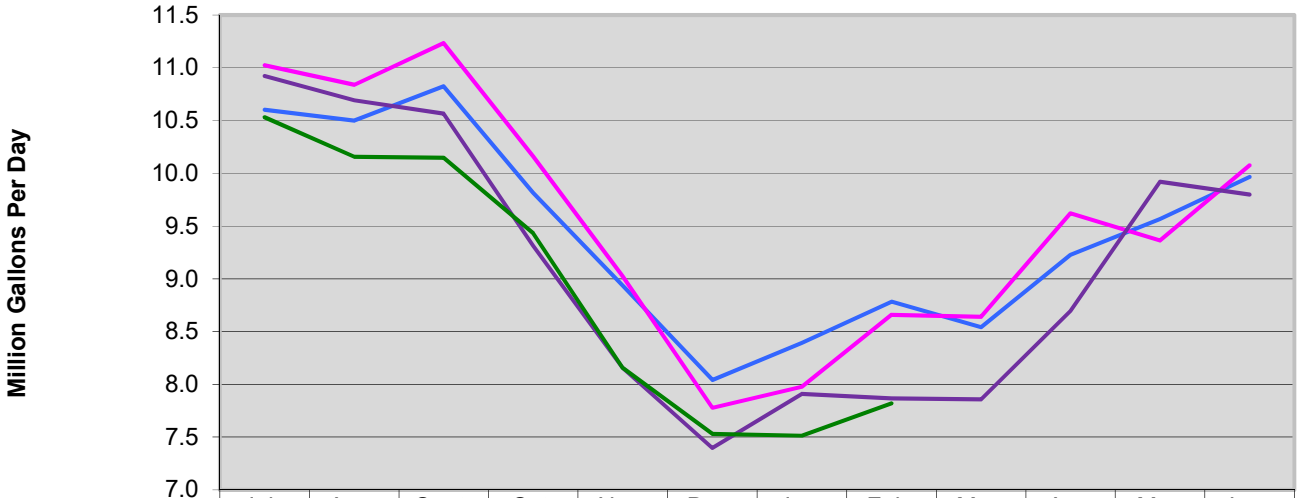
		Budget FY 2019	*Budget Year-to-Date*	*Actual Year-to-Date*	*Budget vs. Actual*	*Variance Percentage*
Revenues						
Payment for Services SWA		$ -	$ -	$ 14,246	$ 14,246	
Total Operating Revenues		**$ -**	**$ -**	**$ 14,246**	**$ 14,246**	
Expenses						
Personnel Cost		$ 1,210,438	$ 795,071	$ 749,806	$ 45,265	5.69%
Professional Services		44,000	29,333	8,252	21,081	71.87%
Other Services & Charges	**B**	19,550	13,033	35,575	(22,542)	-172.95%
Communications		17,180	11,453	9,805	1,648	14.39%
Information Technology		44,500	29,667	29,709	(42)	-0.14%
Supplies		9,500	6,333	7,104	(770)	-12.17%
Operations & Maintenance		54,880	36,587	31,655	4,932	13.48%
Equipment Purchases		26,500	17,667	15,925	1,742	9.86%
Depreciation & Capital Reserve Transfers		-	-	-	-	
Total Operating Expenses		**$ 1,426,548**	**$ 939,144**	**$ 887,831**	**$ 51,314**	**5.46%**

Department Summary

Net Costs Allocable to Rate Centers		**$ (1,426,548)**	**$ (939,144)**	**$ (873,585)**	**$ (37,068)**	**3.95%**
Allocations to the Rate Centers						
Urban Water	47.00%	**$ 670,477**	**$ 441,398**	**$ 410,585**	**$ 30,813**	
Crozet Water	4.00%	**57,062**	**37,566**	**34,943**	**2,622**	
Scottsville Water	2.00%	**28,531**	**18,783**	**17,472**	**1,311**	
Urban Wastewater	44.00%	**627,681**	**413,223**	**384,377**	**28,846**	
Glenmore Wastewater	1.50%	**21,398**	**14,087**	**13,104**	**983**	
Scottsville Wastewater	1.50%	**21,398**	**14,087**	**13,104**	**983**	
	100.00%	**$ 1,426,548**	**$ 939,144**	**$ 873,585**	**$ 65,560**	

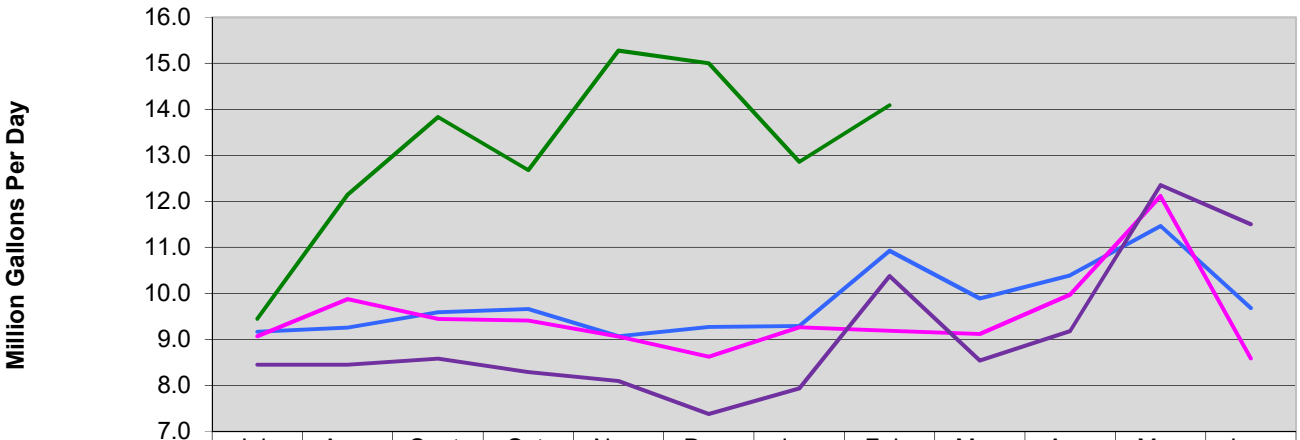
Rivanna Water and Sewer Authority
Flow Graphs

Urban Water Flows



	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
5 YR AVG.	10.60	10.50	10.83	9.82	8.94	8.04	8.39	8.78	8.54	9.23	9.57	9.97
FY 2017	11.02	10.84	11.23	10.16	9.02	7.78	7.98	8.66	8.64	9.62	9.36	10.07
FY 2018	10.92	10.69	10.57	9.31	8.16	7.40	7.91	7.87	7.86	8.70	9.92	9.80
FY 2019	10.53	10.16	10.15	9.43	8.16	7.53	7.51	7.82				

Urban Wastewater Flows



	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
5 YR AVG	9.17	9.26	9.59	9.66	9.07	9.27	9.29	10.93	9.89	10.39	11.47	9.68
FY 2017	9.07	9.87	9.45	9.41	9.06	8.62	9.26	9.19	9.12	9.97	12.12	8.59
FY 2018	8.45	8.45	8.59	8.29	8.10	7.38	7.94	10.38	8.54	9.18	12.36	11.50
FY 2019	9.45	12.14	13.83	12.68	15.28	15.00	12.86	14.09				

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **JENNIFER WHITAKER, DIRECTOR OF ENGINEERING & MAINTENANCE**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **STATUS REPORT: ONGOING PROJECTS**

DATE: **MARCH 26, 2019**

This memorandum reports on the status of the following Capital Projects as well as other significant operating, maintenance and planning projects.

Under Construction

1. Birdwood Raw Water Main
2. Crozet Water Treatment Plant Expansion
3. Crozet Interceptor Pump Stations Bypass & Isolation Valves
4. Wholesale Water Master Metering
5. Sugar Hollow Reservoir to Ragged Mountain Reservoir Transfer Flow Meter
6. Crozet Finished Water Pump Station
7. Interceptor Sewer & Manhole Repair
8. Valve Repair – Replacement (Phase 2)
9. Piney Mountain Tank Rehabilitation
10. Urgent and Emergency Repairs

Design and Bidding

11. Observatory Water Treatment Plant Expansion
12. South Rivanna Water Treatment Plant Improvements
13. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station
14. Crozet Flow Equalization Tank
15. Beaver Creek Dam Alterations
16. Beaver Creek Raw Water Pump Station
17. Crozet Interceptor Pump Station Rebuilds
18. Buck's Elbow & Crozet Waterball Tank Painting
19. MCAWRRF Digester Sludge Storage Improvements

20. MCAWRRF Aluminum Slide Gate Replacements
21. Glenmore Secondary Clarifier Coating
22. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs
23. Scottsville WTP – Finished Water Metering Improvements
24. South Rivanna Dam – Gate Repairs
25. Moores Creek Wetland Hydrology Improvements

Planning and Studies

26. Avon to Pantops Water Main (on hold until completion of the Urban Water Master Plan)
27. South Fork Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way
28. Urban Water Demand and Safe Yield Study
29. Urban Finished Water Infrastructure Master Plan
30. South Rivanna River Crossing and North Rivanna Transmission Main
31. Route 29 Pump Station
32. South Rivanna Hydropower Plant Decommissioning
33. Security Enhancements
34. Upper Schenks Branch Interceptor, Phase II
35. Engineering and Administration Building
36. Asset Management Plan

O&M Related Projects

37. NRWTP Raw Metering Improvements
38. NRWTP Sludge Lagoon Study and Needs Assessment
39. NRWTP High Service Pump Replacement
40. MCAWRRF Cogeneration System Analysis
41. SRWTP Future Site Development Analysis

1. Birdwood Raw Water Main

Design Engineer:	Michael Baker International (Baker)
Construction Contractor:	E.C. Pace (Roanoke)
Construction Start:	November 2018
Percent Complete:	15%
Base Construction Contract + Change Orders to Date = Current Value:	$2,593,726
Expected Completion:	October 2019
Total Capital Project Budget:	$4,000,000

Current Status:

A Notice to Proceed was issued to the contractor on November 26, 2018 and approximately 1,300 feet of pipe has been installed.

History:

RWSA and the UVA Foundation decided to expedite construction of the portion of the 36-inch raw water main through the Birdwood property. This would enable pipeline work to proceed just ahead of the golf course reconstruction project to prevent subsequent disruption to the property and adjacent neighbors, as well as increased water line construction costs. The golf course reconstruction project started in November 2018. Our work includes installation of approximately 6,100 linear feet of 36-inch raw water main along the eastern property boundary of the golf course.

2. Crozet Water Treatment Plant Expansion

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Orders Construction Co. (WVA)
Construction Start:	December 2018
Percent Completion:	5%
Base Construction Contract + Change Order to Date = Current Value:	$7,170,000
Expected Completion Date:	December 2020
Total Capital Project Budget:	$8,500,000

Current Status:

A Notice to Proceed was issued on December 13, 2018 and the contractor mobilized on February 26, 2019. Electrical work and required site demolition activities have begun as they worked towards completion of their first contract milestone.

History:

This project was created to increase the supply capacity of the existing Crozet WTP by modernizing plant systems. The goal was to not drastically increase the plant footprint in regard to the existing filter plant, flocculation tanks, and sedimentation basins. By modernizing the outdated equipment within these treatment systems, the plant discharge capacity will be improved by approximately 100% (from 1 to 2 mgd). SEH completed a Preliminary Engineering Report (PER); watershed data collection; raw water jar testing; pilot scale testing, as well as preliminary and final design.

3. Crozet Interceptor Pump Stations Bypass and Isolation Valves

Design Engineer:	Johnson, Mirmiran & Thompson (JMT)
Construction Contractor:	Anderson Construction
Construction Start:	September 2018
Percent Completion:	90%
Base Construction Contract + Change Order to Date = Current Value:	$361,820
Expected Completion Date:	April 2019
Total Capital Project Budget:	$720,000

Current Status:

The contractor has completed piping connections and valve installations at all four pump stations with backfilling and site restoration remaining.

History:

There are four pump stations located in the Crozet Interceptor system that help convey flow from the Crozet Area into the Morey Creek Interceptor and the rest of the urban collection system. These pump stations were constructed in the 1980s and provided no means of isolating each pump station from its downstream force main. This condition complicates maintenance-related activities as each time a pump station component needs to be serviced or replaced, the volume of wastewater within the force main must be addressed at the pump station as it drains back to the wet well. In addition, the Crozet Interceptor pump stations also have limited storage within their wet wells, and any reduction of down time as a result of dealing with the impacts of no isolation valves, decreases the amount of time available to work on the equipment. In order to alleviate this condition, temporary valves called "line stops" will be temporarily installed on the force mains downstream of the pump stations to allow enough time for a new isolation valve to be installed. Isolation valves will be located in order to provide the maximum amount of down time available based on current system conditions for future pump station maintenance activities. While line stops are in place, bypass connections will also be provided at each pump station. These will allow staff the option of bringing in bypass pumps for more significant pump station shutdowns required for maintenance activities or repairs for which the isolation valves alone cannot account. Contract Documents were advertised for bidding and bids were opened on July 10, 2018. A Notice of Award was provided to Anderson Construction on August 6, 2018.

4. Wholesale Water Master Metering

Design Engineer:	Michael Baker International (Baker)
Construction Contractor:	Linco, Inc.
Construction Start:	January 2016
Percent Complete:	97%
Base Construction Contract + Change Orders to Date = Current Value:	$2,228,254 - $284,104.24 = $1,944,149.76
Expected Completion Date:	April 2019
Total Capital Project Budget:	$3,200,000

Current Status:

Three water treatment plant flow meters, and all 25 distribution system flow meters have been installed. Of those 25 meters, 22 are currently functional and 3 are experiencing reporting errors due to hardware or other issues. Our consultant, meter representatives and staff are continuing to troubleshoot these issues. Three nonfunctioning meter registers will be replaced and have been ordered. Calibration of functional metering sites was performed in early March. Staff hopes to have a fully functioning metering system by the end of May 2019, if no additional unforeseen issues arise.

History:

In January 2012, a Water Cost Allocation Agreement was signed by the City of Charlottesville (City)

and ACSA designating how the two agencies would share in the financing of the New Ragged Mountain Dam project. Within the agreement is a general provision developed by the ACSA and City to enhance measurement of the water usage by each of the distribution agencies.

The Board authorized staff in August of 2012 to enter into an agreement with Michael Baker International, Inc. (Baker) to complete an engineering study on metering plan alternatives. Baker's study identified several alternatives for a metering plan based on combinations of metering and estimating methodologies. Based on feedback from ACSA, the City, and RWSA, Baker recommended a Jurisdictional Approach which included installation of water meters at 34 locations at the City/County corporate boundary and at each of the three urban water treatment plants at an estimated cost of $6.4 million. At its September 2013 meeting, the RWSA Board of Directors requested staff to proceed with the Jurisdictional Coverage Approach. In February 2014, the Board of Directors authorized Baker to complete preliminary and final design for the project and to provide bid-phase services. The final design includes construction of 25 metering systems in underground vaults and required acquisition of twenty (20) permanent water line easements and one (1) permanent access easement.

In May 2018, a final version of the *Wholesale Metering Administration and Implementation Policy* was completed and forwarded to the ACSA and the City. RWSA terminated the construction contract with Linco, Inc. on April 2, 2018 and is coordinating the remaining work in-house.

5. <u>Sugar Hollow to Ragged Mountain Reservoir Transfer Flow Meter</u>

Design Engineer:	Michael Baker International (Baker)
Construction Contractor:	G.L. Howard
Construction Start:	October 2018
Percent Complete	90%
Base Construction Contract + Change Orders to Date = Current Value:	$354,905
Expected Completion:	April 2019
Total Capital Project Budget:	$383,241

<u>Current Status</u>:

All onsite above-ground structures, including the Gatekeeper's House, existing sheds, Chlorine Contact Building, and existing Meter House, have been demolished. Improvements to the Sugar Hollow to Ragged Mountain Reservoir transfer line have been completed, which include the replacement of a 90+ year old gate valve, and installation of a new flow meter and automated control valve. Electrical work is ongoing at the site, but the Sugar Hollow to Ragged Mountain Reservoir transfer line is available for use if needed. Once electrical work has been completed by the subcontractor, the construction contractor will return to complete site restoration.

<u>History:</u>

RWSA staff has worked with the design engineers to complete plan and profile design drawings for this project. The project will include installation of a flow meter on the 18-inch diameter Sugar Hollow Reservoir discharge pipe and a control valve that can be operated remotely through the Observatory WTP SCADA system. The control valve will modulate the amount of flow being transferred between

the two reservoirs, the flow meter will record data, and staff will be able to remotely monitor the data through the SCADA system. Additional work has been added to this project including replacement of an existing, original gate valve at the site, demolition of four existing small utility structures and sheds that have not been used in many years, demolition of the existing Gatekeeper's House, and a separate control valve vault that will optimize the accuracy of the new flow meter by creating adequate separation distance between the meter and modulating control valve. The structures to be demolished and removed have been inspected and tested for asbestos containing materials and lead based paint. As a result, there will be some special abatement work required. Several long lead items were purchased by the contractor as a result of the initial Work Authorization. A subsequent Work Authorization covering the purchase of all remaining materials, construction and demolition was issued to the contractor on September 28, 2018.

The Notice to Proceed (NTP) was issued to the contractor on October 1, 2018. A Demolition Permit was issued for the Sugar Hollow Gatekeeper's House by Albemarle County during the week of November 12, 2018. Demolition of the Sugar Hollow Gatekeeper's House began during the week of November 26, 2018 and was completed during the week of December 3, 2018. All other site demolition was completed by the week of January 14, 2019. Installation of the new gate valve was completed on February 5, 2019. Installation of the flow meter and automated control valve was completed during the week of February 18, 2019.

6. Crozet Finished Water Pump Station

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction, Inc.
Construction Start:	May 2017
Percent Complete:	96%
Base Construction Contract + Change Orders to Date = Current Value:	$1,949,386
Expected Completion Date:	May 2019
Total Capital Project Budget:	$2,600,000

Current Status:

The 30-day demonstration period for the new pump station has been completed and Substantial Completion was achieved on March 6, 2019. Work has commenced to demolish the existing pump station and perform site restoration work.

History:

As part of the FY 2016 CIP, the Crozet Water Treatment Plant was studied to expand the treatment capacity to secure future demand needs of the Crozet community. Prior to any plant expansion, it was determined that the finished water pumping facilities were in need of replacement. The existing pump station was very small and was constructed as part of the original plant construction in the late 1960s. The pumping equipment and controls are outdated and reduce operational reliability and efficiency. The pump house was located in a low, poorly drained area near the ground storage clearwell, and drainage issues exist. Due to the age and condition of pumps, electrical systems, building systems and controls, it has been determined that a full station replacement is necessary. An Alternatives Analysis Report was completed in June 2016.

Bids were received and opened for the project on March 7, 2017. The apparent low bidder was Anderson Construction, Inc. from Lynchburg, VA. The Board of Directors approved the contract bid award of $1,941,000 at the March 2017 meeting, a Notice of Award was issued on April 10, 2017, and a Notice to Proceed was issued on May 3, 2017.

7. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering
Construction Contractor:	IPR Northeast
Construction Start:	November 2017
Percent Complete:	20%
Base Construction Contract + Change Orders to Date = Current Value:	$1,244,337.19
Expected Completion:	2020
Total Capital Project Budget:	$1,941,000

Current Status:

Frazier Engineering continues to conduct condition assessment activities and has reviewed CCTV results from investigation activities performed by IPR Northeast. The results from these investigations and previous investigations are being compiled into an initial construction work authorization for rehabilitation work on portions of the Crozet and Morey Creek Interceptor. Some additional CCTV work will also be performed following the cleaning of certain sections of the interceptor system. The contractor anticipates mobilizing in April to begin this work. Additional investigation and rehabilitation work will follow after the initial round of CCTV investigations.

History:

Results from sewer flow monitoring and modeling under the Comprehensive Sanitary Sewer Study provided awareness to specific inflow and infiltration (I&I) concerns in the collection system and resulted in strengthened commitments from the City, ACSA and RWSA to continue professional engineering services to aid in the rehabilitation and repair of the sewer collection system. Engineering services will be used for sewer infrastructure condition assessments and the development of a sewer rehabilitation bid package for the procurement of a contractor to perform the recommended rehabilitation work.

8. Valve Repair – Replacement (Phase 2)

Design Engineer:	N/A
Construction Contractor:	Garney Construction
Construction Start:	April 2019
Percent Complete:	0%
Base Construction Contract + Change Orders to Date = Current Value:	$843,460.00
Expected Completion:	October 2019
Total Capital Project Budget:	$882,914

Current Status:
A Pre-Construction Conference was held with the Contractor, VDOT, ACSA, and RWSA on March 11, 2019. Construction is anticipated to start in mid-April 2019.

History:
Isolation valves are critical for normal operation of the water distribution system and timely emergency response to water main breaks. Staff continuously reviews results from an ongoing Valve Exercising and Condition Assessment Program. This project will replace the highest-priority valves that are identified during the condition assessment as not operable and not repairable. In addition, valves that are identified in the condition assessment as being inoperable and repairable will be repaired as a part of the project. Phase 1 of the Valve Repair-Replacement Project replaced several inoperable and unrepairable valves in the North Rivanna Finished Water System. Phase 2 will continue replacing inoperable and unrepairable valves in the North Rivanna Finished Water System, but it will also replace (and potentially repair) valves on the South Rivanna, Crozet, Pantops, and Southern Loop Finished Water Systems. Once all specified valves have been repaired/replaced in Phase 2, the focus will shift to replacing older isolation valves in subsequent phases. Numerous valves in the North Rivanna and South Rivanna Finished Water Systems are 50+ years old and replacing these valves will enhance the resiliency and reliability of the two systems.

A Request for Bids (RFB) was issued on November 6, 2018. A Pre-Bid Conference was held on November 19, 2018. The first (and only) Addendum was issued on November 30, 2018. RWSA staff opened bids for the project on December 11, 2018, and Garney Companies, Inc. was the apparent low bidder ($843,460). The RWSA Board of Directors approved the bid award recommendation and Capital Improvement Plan Budget Amendment on January 22, 2019. A Notice of Award was sent to Garney Companies, Inc. on February 6, 2019.

9. Piney Mountain Tank Rehabilitation

Design Engineer:	Johnson, Mirmiran & Thompson (JMT)
Construction Contractor:	Utility Service Co, Inc.
Construction Start:	April 2019
Percent Complete:	0%
Base Construction Contract + Change Orders to Date = Current Value:	$251,700 + $12,585 = $264,285
Expected Completion:	July 2019
Total Capital Project Budget:	$500,000

Current Status:

Coordination for the upcoming shutdown is ongoing between RWSA and ACSA, and the tank is expected to be taken offline in late March for a construction start in early-mid April.

This project will require a shutdown of the tank for approximately three months. Due to unforeseen complications with an extended tank shutdown and other ongoing construction activities in the North Rivanna Water System in spring of 2018, construction of the Piney Mountain Tank repairs was postponed to spring of 2019. Utility Service Co., Inc will remain the general contractor for this project.

History:

The 700,000 gallon Piney Mountain Tank serves the North Rivanna pressure zone. A routine inspection of the Piney Mountain Tank in April of 2012 revealed several deformed roof rafters, indicating the potential for structural deficiency. An in-depth structural inspection was performed in May of 2013 and a list of recommended roof repairs provided. This project includes consultant services for design and bidding of necessary roof repairs and other ancillary items, as well as construction, construction administration, and inspection services. Long term plans for the Rt. 29 service area include the modification or elimination of this facility. The current recommended improvements are needed in order to maintain the existing tank in service for at least the next 10 years.

The project was advertised for bid on November 28, 2017 and bids were opened on January 9, 2018. At its January 2018 meeting, the RWSA Board of Directors approved staff's recommendation of award to Utility Service Co., Inc., the apparent low bidder on the project.

10. Urgent and Emergency Repairs

Staff is currently working on several urgent repairs within the water and wastewater systems as listed below:

Project No.	Project Description	Approx. Cost
2019-01	Pantops Water Line River Bank Repair	$170,000
2017-03	Crozet Sewer Force Main Air Release Valve Repair	$135,000
2018-01	Rivanna Interceptor – RVI-MH-32 Erosion Repair	$50,000
2018-06	South Rivanna Dam Apron and River Bank Repairs	$200,000

- Pantops Water Line River Bank Repair

  RWSA was made aware by a local resident of an eroded section of the river bank along the Rivanna River that has exposed a section of the Pantops water line. This eroded section is near a previously repaired section of the river bank. RWSA personnel visited the site and the Maintenance department quickly reinforced the area with sand bags. This issue was identified as an emergency and an on-call contractor was contacted to begin to mobilize and prep the area for the repair. Prior to beginning repair activities, permits were required by the U.S. Army Corps of Engineers and the Virginia Marine Resources Commission. Those permits have been obtained and repair work is commencing.

- Crozet Sewer Force Main Air Release Valve Repair

  During routine inspections of the sewer force main, the Maintenance Department identified that the saddle for one of the air release valves was loose and needed to be repaired. Due to the profile of the force main however, it is not possible to dewater the force main and take pressure off the pipe at this location without the installation of line stops. As a result, a contractor was contacted to begin development of a method to address the issue and a site meeting was conducted. The contractor has provided estimated pricing and a work authorization is being developed. Coordination with the property owner is underway and this repair will be scheduled sequentially with the Rivanna Interceptor manhole repair this spring as work is completed on the Pantops Water

Line repair.

- Rivanna Interceptor – RVI-MH-32 Erosion Repair

  During routine inspections of the Rivanna Interceptor, the Maintenance Department observed some significant erosion around RVI-MH-32. A site meeting was held with the contractor and the City of Charlottesville to confirm the cause of the erosion and determine the preferred method of repair, as the repair will impact a section of the Rivanna Trail. The contractor has provided estimated pricing and a work authorization is being developed. This repair will be scheduled sequentially with the Crozet Sewer Force Main repair this spring as work is completed on the Pantops Water Line repair.

- South Rivanna Dam Apron and River Bank Repairs

  Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam will take place in spring of 2019 under RWSA's on-call construction contract. Repairs to the north and south concrete aprons will be designed by Schnabel Engineering and those services will be procured separately from the on-call contract.

11. Observatory Water Treatment Plant Expansion

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Project Start:	October 2017
Project Status:	33% Design
Construction Start:	December 2019
Completion:	2023
Approved Capital Budget:	$18,630,000
Current Project Estimate:	$19,700,000

Current Status:

A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February . A Value Engineering Workshop is scheduled to take place the week of April 8th, with any agreed upon results incorporated into the project. Design documents will be completed by June 2019.

History:

This project will consider the design and costs for upgrading the plant systems to achieve a consistent 7.7 MGD plant capacity, as well as consider the costs involved with upgrading the plant to 10 or 12 MGD capacity. Much of the Observatory Water Treatment Plant is original to the 1953 construction. In an effort to better understand the needed future improvements, a Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based

on the findings from this report. A portion of this project was expedited in order to repair and replace old, existing equipment that was not functional. The flocculator systems have been replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). The second flocculator system was started up in May 2017, and both systems are currently in full service. The PER has been finalized, as well as a Work Authorization with the design engineer for design, bidding and construction administration services.

12. <u>South Rivanna Water Treatment Plant Improvements</u>

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	October 2017
Project Status:	33% Design
Construction Start:	December 2019
Completion:	December 2022
Approved Capital Budget:	$7,500,000
Current Project Estimate:	$15,000,000

<u>Current Status:</u>

A project kickoff meeting with staff was held on November 13, 2018 and 30% design documents were provided in February . A Value Engineering Workshop is scheduled to take place the week of April 8th, with any agreed upon results incorporated into the project. Design documents will be completed by June 2019. Project scope and budget have increased to address treatment system and building needs identified during the PER phase.

<u>History:</u>

The South Rivanna Water Treatment Plant is currently undergoing significant upgrades as part of the Granular Activated Carbon Project. Several other significant needs have also been identified and have been assembled into a single project. The projects herein include: expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; and the construction of a new metal building to cover the existing liquid lime feed piping and tanks.

The scope of this project will not increase plant treatment capacity. The PER has been finalized, as well as a Work Authorization with the design engineer for design, bidding and construction administration services.

13. <u>Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station</u>

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Engineering in Progress
Construction Start:	2022
Completion:	2026
Approved Capital Budget:	$6,526,000

Current Project Estimate: $18,000,000

Current Status:

A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. A site evaluation study to recommend a location for the raw water pump station is currently being conducted under the South Rivanna River to Ragged Mountain Reservoir Water Line Right-of-Way Work Authorization with Baker.

History:

Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant, which may eventually have the capacity to treat 10 million gallons per day (mgd). The new pipeline is expected to be constructed of 36-inch ductile iron and will approximately 14,000 feet in length. The opportunity to integrate the Observatory WTP raw water supply line with the proposed South Rivanna Reservoir to RMR raw water main project is currently being investigated as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (mgd) of raw water to the Observatory WTP. Integration of the new pump station with the planned South Rivanna Reservoir (SRR) to RMR pipeline is being considered in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 mgd of raw water from RMR back to the SRR WTP.

14. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Project Start:	October 2016
Project Status:	45% Design
Construction Start:	December 2019
Completion:	2021
Approved Capital Budget:	$3,300,000
Current Project Estimate:	$4,860,000

Current Status:

A geotechnical analysis and report, field survey work, and existing pump station evaluation have all been completed as part of the design process. Design documents will be completed by June 2019.

History:

A 2016 update to the 2006 model was completed which evaluated the I&I reduction goals previously

established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and namely the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet Service Area during a two-year storm. However, as projected growth in the service area occurs, peak wet weather flows in the area under the storm conditions established in the updated model will begin to exceed the firm capacities of the pump stations by 2025. Additional I&I reductions in order to reduce flows enough to not exceed the pump station firm capacities are not feasible and as a result, the construction of a flow equalization tank was identified as the best method to alleviate wet weather capacity issues.

While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps and the associated force mains while the system is down. As a result, it is important to progress into the siting study for the flow equalization tank to ensure that it can be constructed in time for the 2025 flow targets but also to facilitate less complicated and more thorough maintenance on the system that has not been possible previously.

Greeley and Hansen completed a siting study to determine the location for the flow equalization tank based on the results of the comprehensive model update. The results of the siting study were reviewed with ACSA and a final tank location was determined.

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. A data collection period has begun which includes a wetlands investigation of the project site and a topographic survey of the site has also been completed. An inspection of the existing Pump Station No. 4 is scheduled for September 20, 2018 where information on the control and electrical systems will be gathered.

15. <u>Beaver Creek Dam Alterations</u>

Design Engineer:	Schnabel Engineering
Project Start:	February 2018
Project Status:	5% Design
Construction Start:	2023
Completion:	2026
Approved Capital Budget:	$8,830,000
Current Project Estimate:	$15,000,000

<u>Current Status</u>:

A Preliminary Engineering Report has been completed for the selected design alternative. Final design of the dam improvements is underway.

<u>History</u>:

RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard

classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. In 2017, RWSA entered into a term contract with Schnabel Engineering for dam-related engineering services. The design work for this project is being completed under Schnabel's term contract.

Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

16. <u>Beaver Creek Raw Water Pump Station and Intake</u>

Design Engineer:	Hazen & Sawyer
Project Start:	August 2018
Project Status:	Work Authorization Under Negotiation
Construction Start:	2022
Completion:	2024
Approved Capital Budget:	$6,100,000
Current Project Estimate:	$8,000,000

<u>Current Status</u>:

Staff is negotiating a Work Authorization (scope and fee) with Hazen and Sawyer for site selection work for the new Raw Water Pump Station and permitting for the Pump Station, Intake, and Beaver Creek Dam Upgrades.

<u>History</u>:

The Drinking Water Infrastructure Plan for the Crozet water service area, developed by Hazen and Sawyer, recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

17. <u>Crozet Interceptor Pump Station Rebuilds</u>

Design Engineer:	TBD
Project Start:	July 2018

Project Status:	25% Design
Construction Start:	2019
Completion:	2023
Total Capital Project Budget:	$525,000

Current Status:

The Maintenance Department has begun pump replacement work associated with this overall project. Staff is reviewing the overall scope of work for the project and will be coordinating other items with the Maintenance Department regarding schedule and preferred equipment and materials. Work will be performed via quote packages and the need for consultant assistance is being determined.

History:

The Crozet Interceptor Pump Stations were constructed in the 1980's and many of the components are still original. The project will include the replacement of pumps and valves at Pump Station No. 2 in order to improve pumping capabilities at this location and provide spare parts for the pumps at Pump Station No. 1. This work will also include roof replacements at all four pump stations, siding replacement for the wet well enclosure at Pump Station No. 3, and installation of a new water well at Pump Station No. 3. Components of this project will be coordinated and timed to properly coincide with the Crozet Flow Equalization Tank project.

18. Buck's Elbow & Crozet Waterball Tank Painting

Design Engineer:	TBD
Project Start:	Summer 2019
Project Status:	Work Authorization Under Negotiation
Construction Start:	Spring 2021
Completion:	Summer 2021
Approved Capital Budget:	$1,200,000
Current Project Estimate:	$1,340,000

Current Status:

Following selection of a consultant to complete the work, staff will begin negotiation of the first work authorization for design services for this project. Construction for this project is scheduled to begin in Spring 2021, following completion of the Crozet WTP Expansion in late 2020.

History:

The two million-gallon Bucks Elbow Ground Storage Tank provides finished water storage for the Crozet Area while the 50,000 gallon Crozet Waterball Tank serves as filter backwash storage at the Crozet Water Treatment Plant. Routine inspections of these tanks in 2012 indicated that the tanks would require recoating by 2020. The project includes recoating the interior and top-coating the exterior of both tanks as well as installation of an active mixing system at the Bucks Elbow Tank to decrease stratification and improve overall water quality in the Crozet area. Minor repairs and improvements to both tanks will also be included in this work. Construction of the tank improvements are expected to begin in spring of 2021.

19. MCAWRRF Digester Sludge Storage Improvements

Design Engineer:	TBD
Project Start:	Spring 2019
Project Status:	Preliminary Design
Construction Start:	Spring/Summer 2019
Completion:	Fall 2019
Total Capital Project Budget:	$265,000

Current Status:

We are currently scheduling an engineer to perform an interior inspection of the sludge storage tank. Preparation of construction documents will begin after an inspection is completed and scope of repair work better defined. Implementation of this work will commence after Digester No. 3 is coated and back in service. Cleaning of Digester No. 3 has just begun with coating completion anticipated in May 2019.

History:

With the second centrifuge installation, additional capacity for storage of digested sludge would provide the Authority operational flexibility it does not currently have. Additionally, the sole sludge storage tank at the MCAWRRF was constructed in 1959 of reinforced concrete and is in need of repairs. This project would convert one of the three existing anaerobic digesters (Digester No. 1) into a sludge storage tank through piping modifications, and would provide redundancy to the existing sludge storage tank so it can be removed from service, cleaned, inspected, and repaired with minimal impact to the existing sludge dewatering operations. The piping configuration would also allow flexibility for the anaerobic digester to be used as either an anaerobic digester or sludge storage tank as needed for operations. The scope of work would include piping modifications, hydraulic improvements, tank safety improvements such as handrail and lights, and structural improvements to the existing sludge storage tank roof.

20. MCAWRRF Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	60% Design (for UV Facility work)
Construction Start:	May 2019
Completion:	July 2019
Total Capital Project Budget:	$470,000

Current Status:

A project kick-off meeting was held in November and preliminary design is underway. Staff is currently reviewing the design package for the UV Facility Slide Gate Replacement Project for which a quote package will be advertised.

History:

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After

repeated attempts to access and repair the gates, it is now necessary to replace and modify the gate arrangement. The replacement includes new gates for greater flexibility and resiliency as well as significant influent flow bypass pumping. Likewise, there are several gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity.

21. Glenmore Secondary Clarifier Coating

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	Fall 2018
Project Status:	Fee negotiation
Construction Start:	May 2019
Completion:	August 2019
Approved Capital Budget:	$50,000
Current Project Estimate:	$110,000

Current Status:

Engineering staff has developed specifications and is negotiating a fee with Lyttle Utilities for a change order to their MCAWRRF Digester Coating project for blasting and coating both clarifiers.

History:

The secondary clarifiers at the Glenmore facility were painted over 10-years ago. The clarifier environment is a particularly harsh environment subject to corrosive gases, grit abrasion and mechanical wear. Based on observations by operations staff, the coating system is in need of replacement to prevent deterioration and failure of the underlying metal superstructure. This project includes the cleaning and full coating of the clarifier.

22. Sugar Hollow Dam – Rubber Crest Gate Replacement and Intake Tower Repairs

Design Engineer:	Schnabel Engineering
Project Start:	January 2019
Project Status:	Work Authorization Under Negotiation
Construction Start:	2020
Completion:	2021
Approved Capital Budget:	$940,000
Current Project Estimate:	$1,140,000

Current Status:

A work authorization for design services is currently under negotiation for this project. An evaluation will be performed in spring of 2019 with design work to follow. Construction is anticipated to begin in spring of 2020.

History:

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high

inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure will be inspected and evaluated. Recommended repairs may include issues relating to the intake gate valves and tower walls, including repair or replacement of intake trash racks, and sealing/grouting of minor concrete wall cracks.

23. <u>Scottsville WTP – Finished Water Metering Improvements</u>

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	September 2018
Project Status:	75% Design
Construction Start:	May 2019
Completion:	July 2019
Total Capital Project Budget:	$145,000

<u>Current Status</u>:

SEH is completing final design documents and bidding is anticipated for April.

<u>History</u>:

The Scottsville WTP is permitted to provide up to 0.25 MGD of potable drinking water to RWSA customers in the Scottsville service area. After water has been treated in the plant it is collected in an existing clearwell, which was constructed with the original facility. From the clearwell, the water is pumped into the distribution system by one of the two high service pumps. The flow from these pumps is not metered. In order to keep a record of the total flow entering the Scottsville system, plant operators must periodically conduct draw-down tests to verify the pumping rate of each of the two pumps. The total flow is then calculated based on the run time of each pump. This method of measuring flow is not accurate, as the pumping rate will vary based on the clearwell level and the hydraulic grade line of the distribution system. In addition, the Virginia Department of Health has indicated that the flow should be metered during recent conversations related to the disinfection profile calculation throughout the plant. The purpose of this project is to install a finished water meter at the plant.

24. <u>South Rivanna Dam – Gate Repairs</u>

Design Engineer:	Schnabel
Project Start:	July 2019
Project Status:	Work Authorization Development
Construction Start:	Unknown at this time
Completion:	2020
Total Capital Project Budget:	$900,000

<u>Current Status</u>:

Design will begin in July 2019 with construction in 2020, pending preliminary findings.

History:

The South Rivanna Dam, originally constructed in 1965, is equipped with two 36" diameter slide gates and conduits, one each on the north and south abutments of the dam, which can be utilized to dewater the facility or to meet minimum instream flow (MIF) requirements when the dam is not spilling. These gates are original to the dam and while they are operable and are exercised regularly, they can no longer provide a complete seal, therefore allowing some leakage through the dam. RWSA has protocols in place to temporarily stop leakage through the gates when necessary to conserve water; however, there is a desire to repair or replace the gates and components as needed to restore full functionality. The project includes other repairs to the facility, including improvements to the concrete wall adjacent to the Raw Water Pump Station as well as improvements to the north dam tower to provide safer access by staff while still discouraging access by the general public.

25. Moores Creek Wetland Hydrology Improvements

Design Engineer:	VHB/ECS, Mid-Atlantic
Project Start:	March 2019
Project Status:	Kick-off
Construction Start:	Summer 2019
Completion:	Fall 2019
Total Capital Project Budget:	$95,000

Current Status:

A kick-off meeting is currently being scheduled for late March.

History:

As part of the Ragged Mountain project, RWSA was required to mitigate for impacts to streams and wetlands. The wetland mitigation site is located along Moores Creek on Franklin St. RWSA has been monitoring the mitigation sites, as required by the project permit, since construction in 2014. Reports on the success of the site are submitted to the Department of Environmental Quality (DEQ) at intervals during the first 10 year of the project construction. From this monitoring it was determined that the wetland is holding more water than is ideal for its function. VHB designed a Hydrology Improvement Plan for the site, which was approved by DEQ. RWSA is now working with ECS Mid-Atlantic, to obtain the necessary County permits for the improvements (i.e., Erosion and Sediment Control permit).

26. Avon to Pantops Water Main (on hold until completion of the Urban Water Master Plan)

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2017
Project Status:	Preliminary Engineering Report
Construction Start:	TBD
Completion:	TBD
Total Capital Project Budget:	$13,000,000

Current Status:

Route alignment determination, hydraulic modeling, and preliminary design were underway. Due to

the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach is warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Avon to Pantops Water Main. This project is on hold.

History:

The focus of this project is on the southern half of the urban area water system which is currently served predominantly by the Avon Street and Pantops water storage tanks. The Avon Street tank is hydraulically well connected to the Observatory Water Treatment Plant while the Pantops tank is well connected to the South Rivanna Water Treatment Plant. The hydraulic connectivity between the two tanks, however, is less than desired, creating operational challenges and reduced system flexibility. In 1987, the City and ACSA developed the Southern Loop Agreement which laid out two key phases (with the first being built at the time). The 1987 Agreement and planning efforts will service as a starting point for this current project. An engineering contract has been negotiated and was approved by the Board of Directors in July 2017.

27. South Fork Rivanna Reservoir to Ragged Mtn. Reservoir Water Line Right-of-Way

Design Engineer:	Michael Baker International (Baker)
Project Start:	October 2017
Project Status:	Preliminary Engineering Report
Completion:	2021
Total Capital Project Budget:	$2,295,000

Current Status:

A Draft PER was completed in January 2019 and is currently under review. Survey work is expected to begin in late March to begin preparation of easement plats. Easement acquisition negotiations with private property owners are expected to begin by May 2019. Several of the properties are owned by the VDOT, Albemarle School Board, UVA Foundation and the City of Charlottesville.

History:

The approved 50-year Community Water Supply Plan includes the future construction of a raw water line from the South Fork Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline along an alternative alignment to increase raw water transfer capacity in the Urban Water System. The preliminary route for the water line followed the proposed Route 29 Charlottesville Bypass; however, the Bypass project was suspended by VDOT in 2014, requiring a more detailed routing study for the future water line. This project includes a routing study, preliminary design and preparation of easement documents, as well as acquisition of water line easements along the approved route.

Baker is now completing the routing study. Preliminary design, plat creation and the acquisition of easements will take place as soon as the final route determination has been made. Property owners have been contacted to request permission to access properties for topographical surveying which will take place following completion of the PER. A recommendation for a tentative final alignment was presented at a community information meeting in June 2018.

28. Urban Water Demand and Safe Yield Study

Design Engineer:	Hazen and Sawyer
Project Start:	November 2018
Project Status:	30% complete
Completion:	August 2019
Total Capital Project Budget:	$154,000

Current Status:

A kick-off meeting was held on December 12, 2018. Additional meetings with various departments at the City, County and ACSA were held in mid-January to gather information on population trends. Bathymetric studies of the South Rivanna and Ragged Mtn Reservoirs will be completed in March 2019. Initial demand projections are expected in May 2019.

History:

The City of Charlottesville, Albemarle County Service Authority, and RWSA entered into the Ragged Mountain Dam Project Agreement in 2012. This Agreement included provisions to monitor the bathymetric capacity of the Urban water reservoirs as well as a requirement to conduct reoccurring demand analysis, demand forecasting and safe yield evaluations. This study will evaluate and calculate current and future demands and present safe yield. Per the project Agreement, these analyses shall be completed by calendar year 2020.

29. Urban Finished Water Infrastructure Master Plan

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	20% complete
Completion:	January 2020
Total Capital Project Budget:	$253,000

Current Status:

Work on this project is on-going following the project kick-off meeting in January 2019.

History:

As identified in the 2017 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. Many previously identified projects in the urban finished water treatment and distribution system are in preliminary engineering, design or construction. As such, staff have identified a need to develop a current and ongoing finished water master plan.

30. South Rivanna River Crossing and North Rivanna Transmission Main

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2020
Project Status:	Planning
Construction Start:	2021

Completion:	2023
Total Capital Project Budget:	$5,340,000

Current Status:

An update to the Airport Zone Study Report was completed in summer of 2018, confirming the need for and timing of the river crossing and transmission main. Design of the project will begin in summer 2020.

History:

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 20 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the Airport Road Pump Station Site, RWSA plans to construct a new river crossing at the South Fork Rivanna River and two "gap" sections of 24-inch water main between the already completed sections. Much of the new water main route is within VDOT right-of-way; however, acquisition of right-of-way will be required at the river crossing and on the Kohl's Property at Hollymead Town Center.

31. Route 29 Pump Station

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2019
Project Status:	Planning
Construction Start:	2021
Completion:	2022
Total Capital Project Budget:	$2,300,000

Current Status:

Design of the pump station is anticipated to begin in the summer of 2019.

History:

The Rt. 29 Pipeline and Pump Station master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands; reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and future low pressure conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone.

32. South Rivanna Hydropower Plant Decommissioning

Consultant:	Gomez and Sullivan
Project Start:	October 2016
Project Status:	Exemption Surrender Process – Phase 2 Underway
Construction Start:	2019
Completion:	2020
Approved Capital Budget:	$400,000
Current Project Estimate:	$750,000

Current Status:

A consultation document was provided to local regulatory agencies and a meeting was held on May 21, 2018 with the agencies to discuss the decommissioning process. Minor comments were provided by those agencies and development of the surrender application for submission to FERC is underway. As part of the application, a draft decommissioning plan has been developed and is being reviewed by RWSA. Due to a recent significant wet weather event, returning the 72-inch diameter penstock to a reservoir drain has been evaluated by Gomez and Sullivan. Modifications to the decommissioning plan are being developed to incorporate that into the project.

History:

RWSA constructed a hydropower plant at the South Fork Rivanna Dam in 1987. Power generation at the plant was limited for a number of years due to various mechanical issues. In December 2011, RWSA retained HDR to perform a mechanical and electrical equipment assessment and to provide recommendations for capital expenditures and continued operation. This assessment identified the need to perform a number of mechanical and electrical modifications to improve operation of the hydropower plant. On June 16, 2013, while the plant was down for testing associated with repairs to the speed reducer and generator, the powerhouse flooded during a heavy rainfall event. A post-flood inspection indicated that the rising water damaged the electrical equipment. In addition to electrical system issues, the turbine blades were "stuck" and inoperable prior to the flood event. Prior to beginning any rehabilitation work on the hydropower plant, it was determined that a feasibility study should be performed that reviewed previous recommendations and took into account interaction with the Federal Energy Regulatory Commission (FERC) to determine if it was cost effective for RWSA to rehabilitate the facility. The feasibility study was conducted by Gomez and Sullivan and concluded that rehabilitation of the facility would most likely not provide a return on investment based on current market conditions. Staff recommended that RWSA proceed with surrendering the exemption to licensure with FERC and decommission the facility. During the meeting on October 25, 2016, the Board of Directors agreed with the recommendation and staff began to proceed with the surrender process.

Work associated with the first phase of the exemption surrender process with Gomez and Sullivan and Van Ness Feldman was completed confirming with FERC what the next steps in the surrender process would include. A work authorization with Gomez and Sullivan for Phase 2 of the exemption surrender process was finalized in August 2017 and includes tasks to manage the local regulatory agencies consultation process and development of the surrender application and decommissioning plan.

33. Security Enhancements

Design Engineer:	TBD
Project Start:	July 2018
Project Status:	Planning
Construction Start:	2019
Completion:	2021
Total Capital Project Budget:	$2,400,000

Current Status:

RWSA Engineering staff has begun addressing priority items discussed during the meeting it held with RWSA Operations staff in October 2018 and determining which portions of the project will require additional input from various RWSA departments. RWSA staff has met with ACSA and City staff to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the respective utilities. Meetings with additional utilities and organizations will be conducted as needed to gain additional perspective on access control and other security measures. It is expected that a Request for Proposal (RFP) will be issued by RWSA staff in order to facilitate the selection of an integrator to facilitate incorporation of an access control system throughout the Authority. The recommended access control system will be implemented into the CZWTP, OBSWTP, and SRWTP expansion/improvement projects as an initial measure, with additional facilities to follow. RWSA staff anticipates advertising the access control RFP in early April 2019. As the project's scope of work is refined, a consultant will be selected to provide project assistance where needed.

History:

As required by the Federal Bioterrorism Act of 2002, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

34. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	Frazier Engineering, P.A.
Project Start:	TBD
Project Status:	Planning
Construction Start:	TBD
Completion:	TBD
Approved Capital Budget:	$4,485,000
Current Project Estimate:	$3,985,000

Current Status:

Discussions are underway to determine an alignment for the replacement sewer line, generally located between the McIntire Recycling Center and Preston Avenue along McIntire Road. As part of this process, some additional subsurface exploration work will be conducted starting next month to gather rock information along the alignment in McIntire Road as well as across the ballfield.

History:

The Schenks Branch Sanitary Sewer interceptor is a pipeline operated by RWSA that serves the City of Charlottesville. The 21-inch sewer line was originally constructed by the City in the 1950s. Evaluations from the flow metering and modeling from the Comprehensive Sanitary Sewer Interceptor Study, and negotiations with the ACSA and City, resulted in an inflow and infiltration reduction plan from which it was concluded that increased capacity of the Schenks Branch Interceptor was needed for wet weather peak flow. Due to several road construction projects and the construction of the Meadow Creek Interceptor project along the sewer alignment, Schenks Branch was to be constructed in multiple phases. The completed sections, collectively known as the Lower Schenks Branch Interceptor, include the Tie-in to Meadow Creek, the section along McIntire Road Ext, and the section though the Route 250 Interchange.

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road or within McIntire Road. Both phases are included in a DEQ Consent Order. As a result of discussions between RWSA and DEQ, DEQ approved a milestone schedule for completing the Phase 1 section by March 31, 2017 and set in "abeyance" a schedule for completing work on Phase 2 as a result of complications associated with the execution of the necessary easements. Phase 2, preliminary construction drawings and specifications have been developed. No new agreements concerning right-of-way have been reported to RWSA regarding Phase 2. No bidding or construction can take place until one of the following two options occur: (1) County grants RWSA a suitable easement on County property; or (2) City grants RWSA permission and a street cut permit to install the sewer directly under McIntire Road.

35. Engineering and Administration Building

Design Engineer:	Dewberry
Project Start:	April 2018
Project Status:	Space Needs Analysis
Construction Start:	2021
Completion:	2023
Total Capital Project Budget:	$3,000,000

Current Status:

An assessment of space needs for the departments housed within the existing Administration Building and Engineering Building has been completed and layouts for an expanded Administration Building have been developed along with a draft final report. The report and layouts are being reviewed by a committee at RWSA to provide any additional comments before the documents are finalized. The proposed FY 2020 – 2024 CIP delays this project beyond FY 2024.

History:

RWSA currently has its administrative headquarters in two buildings on the grounds of the MCAWRRF. The two-story Administration Building was constructed in the early 1980's and houses offices, IT server space, meeting space, and a full-service laboratory. The second building is a series of four trailers installed in between 2003-2010 that house the engineering department. The Administration Building is located at the head of the wastewater treatment plant and is surrounded by underground piping and process functions that may conflict with existing parking and/or the building in a future expansion. There is currently a need to house additional staff; increase office and meeting space; plan for the replacement of the trailers; bring IT server workrooms to modern standards; and provide classroom space for education outreach. Staff has procured a consultant to perform a space needs analysis and provide recommendations on how to address future building needs.

36. Asset Management Plan

Design Consultant:	GHD, Inc.
Project Start:	July 2018
Project Status:	75% Complete (Phase 1)
Completion:	2020
Total Capital Project Budget:	$500,000

Current Status:

As part of the first phase, Asset Management awareness training and workshops related to Asset Management Program Development, the Gap Assessment process, and development of an Asset Management Policy have been conducted. A draft report documenting the Gap Assessment has been submitted and various other documents associated with policy and business processes are being reviewed as well.

History:

Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. RWSA has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant has been procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant will also assist RWSA with the procurement of a software package to facilitate the overall program.

O&M Related Projects

Staff is currently working on several O&M related projects within the water and wastewater systems as listed below:

#	Project Description	Total Approx. Value
35	NRWTP Raw Water Metering Improvements	$135,000
36	NRWTP Sludge Lagoon Study and WTP Needs Assessment	$60,100
37	NRWTP High Service Pump Replacement	$200,000
38	MCAWRRF Cogeneration System Analysis	$48,300
39	SRWTP Future Site Development Analysis	$15,000

- NRWTP Raw Water Metering Improvements

  The NRWTP is permitted to provide up to 2.0 MGD of potable drinking water to customers located in the Urban service area. After water is pumped from the raw water pump station on the North Fork Rivanna River, the raw water flow is metered by an orifice plate, or insert style meter, prior to entering the rapid mix chamber. The meter is located behind the existing powdered activated carbon feed system and is difficult to access. In addition, RWSA recognizes that the accuracy of this style of meter is reduced by laying length conditions in comparison to modern magnetic flow meters which have been installed at other locations. RWSA is working with SEH to develop contract documents to have a magnetic flow meter installed on the raw water line in an exterior below grade vault. The schedule for bidding of this work will be dependent on the availability of funds.

- NRWTP Sludge Lagoon Study and WTP Needs Assessment

  The two lagoons or settling ponds at the plant are earthen basins designed to capture and hold residuals generated through the treatment process as well as periodic draining and washdown of the sedimentation and flocculation basins. The basins were designed to allow all the residuals and solids to settle out and then the clarified water to be decanted and conveyed to the river. The operational use of these lagoons is not as originally intended, and the Virginia Department of Environmental Quality has concerns regarding their condition. A study is being performed to determine how they can be improved, and other locations on site that may be less prone to flood waters. Under this project, a needs assessment at the plant will be also be performed and updated.

- NRWTP High Service Pump Replacement

  The two existing high service pumps at the NRWTP were installed when the plant was originally constructed in 1974 and as a result have reached the end of their serviceable lives. Due to excessive maintenance needs and concerns regarding their reliability, RWSA worked with SEH to develop quote packages for the procurement of the pumps and then installation. Quotes have been received for the procurement of the pumps and installation. The pumps were installed in early March, however, the motors were delayed and are expected to be delivered in late March with pump start up by the end of the month.

- MCAWRRF Cogeneration System Analysis

  The MCAWRRF currently utilizes a cogeneration facility which accepts digester gas and uses it to create electricity and heat. The facility was put into operation in 2011. The generator supplies power back to the plant electrical distribution system providing energy usage savings through offsetting usage

through the electric utility. Unfortunately, there have been a number of issues associated with operation of the generator including, expensive and proprietary maintenance services and temperature issues. With a significant and expensive scheduled maintenance event forthcoming, RWSA wanted to conduct a study to determine if these issues could be resolved or if there was a more efficient way to utilize the digester gas. This study will evaluate options for improvements to the existing system or new systems that could be implemented along with estimated costs and returns on investment. A final report was submitted on February 22nd and RWSA is evaluating the final conclusions.

- SRWTP Future Site Development Analysis

  As future water demands increase, facility expansions and additions at the SRWTP site are proposed to continue. At some point in the future, RWSA plans to increase the capacity at the SRWTP to 16 MGD along with preliminary plans for a 41 MGD raw water pump station and a 25 MGD pretreatment facility associated with the future transfer of raw water from the South Rivanna Reservoir to the Ragged Mountain Reservoir. With property development activity increasing near the plant, the intent of this analysis is to confirm what approximate space would be needed to meet the plant's future needs in order to better determine future property requirements. The analysis is expected to be completed by May 2019.

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **DAVE TUNGATE, DIRECTOR OF OPERATIONS**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **OPERATIONS REPORT FOR FEBRUARY 2019**

DATE: **MARCH 26, 2019**

WATER OPERATIONS:

The average daily/monthly total water distributed for February 2019 was as follows:

Water Treatment Plant	*Average Daily Production (MGD)*	*Total Monthly Production (MG)*	*Maximum Daily Production in the Month (MGD)*
Observatory	1.69	47.26	2.08 (2/03/19)
South Rivanna	5.86	164.12	6.62 (2/27/19)
North Rivanna	0.32	7.61	0.36 (2/07/19)
Urban Total	7.87	218.99	8.66 (2/19/19)
Crozet	0.574	16.06	1.00 (2/04/19)
Scottsville	0.040	1.12	0.054 (2/19/19)
RWSA Total	8.48	236.17	---

- All RWSA water treatment facilities were in regulatory compliance during the month of February.

Status of Reservoirs (as of February 21 , 2019):

- Urban Reservoirs: 100 % of Total Useable Capacity
- Ragged Mountain Reservoir is full (100%)
- Sugar Hollow Reservoir is full (100%)
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during the month of February 2019. Performance of the WRRFs in February was as follows compared to the respective VDEQ permit limits:

WRRF	*Average Daily Effluent Flow (mgd)*	*Average $CBOD_5$ (ppm)*		*Average Total Suspended Solids (ppm)*		*Average Ammonia (ppm)*	
		RESULT	*LIMIT*	*RESULT*	*LIMIT*	*RESULT*	*LIMIT*
Moores Creek	12.92	<QL	10	1.2	22	.17	7.0
Glenmore	0.171	2.0	15	4.0	30	0.41	NL
Scottsville	0.118	2.0	25	7.0	30	0.09	NL
Stone Robinson	0.002	NR	30	NR	30	NR	NL

NR = Not Required
NL = No Limit
<QL: Less than analytical method quantitative level (2 ppm for CBOD, and 1 ppm for TSS).

Nutrient discharges at the Moores Creek AWRRF were as follows for January 2019:

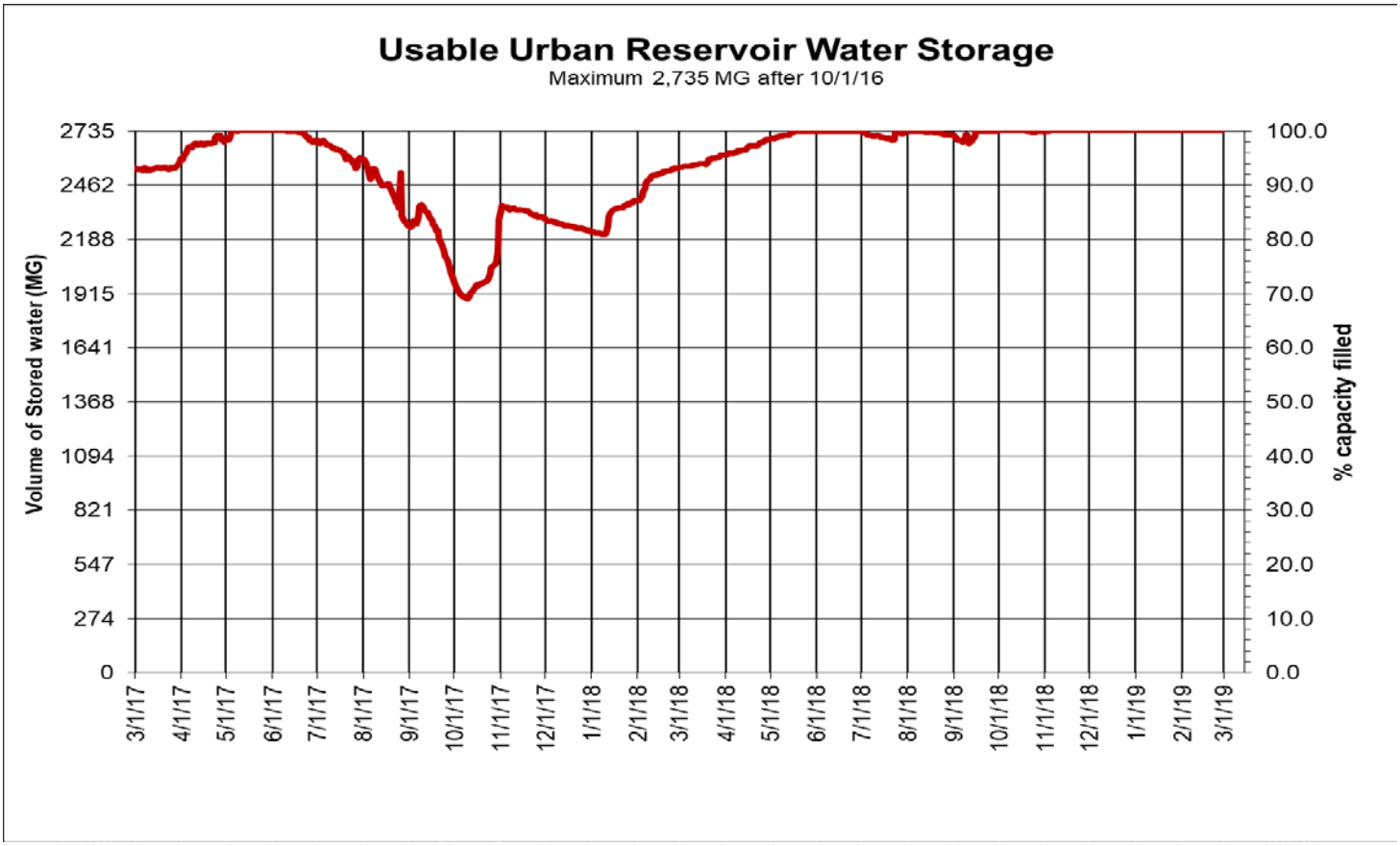
State Annual Allocation (lb./yr.)		*Average Monthly Allocation (lb./mo.)**	*Moores Creek Discharge (lb./mo.)*	*Performance as % of Average Allocation**
Nitrogen	282,994	23,583	5831	25%
Phosphorous	18,525	1,544	644	42%

*State allocations are expressed as annual amounts. One-twelfth of that allocation is an internal monthly benchmark for comparative purposes only.

WATER AND WASTEWATER DATA:

The following graphs are provided for review:

- Usable Urban Reservoir Water Storage
- Urban Water and Wastewater Flows versus Rainfall


Usable Urban Reservoir Water Storage
Maximum 2,735 MG after 10/1/16
Volume of Stored water (MG)
% capacity filled
2735
2462
2188
1915
1641
1368
1094
821
547
274
0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
3/1/17
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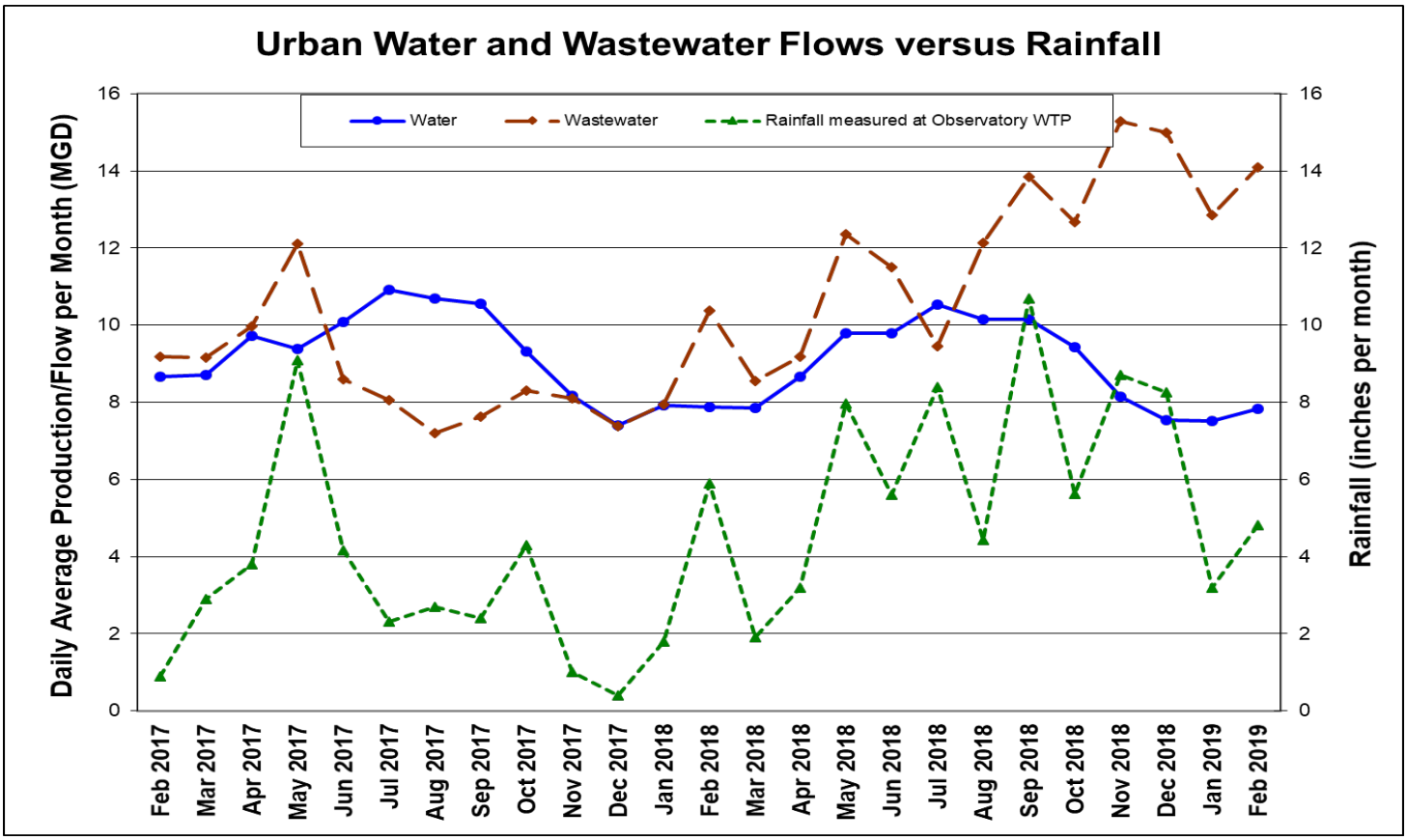
Urban Water and Wastewater Flows versus Rainfall
Water
Wastewater
Rainfall measured at Observatory WTP
Daily Average Production/Flow per Month (MGD)
Rainfall (inches per month)
16
14
12
10
8
6
4
2
0
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Oct 2017
Nov 2017
Dec 2017
Jan 2018
Feb 2018
Mar 2018
Apr 2018
May 2018
Jun 2018
Jul 2018
Aug 2018
Sep 2018
Oct 2018
Nov 2018
Dec 2018
Jan 2019
Feb 2019

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MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **JENNIFER A. WHITAKER, DIRECTOR OF ENGINEERING AND MAINTENANCE**

REVIEWED BY: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **PURCHASE ORDER REQUEST AND CAPITAL IMPROVEMENT PLAN AMENDMENT – PINEY MOUNTAIN TANK REHABILITATION**

DATE: **MARCH 26, 2019**

The Rivanna Water & Sewer Authority (RWSA) owns and operates the 700,000-gallon Piney Mountain Finished Water Storage Tank, which serves the North Rivanna Pressure Zone. Inspections performed in 2012 and 2013 revealed several structural and coating deficiencies. As such, the Piney Mountain Tank is being taken out of service in April 2019 for approximately four months to perform the necessary repairs. While the tank is offline, temporary pumping will be required to supplement the North Rivanna Water Treatment Plant, provide system redundancy, and supply additional flow for response to emergency events, such as fires.

RWSA will be procuring a complete, two-pump rental setup, including all controls, fittings, appurtenances, mobilization and maintenance fees, and other ancillary costs, from Xylem, Inc. (Xylem) using a Sole Source Procurement. While amounts paid to Xylem via a purchase order will be based on the actual rental period for the temporary pumping setup, staff estimates a total rental fee of $140,000.

The estimated cost of the rental pump setup to maintain operations during the Piney Mountain Tank shutdown, including fuel and contingency costs, will exceed the existing budget for the Piney Mountain Tank Rehabilitation CIP Project. This necessitates an Amendment to the Capital Improvement Plan Budget to add $70,000 and bring the total CIP Project budget to $570,000.

Board Action Requested:

Staff requests that the Board of Directors authorize RWSA staff to execute an Authority Purchase Order with Xylem, Inc. for a total value up to $140,000 for the Piney Mountain Tank Rehabilitation Project, and any Modifications to the Purchase Order, only when necessary for completion of this project, provided the total amount of any Modifications does not exceed 10% of the total Purchase Order value.

Staff also requests the Board of Directors amend the Capital Improvement Plan for Fiscal Years 2019 - 2023 to include a budget increase for the Piney Mountain Tank Rehabilitation Project of $70,000 in Fiscal Year 2019. This amendment would bring the total budget for the Piney Mountain Tank Rehabilitation Project to $570,000.

MEMORANDUM

TO: File

FROM: Austin Marrs and Victoria Fort – RWSA Civil Engineer and Senior Civil Engineer

DATE: March 15, 2019

SUBJECT: Sole Source Procurement Determination – VA Code Section 2.2-4303.E
Temporary Pumping Rental for Piney Mountain Tank Rehabilitation

The purpose of this memorandum is to provide a determination regarding the suitability of sole source procurement for the rental of two (2) temporary pumps, controls, fittings, and appurtenances during the Piney Mountain Tank Rehabilitation Project.

The Rivanna Water & Sewer Authority (RWSA) owns and operates the 700,000-gallon Piney Mountain Finished Water Storage Tank, which serves the North Rivanna Pressure Zone. Inspections performed in 2012 and 2013 revealed several structural and coating deficiencies. As such, the Piney Mountain Tank is being taken out of service in April 2019 to perform the necessary repairs. While the tank is offline, temporary pumping will be required to supplement the North Rivanna Water Treatment Plant, provide system redundancy, and supply additional flow for response to emergency events, such as fires.

In both planned and emergency situations in the North Rivanna Pressure Zone where temporary pumping is required, pumps are installed near Kohl's along Seminole Trail/Route 29. Non-standard fittings (Storz Fittings) are necessary to install pumping at this location. Xylem, Inc. (Xylem) has provided temporary pumping at this location in the past and has access to the fittings required to complete installation. Their access to and familiarity with these uncommon fittings helps avoid project delays that would occur with other potential suppliers.

Having provided temporary pumping for the North Rivanna Pressure Zone in the past, Xylem has an understanding of the hydraulic requirements for the system. The temporary pumping must be installed such that normal operating pressures on both the suction and discharge side of the pump(s) are maintained. Xylem traditionally assists RWSA with rental pump startup, and they would be able to help identify anomalies and prevent damage to RWSA's critical infrastructure. Throughout the duration of the rental, Xylem will be providing bi-weekly maintenance on the pumping setup, which would minimize impacts to several departments at RWSA. In addition, Xylem's proximity to RWSA (Ashland, VA) would aid in response to a malfunctioning pump. Response time to a pump failure is critical for the Piney Mountain Tank Rehabilitation project since the tank will be offline. Although RWSA staff will have the ability to monitor the pumping setup remotely and will assist in emergency response to pumping issues, having Xylem in close proximity provides further resiliency to the system.

Other ongoing work in the North Rivanna Pressure Zone has a direct impact on the Piney Mountain Rehabilitation Project, and subsequently, the installation of the temporary pumping setup. At the North Rivanna Water Treatment Plant (NRWTP), the existing High Service Pumps are being replaced. This project has had issues with equipment delivery schedules frequently changing, but

was scheduled to be completed about two (2) weeks prior to the Piney Mountain Tank being taken offline. This leaves about 1 - 2 weeks available for pumping mobilization, installation, startup, and testing. Xylem's familiarity with the North Rivanna Pressure Zone and the site itself will allow them to install the pumping setup in the allotted time. The uncertainty with this schedule would also be difficult to control and manage in a more formal contractual structure. Due to the inherent risk involved with a moving schedule, pricing provided by vendors in a competitive bidding process would likely be much higher, resulting in unnecessary additions to the project's overall budget.

Through coordination efforts with the Albemarle County Service Authority (ACSA), it was identified that there are fire flow requirements that RWSA must meet while the Piney Mountain Tank is offline. To approach these requirements, a temporary pumping setup is required that can meet both average daily demands and escalated, emergency demands. The full extent of these requirements were recently determined when RWSA and ACSA conducted system testing utilizing the existing NRWTP High Service Pumps (prior to their removal) and a Xylem temporary pump. This testing took place in January and February 2019, due to equipment availability and required coordination efforts. The Xylem temporary pump that was utilized for testing and is currently being utilized for the NRWTP High Service Pump Replacements will remain onsite for the Piney Mountain Tank Rehabilitation Project. This larger pump will be supplemented with a second, smaller pump that is sized to meet average daily demands. Maintaining the same pump supplier will eliminate any additional effort and expenses associated with removing equipment and replacing it with that of another supplier.

Finally, due to recent changes to the temporary pumping plan following the pump testing described above and the narrow window during which the Piney Mountain Tank can be taken down for repairs, there was not sufficient time to procure pumping services without substantial delay to the Piney Mountain Tank construction. Delay of the tank work could have significant negative impacts on Operations as system demands peak in the late summer and early fall.

In summary, sole source procurement is necessitated by the following:

- Non-standard (Storz) fittings are required to complete temporary pumping installation. Xylem has access to these fittings, which would negate the need for custom manufacture with associated lead times of several weeks.
- The temporary pumping setup must operate within the system tolerances specified by RWSA. Xylem has provided temporary pumping solutions to RWSA in this location previously and is familiar with such requirements and tolerances.
- If a pump failure or malfunction were to occur, the vendor shall be local, so it can assist RWSA with timely troubleshooting. Xylem is based in Ashland, VA, which is about 1 – 1.5 hours from Charlottesville. Xylem will be also providing bi-weekly maintenance, easing additional burden on RWSA staff.
- Installation of the pumping setup must occur in a narrow, specified time period. Experience with the hydraulic and site requirements will be required in order to mobilize, install, start, and test the pumping setup in the allotted time. As indicated above, Xylem has previous experience with the North Rivanna Pressure Zone and temporary pumping site.
- One of the pumps required in the two-pump setup is already on site as a part of the NRWTP High Service Pump Replacement Project. Demobilizing this pump and replacing

it with that of another vendor would lead to unnecessary mobilization and demobilization costs, as well as possible delays to the Piney Mountain Tank Rehabilitation Project Schedule.

- Recent revisions to pumping requirements based on testing performed in January and February did not allow for separate procurement of the temporary pumps without causing delays to the Piney Mountain Tank construction.

Sole Source procurement is permitted under the Virginia Public Procurement Act, Section 2.2-4303.E upon a determination, in writing, that the goods or services required are practicably available from only one source. After discussion and review with RWSA staff, it is apparent that the temporary pumping setup outlined above can only be provided by one source in the allotted timeframe, Xylem.

This document serves as the written determination required by Section 2.2-4303.E for a sole source procurement and has been reviewed by the Authority. Once approved by the Authority's Executive Director, the Authority will begin negotiations with Xylem for procurement of a complete two-pump rental setup, along with all necessary controls and appurtenances. Upon the successful completion of the negotiations and inclusion in the Piney Mountain Tank Rehabilitation Project, the Authority will post a notice on its website detailing the sole source procurement.

APPROVED BY: _____ DATE: 3/15/19

Bill Mawyer, Executive Director

GAC Performance Update

for the

RWSA Board of Directors

RIVANNA WATER & SEWER AUTHORITY

Presented by:

Dave Tungate, Director of Operations

March 26, 2019

South Rivanna WTP
8 Contactors
320,000 lbs of GAC
8 MGD Capacity

Observatory WTP
2 Contactors
80,000 lbs of GAC
2 MGD Capacity

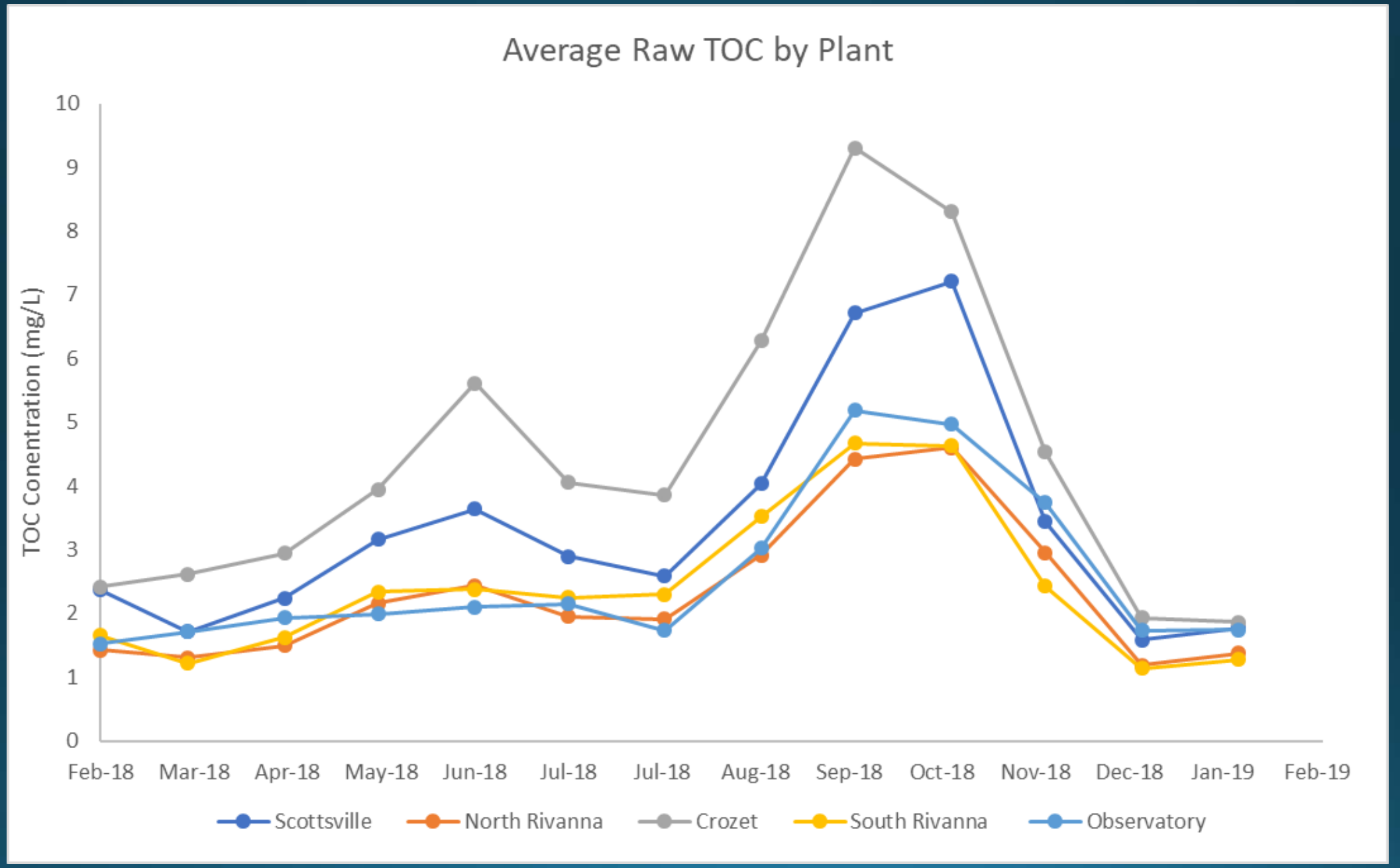
North Rivanna WTP
1 Contactor
40,000 lbs of GAC
1 MGD Capacity

Crozet WTP
2 Contactors
40,000 lbs of GAC
1 MGD Capacity

Scottsville WTP
2 Contactors
12,000 lbs of GAC
0.25 MGD Capacity

GAC Implementation

Water Treatment Plant	GAC In-Service Date	Date of GAC Replacement
Scottsville	02/13/2018	N/A
Crozet	04/23/2018	11/09/2018
North Rivanna	03/14/2018	N/A
South Rivanna	05/04/2018 – 06/09/2018	12/05/2018 – 01/02/2019
Observatory	08/08/2018	N/A

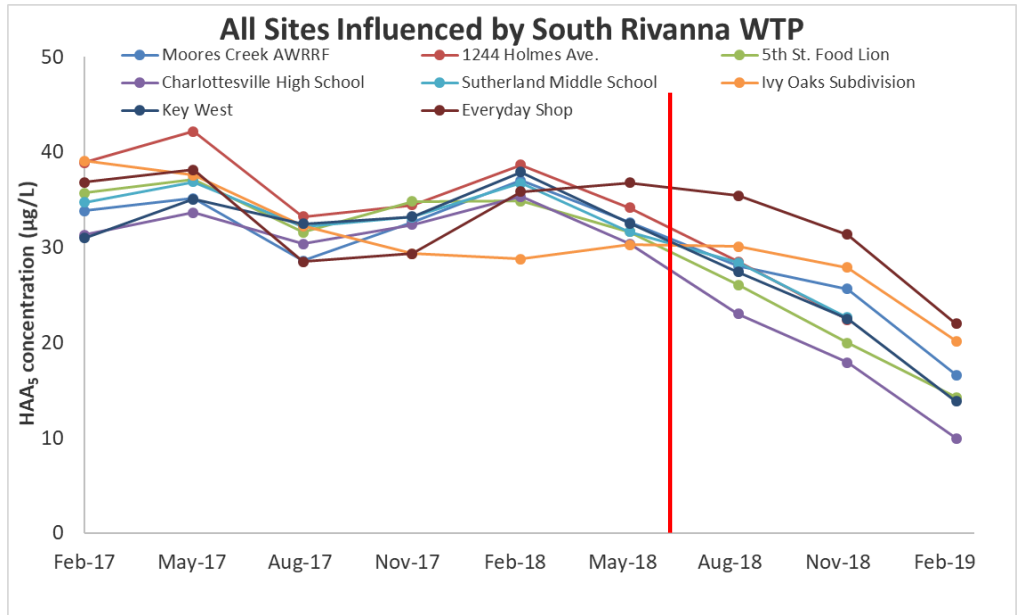

Average Raw TOC by Plant
TOC Conentration (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Scottsville
North Rivanna
Crozet
South Rivanna
Observatory

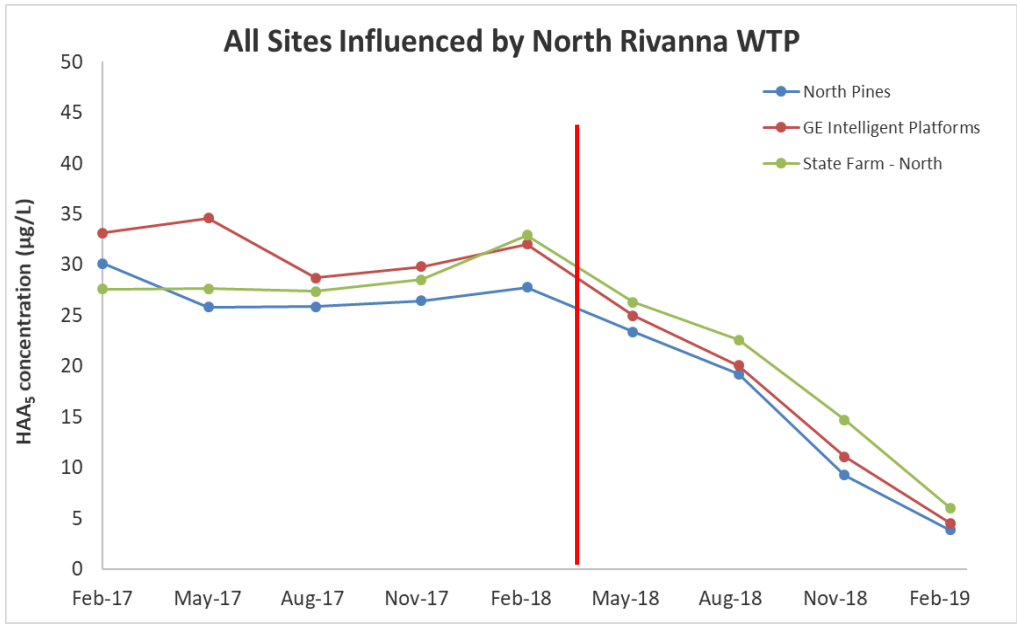
Locational Running Annual Average

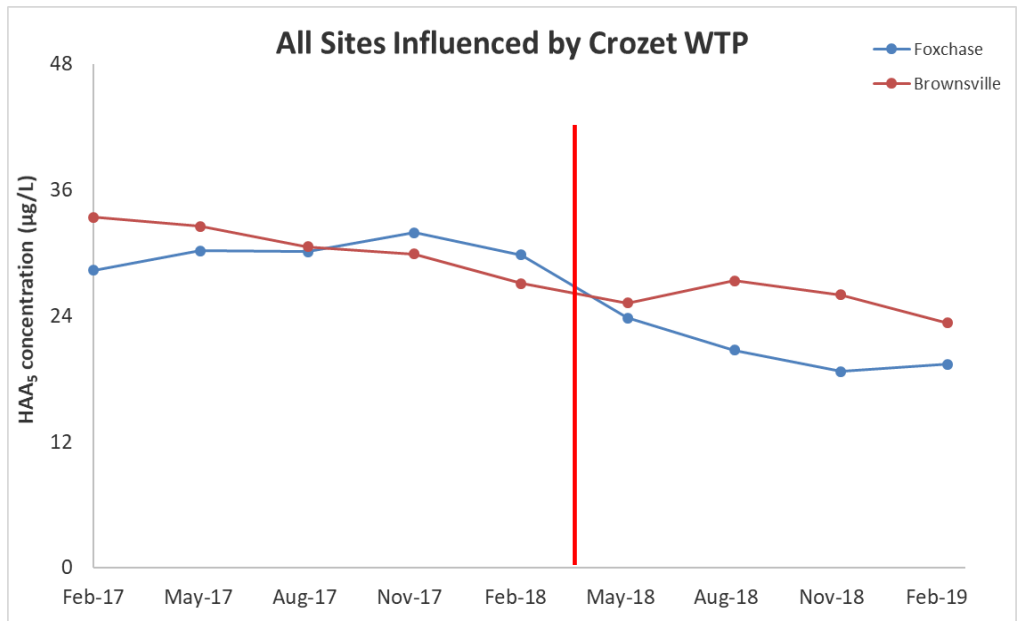
- The calculation used for Disinfection By-Products (DBP) compliance
  - Haloacetic Acids (HAAs)
  - Trihalomethanes (THMs)

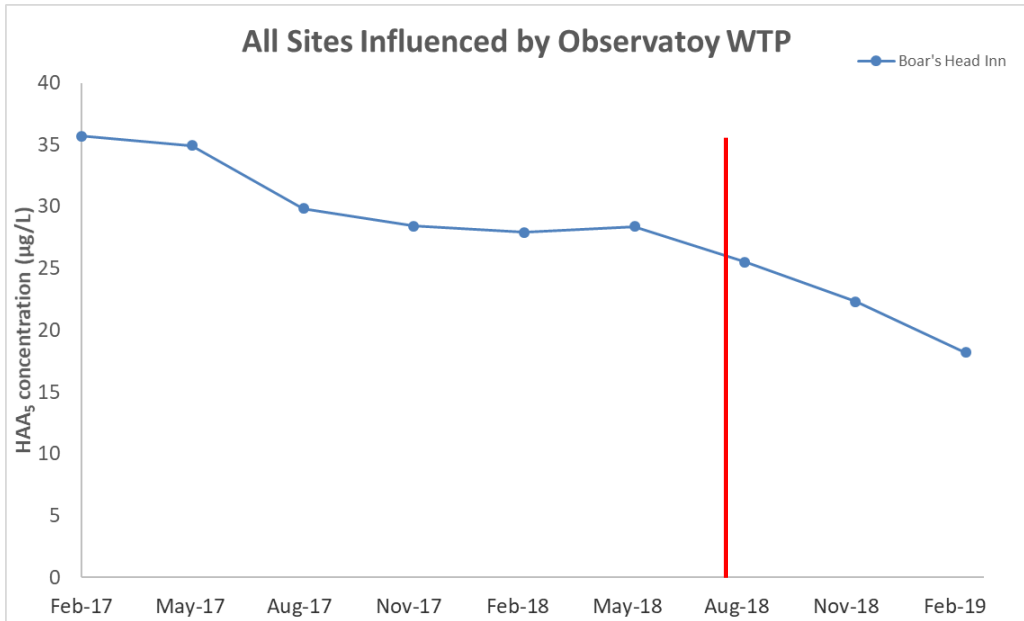
- Four quarter average of each site's DBP results

Haloacetic Acids (HAAs) Local Running Annual Averages (LRAAs)

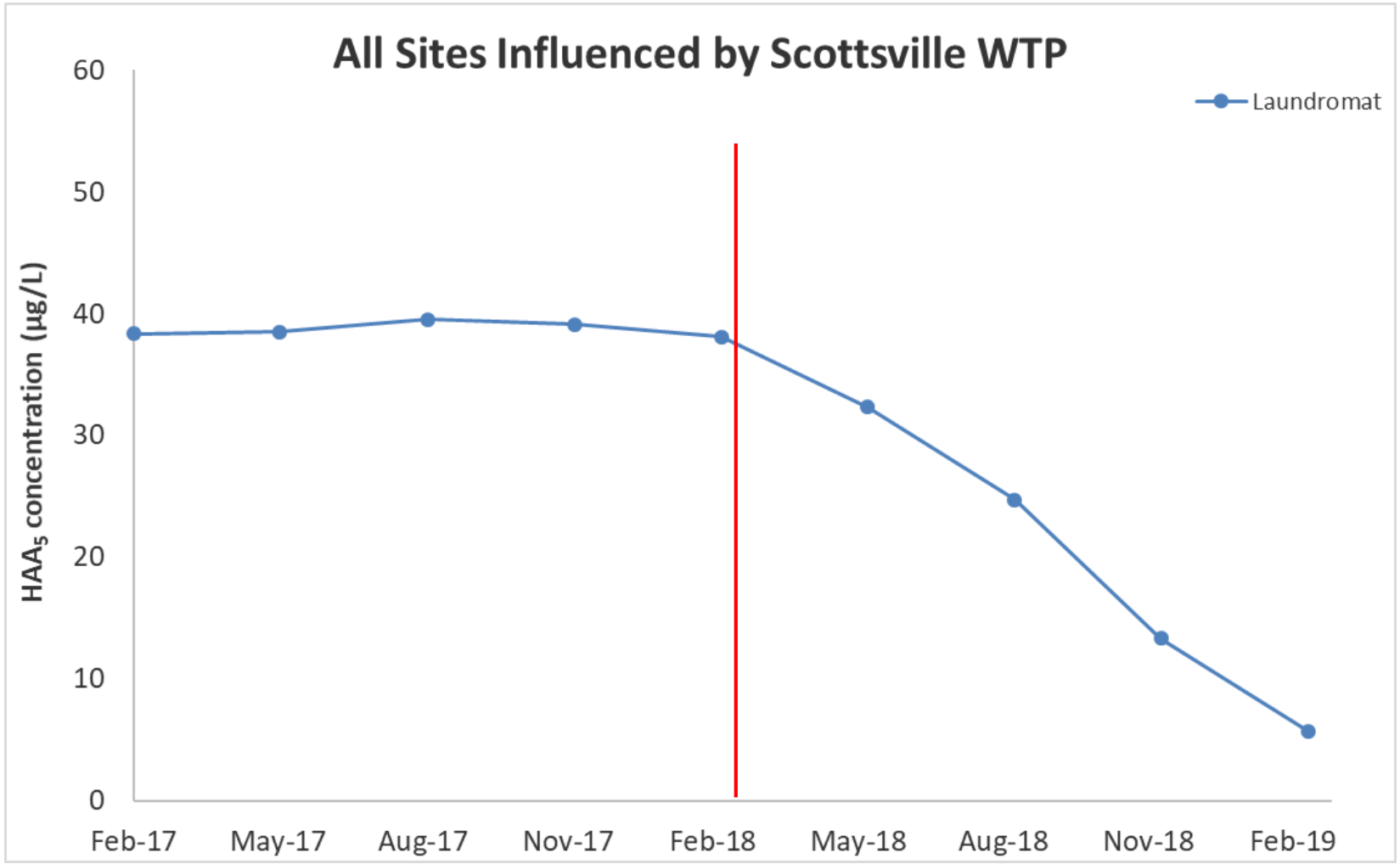




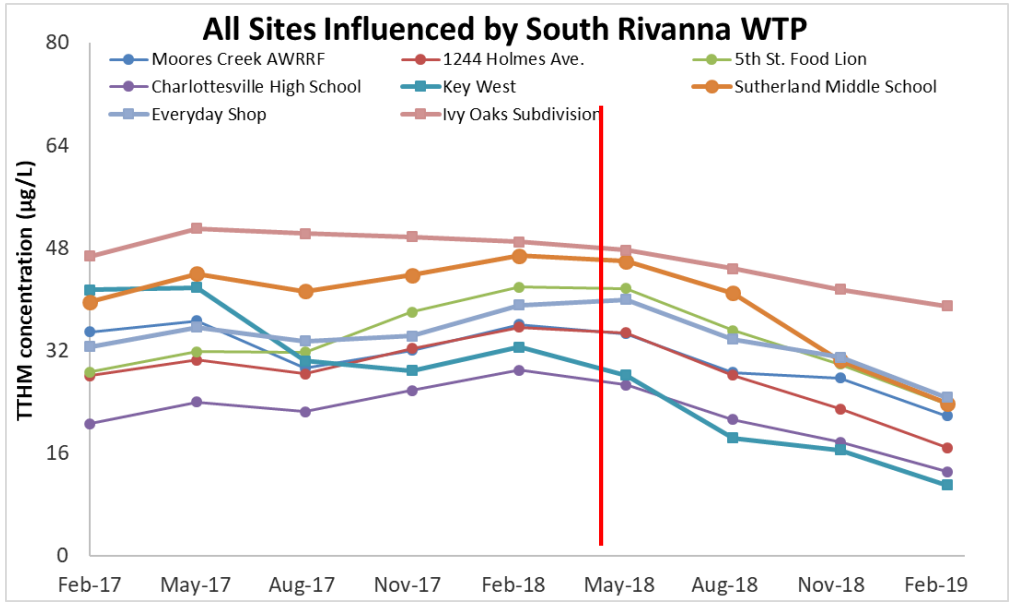


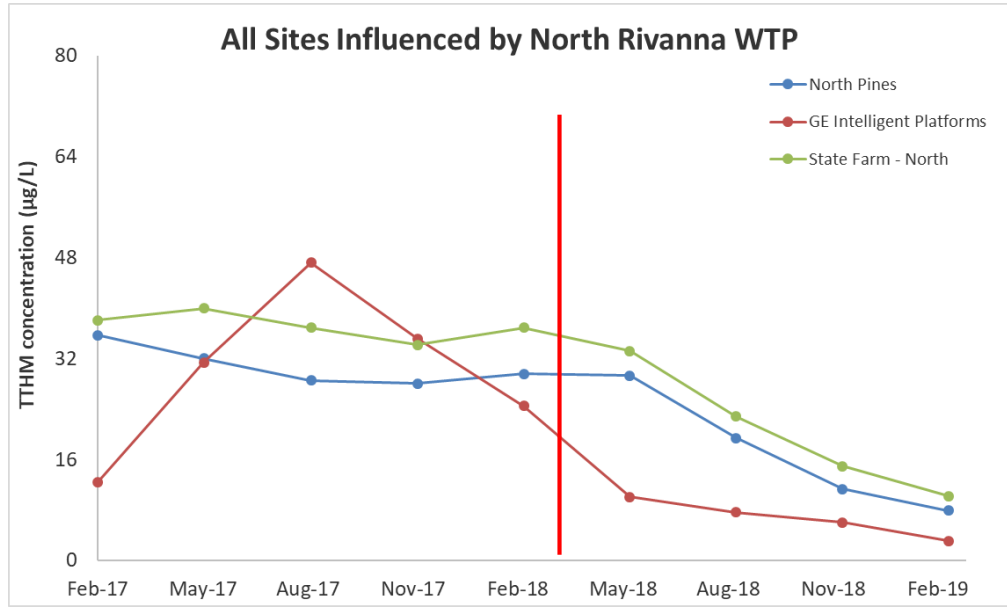


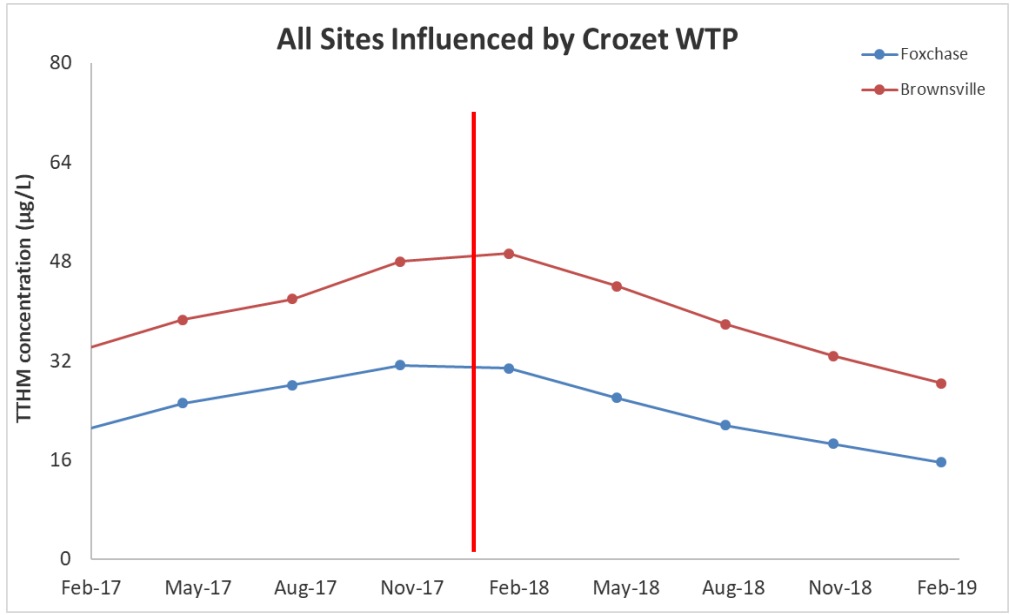
Haloacetic Acids (HAAs) Local Running Annual Averages (LRAAs)

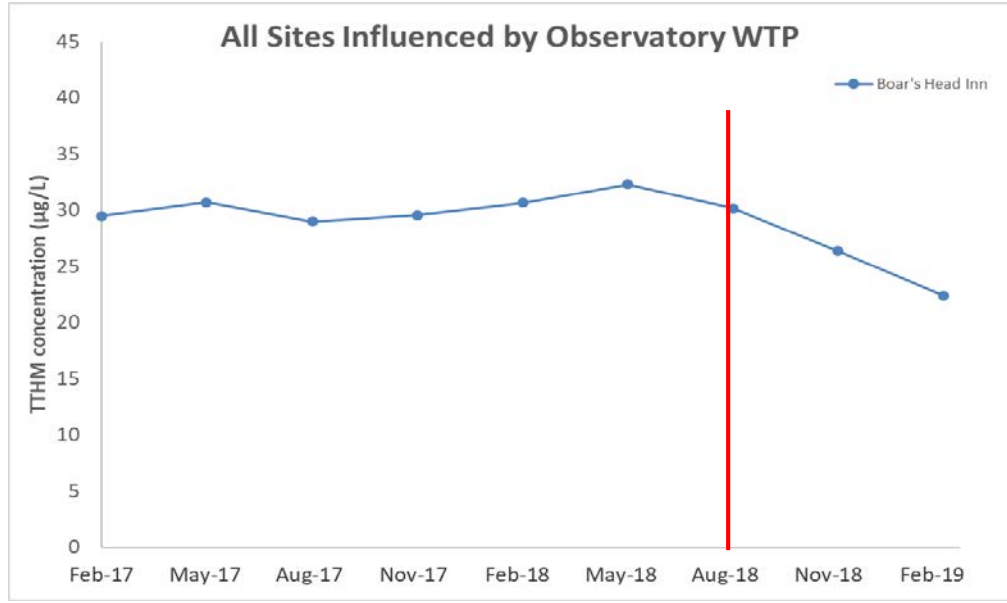


Trihalomethanes (THMs) Local Running Annual Averages (LRAAs)

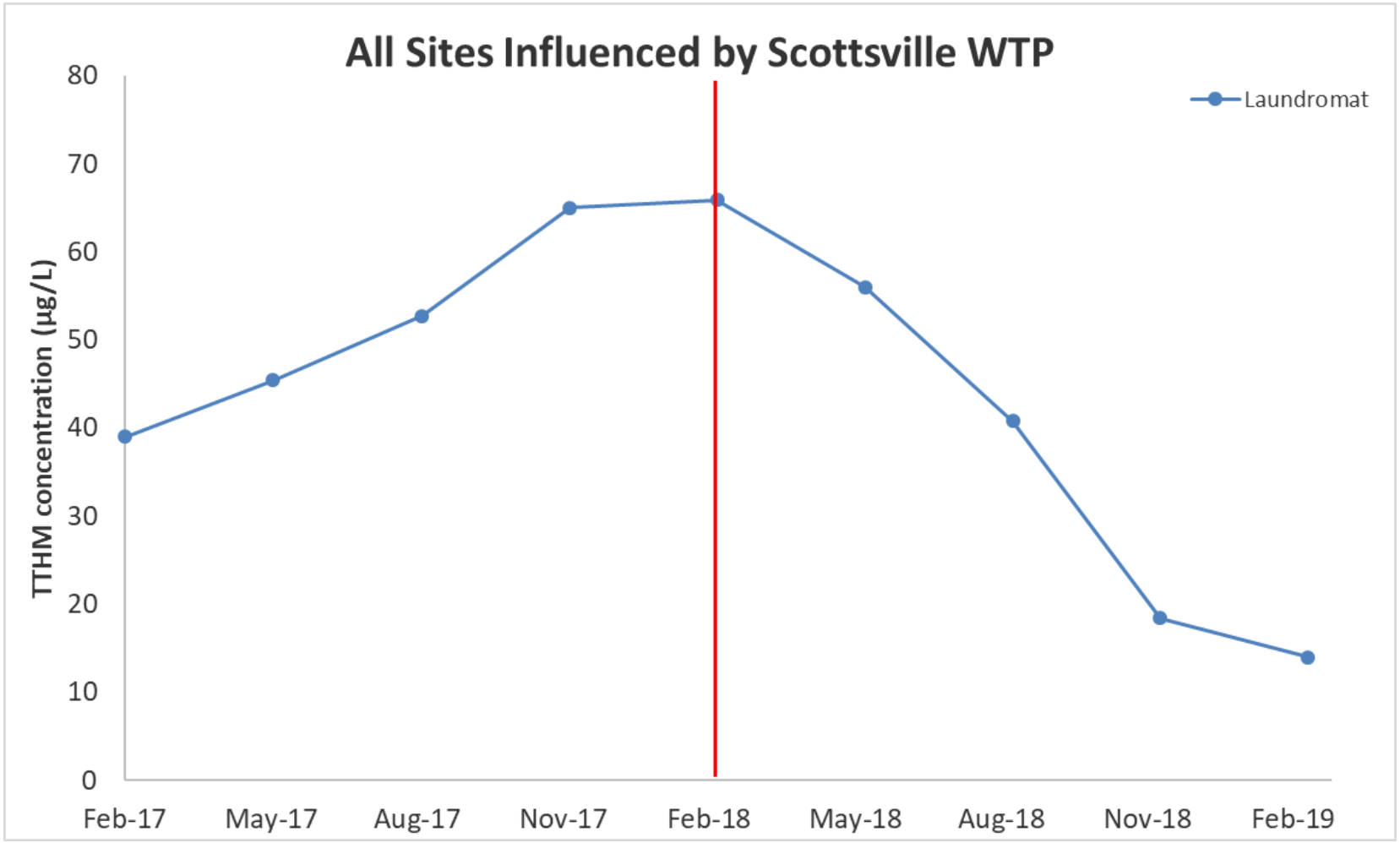




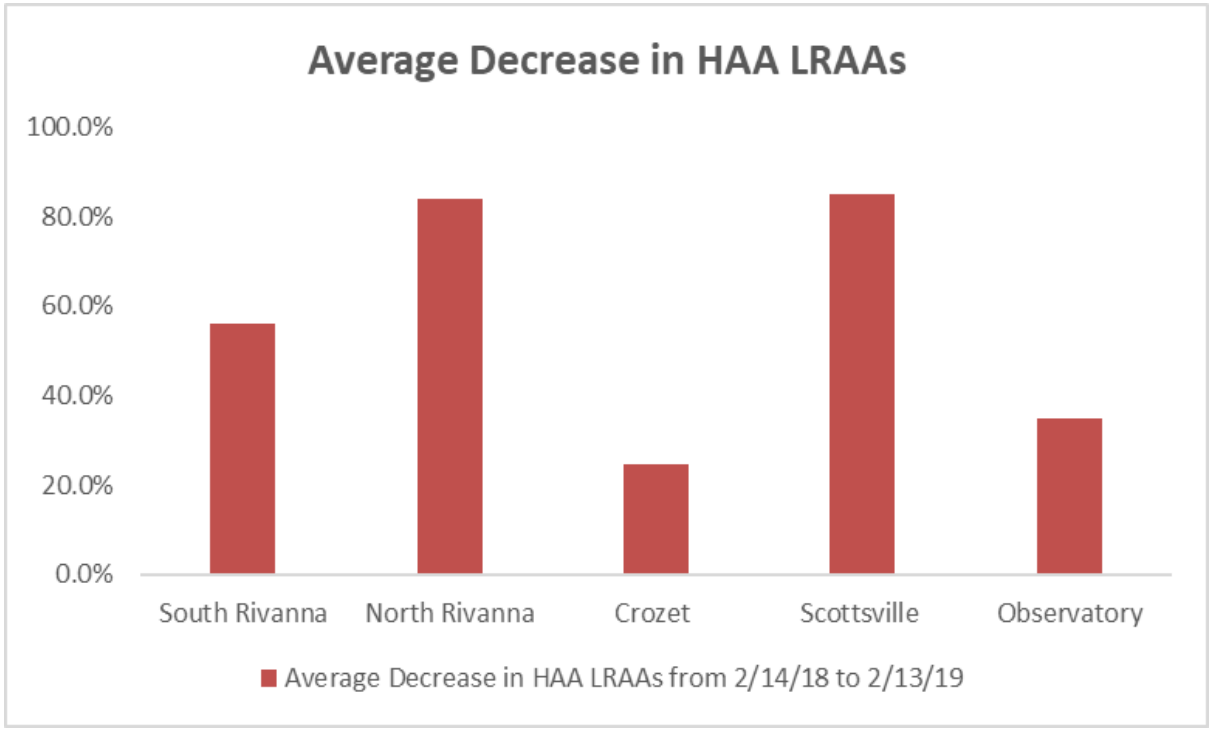




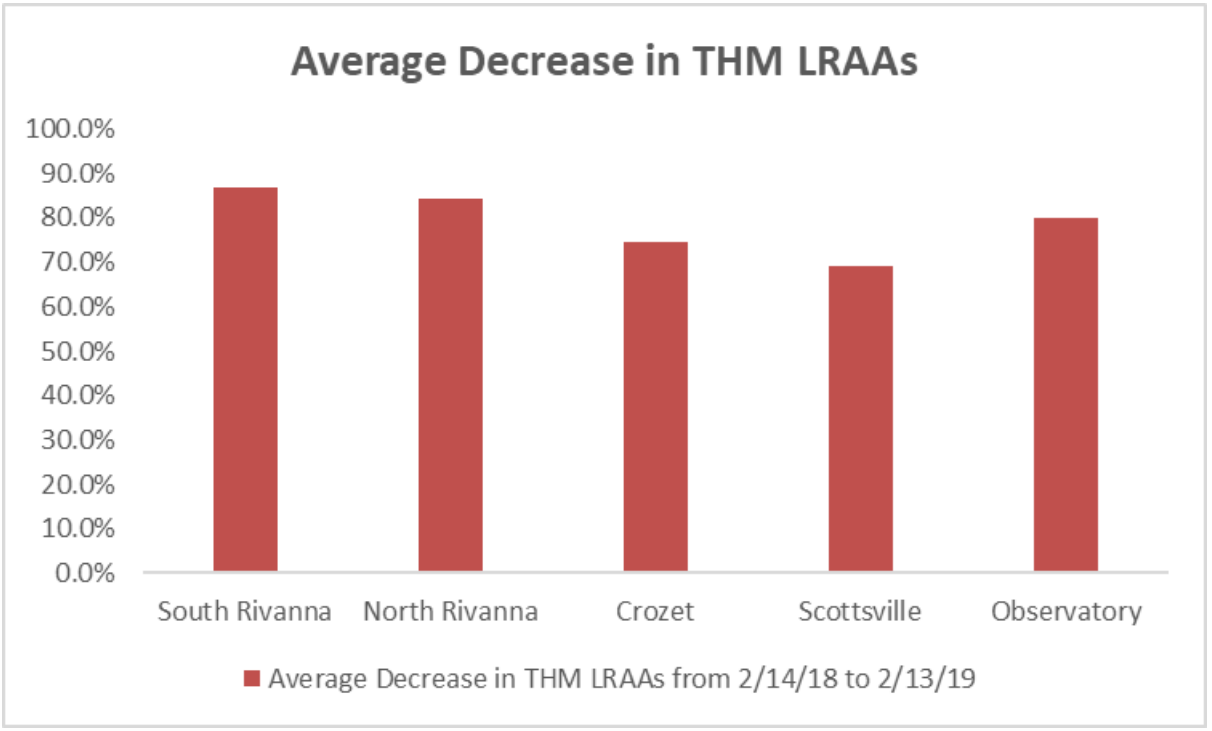
Trihalomethanes (THMs) Local Running Annual Averages (LRAAs)



Average Percent Decrease in Haloacetic Acids (HAAs)



Average Percent Decrease in Trihalomethanes (THMs)



GAC Operational Strategy

- Maximized GAC treatment until February 2019
- Changed operations to optimize GAC treatment and extend GAC service life
- Continue to use Powdered Activated Carbon as another layer of treatment for the removal of organics, taste, and odors

GAC Replacement Costs

- Replace all GAC twice per year
  - 492,000 lbs of GAC X 2/year X $1.46/lb = $1.43 M
- Current Strategy: Replace 125% of GAC in FY20
- Another Option: Replace with our regenerated GAC
  - estimated cost: $1.00 - $1.10/lb

Questions?

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

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **UPDATED FY 2020 - 2024 CAPITAL IMPROVEMENT PLAN**

DATE: **MARCH 26, 2019**

The proposed Five-Year Capital Improvement Plan (CIP) totaling $97.2 million for Fiscal Years 2020-2024 has been updated based on discussion at the February Board meeting, and is being submitted for your review. This CIP was developed to strategically and proactively provide water and wastewater infrastructure in a financially responsible manner for our customers and the community.

The proposed CIP includes $61.5 million for urban water projects and $14.8 million for urban wastewater projects, along with $20.9 million for non-urban water and wastewater projects. The proposed CIP represents a $56.6 M decrease from the prior year's FY 2019-2023 CIP, which totaled $153.9 million. A number of projects from last year's CIP have been extended or delayed beyond the proposed CIP, primarily to level rate increases to our customers. Major objectives and projects in the proposed CIP include:

- Maintaining existing facilities
  - Renovate our three largest water treatment plants at South Rivanna, Observatory and Crozet. Increase drinking water treatment capacity at the Observatory and Crozet water treatment plants
  - Replace the Ragged Mtn Reservoir-to-Observatory Water Treatment Plant raw water piping and pumping stations
  - Replace the Sugar Hollow Dam Rubber Gate
  - Replace South Rivanna Dam Gates
  - Replace Upper Schenks Branch Wastewater Piping

- Improving water supply, redundancy and reliability
  - Complete the raw water line across the Birdwood property
  - Acquire easements for a pipeline to connect the South Rivanna and Ragged Mountain Reservoirs
  - Provide a second finished water line from the South Rivanna Water Treatment Plant beneath the South Rivanna River
  - Construct a finished water pumping station near Airport Road

- Compliance with regulatory requirements
    - Construct the Crozet Wastewater Flow Equalization Tank
    - Modify the Beaver Creek Dam Spillway and Pumping Station
    - Relocate the North Rivanna WTP Lagoon
    - Enhance Security Systems

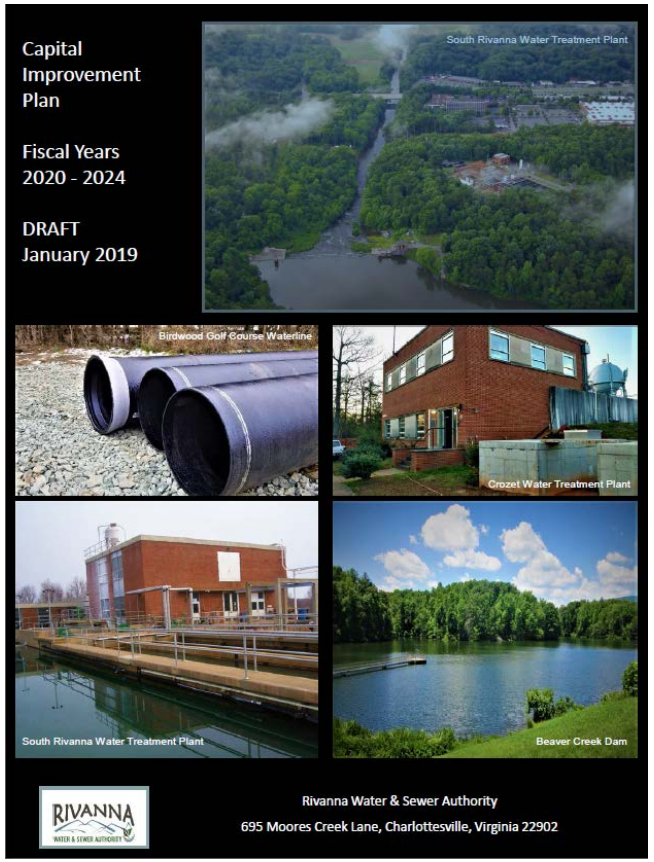
- Master Planning
    - Urban Finished Water Master Plan
    - Water Demand and Safe Yield Studies
    - MC AWRRF Master Plan

This proposed CIP will continue the efforts of the Authority to provide reliable drinking water and wastewater infrastructure for our customers and the community.

Board Action Requested:

The FY 2020-2024 Capital Improvement Program totaling $97.2 million is provided for review by the Board of Directors.

Proposed
Capital Improvement Plan
FY 2020 - 2024



BILL MAWYER, EXECUTIVE DIRECTOR

MARCH 26, 2019

RIVANNA
WATER & SEWER AUTHORITY

Proposed FY 20 – 24 CIP

- $97.2 M
- 37 Projects to be completed
- 5 Projects to be extended into FY 25-29
  1. Avon to Pantops Water Main
  2. Beaver Creek Dam Modifications
  3. Beaver Creek Raw Water Pump Station
     a. Deleted Beaver Creek Oxygenation System
  4. Interceptor SS Repairs
  5. Security Enhancements
- $56.6 M Less than FY 19-23 CIP of $153.9 M

Major Projects

1. Crozet, South Rivanna, and Observatory Water Treatment Plant Renovations and Upgrades ($43.2 M)
2. Sugar Hollow Dam Rubber Gate Replacement ($1.1 M)
3. South Rivanna Dam Gate Repairs ($0.9 M)
4. South Fork Rivanna River Crossing and North Rivanna Transmission Main ($5.3 M)
5. Route 29 Pump Station ($2.3 M)
6. North Rivanna Water Treatment Plant Lagoon Relocation ($2.3 M)
7. Crozet Wastewater Flow Equalization Tank ($4.9 M)
8. *Security Enhancements ($1.4 M of $2.4M)
9. *Ragged Mountain to OWTP WL and Pumping ($3.8 M of $18 M)

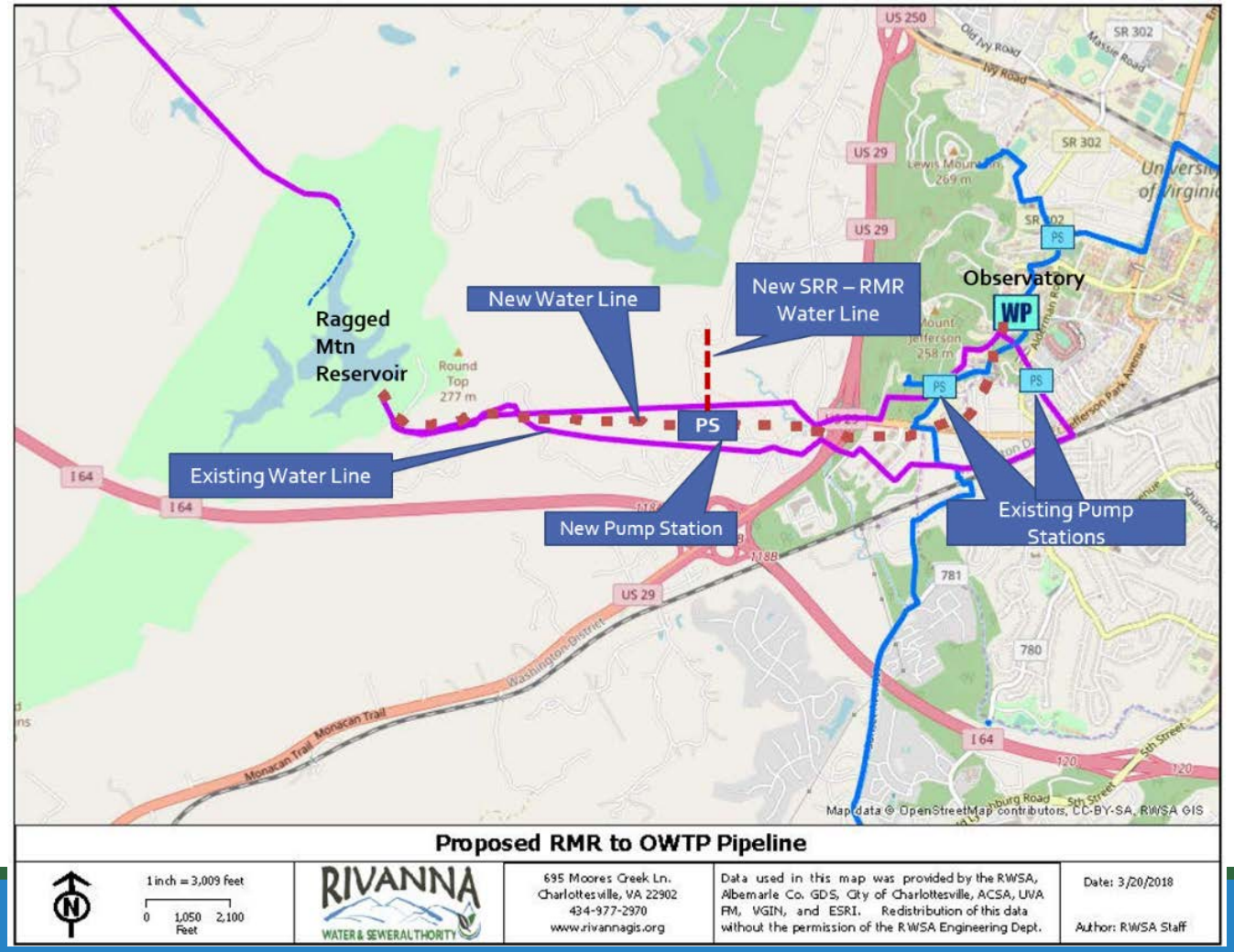
RMR to OWTP Projects

RMR – OWTP Water Line Replacement

- Replace 3 miles of raw water piping
- 2022 – 2026
- $13 m

RMR – OWTP and RMR – SRR Pump Stations Replacement

- Replaces Stadium and Royal RWPS
- Provides pumping from RMR to SRR
- 2022 – 2026
- $5 m



Major Projects – Extended* or Delayed

1. Beaver Creek Dam Modifications & Pump Station ($13 M of $22 M)*
2. Avon to Pantops Water Main ($12.27 M of $13 M)*
3. Interceptor SS Repairs ($0.83 M of $1.9M)*
4. MC Gas Sphere Rehab ($0.74 M)
5. Albemarle Berkley SPS ($0.73 M)
6. Engineering and Administration Building Addition ($3 M)
7. Moores Creek AWRRF Mechanical Thickeners ($1.9 M)

Financial Information

Table 1

	2020 - 2024 Proposed CIP	2019-2023 Adopted CIP	Change $
Project Cost			
Urban Water Projects	$ 61,501,900	$ 89,832,485	$ (28,330,585)
Urban Wastewater Projects	14,753,000	32,895,150	(18,142,150)
Non-Urban Projects	20,949,000	31,174,400	(10,225,400)
Total Project Cost Estimates	**$ 97,203,900**	**$ 153,902,035**	**$ (56,698,135)**
Funding in place			
Work-in-Progress (paid for)	$ 2,943,110	$ 33,967,484	(31,024,374)
Debt Proceeds Used	35,354,000	11,230,305	24,123,695
Cash-Capital Available	6,767,470	7,702,584	(935,114)
	$ 45,064,580	$ 52,900,373	$ (7,835,793)
Financing Needs			
Possible Future Reserves	$ 7,530,000	4,111,000	3,419,000
New Debt	44,609,320	96,890,662	(52,281,342)
	$ 52,139,320	$ 101,001,662	$ (48,862,342)
Total Funding	**$ 97,203,900**	**$ 153,902,035**	**$ (56,698,135)**
Percentage of funding in place	46.4%	34.4%	
Ratio of debt to expense	85.3%	92.3%	
Ratio of cash to expense	14.7%	7.7%	

Financial Information

Table 4

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
City of Charlottesville								
Urban Water								
Operating Rate	Per 1000 gal.	1.969	2.070	2.095	2.284	2.466	2.614	2.771
	% Change		5.1%	1.2%	9.0%	8.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 160,039	$ 181,008	193,580	210,345	226,150	242,069	257,946
			13.1%	6.9%	8.7%	7.5%	7.0%	6.6%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,514,200	$ 3,587,700	$ 3,630,500	$ 3,957,245	$ 4,273,825	$ 4,530,254	$ 4,802,069
Debt Service Revenues	Annual	1,920,500	2,172,100	2,323,000	2,524,139	2,713,796	2,904,834	3,095,354
Total		$ 5,434,700	$ 5,759,800	$ 5,953,500	$ 6,481,384	$ 6,987,620	$ 7,435,088	$ 7,897,423
	$ Change		$ 325,100	$ 193,700	$ 527,884	$ 506,237	$ 447,467	$ 462,335
	% Change		6.0%	3.4%	8.9%	7.8%	6.4%	6.2%
Urban Wastewater								
Operating Rate	Per 1000 gal.	1.951	2.146	2.369	2.511	2.662	2.822	2.991
	% Change		10.0%	10.4%	6.0%	6.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 392,841	$ 408,260	407,588	411,140	411,960	411,060	410,190
			3.9%	-0.2%	0.9%	0.2%	-0.2%	-0.2%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,540,600	$ 3,711,300	$ 4,016,800	$ 4,257,808	$ 4,513,276	$ 4,784,073	$ 5,071,117
Debt Service Revenues	Annual	4,714,100	4,899,100	4,891,100	4,933,680	4,943,520	4,932,720	4,922,280
Total		$ 8,254,700	$ 8,610,400	$ 8,907,900	$ 9,191,488	$ 9,456,796	$ 9,716,793	$ 9,993,397
	$ Change		$ 355,700	$ 297,500	$ 283,588	$ 265,308	$ 259,997	$ 276,604
	% Change		4.3%	3.5%	3.2%	2.9%	2.7%	2.8%
Total all Rate Centers								
Operating Rate Revenue		$ 7,054,800	$ 7,299,000	$ 7,647,300	$ 8,215,053	$ 8,787,101	$ 9,314,327	$ 9,873,187
Debt Service Revenues		6,634,600	7,071,200	7,214,100	7,457,819	7,657,316	7,837,554	8,017,634
Total City All Revenues		$ 13,689,400	$ 14,370,200	$ 14,861,400	$ 15,672,872	$ 16,444,417	$ 17,151,881	$ 17,890,820
	$ Change		$ 680,800	$ 491,200	$ 811,472	$ 771,545	$ 707,464	$ 738,940
	% Change		5.0%	3.4%	5.5%	4.9%	4.3%	4.3%
Additional for 10-Year CIP					79,300	292,300	623,200	981,600
		$ 13,689,400	$ 14,370,200	$ 14,861,400	$ 15,752,172	$ 16,736,717	$ 17,775,081	$ 18,872,420
			5.0%	3.4%	6.0%	6.3%	6.2%	6.2%

Financial Information

Table 5

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
ACSA Charges From RWSA								
Urban Water								
Operating Rate	Per 1000 gal.	1.969	2.07	2.095	2.284	2.466	2.614	2.771
	% Change		5.1%	1.2%	9.0%	8.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 285,439	$ 307,598	321,303	342,838	362,235	382,693	404,655
			7.8%	4.5%	6.7%	5.7%	5.6%	5.7%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,243,900	$ 3,447,000	$ 3,488,100	$ 3,802,029	$ 4,106,191	$ 4,352,563	$ 4,613,717
Debt Service Revenues	Annual	3,425,300	3,691,200	3,855,600	4,114,052	4,346,818	4,592,315	4,855,858
Total		$ 6,669,200	$ 7,138,200	$ 7,343,700	$ 7,916,081	$ 8,453,010	$ 8,944,878	$ 9,469,575
	$ Change		$ 469,000	$ 205,500	$ 572,381	$ 536,928	$ 491,868	$ 524,697
	% Change		7.0%	2.9%	7.8%	6.8%	5.8%	5.9%
Urban Wastewater								
Operating Rate	Per 1000 gal.	1.951	2.146	2.369	2.511	2.662	2.822	2.991
	% Change		10.0%	10.4%	6.0%	6.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 222,550	$ 246,308	278,174	286,107	289,337	294,757	300,207
			10.7%	12.9%	2.9%	1.1%	1.9%	1.8%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,139,800	$ 3,565,800	$ 4,016,800	$ 4,257,808	$ 4,513,276	$ 4,784,073	$ 5,071,117
Debt Service Revenues	Annual	2,670,600	2,955,700	3,338,100	3,433,289	3,472,049	3,537,089	3,602,489
Total		$ 5,810,400	$ 6,521,500	$ 7,354,900	$ 7,691,097	$ 7,985,325	$ 8,321,162	$ 8,673,606
	$ Change		$ 711,100	$ 833,400	$ 336,197	$ 294,228	$ 335,837	$ 352,444
	% Change		12.2%	12.8%	4.6%	3.8%	4.2%	4.2%
Non-Urban Rate Centers								
Operating Rate Revenue	Annual	$ 1,964,600	$ 2,075,300	2,229,100	2,407,428	2,551,874	2,704,986	2,867,285
Debt Service Revenues	Annual	830,700	1,134,400	1,453,300	1,553,300	1,645,800	1,738,300	1,830,800
Total		$ 2,795,300	$ 3,209,700	$ 3,682,400	$ 3,960,728	$ 4,197,674	$ 4,443,286	$ 4,698,085
				$ 472,700	$ 278,328	$ 236,946	$ 245,612	$ 254,799
				14.7%	7.6%	6.0%	5.9%	5.7%
Total all Rate Centers								
Operating Rate Revenue		$ 8,348,300	$ 9,088,100	$ 9,734,000	$ 10,467,265	$ 11,171,341	$ 11,841,622	$ 12,552,119
Debt Service Revenues		6,926,600	7,781,300	8,647,000	9,100,641	9,464,667	9,867,704	10,289,147
Total ACSA All Revenues		$ 15,274,900	$ 16,869,400	$ 18,381,000	$ 19,567,906	$ 20,636,009	$ 21,709,326	$ 22,841,267
	$ Change		$ 1,594,500	$ 1,511,600	$ 1,186,906	$ 1,068,102	$ 1,073,317	$ 1,131,940
	% Change		10.4%	9.0%	6.5%	5.5%	5.2%	5.2%
Additional for 10-Year CIP					209,900	652,600	1,256,700	1,901,200
		$ 15,274,900	$ 16,869,400	$ 18,381,000	$ 19,777,806	$ 21,288,609	$ 22,966,026	$ 24,742,467
			10.4%	9.0%	7.6%	7.6%	7.9%	7.7%

Proposed FY 20 – 24 CIP

- $97.2 M
- 37 Projects to be completed
- 5 Projects to be extended into FY 25-29
  1. Avon to Pantops Water Main
  2. Beaver Creek Dam Modifications
  3. Beaver Creek Raw Water Pump Station
     a. Deleted Beaver Creek Oxygenation System
  4. Interceptor SS Repairs
  5. Security Enhancements
- $56.6 M Less than FY 19-23 CIP of $153.9 M

Questions?

RIVANNA
WATER & SEWER AUTHORITY

Capital Improvement Plan

Fiscal Years 2020 - 2024

DRAFT March 2019


South Rivanna Water Treatment Plant


Birdwood Golf Course Waterline


Crozet Water Treatment Plant


Observatory Water Treatment Plant


Beaver Creek Dam

Rivanna Water & Sewer Authority

695 Moores Creek Lane, Charlottesville, Virginia 22902

Introduction

The Capital Improvement Plan (CIP) for Fiscal Years 2020-2024 has been prepared as a strategic and financially responsible plan for the Rivanna Water and Sewer Authority (RWSA) to complete major infrastructure construction projects. The projects included in the CIP are necessary to achieve the RWSA's core mission of providing safe, high-quality drinking water and environmentally responsible wastewater treatment services for the City of Charlottesville and the Albemarle County Service Authority (ACSA). The CIP is a 5-year planning document which provides an estimated budget and schedule for projects as they advance through the design and construction process.

The infrastructure requirements of the Capital Improvement Plan are developed through our Asset Management and Master Planning programs to address water and wastewater capacity demands, regulatory mandates and rehabilitation needs. Each year, these projects are reviewed and prioritized by the RWSA management team and brought forth for review by the Board of Directors.

During the past year, several capital projects were very near completion or are no longer needed, and as such are being removed from the 2020-2024 CIP. These projects account for approximately $51.1 million or 33.2% of FY 19-23 CIP. These projects include:

- Interconnect Lower Sugar Hollow and Ragged Mountain Raw Water Mains
- Flow Meter and Auto Valve on Sugar Hollow to Ragged Mountain Transfer
- Route 29 Pump Station Site Acquisition
- Urban Water GAC and Water Treatment Plant Improvement
- Wholesale Water Master Metering – Urban
- Crozet Water GAC and Water Treatment Improvement
- Crozet Water Treatment Plant – Finished Water Pump Station
- Crozet Water System – Master Plan
- Scottsville Water GAC
- Crozet Interceptor Pump Stations – Bypass Fittings and Isolation Valves
- Moores Creek AWRRF Bridge Repairs
- Moores Creek AWRRF Odor Control – Phase 2
- Moores Creek AWRRF Roof Replacements
- Moores Creek AWRRF Second Centrifuge

The total 5-year 2020-2024 CIP is approximately $97.2 million, with the previous expenditures on active projects totaling approximately $2.8 million, leaving a net proposed 5-year projected expenditure of $94.4 million.

There are several new projects added to the CIP this year, with a total estimated expenditures of $4.18 million from 2020-2024, including:

- South Rivanna Dam – Gate Repair ($0.9 million)
- North Rivanna Water Treatment Plant – Upgrades ($2.325 million)

- Scottsville Water Treatment Plant LT2 Improvements ($0.1 million)
- Albemarle Berkley Basin Demolition ($0.2 million)
- IT Master Plan – Software ($0.45 million)

There are a few projects where the proposed budgets have been modified based on the anticipated project requirements and necessitate funding adjustments. The projects with changes include:

- Ragged Mountain Reservoir to Observatory WTP Raw Waterline ($4.12 million existing / $3.217 million proposed)
- Ragged Mountain Reservoir to Observatory WTP Pump Station ($2.41 million existing / $0.66 million proposed)
- Observatory WTP Improvements ($18.6 million existing / $19.7 million proposed)
- Sugar Hollow Dam Rubber Crest Gate Replacement ($0.94 million existing / $1.14 million proposed)
- Avon to Pantops Water Main ($13.2 million existing / $2.10 million proposed)
- South Rivanna Hydropower Decommissioning ($0.4 million existing / $0.725 million proposed)
- Beaver Creek Dam Alteration ($8.83 million existing / $4.90 million proposed)
- New Raw Water Pump Station and Intake ($6.1 million existing / $4.14 million proposed)
- Upper Schenks Branch Interceptor ($4.49 million existing / $3.99 million proposed)
- Interceptor Sewer & Manhole Repair ($1.941 million existing / $1.088 million proposed)
- Crozet Flow Equalization Tank ($3.3 million existing / $4.86 million proposed)
- Maury Hill Branch Sewer Replacement ($0.29 million existing / $0 million proposed)
- Engineering and Administration Building ($3.0 million existing / $0 million proposed)
- Moores Creek AWRRF Master Plan ($0.1 million existing / $0.25 million proposed)
- Moores Creek AWRRF Mechanical Thickener ($1.2 million existing / $0 million proposed)
- Grinder and Air Control Improvements ($0.10 million existing / $0.21 million proposed)
- Radio Upgrades ($0.52 million existing / $0.65 million proposed)
- Security Enhancements ($2.4 million existing / $1.0 million proposed)

FINANCIAL SUMMARY

MAJOR SYSTEM CATEGORIES

FINANCIAL SUMMARY
Major System Categories – Water

	Five-Year Capital Program			Projected Future Expenses by Year						
System Description	**Current CIP**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress**
Urban Water (UW)										
Community Water Supply Plan	$8,831,000	$1,351,000	$3,240,249	$2,470,000	$594,751	$575,000	$1,307,000	$1,995,000	$10,182,000	$123,782
Observatory WTP & Ragged Mountain/Sugar Hollow Reservoir System	$19,570,000	$1,270,000	$2,703,198	$415,000	$6,371,802	$7,850,000	$3,500,000	$0	$20,840,000	$1,154,558
Finished Water Storage/Distribution	$22,090,000	($10,560,086)	$2,782,000	$583,914	$2,667,000	$4,205,000	$567,000	$725,000	$11,529,914	$178,046
South & North Fork Rivanna Water System	$7,900,000	$11,050,000	$581,891	$9,474,524	$7,893,585	$1,000,000	$0	$0	$18,950,000	$145,516
Subtotal (UW)	$58,391,000	$3,110,914	$9,307,338	$12,943,438	$17,527,138	$13,630,000	$5,374,000	$2,720,000	$61,501,914	$1,601,902
Non-Urban Water (NUW)										
Crozet Water System	$23,030,000	($5,307,000)	$4,221,690	$5,016,310	$1,317,000	$943,000	$835,000	$5,390,000	$17,723,000	$702,248
Scottsville Water System	$0	$245,000	$145,000	$100,000	$0	$0	$0	$0	$245,000	$0
Subtotal (NUW)	$23,030,000	($5,062,000)	$4,366,690	$5,116,310	$1,317,000	$943,000	$835,000	$5,390,000	$17,968,000	$702,248
WATER TOTAL	$81,421,000	($1,951,086)	$13,674,028	$18,059,748	$18,844,138	$14,573,000	$6,209,000	$8,110,000	$79,469,914	$2,304,150

FINANCIAL SUMMARY
Major System Categories – Wastewater

	Five-Year Capital Program			Projected Future Expenses by Year						
System Description	**Current CIP**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress**
Urban Wastewater (UWW)										
Wastewater Interceptors and Pumping Stations	$11,161,000	$142,330	$3,077,945	$3,680,000	$3,710,385	$585,000	$250,000	$0	$11,303,330	$449,438
Moores Creek AWRRF	$7,251,632	($3,802,000)	$2,951,632	$50,000	$448,000	$0	$0	$0	$3,449,632	$65,743
Subtotal (UWW)	$18,412,632	($3,659,670)	$6,029,577	$3,730,000	$4,158,385	$585,000	$250,000	$0	$14,752,962	$515,181
Non-Urban Wastewater (NUWW)										
Scottsville WRRF	$100,000	$110,000	$0	$65,000	$145,000	$0	$0	$0	$210,000	$0
Glenmore WRRF	$111,000	$64,000	$25,000	$85,000	$65,000	$0	$0	$0	$175,000	$0
Subtotal (NUWW)	$211,000	$174,000	$25,000	$150,000	$210,000	$0	$0	$0	$385,000	$0
WASTEWATER TOTAL	$18,623,632	($3,485,670)	$6,054,577	$3,880,000	$4,368,385	$585,000	$250,000	$0	$15,137,962	$515,181
All Systems Security & Technology	$3,421,000	($825,000)	$991,000	$980,000	$475,000	$150,000	$0	$0	$2,596,000	$28,337
TOTAL	$103,465,632	($6,261,756)	$20,719,605	$22,919,748	$23,687,523	$15,308,000	$6,459,000	$8,110,000	$97,203,876	$2,847,668

PROJECT DETAILS

Completed Projects

During fiscal year 2019, several capital improvement projects were completed, were advanced to the final phases of close-out, or were determined to be no longer necessary. As such they will be removed from consideration in future planning documents. Presented in the table below are the fourteen (14) completed projects, pertinent information on the adopted budgets, as well as the projected final costs and any anticipated savings. There was a total completed projects cost savings of $2.1 million.

6. Interconnect Lower Sugar Hollow and Ragged Mountain Raw Water Mains: The two 18-inch water mains that supply water from Ragged Mountain Reservoir to Observatory Water Treatment Plant are 72 and 110 years old, respectively. The mains are interconnected at the top of the Ragged Mountain Dam, with one serving the 1920's Royal Pump Station and the other serving the more modern Stadium Road Pump Station. Both pump stations provide water to the Observatory Water Treatment Plant. This project was to interconnect the two raw water lines near the Rt. 29/Fontaine Avenue interchange. As design work proceeded, the cost of the project exceeded the potential benefit. With a new replacement water main anticipated by FY 2026, the interconnect project is being eliminated from the CIP.

7. Sugar Hollow to Ragged Mountain Reservoir Transfer Flow Meter: The Sugar Hollow Raw Waterline is an 18-inch diameter cast iron pipeline which conveys water from Sugar Hollow Reservoir to Ragged Mountain Reservoir. The waterline discharges directly into the Ragged Mountain Reservoir and is used to supplement inflow. Prior to this project, the control valve used to modulate flow between the two reservoirs was a manually-operated gate valve at the Sugar Hollow Gatekeeper's House near the Sugar Hollow Dam. This required RWSA staff to travel to the Sugar Hollow Gatekeeper's House to operate the valve, which given the limited cellular communication in that area, posed a potential safety hazard. In addition, prior to the project, there were limited means to monitor and record flow between the two reservoirs. In this project, one of RWSA's On-Call Maintenance Construction Contractors installed a new 18-inch flow meter, a modulating control valve, and new power and SCADA control wiring, to provide the means to effectively regulate the flow between the two reservoirs remotely from the Observatory Water Treatment Plant. Also, an existing, original 18-inch diameter gate valve upstream of the new 18-inch flow meter was replaced to provide redundancy in the system.

   In addition to the improvements on the raw waterline, this project included the complete demolition of several previously abandoned structures including the Sugar Hollow Gatekeeper's House and four smaller utility buildings and sheds. As a result of the demolition process, the majority of RWSA-owned utilities and structures on the site are at or below grade, which enables the property to have more beneficial use in the future.

9. Rt. 29 Pump Station Site Acquisition: This project provided site acquisition for a new Rt. 29 Pump Station and Storage Tank to be built at a later time in the general area south of Airport Road and north of Hollymead Towncenter on TMP No. 32-41 as identified in the Albemarle County Comprehensive Plan. The future pump station and tank, along with a new transmission pipeline between the proposed pump station and the South Rivanna Water Treatment Plant, will provide an interconnection between the areas presently served by the South Rivanna Water Treatment Plant and the North Rivanna Water Treatment Plant. The interconnection is needed

for redundancy of service in the event of an emergency, during drought conditions, and to adequately serve the growing needs of the 29 area generally north of the Forest Lakes subdivision. Multiple meetings and negotiations took place with the property's land owner in an effort to acquire the needed property. The negotiations were not successful, and the property was acquired through condemnation proceedings authorized at the May 2017 RWSA Board Meeting. Final legal proceedings have been completed.

11. Urban Water Granular Activated Carbon and Water Treatment Improvements: In July 2012, the Board decided to pursue the installation of Granular Activated Carbon (GAC) contactors to achieve Stage 2 D/DBPR compliance with the EPA in the Urban System. The GAC adsorbs organic matter from the water, thereby reducing the precursors to THMs and HAAs. As decided by the Board in December 2013, the GAC systems have been sized at a lower capacity than the current rated plant capacities (the "Hybrid GAC" approach). The GAC contactors were not expected to be on-line in time for the EPA-mandated compliance date. In the interim, a Risk Reduction Plan was developed, outlining the use of Powder Activated Carbon (PAC) to reduce trace natural organic matter from the source water thereby reducing DBPs. The PAC feed systems were included in this project and were adequate treatment for the new regulations in the interim time period before GAC completion. The PAC systems were completed in 2015.

    In addition to installation of PAC feed systems and GAC contractors, this project also included various improvements at the South Rivanna WTP including construction of additional clearwell storage, replacement of the lime feed system, upgrades to the filter underdrains and backwash system, replacement of the filter media, sound attenuation and ventilation improvements for the high service pump station, installation of a variable frequency drive for the raw water pump station, installation of a new raw water flow meter and several improvements to the residuals management facilities; at the North Rivanna WTP including new filter control valves, new pump control valves, new filter sludge removal equipment, new electrical system upgrades throughout the plant, and the installation of a surge relief mechanism; and at the Observatory WTP including various improvements such as a new chlorine contact tank, improved potable water service piping to the filter building and upgraded finished water discharge piping. Construction of the projects were completed in May 2018.

12. Wholesale Water Master Metering: The January 2012 Water Cost Allocation Agreement designated how the City of Charlottesville (City) and ACSA share in the financing of the New Ragged Mountain Dam project. Within the agreement is a general provision developed by the ACSA and the City to enhance measurement of the water usage by each of the distribution agencies. In an effort to meet this obligation, the RWSA Board of Directors authorized staff in August of 2012 to complete an engineering study on metering plan alternatives. The study identified several alternatives for a metering plan based on combinations of metering and estimating methodologies. A Jurisdictional Approach was recommended which included installation of water meters at locations at the City/county corporate boundary plus one meter at each of the three urban water treatment plants. At its September 2013 meeting the Board directed that staff proceed with the Jurisdictional Coverage Approach. The final design includes 25 remote meter locations plus the three finished water flow meters at the water treatment plants. Construction of the 25 remote meter locations began in early 2016 and was completed

in early 2019. The three finished water flow meters were installed in 2015 as part of the Urban Water Granular Activated Carbon Project.

23. Crozet Water Granular Activated Carbon and Water Treatment Improvements: For the Crozet water system, installation of granular activated carbon (GAC) contactor units was selected to achieve Stage 2 D/DBPR compliance with EPA due to the start/stop operation of the water treatment plant and the relatively higher water age in the distribution system. The GAC adsorbs organic matter from the water, thereby reducing the precursors to THMs and HAAs. Included in the Crozet WTP GAC project were various other improvements including upgrade of the chlorine feed system to a modern hypochlorite feed system, as well as replacing the existing fluoride and corrosion inhibitor chemical feed systems. The new chemical feed systems are housed in additional rooms in the GAC contactor building. This new location also allows for shorter chemical feed lines. Construction of the project was completed in September 2017.

25. Crozet Water Treatment Plant Finished Water Pump Station: The Crozet water treatment facilities required an expansion to secure future needs of the Crozet community. The Finished Water Pump Station is the final step in the treatment and conveyance process and was original to the plant. As a result it had numerous design and operational impediments or challenges that severely limited its operational reliability. A new pump station at the site was required for both current and future service needs. The project included evaluation, permitting, design, construction and construction management of a new Finished Water Pump Station and construction was completed in Spring 2019.

26. Drinking Water Infrastructure Plan: The Crozet drinking water service area continues to see expanded growth, and recent discussions with Albemarle County and Albemarle County Service Authority (ACSA) personnel have confirmed that recent growth trends indicate that water use demands in Crozet are on the rise. While some projects are currently underway to address the immediate needs in Crozet, RWSA staff concluded that it was pertinent to develop a comprehensive mid and long-range plan for the entire water system, including analysis of water supply, treatment, distribution, storage and raw water conveyance. The project evaluated and analyzed all of these parameters, and developed a Drinking Water Infrastructure Plan for the Crozet Service Area's water supply and distribution needs and recommended improvements for the next 50-year design period (Year 2070). The final plan will be complete in early 2019.

27. Scottsville Water Granular Activated Carbon: For the Scottsville water system, installation of granular activated carbon (GAC) contactor units was selected to achieve Stage 2 D/DBPR compliance with EPA due to the start/stop operation of the water treatment plant and the higher water age in the distribution system. The GAC adsorbs organic matter from the water, thereby reducing the precursors to THMs and HAAs. Construction of the project was completed in November 2017.

32. Crozet Interceptor Pump Station Bypass Isolation Valves: There are four pump stations located in the Crozet Interceptor system that help convey the flow from the Crozet area into the Morey Creek Interceptor and the rest of the urban collection system. These pump stations were constructed in the 1980s and provided no means of isolating each pump station from its downstream force main. This condition complicated maintenance-related activities as each

time a pump station component needed to be serviced or replaced, the volume of wastewater within the force main had to be addressed at the pump station as it drained back to the wet well. In addition, the Crozet Interceptor Pump Stations also have limited storage within their wet wells, and any reduction of down time as a result of dealing with the impacts of no isolation valves, decreased the amount of time available to work on the equipment. In order to alleviate this condition, temporary valves called "line stops" were temporarily installed on the force mains downstream of the pump stations to allow enough time for a new isolation valve to be installed. This isolation valve location provides the maximum amount of down time available based on current system conditions for future pump station maintenance activities. While line stops were in place, bypass connections were also provided at each pump station. These will allow staff the option of bringing in bypass pumps for more significant pump station shutdowns required for maintenance activities or repairs that the isolation valves alone cannot account for. Construction of this project was completed in the Winter of 2018/2019.

35. Bridge Repairs: The bridge crossing Moores Creek located at the Advanced Water Resource Recovery Facility was constructed in the early 1980s. In late 2011, staff commissioned a detailed inspection of the bridge. The inspection results indicated that the bridge was in good condition but required maintenance repairs to assure continued safe operation. This work includes sealing the expansion joints, scupper installation to drain the bridge deck, repairs to the steel plate girders and their bearings, catwalk and steel corrosion repair and repainting, and minor concrete repair. This work will be completed by the spring of 2018 in conjunction with the Moores Creek Odor Control Improvements project.

36. Odor Control Phase 2: As part of the implementation of the next phase of the 2007 Odor Control Master Plan at the MCAWRRF, operations audits were performed, liquid and vapor phase sampling were conducted, and a computerized dispersion model was developed from 2013 to 2014. Recommendations for odor control improvements that would significantly control odors from traveling beyond the MCAWRRF fence line were presented to the RWSA Board of Directors in December 2014 and the CIP project was approved at the January 2015 Meeting, with subsequent increases due to project challenges. The final design for odor control improvements includes covering the head works and screening channels, installing grit facilities, constructing a bypass line through one equalization basin, covering the primary clarifiers, building additional odor scrubbing facilities to treat the foul air from the covered sources, removing the post-digestion clarifiers from service, modifying the handling, and hauling and storage of bio solids, all of which has been recently completed in Odor Control Improvements Project. The constructed facilities are shown as costs associated with these complete and will be capatilized in this CIP. The remaining odor control work included in the current CIP budget includes cleaning the equalization basins and holding ponds which is anticipated to be bid out this spring and coating the interior of the digesters which is ongoing.

37. Roof Replacements: The majority of the buildings at the Moores Creek Advanced Water Resource Recovery Facility were constructed in 1981 and 1982 during a major expansion of the existing treatment plant. All buildings constructed at that time were built with a metal roof system. In 2014, deficiencies were identified in the roof at the Administration Building and the roof was replaced. The materials of the original roof at the Administration Building are the same as the roof material on the other buildings. Likewise, many of the buildings have started

to experience leaks and structural deficiencies. As a result, the purpose of this project is to replace the roof systems at the following buildings at the Moores Creek AWRRF: Blower Building, Moores Creek Pump Station, Sludge Pump Station No. 2, Maintenance Building 1, and Maintenance Building 2, Sludge Pumping Building, Primary Pump Building, and the Effluent Pump Building. Design of these improvements began in March 2017 with completion of construction in late 2018.

38. Second Centrifuge: The Moores Creek AWRRF currently operates a high-speed centrifuge to process and dewater digested bio solids from the treatment process. The centrifuge was constructed during the 2009-2012 Nutrient Upgrade project and served to replace an older plate and frame filter press operation (which was removed during installation of the centrifuge), with a second plate and frame press serving as backup. An evaluation of the remaining filter press concluded that extensive repairs would be required to maintain this as a backup dewatering system and the repairs would not be cost-effective as purchasing a second centrifuge. Without the utility of the second press the facility does not have a redundant process, and thus during planned or emergency outages a portable back-up unit must be rented or leased. A second centrifuge will allow for continued bio solids dewatering during planned or emergency repairs to one of the two centrifuges, for higher-rate processing by operating both units simultaneously during other periods (thus saving on staff time), and for better maintenance of proper solids flow through the plant.

Completed Projects

		Five-Year Capital Program			
No.	**Project Description**	**Adopted Budget 6/2018**	**Previous Expenditures (6/30/2018)**	**Final Projected Costs/Close Out**	**Savings**
6	Interconnect Lower SH and RM Raw Water Mains	$331,000	$8,076	$8,076	$322,924
7	Flow Meter and Auto Valve on SH to RM Transfer	$383,241	$15,311	$383,241	
9	Route 29 Pump Station Site Acquisition	$1,720,000	$1,042,168	$1,720,000	
11	Urban Water GAC and Water Treatment Plant Improvement	$24,925,494	$24,089,122	$24,307,304	$618,190
12	Wholesale Water Master Metering - Urban	$3,200,000	$2,679,816	$3,221,659	($21,659)
23	Crozet Water GAC and Water Treatment Improvement	$3,418,390	$3,250,630	$3,267,341	$151,049
25	Crozet WTP - WTP Expansion Finished Water Pump Station	$2,600,000	$2,067,760	$2,233,510	$366,490
26	Crozet Water System - Master Plan	$300,000	$245,223	$297,577	$2,423
27	Scottsville Water Granular Activated Carbon	$1,615,000	$1,569,384	$1,577,733	$37,267
32	Crozet Interceptor Pump Stations - Bypass Fittings and Isolation Valves	$720,000	$18,334	$462,000	$258,000
35	Bridge Repairs	$330,000	$261,198	$279,468	$50,532
36	MCAWRRF Odor Control Phase 2	$8,907,519	$8,841,776	$8,907,519	
37	MCAWRRF Roof Replacements	$1,264,000	$809,424	$965,253	$298,747
38	MCAWRRF Second Centrifuge	$1,337,000	$1,154,719	$1,291,133	$45,867
	TOTAL	$51,051,644	$46,052,941	$48,921,814	$2,129,830

CIP 19-23 Total	**CIP 20-24 Completed**	**CIP 20-24 Remaining**	**CIP 20-24 New Funding**	**CIP 20-24 New Total**
$153,902,035	$51,051,644	$103,465,632	($6,261,756)	$97,203,876

Community Water Supply Plan

The Community Water Supply Plan represents the program developed with substantial community input to fulfill RWSA's contractual obligation to the City of Charlottesville (City) and the Albemarle County Service Authority (ACSA) to provide adequate drinking water for their future needs. An initiative started in 2003 to find a long-term solution that could achieve both local support and meet federal and state requirements. After multiple community meetings, updates with local officials, and frequent consultations with federal and state agencies, local support was obtained to apply for federal and state permits to expand the Ragged Mountain Reservoir and build a future pipeline between the South Rivanna and Ragged Mountain Reservoirs, with stream and wetlands mitigation to be provided through property in the Buck Mountain Creek area and property adjacent to a lower reach of Moores Creek near its confluence with the Rivanna River. Federal and state permits were granted in 2008, and amended in 2011.

The first phase of this long-term program centered around the expansion of the Ragged Mountain Reservoir, a project that would simultaneously address a legal obligation to correct safety deficiencies on the existing site. Through a combination of technical investigations, engineering evaluations, and continued public discussion, a decision was reached in February 2011 through the City Council and Board of Supervisors to build the new dam as an earthen dam, with the initial phase raising the reservoir pool height by 30 feet. The decision also outlined an objective of the further pursuit of water conservation through the City and ACSA, and the pursuit of opportunities for dredging of the South Rivanna Reservoir, with the second phase of reservoir expansion in the future as necessary.

Project Descriptions:

1. South Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way: The approved 50-year Community Water Supply Plan includes the future construction of a new raw water pipeline from the South Rivanna River to the Ragged Mountain Reservoir. This new pipeline will replace the Upper Sugar Hollow Pipeline along an alternative alignment to increase raw water transfer capacity in the Urban Water System. The project includes a detailed routing study to account for recent and proposed development and road projects in Albemarle County and the University of Virginia. Preliminary design, preparation of easement documents, and acquisition of water line easements along the approved route will also be completed as part of this project. Prior expenditures also covered a previous review of the 2009 conceptual design that was requested by the Board.

2. South Rivanna Reservoir Dredging: The South Rivanna Reservoir stores raw water for treatment at the South Rivanna Water Treatment Plant and in the future, is proposed to provide water for transfer to the enlarged Ragged Mountain Reservoir. River flow into the reservoir is from a drainage area, almost entirely within Albemarle County, of approximately 259 square miles. Soil erosion from natural events, from land use in the agricultural area, from land disturbances in the developed areas, and from re-suspension of flood plain deposits created during the 19th century (stream bank erosion), are likely the causes of sediment becoming trapped within the reservoir. The initial design of the reservoir anticipated the accumulation of these sediments, and a significant portion of the total storage volume was designated for this

purpose. Currently the sediment stored does not exceed the available sediment storage capacity.

The January 2012 Ragged Mountain Dam Project Agreement outlines that "the City and ACSA agree to direct, and RWSA agrees, to perform such dredging projects at the South Fork Rivanna Reservoir as may be specified jointly by the City and ACSA pursuant to the Water Cost Allocation Agreement." The Cost Allocation Agreement stipulates that target maintenance dredging shall be performed, and that the dredging be market driven, cost effective, and opportunistic and shall not exceed $3.5M. In 2012 and 2013, RWSA, via the Public-Private Education Facilities and Infrastructure Act (PPEA) process, solicited proposals to provide maintenance dredging. In July 2013, the one qualified PPEA proposer withdrew its proposal, citing difficulties in obtaining necessary land agreements.

Future Board decisions on the project contracting approach will dictate the next steps. This project remains in the CIP as the fulfillment of a contractual obligation from the January 2012 Ragged Mountain Dam Cost Allocation Agreement, and RWSA counsel has offered an opinion that consent to amend the Agreement from the City and ACSA is required before the RWSA Board can amend or cancel the project.

3. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line: Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant, which will have the capacity to treat 10-12 million gallons per day (mgd). The new pipeline is expected to be constructed of 36-inch ductile iron and will be on the order of 14,000 feet in length. Due to funding limitations, this project is being postponed beyond the limits of this 5-year CIP.

4. Ragged Mountain Reservoir to Observatory Raw Water Pump Station: The Ragged Mountain Reservoir (RMR) to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which in part have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 mgd to the Observatory WTP. Integration of the new pump station with the planned South Rivanna Reservoir (SRR) to RMR pipeline is being considered in the interest of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 million gallons per day (mgd) of raw water from RMR back to the SRR WTP. The location of this pump station will be recommended as part of the SRR to RMR raw water main preliminary engineering study, which is currently under way. Due to funding limitations, this project is being postponed beyond the limits of this 5-year CIP.

5. Birdwood Golf Course Waterline: RWSA and the UVA Foundation chose to expedite construction of the portion of the future South Rivanna to Ragged Mountain 36-inch raw water main through the Birdwood property. This enables pipeline work to proceed just ahead of the planned golf course reconstruction project to prevent subsequent disruption to the property and

adjacent neighbors, as well as mitigate future increased water line construction costs. The golf course reconstruction project began in November 2018. This work includes installation of approximately 6,100 linear feet of 36-inch raw water main along the eastern property boundary of the golf course.

Community Water Supply Plan

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
1	South Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way	$2,295,000		$840,249	$870,000	$584,751				$2,295,000	$123,782
2	South Rivanna Reservoir Dredging	$10,000				$10,000				$10,000	
3	Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line	$4,116,000	($899,000)				$325,000	$1,186,000	$1,706,000	$3,217,000	
4	Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Pump Station	$2,410,000	($1,750,000)				$250,000	$121,000	$289,000	$660,000	
5	Birdwood Golf Course Waterline		$4,000,000	$2,400,000	$1,600,000					$4,000,000	
	TOTAL	$8,831,000	$1,351,000	$3,240,249	$2,470,000	$594,751	$575,000	$1,307,000	$1,995,000	$10,182,000	$123,782

Observatory WTP and Ragged Mountain/Sugar Hollow Reservoir System

The Observatory Water Treatment Plant (WTP) and Ragged Mountain/Sugar Hollow Reservoir System is comprised of the water treatment facility on Observatory Mountain and the associated raw water infrastructure that stores and conveys source water to the plant. The raw water storage system includes the new Ragged Mountain Dam (constructed in 2014, with a useable raw water storage capacity of 1.5 billion gallons) and the Sugar Hollow Dam (originally constructed in 1947, upgraded in 1999 and downstream discharge improvements completed in September 2014, with a useable raw water storage capacity of 339 million gallons as updated by a 2015 bathymetric survey). The system also includes 17.6 miles of 18-inch raw water cast-iron mains, originally installed in 1908, 1922, and 1946. The Sugar Hollow Raw Water Main historically conveyed water from the Sugar Hollow Dam to the Observatory Water Treatment Plant, however, as a result of the New Ragged Mountain Dam project, the main now discharges directly into Ragged Mountain Reservoir. The remaining downstream section of the Sugar Hollow main now conveys raw water from the Ragged Mountain Reservoir to the treatment plant. The line crosses the Mechums River (where an abandoned pumping station is sited) on its way to Ragged Mountain Reservoir, and eventually passes through the Royal Pumping Station and terminates at the Observatory WTP. The Ragged Mountain Raw Water Main conveys water from the Ragged Mountain Reservoir through the Stadium Road Pumping Station and terminates at the Observatory Water Treatment Plant.

Project Descriptions:

6. Observatory Water Treatment Plant Improvements: The Observatory Water Treatment Plant is the oldest of the three urban plants. Early planning for the Community Water Supply envisioned that the plant would undergo a wholesale upgrade. This upgrade will concentrate on specific improvements to critical elements, identified by a Needs Assessment Study as improvements to the flocculators, filters, sedimentation basins, and chemical feed facilities to enhance future reliability. In addition, the existing reinforced concrete flume, which conveys treated water from the sedimentation basins to the filters, is in need of replacement, old piping control valves will be replaced and modernized, and electrical and SCADA control systems will be upgraded.

   The Observatory Water Treatment Plant was originally constructed in the mid-1950s. Since that time very little has been replaced or upgraded at the facility. The sixty-year-old facility has much of the original equipment that is inefficient, prone to unexpected failure, and does not have readily accessible replacement parts. A portion of the project was completed in the 2016-2017 fiscal year. The flocculator systems were completely upgraded with new mechanical and electrical equipment, including variable speed motor drives for optimum efficiency. The upgraded flocculators have been in service since May 2017.

   In addition to providing needed equipment upgrades, the improvements will also increase the plant's capacity from 7.7 million gallons per day to 10 million gallons per day based on a feasibility analysis performed during the Preliminary Engineering phase of the project. It was determined that the capacity upgrades could be performed economically and would provide needed reliability and redundancy in the Urban System.

It should be noted that the Observatory Water Treatment Plant is sited on land leased to RWSA by the University of Virginia. The terms of the existing lease expire on April 17, 2021. Prior to construction of the remaining improvements, the terms of a new lease may be needed with RWSA and the University as participants. The new lease is currently under negotiation.

7. Sugar Hollow Dam – Rubber Crest Gate Replacement & Intake Tower Repairs: In 1998 the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure will be evaluated as part of the project for necessary repairs and improvements. Recommended repairs may include issues relating to the intake gate valves and tower walls, including repair or replacement of intake trash racks, and sealing/grouting of minor concrete wall cracks.

Observatory Water Treatment Plant and Ragged Mountain/Sugar Hollow Reservoir System

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
6	Observatory Water Treatment Plant Improvements	$18,630,000	$1,070,000	$2,648,198		$5,701,802	$7,850,000	$3,500,000		$19,700,000	$1,154,558
7	Sugar Hollow Dam - Rubber Crest Gate Replacement & Intake	$940,000	$200,000	$55,000	$415,000	$670,000				$1,140,000	
	TOTAL	$19,570,000	$1,270,000	$2,703,198	$415,000	$6,371,802	$7,850,000	$3,500,000	$0	$20,840,000	$1,154,558

Finished Water Storage/Transmission – Urban System

The urban finished water storage and transmission system serves to provide transmission of treated water from the three RWSA water plants (Observatory, South Rivanna, and North Rivanna Rivanna) to the distribution networks of the Albemarle County Service Authority, the City of Charlottesville, and the University of Virginia. The system includes approximately 40 miles of pipeline, six water storage tanks: Avon Street (2 MG), Pantops (5 MG), Piney Mountain. (0.7 MG), Stillhouse (0.7 MG), Observatory (3 MG), and Lewis Mountain (0.5 MG), and the Alderman Road and Stillhouse pumping stations.

Project Descriptions:

8. Valve Repair - Replacement (Phase 2): Isolation valves are critical for normal operation of the water distribution system and timely emergency response to water main breaks. Staff continuously reviews results from an ongoing valve exercising and condition assessment program performed by the RWSA Maintenance Department. This project will repair any valves identified during the condition assessment as having a repairable deficiency and replace the highest priority valves that are inoperable and unrepairable. This phase of the Valve Repair-Replacement Project will include a repair of an existing valve on the Southern Loop Waterline and replacement of valves on the North Rivanna, South Rivanna, Pantops, and Crozet Waterlines.

9. Piney Mountain Tank Rehabilitation: The 700,000-gallon Piney Mountain Tank serves the North Rivanna pressure band. A routine inspection of the Piney Mountain Tank revealed several deformed roof rafters, indicating the potential for structural deficiency. An in-depth structural inspection was performed and a list of recommended roof repairs provided. This project includes consultant services for design and bidding of necessary roof repairs and other ancillary items, as well as construction, construction administration, and inspection services. Long term plans for the Rt. 29 service area include the modification or elimination of this facility. The current recommended improvements are needed to maintain the existing tank in service for at least the next 10 years.

10. Avon to Pantops Water Main: The southern half of the Urban Area water system is currently served by the Avon Street and Pantops storage tanks. The Avon Street tank is hydraulically well connected to the Observatory Water Treatment Plant while the Pantops tank is well connected to the South Rivanna Water Treatment Plant. The hydraulic connectivity between the two tanks, however, is less than desired, creating operational challenges and reducing system flexibility. In 1987, the City and ASCA developed the Southern Loop Agreement, outlining project phasing and cost allocations, as envisioned at the time. The first two phases of the project were constructed shortly thereafter. The third phase, known as the "Eastern Branch" is the subject of the current project. The initial funding for this project was used for route alignment determination, hydraulic modeling, and preliminary design. Due to the complicated nature of our finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach is warranted and we should complete the Finished Water Master Plan prior to moving forward with final design and construction of the Avon to Pantops Water Main. Additionally, due to alternate funding priorities the construction of this main has been delayed 3-years.

11. Water Demand Projection and Safe Yield Study: In January 2012, the City of Charlottesville, Albemarle County Service Authority, and RWSA entered into the Ragged Mountain Dam Project Agreement. Within the agreement are provisions to monitor the bathymetric capacity of the Urban water reservoirs as well as a requirement to conduct reoccurring demand analysis, demand forecasting and safe yield evaluations. The bathymetric survey of the South Rivanna Reservoir and the Ragged Mountain Reservoir were funded in the FY2019 O&M Budget. Subsequent to collecting the reservoir survey data, this study will evaluate and calculate current and future demands and present safe yield. Per the project agreement, these analyses shall be completed by calendar year 2020.

12. South Rivanna River Crossing and North Rivanna Transmission Main: RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the Airport Road Pump Station Site, there is a need to construct a new river crossing at the South Fork Rivanna River and two "gap" sections of 24-inch water main between the already completed sections. Much of the new water main route is within VDOT right-of-way; however, acquisition of right-of-way will be required at the river crossing and on the Kohl's Property at Hollymead Town Center. This project includes funding for construction as well as engineering design, easement acquisition, bid-phase services, and construction administration and inspection services.

13. Rt. 29 Pump Station: The Rt. 29 Pipeline and Pump Station master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan was updated in 2018 to reflect the changes in the system and demands since 2007. This project, along with project number 12 above will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station will be able to serve system demands at both the current high pressure and a future low pressure condition. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport pressure zone.

14. Finished Water System Master Plan: As identified in the 2107 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. There are asset classes where comprehensive and ongoing plans exist or are in development (e.g. wastewater collection, raw water supply, Crozet water, etc.). In the case of the urban finished water system, many of the previously identified capital projects are in design or construction. As such, staff have identified a need to develop a current and ongoing finished water master plan. This work will utilize the demand forecasting from the Water Demand Project and Safe Yield Study.

Finished Water Storage/Transmission – Urban System

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
8	Valve Repair - Replacement (Phase 2)	$500,000	$382,914	$500,000	$382,914					$882,914	
9	Piney Mountain Tank Rehabilitation	$500,000		$500,000						$500,000	$51,185
10	Avon to Pantops Water Main	$13,200,000	($11,100,000)	$1,375,000					$725,000	$2,100,000	$126,861
11	Water Demand Projection and Safe Yield Study	$100,000	$54,000	$154,000						$154,000	
12	South Fork Rivanna River Crossing and North Rivanna Transmission	$5,340,000				$843,000	$3,930,000	$567,000		$5,340,000	
13	Rt. 29 Pump Station	$2,300,000			$201,000	$1,824,000	$275,000			$2,300,000	
14	Finished Water System Master Plan	$150,000	$103,000	$253,000						$253,000	
	TOTAL	$22,090,000	($10,560,086)	$2,782,000	$583,914	$2,667,000	$4,205,000	$567,000	$725,000	$11,529,914	$178,046

South and North Rivanna Water Systems

The South Rivanna Water System is comprised of the source water, storage, conveyance and treatment infrastructure currently serving the urban area from the South Fork Rivanna River. The system includes the South Fork Rivanna Reservoir and Dam (built in 1966). The Dam is co-located with the raw water intake and pump station, as well as a small hydroelectric generation facility. The source water from the South Rivanna Reservoir is treated at the South Rivanna treatment plant (12-mgd rated capacity).

The North Rivanna Water System is comprised of a river intake and raw water pumping station on the North Fork of the Rivanna River, as well as the North Fork Water Treatment Plant (2-mgd rated capacity). The North Rivanna System provides water to the ACSA service area located along US Route 29, between Forest Lakes subdivision and Piney Mountain Road.

Project Descriptions:

15. South Rivanna Hydropower Plant Decommissioning: The South Fork Hydropower Plant is a small hydroelectric generating facility constructed in 1987. The plant has historically operated intermittently, as river flows allow. The generated power is used at the South Rivanna Water Treatment Plant, thereby reducing power purchased off the electric grid. During an effort to troubleshoot and repair the turbine, a large rain and lightning event caused unexpected flooding into the facility. Insurance paid damages to more recent improvements, but not the pre-existing needs to repair the turbine. Engineering investigations in 2013 associated with the failed mechanical equipment and flood event confirmed the need for further disassembly and inspection of the turbine shaft and blade linkages from a remote factory location.

    Due to the complexity of possible rehabilitation, the associated Federal Energy Regulatory Commission (FERC) dam permitting, and the numerous variables in the economic analysis, proposals were solicited from national hydropower experts to initiate a feasibility study to determine the cost effectiveness of rehabilitating the hydropower plant while making sure to account for FERC-related costs and issues. The feasibility study was completed in May 2016 and determined that rehabilitation of the facility had a small likelihood for a positive return on investment. This conclusion was brought to the Board of Directors along with a recommendation to initiate the surrender of the exemption to licensure and decommission the facility. The Board approved this recommendation and staff has begun the exemption surrender process. The budget includes regulatory support as well as physical improvements such as removing defunct electrical components, abandoning components of the turbine and evaluating the re-establishment of the penstock as a reservoir drain.

16. South Rivanna Water Treatment Plant Improvements: The South Rivanna Water Treatment Plant recently completed significant upgrades as part of the Urban Granular Activated Carbon project. Over the course of that project, several other significant needs were identified and assembled into a single project within this Capital Plan. The project components include, but are not limited to, the following: a new coagulant storage facility; installation of two additional filters to meet firm capacity needs and new filter control panels; an enclosure around the lime storage facilities; the addition of a second variable frequency drive at the Raw Water Pump Station as well as other general pump station improvements; the relocation for the electrical

gear from a sub terrain location at the Sludge Pumping Station to a new aboveground enclosure; a new administration building on site for additional office, meeting, and storage space; an additional high service pump and the addition of variable frequency drives to three of the pumps; sedimentation basin improvements; replacement of filter inlet valves and actuators; remodeling of the existing filter building for better lab and control space and painting throughout; new clarifier drives; a new closed transition transfer switch for the facility; and a realignment of the plant entrance near the front gate. Currently this facility operates at 80-90% of capacity and the identified upgrades will improve reliability and resiliency, particularly at higher flow rates.

17. South Rivanna Dam – Gate Repair: The South Rivanna Dam, originally constructed in 1965, is equipped with two 36" diameter slide gates and conduits, one each on the north and south abutments of the dam, which can be utilized to dewater the facility or to meet minimum instream flow (MIF) requirements when the dam is not spilling. These gates are original to the dam and while they are operable and are exercised regularly, they can no longer provide a complete seal, therefore allowing some leakage through the dam. RWSA has protocols in place to temporarily stop leakage through the gates when necessary to conserve water; however, there is a desire to repair or replace the gates and components as needed to restore full functionality. The project includes other repairs to the facility, including improvements to the concrete wall adjacent to the Raw Water Pump Station as well as improvements to the north dam tower to provide safer access by staff while still discouraging access by the general public.

18. North Rivanna Water Treatment Plant – Upgrade: The North Rivanna Water Treatment Plant was recently retro-fitted with GAC treatment. While the electrical system was upgraded as part of the GAC project, the remaining equipment and process control are original to the plant. Additionally, recent flooding has identified an issue with the siting and viability of the current backwash lagoons. This project includes an evaluation as well as replacement of the backwash and sludge handling for the plant.

South and North Rivanna Water Systems

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
15	South Rivanna Hydropower Plant Decommissioning	$400,000	$325,000	$400,000	$325,000					$725,000	$98,625
16	South Rivanna Water Treatment Plan Improvements	$7,500,000	$7,500,000	$181,891	$7,864,524	$6,953,585				$15,000,000	$46,891
17	South Rivanna Dam - Gate Repair		$900,000		$900,000					$900,000	
18	North Rivanna Water Treatment Plant - Upgrade		$2,325,000		$385,000	$940,000	$1,000,000			$2,325,000	
	TOTAL	$7,900,000	$11,050,000	$581,891	$9,474,524	$7,893,585	$1,000,000	$0	$0	$18,950,000	$145,516

Crozet Water System

The Crozet Water System includes the source water, raw water conveyance, finished water treatment, transmission and storage infrastructure for the Crozet community in western Albemarle County. The source water for this system is the Beaver Creek Reservoir and Garnett Dam which was built in 1964 with a current useable storage capacity of 521 million gallons. Raw water is treated at the Crozet Water Treatment Plant (1.0 mgd rated capacity) and provides finished water to the Albemarle County Service Authority. The system includes the Crozet Elevated (Waterball) Tank (0.05 MG) for water treatment plant backwash; the Crozet Ground Storage Tank (0.5 MG) and pump station, and the Buck's Elbow Storage Tank (2.0 MG).

Project Descriptions:

19. Beaver Creek Dam Alteration: From 2008-2014 the Virginia Department of Conservation and Recreation (DCR) adopted revised *Impounding Structures Regulation* which imposed new, more rigorous, evaluations of dams within the Commonwealth. As a result, the Beaver Creek Dam has been reclassified as a high hazard dam, thereby requiring the spillway to pass a larger design storm. The spillway capacity was not designed to pass the larger design storm, and thus will require modifications to adhere to current regulations. This project includes investigation, preliminary design, public outreach, permitting, easement and property acquisition, final design, and construction of the anticipated modifications. Also included in this project are a new relocated raw water pump station, intake and oxygenation system.

    RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. Following the completion of an updated alternatives analysis by Schnabel Engineering in 2018, staff decided to proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake. Additionally, due to alternate funding priorities the construction of this project has been delayed 3-years.

20. Beaver Creek Raw Water Pump Station and Intake: The Drinking Water Infrastructure Plan for the Crozet water service area recommends installation of a new Raw Water Pump Station and Intake at the Beaver Creek Dam in order to meet new minimum instream flow requirements and provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The pump station will be moved out of its existing location at the toe of the dam to a new location, to be determined during design. The new intake structure will include enhanced controls to allow for access to the best quality water at any given time.

    Following a Reservoir Water Quality and Management Study by DiNatale Water Consultants, several recommendations were made to improve water quality in the Beaver Creek Reservoir,

including installation of a new outlet structure and installation of a hypolimnetic oxygenation system. The oxygenation system would reduce reliance on algaecide treatments by increasing dissolved oxygen in the reservoir. Due to alternate funding priorities, the entire pump station and intake project have been delayed 3-years. Additionally, hypolimnetic oxygenation system has been eliminated from the project. The site, however, will be designed to accommodate it's possible future inclusion.

21. Buck's Elbow & Crozet Waterball Tank Painting: The 2,000,000-gallon Buck's Elbow Ground Storage Tank provides finished water storage for the Crozet Area while the 50,000- gallon Crozet Waterball Tank serves as filter backwash storage at the Crozet Water Treatment Plant (CZWTP). Routine inspections of these tanks in 2012 indicated that the tanks would require recoating by 2020. The project includes recoating the interior and top-coating the exterior of both tanks to prevent corrosion. Also included is the installation of an active mixing system and construction of a chlorine feed station at the Buck's Elbow Tank to decrease stratification, maintain consistent chlorine residuals, and improve overall water quality in the Crozet area. Minor repairs and improvements to both tanks will also be included in this work, such as foundation repairs and safety enhancements. This project includes consultant services for design of project specifications, as well as construction, construction administration, and inspection services. Installation of the active mixing system and construction of the chlorine feed station at Buck's Elbow Tank is expected to begin in Spring 2019, while the painting of both tanks has been postponed until 2025.

22. Crozet Water Treatment Plant Expansion: The Crozet water treatment system is currently permitted and rated to supply up to 1.0 million gallons per day (mgd) of water to the ACSA distribution system. Over the past several years, average day usage of water has increased steadily, with maximum day demand approaching plant capacity. In addition, much of the existing plant systems are the same as when the plant was constructed in the 1960's.

    Expanding the plant capacity at Crozet WTP would require a new Virginia Department of Environmental Quality Water Withdrawal Permit and could include possible stream release requirements. In order to fully analyze all aspects of the design required for this project a Preliminary Engineering Report (PER), plant field testing, preliminary permitting work and coordination with pertinent regulators were completed. The results of the PER stated that the current treatment plant can be upgraded, and the capacity increased, through installation of newer, and more technologically advanced equipment into the existing footprint of the filter plant. Work associated with this project includes general building rehabilitation, filter improvements, sedimentation expansion and improvements, chemical feed improvements, flocculator expansion, alum storage/containment improvements and waste sludge handling and removal improvements.

Crozet Water System

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
19	Beaver Creek Dam Alteration	$8,830,000	($3,932,000)	$192,871	$516,129	$561,000	$668,000	$660,000	$2,300,000	$4,898,000	$191,871
20	New Raw Water PS & Intake	$6,100,000	($1,962,000)	$160,000	$138,000	$300,000	$275,000	$175,000	$3,090,000	$4,138,000	
21	Buck's Elbow & Crozet Waterball Tank Painting	$1,200,000	($1,013,000)	$60,000	$127,000					$187,000	
22	Crozet Water Treatment Plant Expansion	$6,900,000	$1,600,000	$3,808,819	$4,235,181	$456,000				$8,500,000	$510,377
	TOTAL	$23,030,000	($5,307,000)	$4,221,690	$5,016,310	$1,317,000	$943,000	$835,000	$5,390,000	$17,723,000	$702,248

Scottsville Water System

The Scottsville Water System is comprised of the raw water conveyance, finished water treatment, transmission and storage infrastructure for the Town of Scottsville in southern Albemarle County. The source water for this system is the Totier Creek Intake, and the backup supply is the Totier Creek Reservoir, which was built in 1971 with a current useable capacity of 182 million gallons. Raw water is treated at the Scottsville Water Treatment Plant (0.25 mgd rated capacity) and provides finished water to the Albemarle County Service Authority. The system includes the Scottsville Storage Tank (0.25 MG).

Project Description:

23. Scottsville WTP Finished Water Flow Meter: The Scottsville Water Treatment Plant provides potable drinking water to Albemarle County Service Authority customers in the Scottsville service area. After water has been treated at the plant, it is collected in an existing clearwell which was constructed with the original facility. From the clearwell, the water is pumped into the distribution system by one of two high service pumps. The flow from these pumps is not metered. In order to keep a record of the total flow entering the Scottsville distribution system, plant operators must periodically conduct draw-down tests to verify the pumping rate of each of the two pumps. The total flow is then calculated based on the run time of each pump. Based on these procedures, this method of measuring flow may not be representative of the flow entering the system as the pumping rate will vary based on the clearwell level and the hydraulic grade line of the distribution system. In addition, the Virginia Department of Health has indicated that the flow should be metered during recent conversations related to the disinfection profile calculation throughout the plant. To resolve this issue, this project will modify the high service pump discharge piping to allow for the installation of a finished water meter.

24. Scottsville Water LT2 Improvements: RWSA conducts routine regulatory sampling of the raw water from Totier Creek and Totier Creek Reservoir for compliance with the EPA Long Term 2 Enhanced Surface Water Treatment Rule (LT2). The rule provides risk based guidance on the needed level of treatment for the deactivation of microbial pathogens. This project anticipates the addition of ultraviolet disinfection to the treatment process in Scottsville.

Scottsville Water System

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
23	Scottsville Water Finished Water Flow Meter		$145,000	$145,000						$145,000	
24	Scottsville Water LT2 Improvements		$100,000		$100,000					$100,000	
	TOTAL	$0	$245,000	$145,000	$100,000	$0	$0	$0	$0	$245,000	$0

Wastewater Interceptors/Pumping Stations

The RWSA wastewater interceptors and pumping stations serve to convey wastewater from the collection systems of the City of Charlottesville and Albemarle County Service Authority to the Moores Creek Advanced Water Resource Recovery Facility (MCAWRRF). This grouping includes: the Crozet Interceptor and four associated pumping stations; the Moores Creek Interceptor and Relief Sewer; the Morey Creek, Maury Hills, Powell Creek, Meadow Creek, Schenks Branch, Woodbrook and Rivanna Interceptors; as well as the Albemarle-Berkley Interceptor and associated Albemarle Pumping Station. Also included in this system are the two primary pump stations into the MCAWRRF, the Rivanna and Moores Creek Pump Stations.

Project Descriptions:

25. Upper Schenks Branch Interceptor: The Schenks Branch Interceptor is located in the eastern part of the City of Charlottesville and ties into the Meadowcreek Interceptor. The interceptor was constructed in the mid-1950s of 21-inch clay and concrete pipe. The existing interceptor is undersized to serve present and future wet weather flows as determined by the City, and is to be upgraded to 30-inch pipe. The Upper Schenks Branch Interceptor consists of two sections along McIntire Road. Both of these sections have been designed with the first phase of this project located in the City's Schenks Branch Greenway, completed in early 2016. The second phase of the Upper Schenks Interceptor will be replaced by RWSA in coordination with the City of Charlottesville's sewer upgrades once easement negotiations with Albemarle County are complete (or the City authorizes the second phase project be constructed under McIntire Road). Project costs include design, permitting, easement acquisition, construction, construction observation/administration by the engineering consultant; and project contingencies

26. Interceptor Sewer and Manhole Repair: This project is used to conduct assessment of various interceptors as well as rehabilitation of interceptors that do not have a separate CIP project. Planned projects include condition assessments and assumed rehabilitation of the Morey Creek Interceptor, Powell Creek Interceptor and Upper Rivanna Interceptor as well as rehabilitation efforts identified for the Moores Creek Interceptor and the Moores Creek Relief Interceptor that have been identified from previous condition assessment efforts. A sewer rehabilitation contract has been developed under this project as well which procured a dedicated contractor for all rehabilitation work. This project will also provide an allowance in budgeted funds to carry out future repairs. The intent of this project is to complete a condition assessment of all RWSA interceptors (except those replaced during the period with new pipe) and perform as-needed rehabilitation work by the end of 2020. Such periodic assessments of all sewer pipe reflects industry best practices and the maintenance expectations of federal and state regulators as a part of avoiding sanitary sewer overflows

27. Crozet Interceptor: The Crozet Interceptor is located in western Albemarle County and serves the Crozet area. Flow metering indicated that the interceptor experienced substantial inflow and infiltration and requires rehabilitation. In order to minimize future infrastructure improvements, ACSA and RWSA have agreed to rehabilitate this interceptor and the sewers that flow to the interceptor. The initial phase of rehabilitation to repair defects in manholes and pipelines contributing to the inflow and infiltration in the interceptor upstream of Crozet

Pump Station No. 4 has been completed. The current budget accounts for condition assessment work and assumed rehabilitation needs for the lower portions of the interceptor. While wet weather flows have moderately improved based on the initial phase of work, the ACSA and RWSA continue to investigate and remediate deficiencies along the entire interceptor.

28. Crozet Flow Equalization Tank: Rehabilitation work in the RWSA and ACSA sewer systems is on-going to meet the I&I reduction goals in the Crozet Interceptor. This is based on the flow metering and modeling results of the Comprehensive Sanitary Sewer Model & Study conducted in 2006 and as part of the Crozet Interceptor CIP project. The results of the 2006 study were updated in 2016 to evaluate I/I reduction goals and future capital project needs. The need to proceed with construction of a flow equalization tank in the Crozet area was confirmed as a result of this study update, which took into account recent flow monitoring data that had been collected following previous I/I reduction efforts. Based on those results, a preliminary engineering evaluation and siting analysis of a flow equalization tank upstream of Crozet Pump Station No. 4 was completed to ensure that the facility could be designed, permitted, constructed and ready for operation by 2020 in order to meet the two-year storm flow targets. The budget for this project includes estimates for the preliminary engineering, final design, property acquisition, legal assistance, construction costs and construction management services.

29. Crozet Pump Station 1, 2, 3 Rehabilitation: The Crozet Interceptor Pump Stations were constructed in the 1980's and many of the components are still original. This project includes the replacement of pumps and valves at Pump Station 2 in order to improve pumping capabilities at this location and provide spare parts for the pumps at Pump Station 1. It also includes roof replacements at all four pump stations, siding replacement for the wet well enclosure at Pump Station 3, and installation of new water wells at Pump Stations 3 and 4.

30. Maury Hill Branch Sewer Upgrade: Based on the sewer study performed in 2016, the Maury Hill Branch Sewer was targeted for capacity upgrades around 2020. This project would include an upgrade from 8-inch diameter to 12-inch diameter sewer along with all new manholes. The work was anticipated to be coincident with rehabilitation needs and capacity increases to accommodate the growth at the UVA Fontaine Research Park. Due to alternate funding priorities, this project has been delayed 2-years outside of the current 5-year CIP.

31. Albemarle Berkley PS – Basin Demolition: Historically the Albemarle Berkley Pump Station was co-located within an open air basing that occasionally collected sewage during power outages. With the addition of a back-up power generator, the basin no longer serves a technical purpose. Given the proximity of the deteriorating structure to school property, this project serves to demolish and fill the area of the existing basin.

Urban Wastewater Interceptors/Pumping Stations

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
25	Upper Schenks Branch Interceptor	$4,485,000	($500,000)	$20,000	$100,000	$3,315,000	$550,000			$3,985,000	$11,187
26	Interceptor Sewer and Manhole Repair	$1,941,000	($852,670)	$1,088,330						$1,088,330	$176,434
27	Crozet Interceptor	$625,000		$394,615		$230,385				$625,000	$181,725
28	Crozet Flow Equalization Tank	$3,300,000	$1,560,000	$1,300,000	$3,560,000					$4,860,000	$80,092
29	Crozet Pump Station 1, 2, 3 Rehabilitation	$525,000	$20,000	$275,000	$20,000			$250,000		$545,000	
30	Maury Hill Branch Sewer Replacement	$285,000	($285,000)							$0	
31	Alb. Berkley PS - Basin Demolition		$200,000			$165,000	$35,000			$200,000	
	TOTAL	$11,161,000	$142,330	$3,077,945	$3,680,000	$3,710,385	$585,000	$250,000	$0	$11,303,330	$449,438

Moores Creek Advanced Water Resource Recovery Facility

The Moores Creek Advanced Water Resource Recovery Facility (MCAWRRF) is the largest wastewater treatment facility within the RWSA system. The plant was originally constructed in 1958 and upgraded and expanded in 1981 and 1982, and currently has a rated capacity of 15 mgd. From 2009 thru 2012 the facility was upgraded to provide enhanced nutrient removal, and increased wet weather pumping and treatment capacity. This site includes the infrastructure for the wastewater treatment process as well as the RWSA administration facilities.

Project Descriptions:

32. Odor Control Phase 2: As part of the implementation of the next phase of the 2007 Odor Control Master Plan at the MCAWRRF, operations audits were performed, liquid and vapor phase sampling was conducted, and a computerized dispersion model was developed from 2013 to 2014. Recommendations for odor control improvements that would significantly control odors from traveling beyond the MCAWRRF fence line were presented to the RWSA Board of Directors in December 2014 and the CIP project was approved at the January 2015 Meeting, with subsequent increases due to project challenges. The final design for odor control improvements includes covering the head works and screening channels, installing grit facilities, constructing a bypass line through one equalization basin, covering the primary clarifiers, building additional odor scrubbing facilities to treat the foul air from the covered sources, removing the post-digestion clarifiers from service, modifying the handling, and hauling and storage of bio solids, all of which has been recently completed in Odor Control Improvements Project. The remaining odor control work included in the current CIP budget includes cleaning the equalization basins and holding ponds which is anticipated to be bid out this spring and coating the interior of the digesters which is ongoing.

33. Engineering and Administration Building: RWSA currently has its administrative headquarters in two buildings on the grounds of the Moores Creek Advanced Water Resource Recovery Facility. The two-story Administration Building was constructed in the early 1980's and houses offices, IT server space, meeting space and a full service laboratory. The second building is a series of four trailers installed in between 2003-2010 that house the engineering department. The Administration building is located at the head of the wastewater treatment plant and is surrounded by underground piping and process functions that may conflict with existing parking and/or the building in a future plant expansion. There is currently a need to house additional staff; increase office and meeting space; plan for the replacement of the trailers; bring the IT server workrooms to modern standards; provide classroom space for education outreach. Due to the alternate funding priorities and the desire to complete the MCAWRRF master plan, this project has been delayed 4-years beyond the current 5-year CIP.

34. Digester Sludge Storage Improvements: The sole sludge storage tank at the MCAWRRF was constructed in 1959 of reinforced concrete and is in need of repairs. The scope of work would include piping modifications, hydraulic improvements, tank safety improvements such as handrail and lights, and structural improvements to the existing sludge storage tank roof.

35. Aluminum Slide Gate Replacement: Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to access and repair the gates, it is now necessary to replace and modify the gate arrangement. The replacement includes new gates for greater flexibility and resiliency as well as significant flow bypass pumping. Likewise there are several gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity. In addition, motor operated valves at the headworks will improve wet weather operations related to the new grit facility.

36. Moores Creek AWRRF Master Plan: The majority of the Moores Creek Water Resource Recovery Facility was constructed in the early 1980's. At the time, the plant layout was developed with space held open for future process expansion. With the Enhanced Nutrient Removal (ENR) project in 2009, the operation and layout of the plant was fundamentally altered, as needed to meet the new regulation. The project did anticipate the need for future expansion and some of the processes have readily available space. However, a full expansion plan was not developed at the time. As identified in the 2107 Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. Staff has identified asset master planning as a priority strategy to improve overall system development. As such, this project will serve to evaluate and plan for future space and process needs to accommodate capacity expansion and/or anticipated regulatory changes.

37. Mechanical Thickener: During the design of the Moores Creek AWRRF Phase 2 Odor Control project, the consultants conducted a detailed evaluation of all facility odor sources. One of the key sources identified, was the post-digestion clarifiers. These clarifiers are two round open-topped tanks of digested wastewater sludge, located on the north side of the plant. During the ENR upgrade, the characteristics of the post-aeration sludge changed. This change has led to less predictable sludge handing through the existing gravity thickeners. This change in the post-aeration sludge characteristics has made obtaining a clear thickener overflow more difficult without chemical addition. Removing the post-digestion clarifiers from service combined with solids carryover from the existing gravity thickeners create a number of downstream consequences in primary clarification, sludge digestion and solids dewatering. Removing these facilities from service reduces the sludge thickness and therefore the plant's ability to adequately process it. This project includes the design and installation of a mechanical thickener prior to digestion that will increase plant solids processing reliability and capacity. Due to the alternate funding priorities and the desire to complete the MCAWWRF Master Plan, this project has been delayed 4-years beyond the current 5-year CIP.

38. Compost Shed Roof Rehabilitation: In the early 1980's a large metal-framed shed roof was constructed to house the biosolids composting operations. Subsequent to stopping composting at Moores Creek AWRRF, the shed roof serves as an equipment maintenance yard, solids handling facility and material storage lock-up. The shed roof is exhibiting signs of rafter deterioration and ongoing drainage issues. This project will serve to evaluate and perform remediation needs at this facility.

Moores Creek Advanced Water Resource Recovery Facility

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
32	Odor Control Phase 2	$2,216,632		$2,216,632						$2,216,632	$65,743
33	Engineering and Administration Building	$3,000,000	($3,000,000)							$0	
34	Digester Sludge Storage Improvements	$265,000	$48,000	$265,000		$48,000				$313,000	
35	Aluminum Slide Gate Replacements	$470,000		$470,000						$470,000	
36	Moores Creek AWRRF Master Plan	$100,000	$150,000		$50,000	$200,000				$250,000	
37	Mechanical Thickener	$1,200,000	($1,200,000)							$0	
38	Compost Shed Roof Rehabiliation		$200,000			$200,000				$200,000	
	TOTAL	$7,251,632	($3,802,000)	$2,951,632	$50,000	$448,000	$0	$0	$0	$3,449,632	$65,743

Scottsville Wastewater System

The Scottsville Wastewater System includes the influent pumping station, the water resource recovery facility constructed in 1983, and the historical treatment lagoon (now incorporated into the plant operation). The water resource recovery facility has a rated capacity of 0.2 mgd.

Project Descriptions:

39. Grinder and Air Control Improvements: Currently the influent raw water pump station does not have a means to prevent large material from impacting the pumps, resulting in frequent clogging and maintenance. The space within the pump station is very limited and therefore does not allow for screening. This project will design and install an inline grinder within the influent pump channel. In addition, this project will evaluate methods to automate air control for the biological treatment process. The current method of air control produces inconsistent results, adversely impacting treatment and operations.

Scottsville Water Resource Recovery Facility

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
39	Grinder and Air Control Improvements	$100,000	$110,000		$65,000	$145,000				$210,000	
	TOTAL	$100,000	$110,000	$0	$65,000	$145,000	$0	$0	$0	$210,000	$0

Glenmore Wastewater System

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility.

Project Descriptions:

40. Influent Pump & VFD Addition: The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity.

41. Secondary Clarifier Coating: The secondary clarifiers at the Glenmore facility were painted over 10-years ago. The clarifier environment is a particularly harsh environment subject to corrosive gasses, grit abrasion and mechanical wear. Based on observations by operations staff, the coating system is in need of replacement to prevent deterioration and failure of the underlying metal superstructure. This project includes the cleaning and full coating of the metal portions of the clarifier.

Glenmore Water Resource Recovery Facility

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
40	Influent Pump & VFD Addition	$61,000	$4,000			$65,000				$65,000	
41	Secondary Clarifier Coating	$50,000	$60,000	$25,000	$85,000					$110,000	
	TOTAL	$111,000	$64,000	$25,000	$85,000	$65,000	$0	$0	$0	$175,000	$0

All Systems

Project Descriptions:

42. Radio Upgrades: The regional 800 MHz Public Safety Communication System, in which the Rivanna Water and Sewer Authority participates to provide internal and emergency radio communication, is expected to reach the end of its service life in 2018. Because of technology changes (software and hardware) the Charlottesville-UVA-Albemarle County Emergency Communications Center (ECC) will need to upgrade or replace the system to keep it useable. This project plans for the upgrade or replacement of major technology components and equipment of the existing system include: electronic components at all tower sites and the prime site at the ECC facility; new console equipment at the regional ECC; equipment such as tower site generators and UPS systems; an additional tower site (to improve service in southern Albemarle County); microwave backbone; and replacement of the system recording facilities. The project will take 24 months to complete and will be completed in Fiscal Year 2018. RWSA is being apportioned a part of the $18.8M project cost proportionately based on the number of radios (2.4% of the total project cost). In addition to this assessment from the ECC, the Authority will also be required to undertake upgrades to its fleet of stationary, mobile, and portable radios.

43. Asset Management: Asset management is the practice of managing our infrastructure to minimize the total cost of owning and operating these assets while providing desired service levels. In doing so, it is used to make sure planned maintenance activities take place and that capital assets are replaced, repaired or upgraded at the right time, while ensuring that the money necessary to perform those activities is available. The Rivanna Water and Sewer Authority (RWSA) has some components of an asset management program in place (i.e. GIS, work order system), but has identified the need to further develop the program as part of our Strategic Planning process. In order to continue to build the program, a consultant was procured to assist with a three-phase process that will include facilitation and development of an asset management strategic plan, development and management of a pilot study where the results of the strategic plan will be applied to a specific class of assets, and assistance through a full implementation process. As part of this three-phase process, the consultant will also assist RWSA with the procurement of a software package to facilitate the overall program.

44. Security Enhancements: As required by the federal Bioterrorism Act of 2002, water utilities must conduct vulnerability assessments (VA) and have emergency response plans. RWSA recently completed a VA of its water system in collaboration with other regional partners and identified a number of security improvements that could be applied to both its water and wastewater systems. The purpose of this project will be to install security improvements at RWSA facilities including an enhanced access control program, industrial strength door and window components, security gate and fencing modifications, an improved lock and key program, facility signage, closed circuit television (CCTV) enhancements, intrusion detection systems (IDS), additional security lighting, and ladder guards.

45. IT Master Plan – Software: Staff is currently conducting an IT Master Plan to assess and benchmark current software and business practices. As the planning effort nears completion

there will be a need for several wholesale software upgrades. This project will address those Authority wide needs.

All Systems

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
42	Radio Upgrades	$521,000	$125,000	$521,000		$125,000				$646,000	$28,337
43	Asset Management	$500,000		$300,000		$200,000				$500,000	
44	Security Enhancements	$2,400,000	($1,400,000)	$170,000	$830,000					$1,000,000	
45	IT Master Plan - Software		$450,000		$150,000	$150,000	$150,000			$450,000	
	TOTAL	$3,421,000	($825,000)	$991,000	$980,000	$475,000	$150,000	$0	$0	$2,596,000	$28,337

APPENDICES

CIP Financial Summary

Water System Summary

Wastewater System Summary

All Systems Summary

CIP Financial Summary

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
1	South Rivanna Reservoir to Ragged Mountain Reservoir Water Line Right-of-Way	$2,295,000		$840,249	$870,000	$584,751				$2,295,000	$123,782
2	South Rivanna Reservoir Dredging	$10,000				$10,000				$10,000	
3	Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line	$4,116,000	($899,000)	$0			$325,000	$1,186,000	$1,706,000	$3,217,000	
4	Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Pump Station	$2,410,000	($1,750,000)	$0			$250,000	$121,000	$289,000	$660,000	
5	Birdwood Golf Course Waterline		$4,000,000	$2,400,000	$1,600,000					$4,000,000	
6	Observatory Water Treatment Plant Improvements	$18,630,000	$1,070,000	$2,648,198		$5,701,802	$7,850,000	$3,500,000		$19,700,000	$1,154,558
7	Sugar Hollow Dam - Rubber Crest Gate Replacement & Intake	$940,000	$200,000	$55,000	$415,000	$670,000				$1,140,000	
8	Valve Repair - Replacement (Phase 2)	$500,000	$382,914	$500,000	$382,914					$882,914	
9	Piney Mountain Tank Rehabilitation	$500,000		$500,000						$500,000	$51,185
10	Avon to Pantops Water Main	$13,200,000	($11,100,000)	$1,375,000					$725,000	$2,100,000	$126,861
11	Water Demand Projection and Safe Yield Study	$100,000	$54,000	$154,000						$154,000	
12	South Fork Rivanna River Crossing and North Rivanna Transmission Main	$5,340,000				$843,000	$3,930,000	$567,000		$5,340,000	
13	Rt. 29 Pump Station	$2,300,000			$201,000	$1,824,000	$275,000			$2,300,000	

CIP Financial Summary
(Continued)

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
14	Finished Water System Master Plan	$150,000	$103,000	$253,000						$253,000	
15	South Rivanna Hydropower Plant Decommissioning	$400,000	$325,000	$400,000	$325,000					$725,000	$98,625
16	South Rivanna Water Treatment Plan Improvements	$7,500,000	$7,500,000	$181,891	$7,864,524	$6,953,585				$15,000,000	$46,891
17	South Rivanna Dam - Gate Repair		$900,000		$900,000					$900,000	
18	North Rivanna Water Treatment Plant - Upgrade		$2,325,000		$385,000	$940,000	$1,000,000			$2,325,000	
19	Beaver Creek Dam Alteration	$8,830,000	($3,932,000)	$192,871	$516,129	$561,000	$668,000	$660,000	$2,300,000	$4,898,000	$191,871
20	New Raw Water PS & Intake, Oxygenation (BCR)	$6,100,000	($1,962,000)	$160,000	$138,000	$300,000	$275,000	$175,000	$3,090,000	$4,138,000	
21	Buck's Elbow & Crozet Waterball Tank Painting	$1,200,000	($1,013,000)	$60,000	$127,000					$187,000	
22	Crozet Water Treatment Plant Expansion	$6,900,000	$1,600,000	$3,808,819	$4,235,181	$456,000				$8,500,000	$510,377
23	Scottsville Water Finished Water Flow Meter		$145,000	$145,000						$145,000	
24	Scottsville Water LT2 Improvements		$100,000		$100,000					$100,000	
25	Upper Schenks Branch Interceptor	$4,485,000	($500,000)	$20,000	$100,000	$3,315,000	$550,000			$3,985,000	$11,187
26	Interceptor Sewer and Manhole Repair	$1,941,000	($852,670)	$1,088,330						$1,088,330	$176,434

CIP Financial Summary
(Continued)

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
27	Crozet Interceptor	$625,000		$394,615		$230,385				$625,000	$181,725
28	Crozet Flow Equalization Tank	$3,300,000	$1,560,000	$1,300,000	$3,560,000					$4,860,000	$80,092
29	Crozet Pump Station 1, 2, 3 Rehabilitation	$525,000	$20,000	$275,000	$20,000			$250,000		$545,000	
30	Maury Hill Branch Sewer Replacement	$285,000	($285,000)								
31	Alb. Berley PS - Basin Demolition		$200,000			$165,000	$35,000			$200,000	
32	Odor Control Phase 2	$2,216,632		$2,216,632						$2,216,632	$65,743
33	Engineering and Administration Building	$3,000,000	($3,000,000)								
34	Digester Sludge Storage Improvements	$265,000	$48,000	$265,000		$48,000				$313,000	
35	Aluminum Slide Gate Replacements	$470,000		$470,000						$470,000	
36	Moores Creek AWRRF Master Plan	$100,000	$150,000		$50,000	$200,000				$250,000	
37	Mechanical Thickener	$1,200,000	($1,200,000)								
38	Compost Shed Roof Rehabiliation		$200,000			$200,000				$200,000	
39	Grinder and Air Control Improvements	$100,000	$110,000		$65,000	$145,000				$210,000	

CIP Financial Summary
(Continued)

		Five-Year Capital Program			Projected Future Expenses by Year						
Proj. No.	**Project Description**	**Current CIP Adopted 6/2018**	**Proposed Changes**	**Current Capital Budget**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Recommended CIP**	**Work-in-Progress (Prev. Expenses 6/30/2018)**
40	Influent Pump & VFD Addition	$61,000	$4,000			$65,000				$65,000	
41	Secondary Clarifier Coating	$50,000	$60,000	$25,000	$85,000					$110,000	
42	Radio Upgrades	$521,000	$125,000	$521,000		$125,000				$646,000	$28,337
43	Asset Management	$500,000		$300,000		$200,000				$500,000	
44	Security Enhancements	$2,400,000	($1,400,000)	$170,000	$830,000					$1,000,000	
45	IT Master Plan - Software		$450,000		$150,000	$150,000	$150,000			$450,000	
	Total	$103,465,632	($6,261,756)	$20,719,605	$22,919,748	$23,687,523	$15,308,000	$6,459,000	$8,110,000	$97,203,876	$2,847,668

Water System Summary

Urban Water System	Summary: Current CIP	Summary: Proposed Changes	Current Capital Budget	Projected Future Expenses by Year: FY20	FY21	FY22	FY23	FY24	Recommended CIP	Work-in -Progress
PROJECT COSTS										
Community Water Supply Plan	$ 8,831,000	$ 1,351,000	$ 3,240,249	$ 2,470,000	$ 594,751	$ 575,000	$ 1,307,000	$ 1,995,000	$ 10,182,000	$ 123,782
Observatory WTP/Ragged Mtn/Sugar Hollow Systems	19,570,000	1,270,000	2,703,198	415,000	6,371,802	7,850,000	3,500,000	-	20,840,000	1,154,558
Finished Water Storage/Distribution - Urban System	22,090,000	(10,560,086)	2,782,001	583,914	2,667,000	4,205,000	567,000	725,000	11,529,915	178,047
South & North Fork Rivanna WTP and Reservoir System	7,900,000	11,050,000	581,891	9,474,524	7,893,585	1,000,000	-	-	18,950,000	145,516
Total Projects Urban Water Systems	**$ 58,391,000**	**$ 3,110,914**	**$ 9,307,337**	**$ 12,943,438**	**$ 17,527,138**	**$ 13,630,000**	**$ 5,374,000**	**$ 2,720,000**	**$ 61,501,913**	**$ 1,601,901**
FUNDING SOURCES URBAN SYSTEM - TO DATE										
Work-in-Progress			$ 1,601,900	$ -	$ -	$ -	$ -	$ -	$ 1,601,900	
Debt Proceeds Available 2015B			5,294,967	8,000,000	5,225,033	-	-	-	18,520,000	
Capital Funds Available			2,410,470	-	-	-	-	-	2,410,470	
SUBTOTAL			9,307,337	8,000,000	5,225,033	-	-	-	22,532,370	
FUNDING SOURCES URBAN SYSTEM - NEEDS										
Future Cash reserve transfer to Capital Fund				$ 1,000,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 500,000	$ 6,000,000	
New Debt Needed			-	3,943,438	10,802,105	12,130,000	3,874,000	2,220,000	32,969,543	
SUBTOTAL			-	4,943,438	12,302,105	13,630,000	5,374,000	2,720,000	38,969,543	
TOTAL URBAN WATER FUNDING			**$ 9,307,337**	**$ 12,943,438**	**$ 17,527,138**	**$ 13,630,000**	**$ 5,374,000**	**$ 2,720,000**	**$ 61,501,913**	
									$61,501,913	
Estimated Bond Issues					**$14,745,500**		**$18,224,000**			

Non-Urban Water System	Summary: Current CIP	Summary: Proposed Changes	Current Capital Budget	Projected Future Expenses by Year: FY20	FY21	FY22	FY23	FY24	Recommended CIP	Work-in -Progress
PROJECT COSTS										
Crozet Water System	$ 23,030,000	$ (5,307,000)	$ 4,221,690	$ 5,016,310	$ 1,317,000	$ 943,000	$ 835,000	$ 5,390,000	$ 17,723,000	$ 702,248
Scottsville Water System	-	245,000	145,000	100,000	-	-	-	-	245,000	-
Total Rural Water Systems	**$ 23,030,000**	**$ (5,062,000)**	**$ 4,366,690**	**$ 5,116,310**	**$ 1,317,000**	**$ 943,000**	**$ 835,000**	**$ 5,390,000**	**$ 17,968,000**	**$ 702,248**
Non-URBAN FUNDING SOURCES										
Work in Progress			$ 702,248	$ -	$ -	$ -	$ -	$ -	$ 702,248	
Capital Funds Available			$ 145,000	$ 100,000					245,000	
Debt Proceeds 2018 Bond			3,519,442	5,016,310	1,317,000	943,000	734,248	-	11,530,000	
Future Cash reserve transfer to Capital Fund					-	-	-	-	-	
New Debt Needed			-	-	-	-	100,752	5,390,000	5,490,752	
TOTAL NON-URBAN WATER FUNDING			**$ 4,366,690**	**$ 5,116,310**	**$ 1,317,000**	**$ 943,000**	**$ 835,000**	**$ 5,390,000**	**$ 17,968,000**	
Estimated Bond Issues				**$ -**			**5,490,800**			

Wastewater System Summary

	Summary			Projected Future Expenses by Year						
Urban Wastewater System	**Current CIP**	**Proposed Changes**	**Current Capital Budget**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**Recommended CIP**	**Work-in -Progress**
PROJECT COSTS										
Wastewater Interceptor/Pumping Stations	$ 11,161,000	$ 142,330	$ 3,077,945	$ 3,680,000	$ 3,710,385	$ 585,000	$ 250,000	$ -	$ 11,303,330	$ 449,438
Moores Creek WWTP	7,251,632	(3,802,000)	2,951,632	50,000	448,000	-	-	-	3,449,632	65,743
Security & Asset Management										
Total Urban Wastewater Systems	**$ 18,412,632**	**$ (3,659,670)**	**$6,029,577**	**$3,730,000**	**$4,158,385**	**$585,000**	**$250,000**	**$0**	**$14,752,962**	**$515,181**
FUNDING SOURCES URBAN SYSTEM - IN PLACEA										
Work-in-Progress			$ 515,181	$ -	$ -	$ -	$ -	$ -	$ 515,181	
Debt Proceeds - 2018			1,472,396	2,980,000	851,604	-	-		5,304,000	
Capital Funds Available			4,042,000	-	-	-	-	-	4,042,000	
SUBTOTAL			6,029,577	2,980,000	851,604	-	-	-	9,861,181	
FUNDING SOURCES URBAN SYSTEM - NEEDS										
Future Cash Reserves			$ -	$ 750,000	$ 500,000	$ -	$ -	$ -	$ 1,250,000	
New Debt Needed			(0)	$0	2,806,781	585,000	250,000	-	3,641,781	
SUBTOTAL			(0)	$750,000	3,306,781	585,000	250,000	-	4,891,781	
TOTAL URBAN WASTEWATER FUNDING			**$ 6,029,577**	**$ 3,730,000**	**$ 4,158,385**	**$ 585,000**	**$ 250,000**	**$ -**	**$ 14,752,962**	
Estimated Bond Issues					**$ 2,806,800**		**$ 835,000**		**$ 3,641,800**	

	Summary			Projected Future Expenses by Year						
Non-Urban Wastewater System	**Current CIP**	**Proposed Changes**	**Current Capital Budget**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**Recommended CIP**	**Work-in -Progress**
PROJECT COSTS										
Glenmore WWTP	$ 111,000	$ 64,000	$ 25,000	$ 85,000	$ 65,000	$ -	$ -	$ -	$ 175,000	$ -
Scottsville WWTP	100,000	110,000	-	65,000	145,000	-	-	-	210,000	-
Total Rural Wastewater Systems	**$211,000**	**$174,000**	**$ 25,000**	**$ 150,000**	**$ 210,000**	**$ -**	**$ -**	**$ -**	**$ 385,000**	**$ -**
FUNDING SOURCES RURAL SYSTEM - NEEDS										
Capital Funds Available			$ 25,000	$ 45,000					70,000	
Future Cash Reserve			-	80,000	-	-			80,000	
New Debt Needed				25,000	210,000	-	-	-	235,000	
TOTAL RURAL WASTEWATER FUNDING			**$ 25,000**	**$ 150,000**	**$ 210,000**	**$ -**	**$ -**	**$ -**	**$ 385,000**	
Estimated Bond Issues			$ 235,000		$ 235,000					

All Systems Summary

	Summary			Projected Future Expenses by Year						
Shared Projects - All Rate Centers	**Current CIP**	**Proposed Changes**	**Current Capital Budget**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**Recommended CIP**	**Work-in - Progress**
PROJECT COSTS										
Asset management/Security/IT Master Plan	$ 3,421,000	$ (825,000)	$ 991,000	$ 980,000	$ 475,000	$ 150,000	$ -	$ -	$ 2,596,000	$ 123,782
Total Projects Urban Water Systems	**$ 3,421,000**	**$ (825,000)**	**$ 991,000**	**$ 980,000**	**$ 475,000**	**$ 150,000**	**$ -**	**$ -**	**$ 2,596,000**	**$ 123,782**
Completed or Closed Projects	-	-								
FUNDING SOURCES										
Work in Progress			$123,782						$ 123,782	
Possible Future Reserves			$100,000	$100,000					$200,000	
New Debt Needed			$ 767,219	$ 880,000	$ 475,000	$ 150,000	$ -	$ -	$ 2,272,219	
									-	
TOTAL URBAN WATER FUNDING			**$ 991,000**	**$ 980,000**	**$ 475,000**	**$ 150,000**	**$ -**	**$ -**	**$ 2,596,000**	
Estimated Bond Issues					**$2,272,219**					

	2020 - 2024 Proposed CIP	2019-2023 Adopted CIP	Change $
Project Cost			
Urban Water Projects	$ 61,501,900	$ 89,832,485	$ (28,330,585)
Urban Wastewater Projects	14,753,000	32,895,150	(18,142,150)
Non-Urban Projects & Shared	20,949,000	31,174,400	(10,225,400)
Total Project Cost Estimates	**$ 97,203,900**	**$ 153,902,035**	**$ (56,698,135)**
Funding in place			
Work-in-Progress (paid for)	$ 2,943,110	$ 33,967,484	(31,024,374)
Debt Proceeds Used	35,354,000	11,230,305	24,123,695
Cash-Capital Available	6,767,470	7,702,584	(935,114)
	$ 45,064,580	$ 52,900,373	$ (7,835,793)
Financing Needs			
Possible Future Reserves	$ 7,530,000	4,111,000	3,419,000
New Debt	44,609,320	96,890,662	(52,281,342)
	$ 52,139,320	$ 101,001,662	$ (48,862,342)
Total Funding	**$ 97,203,900**	**$ 153,902,035**	**$ (56,698,135)**
Percentage of funding in place	46.4%	34.4%	
Ratio of debt to expense	85.3%	92.3%	
Ratio of cash to expense	14.7%	7.7%	

Rivanna Water and Sewer Authority
CIP 2020-2024
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Detail by Major Systems	Total Proposed CIP	Urban Water Projects	Urban Wastewater Projects	Shared Projects	Water Non-Urban Projects	Wastewater Non-Urban Projects
Project Cost						
Urban Water Projects	$ 61,501,900	$ 61,501,900	$ -		$ -	$ -
Urban Wastewater Projects	14,753,000	-	14,753,000		-	-
Non-Urban Projects & Shared	20,949,000	-	-	2,596,000	17,968,000	385,000
Total Project Cost Estimates	**$ 97,203,900**	**$ 61,501,900**	**$ 14,753,000**	**$ 2,596,000**	**$ 17,968,000**	**$ 385,000**
Funding in place						
Work-in-Progress (paid for)	$ 2,943,110	$ 1,601,900	$ 515,180	$ 123,780	$ 702,250	$ -
Debt Proceeds available	35,354,000	18,520,000	5,304,000	-	11,530,000	-
Cash-Capital Available	6,767,470	2,410,470	4,042,000	-	245,000	70,000
Subtotal	$ 45,064,580	$ 22,532,370	$ 9,861,180	$ 123,780	$ 12,477,250	$ 70,000
Financing Needs						
Possible Future Reserves	$ 7,530,000	6,000,000	1,250,000	200,000	-	80,000
New Debt	44,609,320	32,969,530	3,641,820	2,272,220	5,490,750	235,000
Subtotal	$ 52,139,320	$ 38,969,530	$ 4,891,820	$ 2,472,220	$ 5,490,750	$ 315,000
Total Funding	**$ 97,203,900**	**$ 61,501,900**	**$ 14,753,000**	**$ 2,596,000**	**$ 17,968,000**	**$ 385,000**
Percentage of funding in place	46.4%	36.6%	66.8%	4.8%	69.4%	18.2%
Ratio of debt to expense	85.3%	83.7%	60.6%	87.5%	94.7%	61.0%
Ratio of cash to expense	14.7%	13.7%	35.9%	7.7%	1.4%	39.0%

	Urban Water	Urban Wastewater	Non-Urban	Shared	Total
Current Adopted CIP 2019 - 2023	$ 88,382,485	$ 30,924,151	$ 31,174,390	$ 3,421,000	$ 153,902,026
Changes:					
Completed or Closed Projects	(30,559,735)	(12,558,519)	(7,933,390)	-	(51,051,644)
Adjustments on existing Projects	(3,545,845)	(4,012,670)	(4,988,000)	(1,275,000)	(13,821,515)
New Projects	7,225,000	400,000	100,000	450,000	8,175,000
Total Changes	(26,880,580)	(16,171,189)	(12,821,390)	(825,000)	(56,698,159)
Total Proposed CIP 2020 - 2024	$ 61,501,905	$ 14,752,962	$ 18,353,000	$ 2,596,000	$ 97,203,867

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
City of Charlottesville								
Urban Water								
Operating Rate	Per 1000 gal.	1.969	2.070	2.095	2.284	2.466	2.614	2.771
	% Change		5.1%	1.2%	9.0%	8.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 160,039	$ 181,008	193,580	210,345	226,150	242,069	257,946
			13.1%	6.9%	8.7%	7.5%	7.0%	6.6%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,514,200	$ 3,587,700	$ 3,630,500	$ 3,957,245	$ 4,273,825	$ 4,530,254	$ 4,802,069
Debt Service Revenues	Annual	1,920,500	2,172,100	2,323,000	2,524,139	2,713,796	2,904,834	3,095,354
Total		**$ 5,434,700**	**$ 5,759,800**	**$ 5,953,500**	**$ 6,481,384**	**$ 6,987,620**	**$ 7,435,088**	**$ 7,897,423**
	$ Change		**$ 325,100**	**$ 193,700**	**$ 527,884**	**$ 506,237**	**$ 447,467**	**$ 462,335**
	% Change		**6.0%**	**3.4%**	**8.9%**	**7.8%**	**6.4%**	**6.2%**
Urban Wastewater								
Operating Rate	Per 1000 gal.	1.951	2.146	2.369	2.511	2.662	2.822	2.991
	% Change		10.0%	10.4%	6.0%	6.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 392,841	$ 408,260	407,588	411,140	411,960	411,060	410,190
			3.9%	-0.2%	0.9%	0.2%	-0.2%	-0.2%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,540,600	$ 3,711,300	$ 4,016,800	$ 4,257,808	$ 4,513,276	$ 4,784,073	$ 5,071,117
Debt Service Revenues	Annual	4,714,100	4,899,100	4,891,100	4,933,680	4,943,520	4,932,720	4,922,280
Total		**$ 8,254,700**	**$ 8,610,400**	**$ 8,907,900**	**$ 9,191,488**	**$ 9,456,796**	**$ 9,716,793**	**$ 9,993,397**
	$ Change		**$ 355,700**	**$ 297,500**	**$ 283,588**	**$ 265,308**	**$ 259,997**	**$ 276,604**
	% Change		**4.3%**	**3.5%**	**3.2%**	**2.9%**	**2.7%**	**2.8%**
Total all Rate Centers								
Operating Rate Revenue		**$ 7,054,800**	**$ 7,299,000**	**$ 7,647,300**	**$ 8,215,053**	**$ 8,787,101**	**$ 9,314,327**	**$ 9,873,187**
Debt Service Revenues		**6,634,600**	**7,071,200**	**7,214,100**	**7,457,819**	**7,657,316**	**7,837,554**	**8,017,634**
Total City All Revenues		**$ 13,689,400**	**$ 14,370,200**	**$ 14,861,400**	**$ 15,672,872**	**$ 16,444,417**	**$ 17,151,881**	**$ 17,890,820**
	$ Change		**$ 680,800**	**$ 491,200**	**$ 811,472**	**$ 771,545**	**$ 707,464**	**$ 738,940**
	% Change		**5.0%**	**3.4%**	**5.5%**	**4.9%**	**4.3%**	**4.3%**
Additional for 10-Year CIP					**79,300**	**292,300**	**623,200**	**981,600**
		$ 13,689,400	**$ 14,370,200**	**$ 14,861,400**	**$ 15,752,172**	**$ 16,736,717**	**$ 17,775,081**	**$ 18,872,420**
			5.0%	**3.4%**	**6.0%**	**6.3%**	**6.2%**	**6.2%**

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
ACSA Charges From RWSA								
Urban Water								
Operating Rate	Per 1000 gal.	1.969	2.07	2.095	2.284	2.466	2.614	2.771
	% Change		5.1%	1.2%	9.0%	8.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 285,439	$ 307,598	321,303	342,838	362,235	382,693	404,655
			7.8%	4.5%	6.7%	5.7%	5.6%	5.7%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,243,900	$ 3,447,000	$ 3,488,100	$ 3,802,029	$ 4,106,191	$ 4,352,563	$ 4,613,717
Debt Service Revenues	Annual	3,425,300	3,691,200	3,855,600	4,114,052	4,346,818	4,592,315	4,855,858
Total		**$ 6,669,200**	**$ 7,138,200**	**$ 7,343,700**	**$ 7,916,081**	**$ 8,453,010**	**$ 8,944,878**	**$ 9,469,575**
	$ Change		**$ 469,000**	**$ 205,500**	**$ 572,381**	**$ 536,928**	**$ 491,868**	**$ 524,697**
	% Change		**7.0%**	**2.9%**	**7.8%**	**6.8%**	**5.8%**	**5.9%**
Urban Wastewater								
Operating Rate	Per 1000 gal.	1.951	2.146	2.369	2.511	2.662	2.822	2.991
	% Change		10.0%	10.4%	6.0%	6.0%	6.0%	6.0%
Debt Service Charge	Per month	$ 222,550	$ 246,308	278,174	286,107	289,337	294,757	300,207
			10.7%	12.9%	2.9%	1.1%	1.9%	1.8%
Revenue Requirements:								
Operating Rate Revenue	Annual	$ 3,139,800	$ 3,565,800	$ 4,016,800	$ 4,257,808	$ 4,513,276	$ 4,784,073	$ 5,071,117
Debt Service Revenues	Annual	2,670,600	2,955,700	3,338,100	3,433,289	3,472,049	3,537,089	3,602,489
Total		$ 5,810,400	$ 6,521,500	$ 7,354,900	$ 7,691,097	$ 7,985,325	$ 8,321,162	$ 8,673,606
	$ Change		**$ 711,100**	**$ 833,400**	**$ 336,197**	**$ 294,228**	**$ 335,837**	**$ 352,444**
	% Change		**12.2%**	**12.8%**	**4.6%**	**3.8%**	**4.2%**	**4.2%**
Non-Urban Rate Centers								
Operating Rate Revenue	Annual	$ 1,964,600	$ 2,075,300	2,229,100	2,407,428	2,551,874	2,704,986	2,867,285
Debt Service Revenues	Annual	830,700	1,134,400	1,453,300	1,553,300	1,645,800	1,738,300	1,830,800
Total		**$ 2,795,300**	**$ 3,209,700**	**$ 3,682,400**	**$ 3,960,728**	**$ 4,197,674**	**$ 4,443,286**	**$ 4,698,085**
				$ 472,700	**$ 278,328**	**$ 236,946**	**$ 245,612**	**$ 254,799**
				14.7%	**7.6%**	**6.0%**	**5.9%**	**5.7%**
Total all Rate Centers								
Operating Rate Revenue		**$ 8,348,300**	**$ 9,088,100**	**$ 9,734,000**	**$ 10,467,265**	**$ 11,171,341**	**$ 11,841,622**	**$ 12,552,119**
Debt Service Revenues		**6,926,600**	**7,781,300**	**8,647,000**	**9,100,641**	**9,464,667**	**9,867,704**	**10,289,147**
Total ACSA All Revenues		**$ 15,274,900**	**$ 16,869,400**	**$ 18,381,000**	**$ 19,567,906**	**$ 20,636,009**	**$ 21,709,326**	**$ 22,841,267**
	$ Change		**$ 1,594,500**	**$ 1,511,600**	**$ 1,186,906**	**$ 1,068,102**	**$ 1,073,317**	**$ 1,131,940**
	% Change		**10.4%**	**9.0%**	**6.5%**	**5.5%**	**5.2%**	**5.2%**
Additional for 10-Year CIP					**209,900**	**652,600**	**1,256,700**	**1,901,200**
		$ 15,274,900	**$ 16,869,400**	**$ 18,381,000**	**$ 19,777,806**	**$ 21,288,609**	**$ 22,966,026**	**$ 24,742,467**
			10.4%	**9.0%**	**7.6%**	**7.6%**	**7.9%**	**7.7%**

Rivanna Water and Sewer Authority
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	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
RWSA							
Operations Revenues							
Urban Water	$ 6,758,100	$ 7,034,700	$ 7,118,600	$ 7,759,274	$ 8,380,016	$ 8,882,817	$ 9,415,786
Urban Wastewater	6,680,400	7,277,100	8,033,600	8,515,616	9,026,553	9,568,146	10,142,235
Other Rate Centers	1,964,600	2,075,300	2,229,100	2,407,428	2,551,874	2,704,986	2,867,285
Total	$ 15,403,100	$ 16,387,100	$ 17,381,300	$ 18,682,318	$ 19,958,443	$ 21,155,949	$ 22,425,306
Change $		984,000	994,200	1,301,018	1,276,125	1,197,507	1,269,357
Change %		6.4%	6.1%	7.5%	6.8%	6.0%	6.0%
Debt Service Charge Revenues							
Urban Water	5,345,800	5,863,300	6,178,600	6,638,191	7,060,614	7,497,149	7,951,212
Urban Wastewater	7,384,700	7,854,800	8,229,200	8,366,969	8,415,569	8,469,809	8,524,769
Other Rate Centers	830,700	1,134,400	1,453,300	1,553,300	1,645,800	1,738,300	1,830,800
	$ 13,561,200	$ 14,852,500	$ 15,861,100	$ 16,558,460	$ 17,121,983	$ 17,705,258	$ 18,306,781
Change $		1,291,300	1,008,600	697,360	563,523	583,275	601,523
Change %		9.5%	6.8%	4.4%	3.4%	3.4%	3.4%
Total RWSA Customer Revenues	**$ 28,964,300**	**$ 31,239,600**	**$ 33,242,400**	**$ 35,240,778**	**$ 37,080,426**	**$ 38,861,207**	**$ 40,732,087**
Change $		**$ 2,275,300**	**$ 2,002,800**	**$ 1,998,378**	**$ 1,839,648**	**$ 1,780,782**	**$ 1,870,880**
Change %		**7.9%**	**6.4%**	**6.0%**	**5.2%**	**4.8%**	**4.8%**
Additional for 10-Year CIP				**289,200**	**944,900**	**1,879,900**	**2,882,800**
	$ 28,964,300	**$ 31,239,600**	**$ 33,242,400**	**$ 35,529,978**	**$ 38,314,526**	**$ 41,975,207**	**$ 46,728,887**
		0.0%	**6.4%**	**6.9%**	**7.8%**	**9.6%**	**11.3%**

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

MEMORANDUM

TO: **RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS**

FROM: **BILL MAWYER, EXECUTIVE DIRECTOR**

SUBJECT: **INTRODUCTION OF PROPOSED BUDGET FOR FY 2019-2020**
DATE: **MARCH 26, 2019**

The proposed FY 2019-2020 Budget totaling $36,167,000 is being submitted for your consideration. The proposed budget includes $19,221,000 for Operating expenses and $16,946,000 for Debt Service charges, and represents an 8.68% increase above the current budget.

The Board will be asked at this meeting to adopt the attached Preliminary Rate Resolution which sets a public hearing on the proposed budget for Tuesday, May 28, 2019, and authorizes staff to advertise the attached Public Notice showing the proposed changes to the wholesale rates required to support the proposed budget. As required by Virginia law, staff will advertise the Public Notice twice in the local newspaper followed by a minimum 14-day period in advance of the scheduled public hearing. Adoption of the Preliminary Rate Resolution does not prejudice final Board actions on the budget, including amendments or changes to the proposed budget the Board may want to consider later. The Board's final deliberations and actions on the budget will not be requested until immediately after the public hearing, as required by the laws of the Commonwealth.

The proposed budget includes resources required to manage our infrastructure, meet debt service obligations, and comply with regulatory mandates. Wholesale water and wastewater services will be provided to the City of Charlottesville and the Albemarle County Service Authority (ACSA) in a collaborative, effective, and fiscally responsible manner. Costs to the City are proposed to increase 3.4%, and 9% to the ACSA.

Highlights of the proposed budget include:

1. An increase of $1,716,000 in operating expenses to support existing water and wastewater programs including:
    a. Granular Activated Carbon replacement for drinking water quality
    b. Biosolids Transportation and Disposal
    c. Regulatory Permits and Studies
    d. Instrumentation Maintenance and Replacements
    e. Personnel – Workforce Development
        i. Merit pool of 3%
        ii. Health insurance premium increases (2 %)
        iii. Two additional positions
            - Construction Inspector
            - Laboratory Chemist

2. An increase of $1,174,000 in Debt Service expenses to support our FY 2020-2024 CIP including:
    a. Urban Drinking Water Management
        - Renovation and capacity increase at the Observatory Water Treatment Plant
        - Renovation of our largest water treatment plant at South Rivanna
        - Replacing piping and pumping stations which convey raw water from the Ragged Mountain Reservoir to the Observatory Treatment Plant
        - Constructing a second water pipe under the S. Rivanna River to serve the north Rt. 29 area
        - Acquiring easements for a pipeline to connect the South Rivanna and Ragged Mountain Reservoirs

    b. Non-Urban Drinking Water Management
        i. Increasing drinking water treatment capacity at the Crozet plant
        ii. Modifying the Beaver Creek Dam to comply with new regulatory requirements, and replacement of the raw water pumping station.

Staff will be happy to assist the Board or public with questions regarding the proposed budget.

Board Action Requested:

It is respectfully recommended that the Board of Directors adopt the attached Preliminary Rate Resolution, which calls for a public hearing on the budget during the Board's regular meeting on May 28, 2019, and authorizes the advertising of proposed wholesale rates to the public.

Attachments

PUBLIC NOTICE

RIVANNA WATER & SEWER AUTHORITY
PUBLIC HEARING CONCERNING THE
PROPOSED RATES FOR FY 2019 - 2020, EFFECTIVE JULY 1, 2019

Public Hearing:
Rivanna Water & Sewer Authority will hold a Public Hearing on Tuesday, May 28, 2019, at 2:15 p.m. during the regular Rivanna Water & Sewer Authority Board of Directors meeting in the Rivanna Water & Sewer Authority Conference Room, Administration Building, 695 Moores Creek Lane, Charlottesville, Virginia. The public hearing is to consider the following wholesale water and wastewater rates and charges to the City of Charlottesville and the Albemarle County Service Authority. Adopted rates may or may not be what are advertised.

URBAN RATE CENTERS		FY 2019	FY 2020	$ Change	% Change
Operating Rates	($ per 1,000 Gallons)				
Operations	Water	$ 2.070	$ 2.095	$ 0.025	1.21%
Operations	Wastewater	2.146	2.369	0.223	10.39%
Debt Service Charges	($ Monthly Charge)				
Water					
Debt Service	CITY	$ 181,008	$ 193,580	$ 12,572	6.95%
Debt Service	ACSA	307,598	321,303	13,705	4.46%
Wastewater					
Debt Service	CITY	$ 408,260	$ 407,588	$ (672)	-0.16%
Debt Service	ACSA	246,308	278,174	31,866	12.94%

OTHER RATE CENTERS (Monthly)	FY 2019	FY 2020	$ Change	% Change
Crozet Water				
Operations	$ 79,782	$ 85,734	$ 5,952	7.46%
Debt Service	82,964	109,276	26,312	31.71%
Scottsville Water				
Operations	$ 36,944	$ 43,401	$ 6,457	17.48%
Debt Service	10,773	10,729	(44)	-0.41%
Water Total	$ 210,463	$ 249,140	$ 38,677	18.38%
Glenmore Wastewater				
Operations	$ 31,060	$ 30,877	$ (183)	-0.59%
Debt Service	132	315	183	138.64%
Scottsville Wastewater				
Operations	$ 25,156	$ 25,749	$ 593	2.36%
Debt Service	667	787	120	17.99%
Wastewater Total	$ 57,015	$ 57,728	$ 713	1.25%
Total Monthly Other Rate Center Charges - ACSA	**$ 267,478**	**$ 306,868**	**$ 39,390**	**14.73%**

The Rivanna Water & Sewer Authority (Rivanna) was created by the City of Charlottesville (City) and the County of Albemarle to supply and treat water for drinking and to provide wastewater treatment. The above fees represent Rivanna's fees and charges to the City and the Albemarle County Service Authority (ACSA) for these services and are not the same as the City and ACSA charges to individual residents and businesses. Debt Service covers capital related project costs and are different for the City and ACSA reflecting terms of contractual agreements.

The City and the ACSA distribute drinking water and collect wastewater from individual residents and businesses and charge retail rates that combine charges from the above schedule to reflect their service costs, including Rivanna's costs.

Information about the proposed budget may be obtained on the Rivanna website at rivanna.org. Please call 977-2970 ext. 0 or send e-mail to info@rivanna.org with any questions you may have.

RIVANNA WATER & SEWER AUTHORITY
695 Moores Creek Lane | Charlottesville, Virginia 22902-9016
434.977.2970
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RESOLUTION

PRELIMINARY RATE SCHEDULE

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated rate changes for Fiscal Year 2019-2020; and

WHEREAS, Section 15.2-5136 (G) of the Code of Virginia requires the adoption of the preliminary rate schedule for notification of a public hearing prior to fixing rates for water and sewer charges; of which there is at least a 14 day requirement between the date of the last of two public notices and the actual date fixed for the public hearing;

NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water and Sewer Authority hereby approves the preliminary rate schedule for purposes of notification of a public hearing to be held on May 28, 2019 at 2:15 p.m. during the regularly scheduled Board of Directors meeting.

Water Rates & Charges				**Wastewater Rates & Charges**			
Urban Area				**Urban Area**			
City & ACSA	Operating	$2.095	Per 1,000 gallons	City & ACSA	Operating	$2.369	Per 1,000 gallons
City	Debt Service	$193,580	Per month	City	Debt Service	$407,588	Per month
ACSA	Debt Service	$321,303	Per month	ACSA	Debt Service	$278,174	Per month
Crozet Water				**Glenmore Wastewater**			
ACSA	Operating & Debt Service	$195,010	Per month	ACSA	Operating & Debt Service	$31,192	Per Month
Scottsville Water				**Scottsville Wastewater**			
ACSA	Operating & Debt Service	$54,130	Per month	ACSA	Operating & Debt Service	$26,536	Per month

Proposed Budget Fiscal Year 2019-2020

PRESENTED BY:

BILL MAWYER, EXECUTIVE DIRECTOR

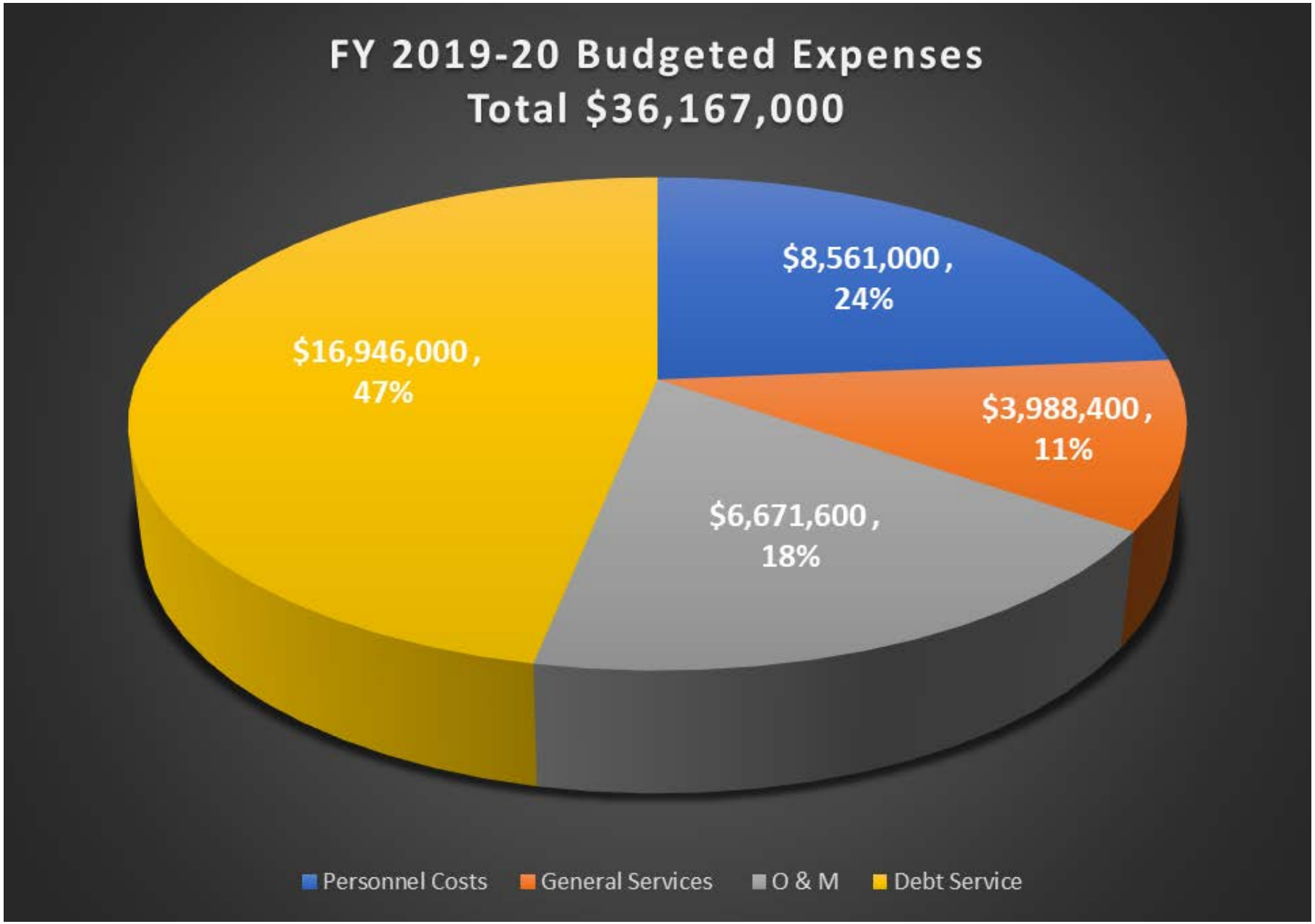
MARCH 26, 2019

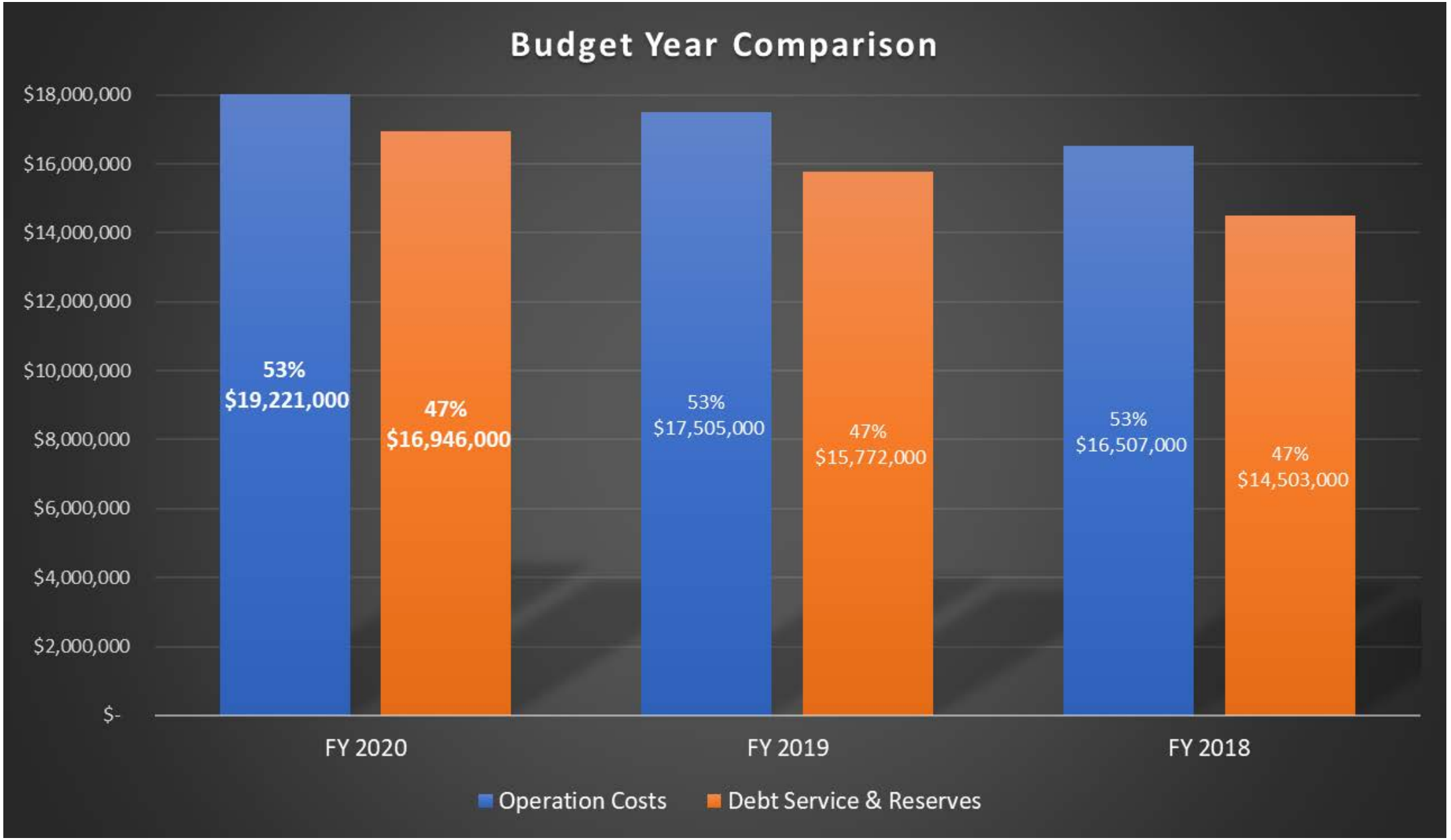
RIVANNA WATER & SEWER AUTHORITY

Proposed FY 2019 – 2020 Budget Summary

- $36,167,000 — $2.9 m increase, 8.7%
  - Operating — $1.7 m increase
  - Debt Service — $1.2 m increase
- City — $491,200 increase, 3.4%
- ACSA — $1,511,600 increase, 9.0%

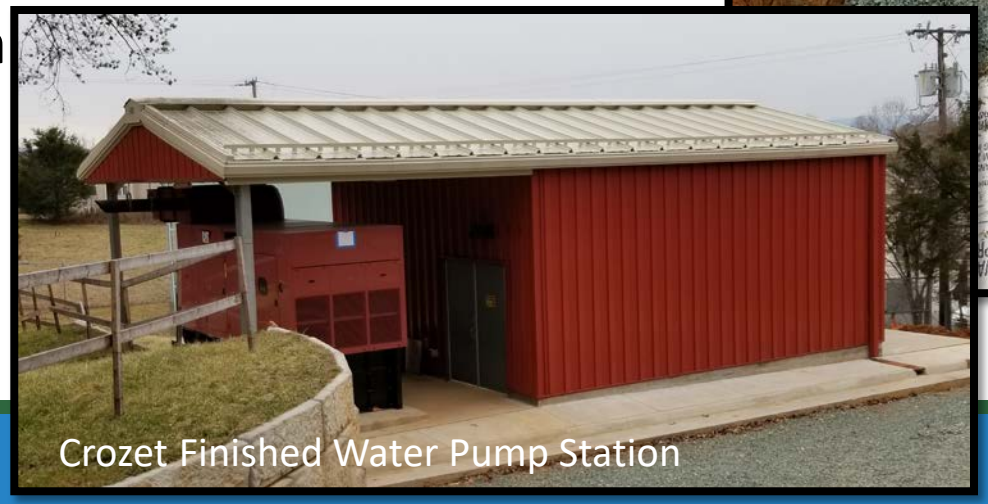
Note: Using $667,000k from Reserves for Operating Expenses


FY 2019-20 Budgeted Expenses
Total $36,167,000
$8,561,000, 24%
$3,988,400, 11%
$6,671,600, 18%
$16,946,000, 47%
Personnel Costs
General Services
O & M
Debt Service


Budget Year Comparison
$18,000,000
$16,000,000
$14,000,000
$12,000,000
$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$-
53%
$19,221,000
47%
$16,946,000
53%
$17,505,000
47%
$15,772,000
53%
$16,507,000
47%
$14,503,000
FY 2020
FY 2019
FY 2018
Operation Costs
Debt Service & Reserves

Major Accomplishments in FY 2019

- Accelerated the design, bidding, and easement acquisition phases to start construction of the Birdwood Water Line
- Instrumentation maintenance and calibration program
- Supported the VDH in preparing guidelines to manage harmful algal blooms
- Rt. 29 Water Pump Station Site Acquisition
- Bathymetric Studies of the SRR and RMR
- Crozet Finished Water Pumping Station
- Crozet Drinking Water Master Plan
- Recruitment for 19 vacancies


Crozet Finished Water Pump Station

Capital Assets: $275 million

- 5 Water Supply Reservoirs: 3.4 billion gallons
- 6 Water Treatment Plants
  - 3 Urban Area: 18 MGD
  - 3 Non-Urban Area: (added Red Hill) 1.25 MGD
- 4 Wastewater Treatment Plants
  - 1 Urban Area: 15 MGD
  - 3 Non-Urban Area: 0.588 MGD
- 8 Wastewater Pump Stations
- 11 Water Pump Stations
  - 7 Raw Water
  - 4 Finished Water
- Water Distribution Pipe: 67 miles
- Wastewater Collection Pipe: 42 miles
- Stormwater Impoundment: Lickinghole Creek Basin

FY 2020 Operating Budget Drivers

- Replacement of GAC Media
- Professional Services for Permits and Studies
  - Risk & Resiliency Assessment (EPA)
  - Dam Inspections (VDCR)
  - Water Withdrawal (VDEQ)
  - Wastewater Allocation Update (RWSA Agreement)
- Personnel Costs: Merit, Health Insurance, 2 Add'l Positions
- Biosolids Disposal
- Maintenance of Instruments and Meters
- Allocation of Wastewater Costs

GAC

Operating Increase: $1.7 m

Urban Water

- Chemicals: $1.1 m
  - GAC $0.9 m

Personnel

- Merit 3% $164 k
- Additional Positions $154 k
  - Construction Inspector
  - Laboratory Chemist
- Health Care Premiums $29 k

Urban Wastewater

- Biosolids Disposal $128 k
- Rivanna SPS Utilities & Maintenance $68 k

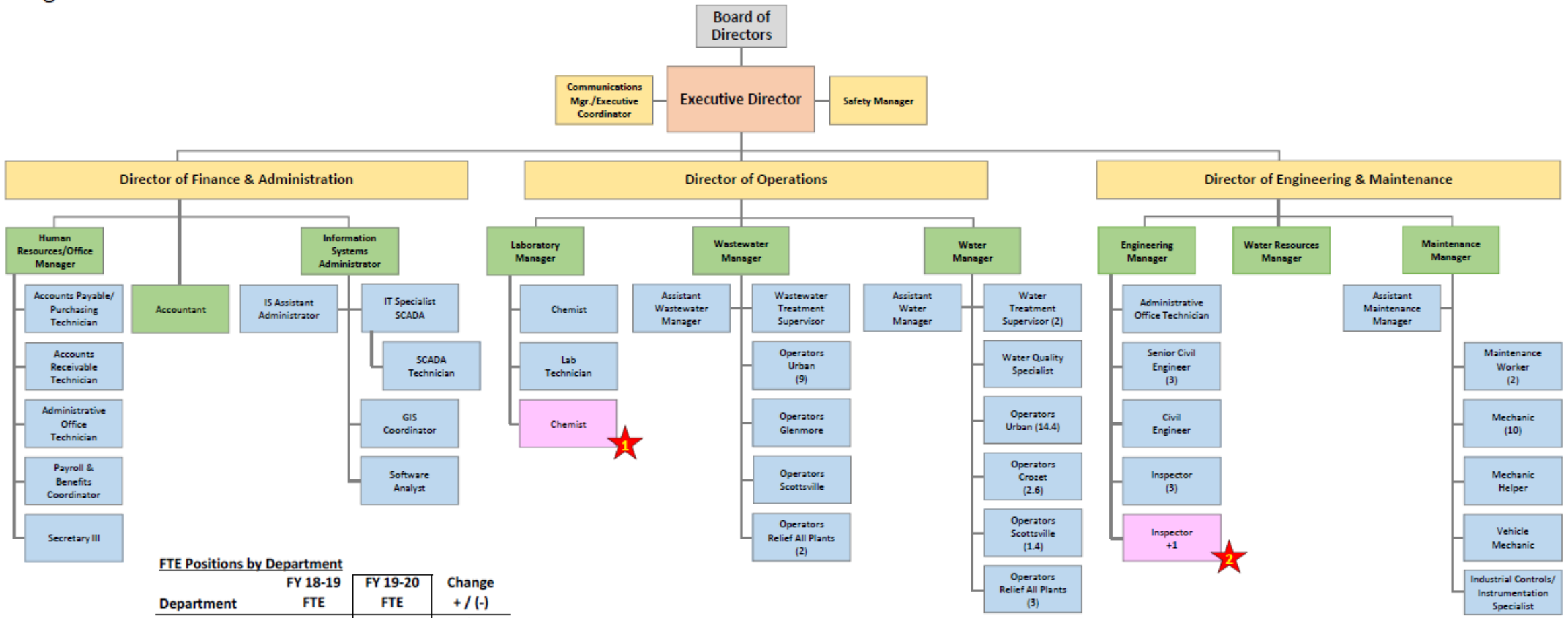
Instrumentation $144 k

Rivanna Water & Sewer Authority

Organizational Chart

FY 2019-2020 Proposed Budget

Revision No. 1



FTE Positions by Department

Department	FY 18-19 FTE	FY 19-20 FTE	Change + / (-)
Administration	11	11	*No Change*
IT/SCADA	6	6	*No Change*
Engineering	11	12	1
Maintenance	17	17	*No Change*
Operations	1	1	*No Change*
Laboratory	3	4	1
Wastewater	16	16	*No Change*
Water	26.4	26.4	*No Change*
Total	**91.4**	**93.4**	

★ **FY 2019-2020 Proposed FTE Changes**

1. *Increase number of Chemists from 1 to 2 FTE.*
2. *Increase number of Inspectors from 3 to 4 FTE.*

One employee per position unless otherwise noted in parenthesis ( )

Debt Service Increase: $1.2 M

- Urban Water
  - Birdwood WL
  - Observatory WTP Upgrade
  - South Rivanna WTP Renovation
  - RMR – OWTP Pipe and Pump Station Replacements
- Crozet Water
  - Water Treatment Plant Upgrade
  - Beaver Creek Dam & Pump Station Modifications
- Urban Wastewater
  - Crozet Flow Equalization Tank

Crozet WTP

Proposed FY 2020 Budget

	FY 2020	FY 2019	Increase	%
Total Budget	**$36,167,000**	**$33,277,000**	**$2,890,000**	**8.68%**
Operating	$19,221,000	$17,505,000	$1,716,000	9.80%
Debt Service	$16,964,000	$15,722,000	$1,174,000	7.44%
Total	**$36,167,000**	**$33,277,000**		
Water	$17,915,000	$16,095,500	$1,819,500	10.16%
Wastewater	$18,252,000	$17,181,000	$1,071,000	5.87%
Total	**$36,167,000**	**$33,277,000**		

Proposed FY 2020 Urban Rates & Charges

		FY 2020	FY 2019	Increase	%
Urban Operating Rates per 1,000 gallons:					
Water		$2.095	$2.070	$0.025	1.21%
Wastewater		$2.369	$2.146	$0.223	10.39%
Urban Debt Service Charges per Month:					
City					
Water		$193,580	$181,008	$12,572	6.95%
Wastewater		$407,588	$408,260	($672)	(0.16%)
	Total City	**$601,168**	**$589,268**	**$11,900**	**1.98%**
ACSA					
Water		$321,303	$307,598	$13,705	4.46%
Wastewater		$278,174	$246,308	$31,866	12.94%
	Total ACSA	**$599,477**	**$553,906**	**$45,571**	**7.60%**

Questions?

Adoption of Preliminary Rate Resolution

RESOLUTION

PRELIMINARY RATE SCHEDULE

WHEREAS, the Rivanna Water and Sewer Authority Board of Directors has reviewed the proposed budget and associated rate changes for Fiscal Year 2020; and

WHEREAS, Section 15.2-5136 (G) of the Code of Virginia requires the adoption of the preliminary rate schedule for notification of a public hearing prior to fixing rates for water and sewer charges; of which there is at least a 14 day requirement between the date of the last of two public notices and the actual date fixed for the public hearing;

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Crozet Water				**Glenmore Wastewater**			
ACSA	Operating & Debt Service	$195,010	Per month	ACSA	Operating & Debt Service	$31,192	Per Month
Scottsville Water				**Scottsville Wastewater**			
ACSA	Operating & Debt Service	$54,130	Per month	ACSA	Operating & Debt Service	$26,536	Per month

Fiscal Year 2019-2020

Budget Proposal

RIVANNA

WATER & SEWER AUTHORITY

Board of Directors

March 26, 2019

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RIVANNA WATER & SEWER AUTHORITY
FY 2020 Proposed Budget

Prepared: March 19, 2019
Adopted: DRAFT 8

Table of Contents

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Budget Highlights

- Executive Summary Narrative
Pages i - x

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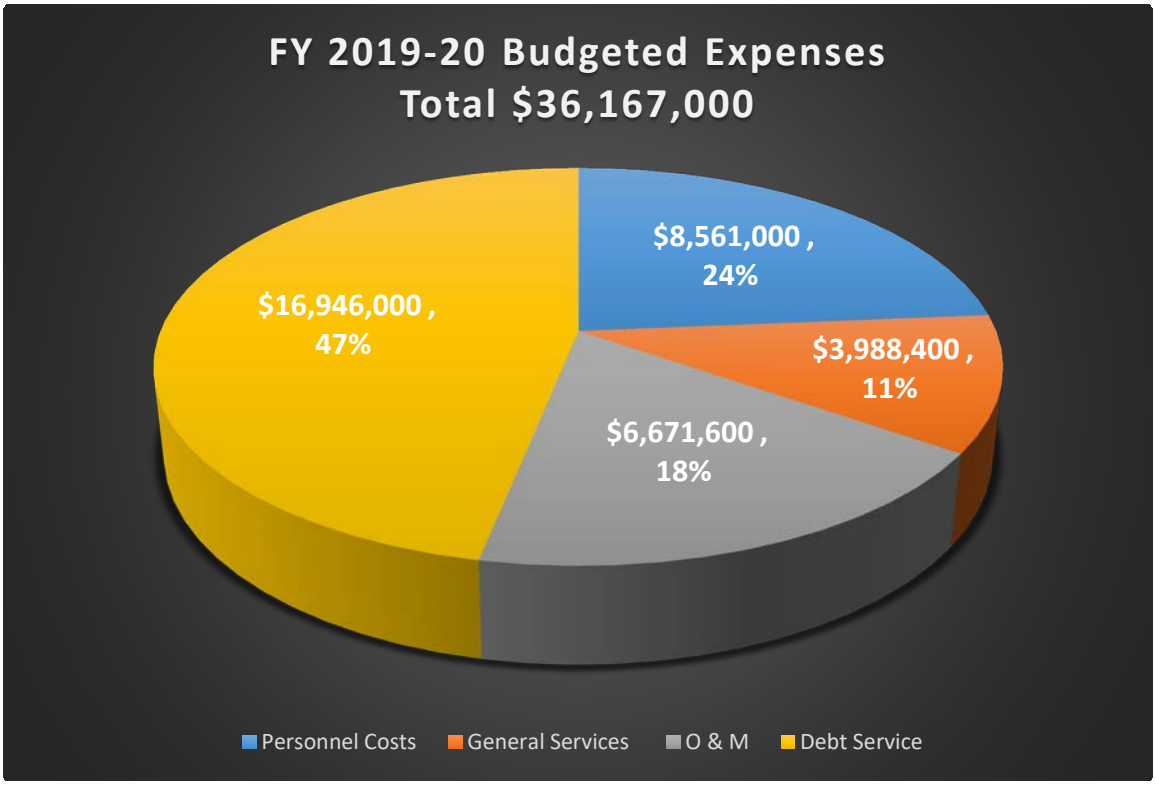
Rivanna Water and Sewer Authority
Proposed
FY 2019-2020 Budget

Budget Overview

The Rivanna Water and Sewer Authority provides wholesale drinking water and wastewater treatment services for the City of Charlottesville and the Albemarle County Service Authority (ACSA). An FY 2019-2020 budget of $36,167,000 is proposed to strategically provide these water and wastewater services in a financially responsible manner for our customers and the community. The FY 2019-2020 budget proposes an increase of $1.72 million in Operating expenses and an increase of $1.17 million in Debt Service charges for a total budget increase of $2.89 million, or 8.68% above the FY 2018-2019 budget. Annual charges for the City are proposed to increase 3.4% ($491,200), and 9% ($1,511,600) for the ACSA.

The proposed budget includes $19,221,000 for Operating expenses and $16,946,000 for Debt Service charges. Operating expenses include Personnel costs (staff salaries and benefits), General Services costs (professional fees, utilities, insurance, permits, and data and voice communications), and Operation and Maintenance costs (chemicals, building repairs, equipment maintenance, and technology). Debt Service charges represent 47% of our budget, and provide funding to construct and renew our major infrastructure including water and wastewater treatment plants, pumping stations, piping systems and reservoir facilities.



In the Urban Rate Centers, Operating rates are proposed to increase:

- $0.025 per 1000 gallons (1.2%) for water
- $0.223 per 1000 gallons (10.39%) for wastewater

Debt Service charges for the City are proposed to:

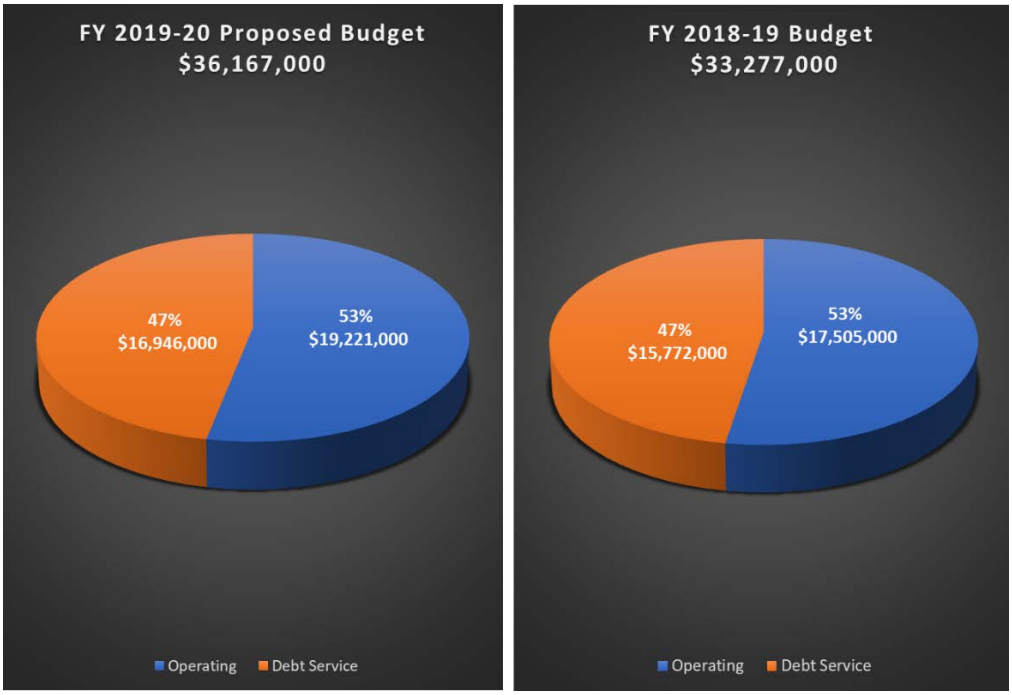
- Increase 6.95 % for water
- Decrease 0.16 % for wastewater

Rivanna Water and Sewer Authority
Proposed
FY 2019-2020 Budget

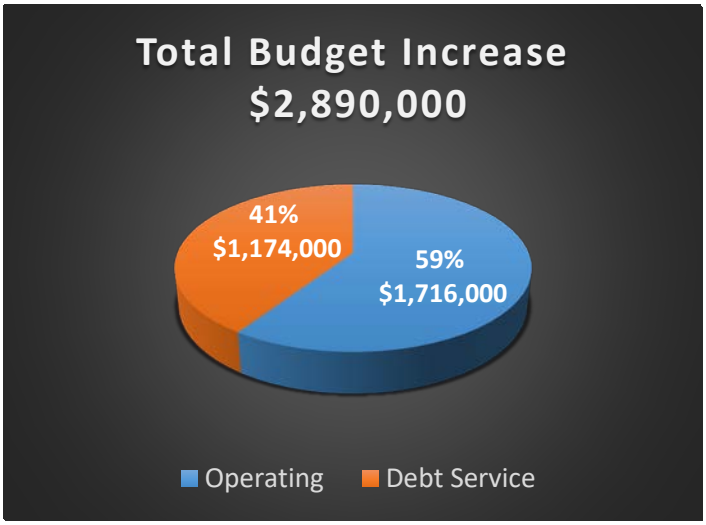
Debt Service charges for the ACSA are proposed to increase:

- 4.46 % for water
- 12.94 % for wastewater
- 14.73% as a composite Operating and Debt Service increase for water and wastewater services in the Non-Urban Rate Centers.

Overall, annual charges for the City are proposed to increase 3.4% ($491,200), and 9 % ($1,511,600) for the ACSA. A comparison of the FY 2019-2020 budget with the FY 2018-2019 budget is shown below:



The FY 2019-2020 budget proposes an increase of $1.72 million in Operating expenses and an increase of $1.17 million in Debt Service charges for a total budget increase of $2.89 million, or 8.68% above the FY 2018-2019 budget, as shown below:



Rivanna Water and Sewer Authority
Proposed
FY 2019-2020 Budget

Proposed budget increases will support existing and planned water and wastewater programs to effectively address the regulatory and service requirements of our growing community. A brief description of those programs follows:

1. **Strategic Plan Implementation**

   This budget supports the implementation of our six Strategic Goals. It continues our efforts to attract, retain and reward exceptional employees, while providing essential enhancements to our safety program. Operational optimization and dependable infrastructure are also fundamental aspects of this budget.

2. **Granular Activated Carbon (GAC) Filter Operations**

   Our recently completed GAC systems have been doing a great job removing organic material from the water to prevent formation of undesirable disinfection byproducts at five of our drinking water treatment plants. We will continue to monitor the service life of the GAC material under differing raw water conditions and operating procedures to optimize the treatment process.

   In addition, recent EPA investigations of emerging manmade contaminants called per- and polyfluoroalkyl substances (PFAS), indicate GAC filters remove these contaminants. We recently tested raw water from our reservoirs and did not find any PFAS. However, we will continue to consider PFAS reduction in our service life optimization assessment for the GAC media.

3. **Urban Drinking Water Management**

   Water supply, reliability and resiliency will be improved by:

   - Renovating and increasing drinking water treatment capacity at the Observatory plant
   - Renovating our largest drinking water treatment plant at South Rivanna
   - Acquiring easements for a pipeline to connect the South Rivanna and Ragged Mountain Reservoirs, and completing a one-mile long section of this pipeline on the Birdwood property
   - Updating our Risk and Resilience Assessment, and our Emergency Response Plan, as required by the federal America's Water Infrastructure Act of 2018

4. **Non-Urban Drinking Water Management**

   Water supply, reliability and resiliency will be improved by:

   - Renovating and increasing drinking water treatment capacity at the Crozet plant
   - Modifying the Beaver Creek Dam to comply with new regulatory requirements, and replacing the raw water pumping station
   - Updating our Risk and Resilience Assessment, and our Emergency Response Plan, as required by the federal America's Water Infrastructure Act of 2018

5. Urban Wastewater Management

Our recently completed Odor Control systems have been doing an effective job reducing odors at the Moores Creek wastewater treatment facility, as well as in the wastewater piping and pumping stations serving the Crozet area. The new Rivanna Sewer Pumping Station and tunnel have helped to essentially eliminate sanitary sewer overflows from our system, despite the record amount of rainfall in 2018.

6. Instrumentation Systems

Use of complex instrumentation systems continues to grow as we leverage technology to achieve operational efficiencies. Additional support is programmed to calibrate and maintain new wholesale meters and their data transmission system, calibrate water treatment plant meters, and replace existing wastewater meters.

7. Personnel

a. Merit Pool

A 3% merit pool for our employees has been included in the budget to remain competitive in the utility workforce marketplace.

b. Health Insurance

Based on recommendations from our insurance consultant, a 2% increase in health insurance premiums has been included.

c. Additional Positions, in Priority Order:

1. Construction Inspector – Major construction projects are scheduled to begin in late 2019 to renovate the Observatory and South Rivanna Water Treatment Plants. An additional Inspector is needed to support those projects, as well as other projects in our CIP, and in a more cost-effective manner than through the use of inspection services provided by engineering consultants.

2. Laboratory Chemist – An additional chemist is needed in our laboratory to complete the increasing number of analyses required annually. Testing for total organic carbon levels in our new GAC filters (over 550 samples/month), as well as for urban water quality, and reservoir raw water sampling programs have significantly increased the workload for our laboratory staff. This additional position will support the increasing analytical loads that the Laboratory is experiencing as a result of increased regulatory and process operation requirements.

Rivanna Water and Sewer Authority
Proposed
FY 2019-2020 Budget

Actual Water and Wastewater Flows

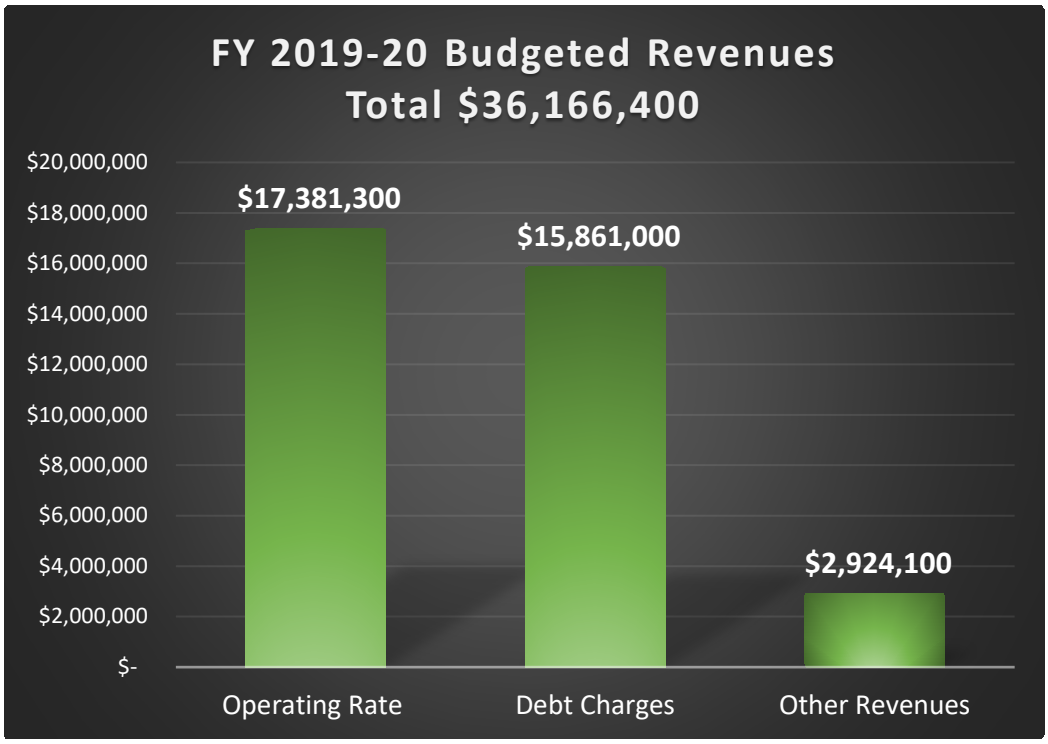
Actual water and wastewater retail flows reported by the City and ACSA are used to allocate the Urban Area operating rates and charges. Based on FY 2018 actual retail flow data, the allocation for Urban Wastewater flow shifted one percent ($101,000 = $73,000 Operations + $28,000 Debt Service) between the two customers, while the allocation for Urban Water was unchanged.

Allocation of flows (based on retail flows):

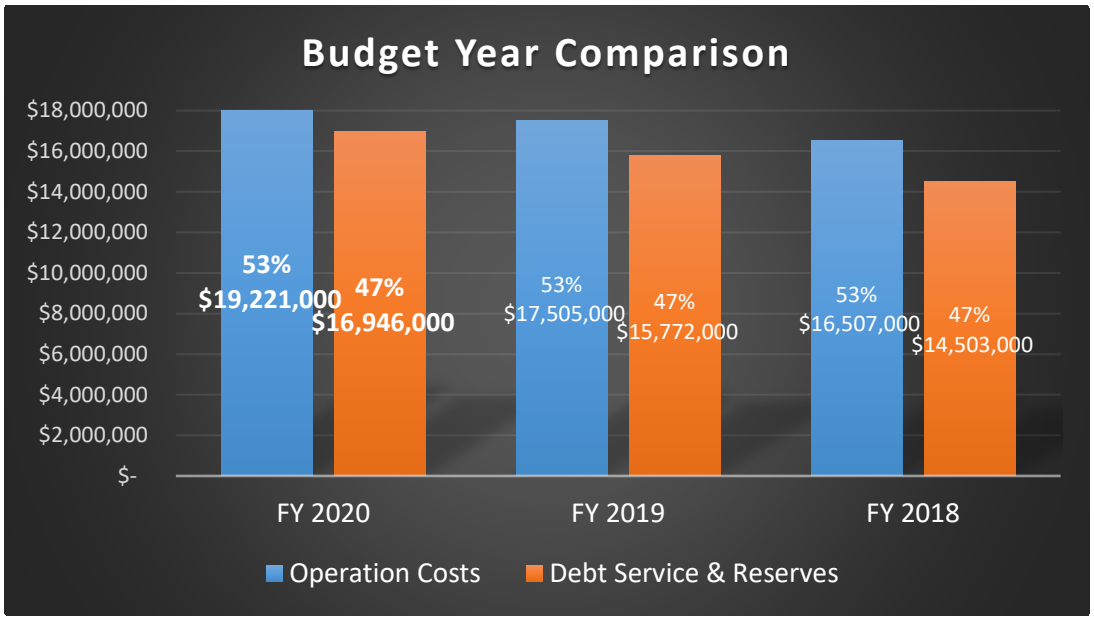
	FY 2020	FY 2019
City Wastewater	50%	51%
ACSA Wastewater	50%	49%
City Water	51%	51%
ACSA Water	49%	49%

Revenues & Expenses

Revenues for FY 2020 are driven by Operating Rate revenues of $17,381,300, Debt Service charges of $15,861,000, and other non-customer revenues of $2,924,100, as shown below:

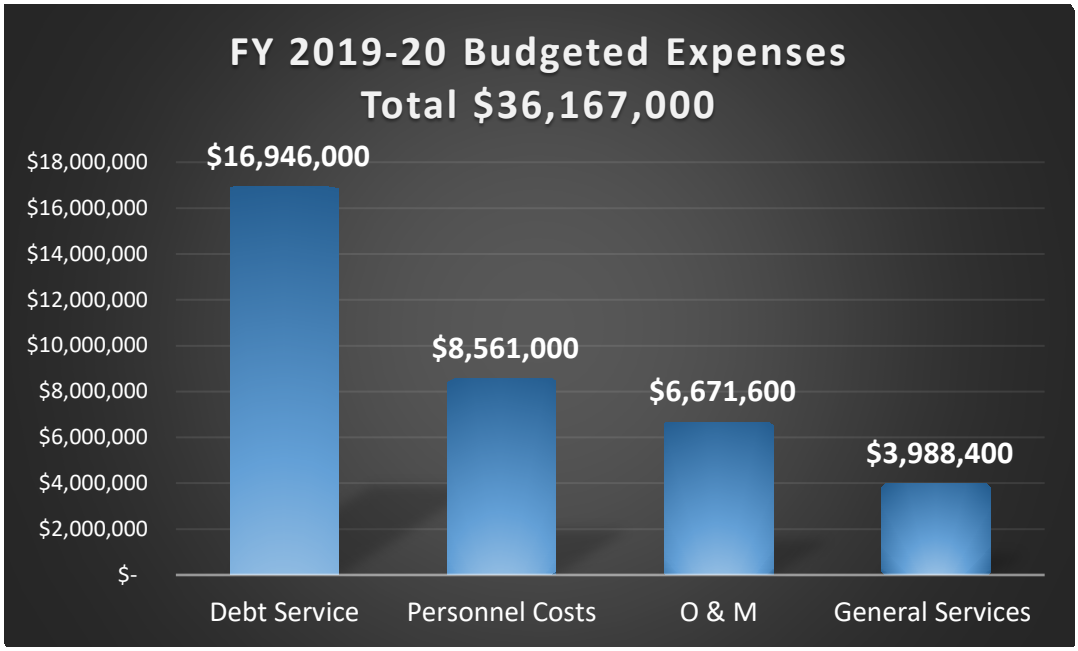


The Authority's overall ratio of Operating expenses and Debt Service costs are similar to the last several years, with Operating expenses representing roughly 53% of the total budget and Debt Service costs being 47% of the total, as shown below:



Expenses are largely driven by four major categories. Debt Service costs related to capital expenses are $16,946,000. These expenses are estimated to increase $1,174,000 over the current year to support recent and future major projects including the Birdwood Water Line, Water Treatment Plant Upgrades, Beaver Creek Dam and Pump Station Modifications, and Crozet Wastewater Equalization Tank.

Personnel and Benefit costs are the second largest expense with $8,561,000 in estimated costs. Costs for Operations and Maintenance, which includes chemicals, building repairs, equipment maintenance, IT/SCADA, supplies and materials will total approximately $6,671,600. General Service costs, which includes professional fees, utilities, insurance, permits, and data and voice communications, are anticipated to cost $3,988,400, as shown below:



Rivanna Water and Sewer Authority
Proposed
FY 2019-2020 Budget

A summary of the major cost changes compared to last year follows, and a detailed line-by-line comparison is provided in **Appendix 8** for the Authority as a whole.

	Line Item	Notable Items	Budget Change over Prior year
Personnel cost in general			
• Merit of 3.0%	11000	$ 163,900	
• Personnel/Position changes:			
2 new positions (Lab Chemist, Engineering Tech/Inspector)	11000	110,000	
Benefit costs related to personnel changes	11XXX	44,340	
• Overtime & Holiday pay increase	11010	38,000	
• Health Care Benefit premium renewal 2% increase	12020	28,800	
• All other Personnel related changes		(63,740)	
Total change in personnel and benefit costs			**$ 321,300**
General overall changes			
• Professional Services	21100		
Urban Water - Risk/Resiliency assessment		$ 50,000	
Urban Water - Withdrawal permit		50,000	
Urban Water - Operating assistance		40,000	
Urban Water - Lickinghole Creek bathymetric		21,000	
Urban Water - Dam and tank inspections		22,200	
Urban Wastewater - Compost shed/digester eval. & repairs		40,000	
Urban Wastewater - Operational Assistance		35,000	
Urban Wastewater - WW Agreement 5 year metering event		100,000	
Administration - Engineer trustee report (every 3 years)		45,000	
Administration - professional service IT master plan implement		55,000	
All other changes - all rate centers & departments		53,850	
Total Request		512,050	
FY 2019 Budget		(544,250)	
		$ (32,200)	$ (32,200)
• General Other Services - Urban Wastewater	21420		
Biosolids cost increases			$ 128,000
• Utilities - Urban Wastewater	21400		$ 68,000
• Chemical Costs	41450		
Urban Water - GAC material replacement		$ 795,000	
Urban Wastewater - General increases based on trends		168,050	
Non-Urban - GAC material replacement		113,280	
All other changes		42,960	
			$ 1,119,290
• Instrumentation - all rate centers (contracts begin) (Wholesale metering, calibrations, WW flow meter replacements)	41600		$ 143,980
• Safety Programs	21253		$ 64,000
• All other changes			$ (97,370)
FY 2020 Total increases in estimated expenses			**$ 1,715,000**

Debt Service & Capital

Debt service needs for the Capital Improvement Plan (CIP) are included in the budget request for the coming year. The overall FY 20-24 CIP totals $97.2 million, a decrease of $56.6 million as compared to the FY 19-23 CIP. There were $51 million in completed and removed projects, a $13.8 million reduction in existing projects, and a $8.2 million increase in new and expanded projects. A more detailed look at the new and adjusted costs can be found in the proposed FY 2020 – FY 2024 CIP, which is a separate document and can be reviewed at http://www.rivanna.org/financials-and-procurement/.

The table below shows the changes in estimated project costs reflected in the CIP:

Project Cost	2019-2023 Adopted CIP	Projects Completed	New or Additional Project Costs	2020-2024 Proposed CIP	Change $	Change %
Urban Water Projects	$88,382,485	$(30,559,700)	$3,679,155	$61,501,940	$(26,880,545)	-30%
Urban Wastewater Projects	30,924,151	(12,558,500)	(3,612,670)	14,752,981	(16,171,170)	-110%
Shared Projects	3,421,000	-	(825,000)	2,596,000	(825,000)	-32%
Non-Urban Projects	31,174,400	(7,933,400)	(4,888,000)	18,353,000	(12,821,400)	-70%
Total Project Cost Estimates	**$153,902,036**	**$(51,051,600)**	**$(5,646,515)**	**$97,203,921**	**$(56,698,115)**	-58%

The Authority has programmed into the FY 2020 budget charges that fund the additional debt service anticipated by the proposed CIP. Cumulatively, the Authority has built 33% of future debt service costs into the rates for all rate centers for FY 2020. This is done by using the CIP as a guide for future debt needs to include an average charge increase over that five year period. This helps to prevent the large spikes in charges for any given year in which new debt is actually issued - effectively leveling the impact on charges. For example, Urban Water current charges have nearly 31% of the needed future debt service revenues already built into the charges to cover the total needed for the next five years ($2.14 million in annual debt service is estimated to be needed in the next 5 years, and $742,300 will already be programmed into the charges). This would require the remaining $1.6 million to be included in a debt service charge increase over the next four years to fund the Water projects within the CIP.

	Next Five Years		
	Annual Estimated NEW Debt Service related to 5-year CIP New Debt	**New Debt Service Cost built into FY 2020 Rates**	**Percentage of Debt Service in proposed FY 2020 Rates**
Urban Water	$2,391,700	$742,300	31.0%
Urban Wastewater	$386,300	$230,300	59.6%
Rural Rate Centers	$456,200	$90,925	19.9%
	$3,234,200	**$1,063,525**	**32.9%**

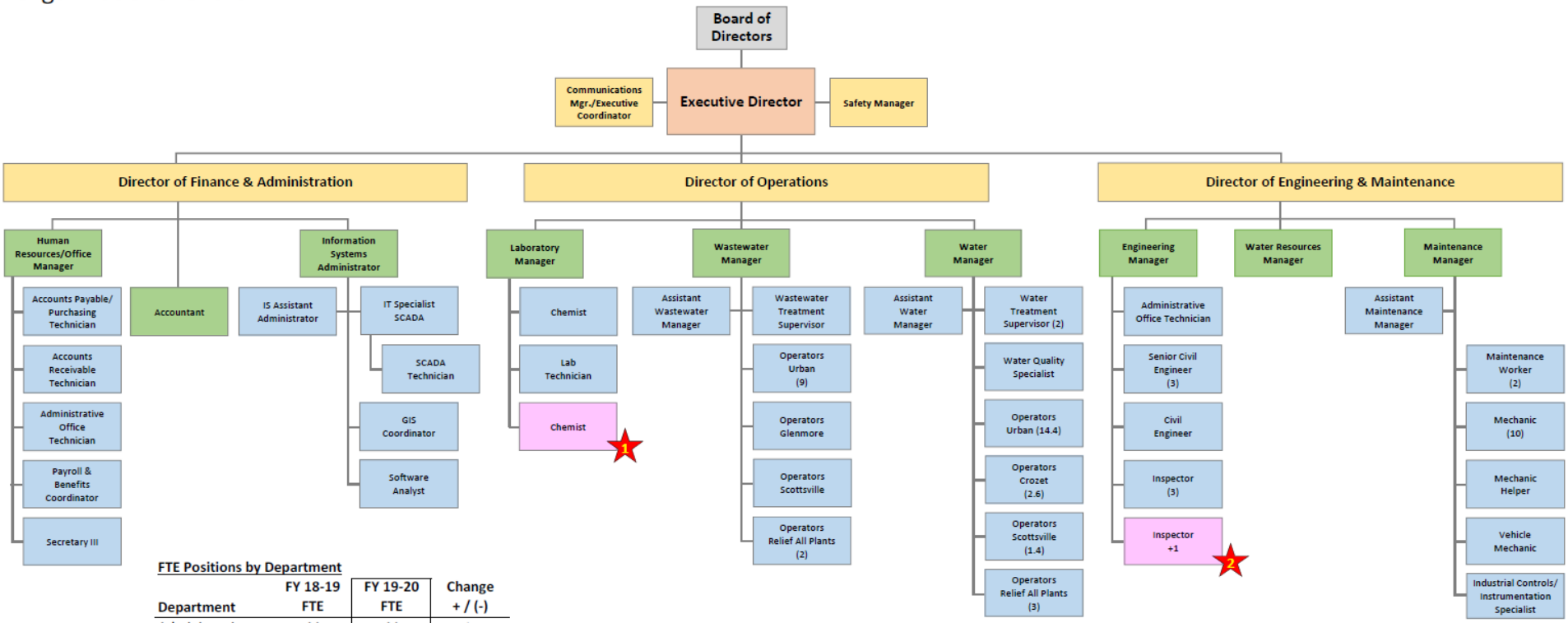
Proposed FY 2019-2020 Organization Chart

Rivanna Water & Sewer Authority

Organizational Chart

FY 2019-2020 Proposed Budget

Revision No. 1



FTE Positions by Department

Department	FY 18-19 FTE	FY 19-20 FTE	Change + / (-)
Administration	11	11	*No Change*
IT/SCADA	6	6	*No Change*
Engineering	11	12	1
Maintenance	17	17	*No Change*
Operations	1	1	*No Change*
Laboratory	3	4	1
Wastewater	16	16	*No Change*
Water	26.4	26.4	*No Change*
Total	**91.4**	**93.4**	

★ **FY 2019-2020 Proposed FTE Changes**

1. *Increase number of Chemists from 1 to 2 FTE.*
2. *Increase number of Inspectors from 3 to 4 FTE.*

One employee per position unless otherwise noted in parenthesis ( )

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Budget Details

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Departmental Summary of Revenues and Expenses

Summary of Revenues

	FY 2019	FY 2020	$ Change	% Change
Operations Revenues				
Urban Water	$ 7,117,000	$ 7,802,000	685,000	9.62%
Crozet Water	989,000	1,113,000	124,000	12.54%
Scottsville Water	444,000	537,000	93,000	20.95%
Urban Wastewater	7,818,000	8,610,000	792,000	10.13%
Glenmore Wastewater	373,000	371,000	(2,000)	-0.54%
Scottsville Wastewater	302,000	310,000	8,000	2.65%
Administration	462,000	468,000	6,000	1.30%
Maintenance	-	10,000	10,000	
Lab	-	-	-	
Engineering	-	-	-	
Total	$ 17,505,000	$ 19,221,000	$ 1,716,000	9.80%
Debt Service Revenues				
Urban Water	$ 6,185,000	$ 6,747,000	562,000	9.09%
Crozet Water	1,004,000	1,338,000	334,000	33.27%
Scottsville Water	133,000	139,000	6,000	4.51%
Urban Wastewater	8,438,000	8,702,000	264,000	3.13%
Glenmore Wastewater	3,000	7,000	4,000	133.33%
Scottsville Wastewater	9,000	13,000	4,000	44.44%
Total	$ 15,772,000	$ 16,946,000	$ 1,174,000	7.44%
Total Revenues	**$ 33,277,000**	**$ 36,167,000**	**$ 2,890,000**	**8.68%**

Summary of Expenses

	FY 2019	FY 2020	$ Change	% Change
Operations Expenses				
Urban Water	$ 4,927,000	$ 5,498,000	571,000	11.59%
Crozet Water	782,000	895,000	113,000	14.45%
Scottsville Water	314,000	400,000	86,000	27.39%
Urban Wastewater	5,177,000	5,835,000	658,000	12.71%
Glenmore Wastewater	272,000	265,000	(7,000)	-2.57%
Scottsville Wastewater	209,000	211,000	2,000	0.96%
Administration	2,433,000	2,480,000	47,000	1.93%
Maintenance	1,518,000	1,611,000	93,000	6.13%
Lab	446,000	473,000	27,000	6.05%
Engineering	1,427,000	1,553,000	126,000	8.83%
Total	$ 17,505,000	$ 19,221,000	$ 1,716,000	9.80%
Debt Service Expenses				
Urban Water	$ 6,185,000	$ 6,747,000	562,000	9.09%
Crozet Water	1,004,000	1,338,000	334,000	33.27%
Scottsville Water	133,000	139,000	6,000	4.51%
Urban Wastewater	8,438,000	8,702,000	264,000	3.13%
Glenmore Wastewater	3,000	7,000	4,000	133.33%
Scottsville Wastewater	9,000	13,000	4,000	44.44%
Total	$ 15,772,000	$ 16,946,000	$ 1,174,000	7.44%
Total Expenses	**$ 33,277,000**	**$ 36,167,000**	**$ 2,890,000**	**8.68%**
Total Budgetary Surplus/ (Deficit)	**$ -**	**$ -**	**$ -**	

These figures are rounded from the detail pages of this budget model and some immaterial differences will be present.

Summary of Itemized Rates

URBAN RATE CENTERS		FY 2019	FY 2020	$ Change	% Change
Operating Rates	($ per 1,000 Gallons)				
Operations	**Water**	$ 2.070	$ 2.095	$ 0.025	1.21%
Operations	**Wastewater**	2.146	2.369	0.223	10.39%
Debt Service Charges	($ Monthly Charge)				
Water					
Debt Service	**CITY**	$ 181,008	$ 193,580	$ 12,572	6.95%
Debt Service	**ACSA**	307,598	321,303	13,705	4.46%
Wastewater					
Debt Service	**CITY**	$ 408,260	$ 407,588	$ (672)	-0.16%
Debt Service	**ACSA**	246,308	278,174	31,866	12.94%

OTHER RATE CENTERS (Monthly)	FY 2019	FY 2020	$ Change	% Change
Crozet Water				
Operations	$ 79,782	$ 85,734	$ 5,952	7.46%
Debt Service	82,964	109,276	26,312	31.71%
Scottsville Water				
Operations	$ 36,944	$ 43,401	$ 6,457	17.48%
Debt Service	10,773	10,729	(44)	-0.41%
Water Total	$ 210,463	$ 249,140	$ 38,677	18.38%
Glenmore Wastewater				
Operations	$ 31,060	$ 30,877	$ (183)	-0.59%
Debt Service	132	315	183	138.64%
Scottsville Wastewater				
Operations	$ 25,156	$ 25,749	$ 593	2.36%
Debt Service	667	787	120	17.99%
Wastewater Total	$ 57,015	$ 57,728	$ 713	1.25%
Total Monthly Other Rate Center Charges - ACSA	**$ 267,478**	**$ 306,868**	**$ 39,390**	**14.73%**

Summary of Charges to Customers

	FY 2019	FY 2020	Change $	Change %
City Charges From RWSA				
Urban Water				
Operating Rate Charges	$ 3,587,700	$ 3,630,500	$ 42,800	1.2%
Debt Service Charges	2,172,100	2,323,000	150,900	6.9%
	$ 5,759,800	$ 5,953,500	$ 193,700	3.4%
Urban Wastewater				
Operating Rate Charges	$ 3,711,300	$ 4,016,800	$ 305,500	8.2%
Debt Service Charges	4,899,100	4,891,100	(8,000)	-0.2%
	$ 8,610,400	$ 8,907,900	$ 297,500	3.5%
Total City Charges	**$ 14,370,200**	**$ 14,861,400**	**$ 491,200**	**3.4%**
ACSA Charges From RWSA				
Urban Water				
Operating Rate Charges	$ 3,447,000	$ 3,488,100	$ 41,100	1.2%
Debt Service Charges	3,691,200	3,855,600	164,400	4.5%
	$ 7,138,200	$ 7,343,700	$ 205,500	2.9%
Urban Wastewater				
Operating Rate Charges	$ 3,565,800	$ 4,016,800	$ 451,000	12.6%
Debt Service Charges	2,955,700	3,338,100	382,400	12.9%
	$ 6,521,500	$ 7,354,900	$ 833,400	12.8%
Other Rate Centers				
Operating Charges	$ 2,075,300	$ 2,229,100	$ 153,800	7.4%
Debt Service Charges	1,134,400	1,453,300	318,900	28.1%
	$ 3,209,700	$ 3,682,400	$ 472,700	14.7%
Total ACSA Charges	**$ 16,869,400**	**$ 18,381,000**	**$ 1,511,600**	**9.0%**
RWSA Customer Revenue Charges				
Operating Rate Revenue				
Urban Water	$ 7,034,700	$ 7,118,600	$ 83,900	1.2%
Urban Wastwater	7,277,100	8,033,600	756,500	10.4%
Other Rate Centers	2,075,300	2,229,100	153,800	7.4%
	$ 16,387,100	$ 17,381,300	$ 994,200	6.1%
Debt Service Charge Revenues				
Urban Water	$ 5,863,300	$ 6,178,600	$ 315,300	5.4%
Urban Wastewater	7,854,800	8,229,200	374,400	4.8%
Other Rate Centers	1,134,400	1,453,300	318,900	28.1%
	$ 14,852,500	$ 15,861,100	$ 1,008,600	6.8%
Total RWSA Customer Revenues	**$ 31,239,600**	**$ 33,242,400**	**$ 2,002,800**	**6.4%**

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Water Rate Centers

Rivanna Water and Sewer Authority

Fiscal Year 2019-2020

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Rivanna Water & Sewer Authority
FY 2020 Proposed Budget

Urban Water Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)	9.309			9.309	0.00%
Operations Budget					
Projected Revenues					
Operations Rate	**$ 2.070**			**$ 2.095**	1.21%
Revenue	$ 7,034,788	$ 3,552,985	$ 7,105,970	$ 7,118,541	1.19%
Lease Revenues	70,000	33,776	67,552	70,000	0.00%
Use of Reserves	-	-	-	600,000	
Miscellaneous	-	1,600	31,900	-	
Interest Allocation	12,000	8,985	17,970	13,200	10.00%
Total Operations Revenues	**$ 7,116,788**	**$ 3,597,346**	**$ 7,223,392**	**$ 7,801,741**	**9.62%**
Projected Expenses					
Personnel Cost	$ 1,903,778	$ 885,359	$ 1,759,223	$ 1,861,134	-2.24%
Professional Services	329,250	256,808	513,616	207,200	-37.07%
Other Services and Charges	582,700	302,655	620,189	574,963	-1.33%
Communications	64,200	39,174	73,484	65,100	1.40%
Information Technology	65,300	18,961	52,922	77,000	17.92%
Supplies	5,000	3,413	6,826	6,100	22.00%
Operations and Maintenance	1,570,660	882,848	2,623,337	2,356,590	50.04%
Equipment Purchases	106,600	87,229	209,458	50,500	-52.63%
Depreciation & Reserves	300,000	150,000	300,000	300,000	0.00%
Subtotal Before Allocations	$ 4,927,488	$ 2,626,447	$ 6,159,055	$ 5,498,587	11.59%
Allocation of Support Departments	2,189,300	994,378	2,054,673	2,303,154	5.20%
Total Operations Expenses	**$ 7,116,788**	**$ 3,620,825**	**$ 8,213,728**	**$ 7,801,741**	**9.62%**
Operations Cost per 1,000 gallons	$2.095			$2.296	9.59%
Debt Service Budget					
Projected Revenue					
Debt Service Rates CITY	**181,008**			**193,580**	6.95%
ACSA	**307,598**			**321,303**	4.46%
Debt Service Rate Revenue - CITY	$ 2,172,094	$ 1,086,048	$ 2,172,096	$ 2,322,960	6.95%
Debt Service Rate Revenue - ACSA	3,691,177	1,845,588	3,691,176	3,855,638	4.46%
Trust Fund Interest	18,000	29,892	59,784	54,000	200.00%
Reserve Fund Interest	184,000	193,860	387,720	387,000	110.33%
Buck Mtn. Surcharge	118,600	65,600	131,200	125,900	6.16%
Lease Revenue	1,600	-	-	1,600	0.00%
Total Debt Service Revenue	**$ 6,185,471**	**$ 3,220,988**	**$ 6,441,976**	**$ 6,747,098**	**9.08%**
Principal, Interest & Reserves					
Total Principal & Interest	$ 4,190,796	2,095,398	$ 4,190,796	$ 5,223,498	24.64%
Reserve Additions - Interest	184,000	193,860	387,720	387,000	110.33%
Debt Service Ratio Charge	400,000	200,000	400,000	400,000	0.00%
Est. New Debt Service - CIP Growth	1,410,675	705,338	1,410,676	736,600	-47.78%
Total Debt Principal and Interest	**$ 6,185,471**	**$ 3,194,596**	**$ 6,389,192**	**$ 6,747,098**	**9.08%**

Rate Center Summary					
Total Revenues	$ 13,302,259	$ 6,818,334	$ 13,665,368	$ 14,548,839	9.37%
Total Expenses	13,302,259	6,815,421	14,602,920	14,548,839	9.37%
Surplus/(Deficit)	**$ -**	**$ 2,913**	**$ (937,552)**	**$ -**	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Urban Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 1,200,800	$ 554,878	$ 1,109,756	$ 1,155,180	$ (45,620)	-3.80%
11010	Overtime & Holiday Pay	120,000	82,720	165,440	135,000	15,000	12.50%
12010	FICA	101,041	47,746	95,492	98,699	(2,342)	-2.32%
12020	Health Insurance	267,140	106,727	213,454	266,894	(246)	-0.09%
12026	Employee Assistance Program	300	190	380	300	-	0.00%
12030	Retirement	115,517	44,923	89,846	111,128	(4,389)	-3.80%
12040	Life Insurance	15,730	6,921	13,842	15,133	(597)	-3.80%
12050	Fitness Program	3,750	1,837	3,674	3,700	(50)	-1.33%
12060	Worker's Comp Insurance	29,000	17,243	22,991	24,600	(4,400)	-15.17%
	Subtotal	$ 1,853,278	$ 863,185	$ 1,714,875	$ 1,810,634	$ (42,644)	-2.30%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 2,000	$ 324	$ 648	$ 2,000	$ -	0.00%
13150	Education & Training	21,700	7,698	15,396	21,700	-	0.00%
13200	Travel & Lodging	7,900	951	1,902	7,900	-	0.00%
13250	Uniforms	15,400	8,657	17,314	15,400	-	0.00%
13325	Recruiting & Medical Testing	2,000	628	1,256	2,000	-	0.00%
13350	Other	1,500	3,916	7,832	1,500	-	0.00%
	Subtotal	$ 50,500	$ 22,174	$ 44,348	$ 50,500	$ -	0.00%
	Professional Services						
20100	Legal Fees	$ 5,000	$ 23,738	$ 47,476	$ 20,000	$ 15,000	300.00%
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	324,250	233,070	466,140	187,200	(137,050)	-42.27%
	Subtotal	$ 329,250	$ 256,808	$ 513,616	$ 207,200	$ (122,050)	-37.07%
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 40,400	$ 33,699	$ 33,699	$ 40,400	$ -	0.00%
21150	Advertising & Communication	-	3,200	6,400	-	-	
21250	Watershed Management	100,000	28,687	100,000	87,000	(13,000)	-13.00%
21252	EMS Programs/Supplies	500	161	322	500	-	0.00%
21253	Safety Programs/Supplies	15,800	8,870	17,740	43,313	27,513	174.13%
21300	Authority Dues/Permits/Fees	6,000	24	6,000	6,000	-	0.00%
21350	Laboratory Analysis	55,000	29,040	58,080	57,750	2,750	5.00%
21400	Utilities	325,000	158,870	317,740	260,000	(65,000)	-20.00%
21420	General Other Services	25,000	40,104	80,208	80,000	55,000	220.00%
21430	Governance & Strategic Support	15,000	-	-	-	(15,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 582,700	$ 302,655	$ 620,189	$ 574,963	$ (7,737)	-1.33%
22000	***Communication***						
22100	Radio	$ 4,700	$ 4,864	$ 4,864	$ 4,700	$ -	0.00%
22150	Telephone & Data Service	50,000	29,260	58,520	50,000	-	0.00%
22200	Cell Phones & Pagers	9,500	5,050	10,100	10,400	900	9.47%
	Subtotal	$ 64,200	$ 39,174	$ 73,484	$ 65,100	$ 900	1.40%
31000	***Information Technology***						
31100	Computer Hardware	$ 7,800	$ 2,351	$ 4,702	$ 12,000	$ 4,200	53.85%
31150	SCADA Maint. & Support	55,000	16,610	48,220	62,000	7,000	12.73%
31200	Maintenance & Support Services	-	-	-	500	500	
31250	Software Purchases	2,500	-	-	2,500	-	0.00%
	Subtotal	$ 65,300	$ 18,961	$ 52,922	$ 77,000	$ 11,700	17.92%
33000	***Supplies***						
33100	Office Supplies	$ 3,000	$ 1,948	$ 3,896	$ 3,500	$ 500	16.67%
33150	Subscriptions/Reference Material	500	-	-	100	(400)	-80.00%
33350	Postage & Delivery	1,500	1,465	2,930	2,500	1,000	66.67%
	Subtotal	$ 5,000	$ 3,413	$ 6,826	$ 6,100	$ 1,100	22.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 116,800	$ 56,499	$ 112,998	$ 116,800	$ -	0.00%
41150	Building & Land Lease	32,500	32,313	32,313	32,500	-	0.00%
41200	Pump Station Maintenance	5,000	1,135	2,270	5,000	-	0.00%
41300	Dam Maintenance	93,000	48,376	96,752	140,490	47,490	51.06%
41350	Pipeline/Appurtenances	146,560	234,912	594,824	104,000	(42,560)	-29.04%
41400	Materials & Supplies	50,000	24,729	49,458	50,000	-	0.00%
41450	Chemicals	725,000	345,958	1,408,916	1,520,600	795,600	109.74%
41500	Vehicle Maintenance	5,000	10,445	20,890	5,000	-	0.00%
41550	Equipment Maint. & Repair	200,000	88,045	176,090	200,000	-	0.00%
41600	Instrumentation & Metering	91,800	16,023	80,000	147,200	55,400	60.35%
41650	Fuel & Lubricants	15,000	6,437	12,874	15,000	-	0.00%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Urban Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41700	General Other Maintenance	90,000	17,976	35,952	20,000	(70,000)	-77.78%
	Subtotal	$ 1,570,660	$ 882,848	$ 2,623,337	$ 2,356,590	$ 785,930	50.04%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 19,000	$ 33,619	$ 67,238	$ 19,000	$ -	0.00%
81200	Rental & Leases	2,500	1,465	37,930	2,500	-	0.00%
81250	Equipment (over $5000)	70,000	44,595	89,190	10,000	(60,000)	-85.71%
81300	Vehicle Replacement Fund	15,100	7,550	15,100	19,000	3,900	25.83%
	Subtotal	$ 106,600	$ 87,229	$ 209,458	$ 50,500	$ (56,100)	-52.63%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 867,157	$ 375,504	$ 834,082	$ 885,060	$ 17,903	2.06%
95300	Engineering Allocation	670,478	323,072	639,690	729,759	59,281	8.84%
95150	Maintenance Allocation	455,257	209,404	412,318	480,235	24,978	5.49%
95200	Laboratory Allocation	196,408	86,398	168,583	208,100	11,692	5.95%
	Subtotal	$ 2,189,300	$ 994,378	$ 2,054,673	$ 2,303,154	$ 113,854	5.20%
	Depreciation	300,000	150,000	300,000	$ 300,000	-	0.00%
	Subtotal	$ 300,000	$ 150,000	$ 300,000	$ 300,000	$ -	0.00%
	Total	**$ 7,116,788**	**$ 3,620,825**	**$ 8,213,728**	**$ 7,801,741**	**$ 684,953**	**9.62%**

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Rivanna Water & Sewer Authority
FY 2020 Proposed Budget

Crozet Water Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)	0.521			0.545	4.61%
Operations Budget					
Projected Revenues					
Operations Rate (monthly)	**$ 79,782**			**$ 85,734**	7.46%
Revenue	$ 957,384	$ 478,692	$ 957,384	$ 1,028,808	7.46%
Leases	30,000	13,861	27,722	30,000	0.00%
Use of Reserves	-	-		52,000	
Interest Allocation	1,700	1,272	2,544	1,800	5.88%
Total Operations Revenues	**$ 989,084**	**$ 493,825**	**$ 987,650**	**$ 1,112,608**	**12.49%**
Projected Expenses					
Personnel Cost	$ 288,389	$ 133,622	$ 265,553	$ 300,589	4.23%
Professional Services	30,000	1,925	23,850	12,850	-57.17%
Other Services and Charges	126,960	53,473	119,875	137,816	8.55%
Communications	4,450	2,910	5,820	4,950	11.24%
Information Technology	14,200	240	12,000	2,600	-81.69%
Supplies	620	879	1,758	1,395	125.00%
Operations and Maintenance	261,150	201,012	400,174	398,400	52.56%
Equipment Purchases	26,450	3,870	7,740	6,500	-75.43%
Depreciation	30,000	15,000	30,000	30,000	0.00%
Subtotal Before Allocations	$ 782,219	$ 412,931	$ 866,770	$ 895,100	14.43%
Allocations of Support Departments	206,862	93,916	193,698	217,512	5.15%
Total Operations Expenses	**$ 989,081**	**$ 506,847**	**$ 1,060,468**	**$ 1,112,612**	**12.49%**
Operations Cost per 1,000 gallons	$5.018			$5.593	11.46%
Debt Service Budget					
Projected Revenue					
Debt Service Rates (monthly)	**$ 82,964**			**$ 109,276**	31.71%
Debt Service Rate Revenue - ACSA	$ 995,568	$ 497,784	$ 995,568	$ 1,311,312	31.71%
Trust Fund Interest	1,800	3,050	6,100	5,500	205.56%
Reserve Fund Interest	6,700	7,189	14,378	21,500	220.90%
Total Debt Service Revenue	**$ 1,004,068**	**$ 508,023**	**$ 1,016,046**	**$ 1,338,312**	**33.29%**
Principal, Interest & Reserves					
Total Principal & Interest - Existing	$ 426,071	$ 213,036	$ 426,072	$ 1,230,815	188.88%
Estimated New Principal & Interest	571,300	285,650	571,300	86,000	-84.95%
Reserve Additions - Interest	6,700	7,189	14,378	21,500	220.90%
Total Debt Principal and Interest	**$ 1,004,071**	**$ 505,875**	**$ 1,011,750**	**$ 1,338,315**	**33.29%**
Rate Center Summary					
Total Revenues	$ 1,993,152	$ 1,001,848	$ 2,003,696	$ 2,450,920	22.97%
Total Expenses	1,993,152	1,012,722	2,072,218	2,450,927	22.97%
Surplus/(Deficit)	**$ -**	**$ (10,874)**	**$ (68,522)**	**$ (7)**	
Rates - (Monthly)					
ACSA	**$ 162,746**			**$ 195,010**	**19.82%**

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Crozet Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 181,100	$ 83,705	$ 167,410	$ 184,970	$ 3,870	2.14%
11010	Overtime & Holiday Pay	20,000	12,781	25,562	25,000	5,000	25.00%
12010	FICA	15,384	7,227	14,454	16,063	679	4.41%
12020	Health Insurance	40,891	16,132	32,264	43,369	2,478	6.06%
12026	Employee Assistance Program	50	29	58	50	-	0.00%
12030	Retirement	17,422	6,782	13,564	17,794	372	2.14%
12040	Life Insurance	2,372	1,044	2,088	2,423	51	2.15%
12050	Fitness Program	600	275	550	600	-	0.00%
12060	Worker's Comp Insurance	4,250	2,536	3,381	4,000	(250)	-5.88%
	Subtotal	$ 282,069	$ 130,511	$ 259,331	$ 294,269	$ 12,200	4.33%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 250	$ 50	$ 100	$ 250	$ -	0.00%
13150	Education & Training	2,900	913	1,826	2,900	-	0.00%
13200	Travel & Lodging	670	120	240	670	-	0.00%
13250	Uniforms	2,000	1,334	2,668	2,000	-	0.00%
13325	Recruiting & Medical Testing	350	97	194	350	-	0.00%
13350	Other	150	597	1,194	150	-	0.00%
	Subtotal	$ 6,320	$ 3,111	$ 6,222	$ 6,320	$ -	0.00%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	30,000	1,925	23,850	12,850	(17,150)	-57.17%
	Subtotal	$ 30,000	$ 1,925	$ 23,850	$ 12,850	$ (17,150)	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 2,960	$ 2,469	$ 2,469	$ 3,000	$ 40	1.35%
21150	Advertising & Communication	-	1,600	3,200	-	-	
21250	Watershed Management	25,000	-	15,000	25,000	-	0.00%
21252	EMS Programs/Supplies	-	-	-	-	-	
21253	Safety Programs/Supplies	1,500	366	732	3,616	2,116	141.07%
21300	Authority Dues/Permits/Fees	1,000	301	1,000	1,000	-	0.00%
21350	Laboratory Analysis	30,000	15,748	31,496	38,000	8,000	26.67%
21400	Utilities	61,000	32,955	65,910	67,000	6,000	9.84%
21420	General Other Services	500	34	68	200	(300)	-60.00%
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt		-	-	-	-	
	Subtotal	$ 126,960	$ 53,473	$ 119,875	$ 137,816	$ 10,856	8.55%
22000	***Communication***						
22100	Radio	$ 450	$ 639	$ 1,278	$ 450	$ -	0.00%
22150	Telephone & Data Service	3,000	1,599	3,198	3,300	300	10.00%
22200	Cell Phones & Pagers	1,000	672	1,344	1,200	200	20.00%
	Subtotal	$ 4,450	$ 2,910	$ 5,820	$ 4,950	$ 500	11.24%
31000	***Information Technology***						
31100	Computer Hardware	$ 1,000	$ -	$ -	$ 1,250	$ 250	25.00%
31150	SCADA Maint. & Support	12,400	240	12,000	1,000	(11,400)	-91.94%
31200	Maintenance & Support Services	-	-	-	-	-	
31250	Software Purchases	800	-	-	350	(450)	-56.25%
	Subtotal	$ 14,200	$ 240	$ 12,000	$ 2,600	$ (11,600)	-81.69%
33000	***Supplies***						
33100	Office Supplies	$ 100	$ -	$ -	$ 25	$ (75)	-75.00%
33150	Subscriptions/Reference Material	20	-	-	20	-	0.00%
33350	Postage & Delivery	500	879	1,758	1,350	850	170.00%
	Subtotal	$ 620	$ 879	$ 1,758	$ 1,395	$ 775	125.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 35,000	$ 11,087	$ 22,174	$ 40,000	$ 5,000	14.29%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	5,000	2,500	5,000	5,000	-	
41350	Pipeline/Appurtenances	5,000	707	1,414	5,000	-	0.00%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Crozet Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41400	Materials & Supplies	5,000	886	1,772	5,000	-	0.00%
41450	Chemicals	134,000	132,723	265,446	256,900	122,900	91.72%
41500	Vehicle Maintenance	1,000	1,365	2,730	1,000	-	0.00%
41550	Equipment Maint. & Repair	40,000	13,175	36,350	40,000	-	0.00%
41600	Instrumentation & Metering	8,150	-	8,150	8,500	350	4.29%
41650	Fuel & Lubricants	7,000	5,694	11,388	7,000	-	0.00%
41700	General Other Maintenance	21,000	32,875	45,750	30,000	9,000	42.86%
	Subtotal	$ 261,150	$ 201,012	$ 400,174	$ 398,400	$ 137,250	52.56%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 4,000	$ 58	$ 116	$ 4,000	$ -	0.00%
81200	Rental & Leases	-	2,587	5,174	-	-	
81250	Equipment (over $5000)	20,000	-	-	-	(20,000)	-100.00%
81300	Vehicle Replacement Fund	2,450	1,225	2,450	2,500	50	2.04%
	Subtotal	$ 26,450	$ 3,870	$ 7,740	$ 6,500	$ (19,950)	-75.43%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 78,832	$ 34,137	$ 75,826	$ 80,460	$ 1,628	2.07%
95300	Engineering Allocation	57,062	27,495	54,442	62,107	5,045	8.84%
95150	Maintenance Allocation	53,113	24,430	48,104	56,027	2,914	5.49%
95200	Laboratory Allocation	17,855	7,854	15,326	18,918	1,063	5.95%
	Subtotal	$ 206,862	$ 93,916	$ 193,698	$ 217,512	$ 10,650	5.15%
	Depreciation	30,000	15,000	30,000	$ 30,000	-	0.00%
	Subtotal	$ 30,000	$ 15,000	$ 30,000	$ 30,000	$ -	0.00%
	Total	**$ 989,081**	**$ 506,847**	**$ 1,060,468**	**$ 1,112,612**	**$ 123,531**	**12.49%**

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Rivanna Water & Sewer Authority
FY 2020 Proposed Budget

Scottsville Water Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)	0.051			0.05	-1.96%
Operations Budget					
Projected Revenues					
Operations Rate (monthly)	**$ 36,944**			**$ 43,401**	17.48%
Revenue	$ 443,328	$ 221,664	$ 443,328	$ 520,812	17.48%
Red Hill Community Water System Revenue	-	16,303	25,000	-	
Use of reserves	-	-	-	15,000	
Interest Allocation	750	570	1,140	800	6.67%
Total Operations Revenues	**$ 444,078**	**$ 238,537**	**$ 469,468**	**$ 536,612**	**20.84%**
Projected Expenses					
Personnel Cost	$ 153,885	$ 70,510	$ 140,087	$ 197,349	28.24%
Professional Services	20,000	16,456	32,912	20,000	0.00%
Other Services and Charges	28,680	14,384	28,534	33,318	16.17%
Communications	3,210	1,875	3,750	3,430	6.85%
Information Technology	7,000	6,348	7,340	800	-88.57%
Supplies	750	-	360	410	-45.33%
Operations and Maintenance	66,570	41,013	83,626	121,340	82.27%
Equipment Purchases	14,000	51,279	52,558	3,200	-77.14%
Depreciation	20,000	10,000	20,000	20,000	0.00%
Subtotal Before Allocations	$ 314,095	$ 211,865	$ 369,167	$ 399,847	27.30%
Allocations of Support Departments	129,988	59,173	120,901	136,770	5.22%
Total Operations Expenses	**$ 444,083**	**$ 271,038**	**$ 490,068**	**$ 536,617**	**20.84%**
Operations Cost per 1,000 gallons	$23.856			$29.404	23.26%
Debt Service Budget					
Projected Revenue					
Debt Service Rates - Monthly	**$ 10,773**			**$ 10,729**	-0.41%
Debt Service Rate Revenue - ACSA	$ 129,280	$ 64,638	$ 129,276	$ 128,749	-0.41%
Trust Fund Interest	400	871	1,742	1,700	325.00%
Reserve Fund Interest	3,300	3,600	7,200	8,400	154.55%
Total Debt Service Revenue	**$ 132,980**	**$ 69,109**	**$ 138,218**	**$ 138,849**	**4.41%**
Principal, Interest & Reserves					
Total Principal & Interest	$ 129,680	$ 64,840	$ 129,680	$ 129,524	-0.12%
Estimated New Principal & Interest	-	-	-	925	
Reserve Additions-Interest	3,300	3,600	7,200	8,400	154.55%
Total Debt Principal and Interest	**$ 132,980**	**$ 68,440**	**$ 136,880**	**$ 138,849**	**4.41%**
Rate Center Summary					
Total Revenues	$ 577,058	$ 307,646	$ 607,686	$ 675,461	17.05%
Total Expenses	577,063	339,478	626,948	675,466	17.05%
Surplus/ (Deficit)	**$ (5)**	**$ (31,832)**	**$ (19,262)**	**$ (5)**	
Rates - Monthly					
ACSA	**$ 47,717**			**$ 54,130**	**13.44%**

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Scottsville Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 95,900	$ 44,126	$ 88,252	$ 124,221	$ 28,321	29.53%
11010	Overtime & Holiday Pay	11,000	6,748	13,496	13,000	2,000	18.18%
12010	FICA	8,178	3,811	7,622	10,497	2,319	28.36%
12020	Health Insurance	21,670	8,506	17,012	29,249	7,579	34.97%
12026	Employee Assistance Program	25	15	30	25	-	0.00%
12030	Retirement	9,226	3,575	7,150	11,950	2,724	29.53%
12040	Life Insurance	1,256	550	1,100	1,627	371	29.54%
12050	Fitness Program	300	145	290	300	-	0.00%
12060	Worker's Comp Insurance	2,350	1,399	1,865	2,600	250	10.64%
	Subtotal	$ 149,905	$ 68,875	$ 136,817	$ 193,469	$ 43,564	29.06%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 180	$ 26	$ 52	$ 180	$ -	0.00%
13150	Education & Training	1,950	477	954	1,950	-	0.00%
13200	Travel & Lodging	500	62	124	400	(100)	-20.00%
13250	Uniforms	1,200	704	1,408	1,200	-	0.00%
13325	Recruiting & Medical Testing	100	51	102	100	-	0.00%
13350	Other	50	315	630	50	-	0.00%
	Subtotal	$ 3,980	$ 1,635	$ 3,270	$ 3,880	$ (100)	-2.51%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	20,000	16,456	32,912	20,000	-	0.00%
	Subtotal	$ 20,000	$ 16,456	$ 32,912	$ 20,000	$ -	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 760	$ 634	$ 634	$ 760	$ -	0.00%
21150	Advertising & Communication	-	28	56	-	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	-	-	-	-	
21253	Safety Programs/Supplies	1,990	475	950	1,858	(132)	-6.63%
21300	Authority Dues/Permits/Fees	1,000	300	1,000	1,000	-	0.00%
21350	Laboratory Analysis	8,730	6,237	12,474	18,500	9,770	111.91%
21400	Utilities	11,000	6,637	13,274	11,000	-	0.00%
21420	General Other Services	200	73	146	200	-	0.00%
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 28,680	$ 14,384	$ 28,534	$ 33,318	$ 4,638	16.17%
22000	***Communication***						
22100	Radio	$ 430	$ 438	$ 876	$ 430	$ -	0.00%
22150	Telephone & Data Service	2,000	996	1,992	2,000	-	0.00%
22200	Cell Phones & Pagers	780	441	882	1,000	220	28.21%
	Subtotal	$ 3,210	$ 1,875	$ 3,750	$ 3,430	$ 220	6.85%
31000	***Information Technology***						
31100	Computer Hardware	$ 600	$ 170	$ 340	$ 150	$ (450)	-75.00%
31150	SCADA Maint. & Support	6,200	6,178	7,000	500	(5,700)	-91.94%
31200	Maintenance & Support Services	-	-	-	-	-	
31250	Software Purchases	200	-	-	150	(50)	0.00%
	Subtotal	$ 7,000	$ 6,348	$ 7,340	$ 800	$ (6,200)	-88.57%
33000	***Supplies***						
33100	Office Supplies	$ 300	$ -	$ 50	$ 50	$ (250)	-83.33%
33150	Subscriptions/Reference Material	100	-	10	10	(90)	-90.00%
33350	Postage & Delivery	350	-	300	350	-	0.00%
	Subtotal	$ 750	$ -	$ 360	$ 410	$ (340)	-45.33%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 12,000	$ 1,766	$ 3,532	$ 13,000	$ 1,000	8.33%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	1,500	-	1,500	1,500	-	0.00%
41350	Pipeline/Appurtenances	100	-	100	100	-	0.00%
41400	Materials & Supplies	3,000	3,386	6,772	3,000	-	0.00%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Scottsville Water

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41450	Chemicals	13,700	8,266	16,532	46,440	32,740	238.98%
41500	Vehicle Maintenance	700	717	1,434	700	-	0.00%
41550	Equipment Maint. & Repair	15,000	10,126	20,252	23,000	8,000	53.33%
41600	Instrumentation & Metering	7,170	10,749	21,498	20,200	13,030	181.73%
41650	Fuel & Lubricants	1,400	434	868	1,400	-	0.00%
41700	General Other Maintenance	12,000	5,569	11,138	12,000	-	0.00%
	Subtotal	$ 66,570	$ 41,013	$ 83,626	$ 121,340	$ 54,770	82.27%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 200	$ 629	$ 1,258	$ 200	$ -	0.00%
81200	Rental & Leases	500	-	-	500	-	0.00%
81250	Equipment (over $5000)	12,000	50,000	50,000	-	(12,000)	-100.00%
81300	Vehicle Replacement Fund	1,300	650	1,300	2,500	1,200	92.31%
	Subtotal	$ 14,000	$ 51,279	$ 52,558	$ 3,200	$ (10,800)	-77.14%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 39,416	$ 17,068	$ 37,913	$ 40,230	$ 814	2.07%
95300	Engineering Allocation	28,531	13,748	27,221	31,054	2,523	8.84%
95150	Maintenance Allocation	53,113	24,430	48,104	56,027	2,914	5.49%
95200	Laboratory Allocation	8,928	3,927	7,663	9,459	531	5.95%
	Subtotal	$ 129,988	$ 59,173	$ 120,901	$ 136,770	$ 6,782	5.22%
	Depreciation	20,000	10,000	20,000	$ 20,000	-	0.00%
	Subtotal	$ 20,000	$ 10,000	$ 20,000	$ 20,000	$ -	0.00%
	Total	**$ 444,083**	**$ 271,038**	**$ 490,068**	**$ 536,617**	**$ 92,534**	**20.84%**

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Wastewater Rate Centers

Rivanna Water and Sewer Authority

Fiscal Year 2019-2020

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Urban Wastewater Summary

		FY 2019			FY 2020	
		Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)		9.289			9.289	0.00%
Operations Budget						
Projected Revenues						
Operations Rate		**$ 2.146**			**$ 2.369**	10.39%
Revenue		$ 7,277,082	$ 5,151,977	$ 10,303,954	$ 8,033,620	10.40%
Stone Robinson WWTP		28,084	11,088	22,176	22,478	-19.96%
Septage Acceptance		410,000	226,228	452,456	450,000	9.76%
Nutrient Credits		90,000	104,060	104,060	90,000	0.00%
Miscellaneous Revenue		-	891	1,782	-	
Interest Allocation		12,500	9,482	18,964	14,400	15.20%
Total Operations Revenues		**$ 7,817,666**	**$ 5,503,726**	**$ 10,903,392**	**$ 8,610,498**	**10.14%**
Projected Expenses						
Personnel Cost		$ 1,282,792	$ 604,367	$ 1,204,449	$ 1,281,463	-0.10%
Professional Services		54,000	36,719	73,438	175,000	224.07%
Other Services and Charges		1,816,225	1,216,629	2,369,737	2,030,825	11.82%
Communications		10,430	7,371	10,798	10,430	0.00%
Information Technology		57,250	1,068	48,062	62,500	9.17%
Supplies		2,700	687	1,374	2,700	0.00%
Operations and Maintenance		1,408,900	818,618	1,937,236	1,724,650	22.41%
Equipment Purchases		74,500	30,184	60,368	77,500	4.03%
Depreciation & Reserves		470,000	235,000	470,000	470,000	0.00%
Subtotal before allocations		$ 5,176,797	$ 2,950,643	$ 6,175,462	$ 5,835,068	12.72%
Allocations of Support Departments		2,640,869	1,198,757	2,465,375	2,775,430	5.10%
Total Operations Expenses		**$ 7,817,666**	**$ 4,149,400**	**$ 8,640,837**	**$ 8,610,498**	**10.14%**
Operations Cost per 1,000 gallons		$2.107			$2.540	20.55%
Debt Service Budget						
Projected Revenue						
Debt Service Rate	CITY	**408,260**			**407,588**	**-0.16%**
	ACSA	**246,308**			**278,174**	**12.94%**
Debt Service Rate Revenue - CITY		$ 4,899,122	$ 2,449,560	$ 4,899,120	$ 4,891,055	-0.16%
Debt Service Rate Revenue - ACSA		2,955,698	1,477,848	2,955,696	3,338,088	12.94%
Use of Reserves for 2016 Bond DS		300,000	150,000	300,000	-	-100.00%
County MOU - Septage		109,440	109,441	109,441	109,440	0.00%
Trust Fund Interest		26,200	53,247	106,494	96,900	269.85%
Reserve Fund Interest		148,000	155,544	311,088	266,900	80.34%
Total Debt Service Revenue		**$ 8,438,460**	**$ 4,395,640**	**$ 8,681,839**	**$ 8,702,383**	3.13%
Principal, Interest & Reserves						
Total Principal & Interest		$ 7,539,261	$ 3,769,631	$ 7,539,262	$ 7,880,079	4.52%
Reserve Additions - Interest		148,000	155,544	311,088	266,900	80.34%
Debt Service Ratio Charge		325,000	162,500	325,000	325,000	0.00%
Est. New Debt Service - CIP Growth		426,200	213,100	426,200	230,400	-45.94%
Total Debt Principal and Interest		**$ 8,438,461**	**$ 4,300,775**	**$ 8,601,550**	**$ 8,702,379**	3.13%
Rate Center Summary						
Total Revenues		$ 16,256,126	$ 9,899,366	$ 19,585,231	$ 17,312,881	6.50%
Total Expenses		16,256,127	8,450,175	17,242,387	17,312,877	6.50%
Surplus/(Deficit)		**$ (1)**	**$ 1,449,191**	**$ 2,342,844**	**$ 4**	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Urban Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 837,300	$ 391,393	$ 782,786	$ 821,784	$ (15,516)	-1.85%
11010	Overtime & Holiday Pay	65,000	32,137	64,274	80,000	15,000	23.08%
12010	FICA	69,026	31,222	62,444	68,986	(40)	-0.06%
12020	Health Insurance	180,849	93,657	187,314	180,472	(377)	-0.21%
12026	Employee Assistance Program	200	129	258	200	-	0.00%
12030	Retirement	80,548	30,687	61,374	79,056	(1,492)	-1.85%
12040	Life Insurance	10,969	4,812	9,624	10,765	(204)	-1.86%
12050	Fitness Program	700	564	1,128	700	-	0.00%
12060	Worker's Comp Insurance	10,800	6,428	8,571	11,200	400	3.70%
	Subtotal	$ 1,255,392	$ 591,029	$ 1,177,773	$ 1,253,163	$ (2,229)	-0.18%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 2,800	$ 650	$ 1,300	$ 2,800	$ -	0.00%
13150	Education & Training	10,900	5,407	10,814	10,900	-	0.00%
13200	Travel & Lodging	5,300	1,231	2,462	5,300	-	0.00%
13250	Uniforms	6,900	4,891	9,782	7,800	900	13.04%
13325	Recruiting & Medical Testing	1,000	513	1,026	1,000	-	0.00%
13350	Other	500	646	1,292	500	-	0.00%
	Subtotal	$ 27,400	$ 13,338	$ 26,676	$ 28,300	$ 900	3.28%
	Professional Services						
20100	Legal Fees	$ 4,000	$ -	$ -	$ -	$ (4,000)	-100.00%
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	50,000	36,719	73,438	175,000	125,000	250.00%
	Subtotal	$ 54,000	$ 36,719	$ 73,438	$ 175,000	$ 121,000	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 74,800	$ 62,393	$ 62,393	$ 74,800	$ -	0.00%
21150	Advertising & Communication	225	-	-	225	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	651	1,302	-	-	
21253	Safety Programs/Supplies	8,100	12,763	25,526	38,700	30,600	377.78%
21300	Authority Dues/Permits/Fees	35,200	20,487	35,200	35,200	-	0.00%
21350	Laboratory Analysis	6,500	927	6,500	6,500	-	0.00%
21400	Utilities	870,000	593,756	1,187,512	938,000	68,000	7.82%
21420	General Other Services	804,400	525,652	1,051,304	932,400	128,000	15.91%
21430	Governance & Strategic Support	17,000	-	-	5,000	(12,000)	-70.59%
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 1,816,225	$ 1,216,629	$ 2,369,737	$ 2,030,825	$ 214,600	11.82%
22000	***Communication***						
22100	Radio	$ 3,830	$ 3,947	$ 3,950	$ 3,830	$ -	0.00%
22150	Telephone & Data Service	1,800	979	1,958	1,800	-	0.00%
22200	Cell Phones & Pagers	4,800	2,445	4,890	4,800	-	0.00%
	Subtotal	$ 10,430	$ 7,371	$ 10,798	$ 10,430	$ -	0.00%
31000	***Information Technology***						
31100	Computer Hardware	$ 6,500	$ 287	$ 6,500	$ 9,000	$ 2,500	38.46%
31150	SCADA Maint. & Support	50,000	781	41,562	50,500	500	1.00%
31200	Maintenance & Support Services	-	-	-	-	-	
31250	Software Purchases	750	-	-	3,000	2,250	300.00%
	Subtotal	$ 57,250	$ 1,068	$ 48,062	$ 62,500	$ 5,250	9.17%
33000	***Supplies***						
33100	Office Supplies	$ 2,500	$ 95	$ 190	$ 2,500	$ -	0.00%
33150	Subscriptions/Reference Material	-	-	-	-	-	
33350	Postage & Delivery	200	592	1,184	200	-	0.00%
	Subtotal	$ 2,700	$ 687	$ 1,374	$ 2,700	$ -	0.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 70,000	$ 32,670	$ 65,340	$ 85,000	$ 15,000	21.43%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	78,000	38,245	76,490	90,000	12,000	15.38%
41300	Dam Maintenance	-	-	-	-		
41350	Pipeline/Appurtenances	195,000	32,174	364,348	195,000	-	0.00%
41400	Materials & Supplies	28,000	28,159	56,318	28,000	-	0.00%
41450	Chemicals	669,200	446,190	892,380	837,250	168,050	25.11%
41500	Vehicle Maintenance	10,000	8,921	17,842	13,500	3,500	35.00%
41550	Equipment Maint. & Repair	300,000	208,528	417,056	350,000	50,000	16.67%
41600	Instrumentation & Metering	58,700	20,862	41,724	125,900	67,200	114.48%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Urban Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41650	Fuel & Lubricants	38,000	20,043	40,086	38,000	-	0.00%
41700	General Other Maintenance	(38,000)	(17,174)	(34,348)	(38,000)	-	0.00%
	Subtotal	$ 1,408,900	$ 818,618	$ 1,937,236	$ 1,724,650	$ 315,750	22.41%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 7,500	$ 93	$ 186	$ 7,500	$ -	0.00%
81200	Rental & Leases	10,000	1,591	3,182	10,000	-	0.00%
81250	Equipment (over $5000)	-	-	-	-	-	
81300	Vehicle Replacement Fund	57,000	28,500	57,000	60,000	3,000	5.26%
	Subtotal	$ 74,500	$ 30,184	$ 60,368	$ 77,500	$ 3,000	4.03%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 945,989	$ 409,641	$ 909,907	$ 965,520	$ 19,531	2.06%
95300	Engineering Allocation	627,681	302,450	598,858	683,179	55,498	8.84%
95150	Maintenance Allocation	857,400	394,377	776,532	904,442	47,042	5.49%
95200	Laboratory Allocation	209,799	92,289	180,078	222,289	12,490	5.95%
	Subtotal	$ 2,640,869	$ 1,198,757	$ 2,465,375	$ 2,775,430	$ 134,561	5.10%
	Depreciation	470,000	235,000	470,000	$ 470,000	-	0.00%
	Subtotal	$ 470,000	$ 235,000	$ 470,000	$ 470,000	$ -	0.00%
	Total	**$ 7,817,666**	**$ 4,149,400**	**$ 8,640,837**	**$ 8,610,498**	**$ 792,832**	**10.14%**

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Rivanna Water & Sewer Authority
FY 2020 Proposed Budget

Glenmore Wastewater Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)	0.119			0.109	
Operations Budget					
Projected Revenues					
Operations Rate (monthly)	**$ 31,060**			**$ 30,877**	-0.59%
Revenue	$ 372,720	$ 186,360	$ 372,720	$ 370,524	-0.59%
Interest Allocation	600	464	928	700	16.67%
Total Operations Revenues	**$ 373,320**	**$ 186,824**	**$ 373,648**	**$ 371,224**	**-0.56%**
Projected Expenses					
Personnel Cost	$ 94,490	$ 44,653	$ 88,989	$ 95,340	0.90%
Professional Services	3,000	-	-	-	-100.00%
Other Services and Charges	39,510	19,792	39,334	35,210	-10.88%
Communications	2,600	1,833	3,230	3,000	15.38%
Information Technology	3,350	-	3,350	3,700	10.45%
Supplies	100	-	-	100	0.00%
Operations and Maintenance	121,450	50,373	102,746	119,450	-1.65%
Equipment Purchases	2,900	1,200	2,400	2,900	0.00%
Depreciation	5,000	5,000	5,000	5,000	0.00%
Subtotal before allocations	$ 272,400	$ 122,851	$ 245,049	$ 264,700	-2.83%
Allocations of Support Departments	100,915	46,220	93,223	106,526	5.56%
Total Operations Expenses	**$ 373,315**	**$ 169,071**	**$ 338,272**	**$ 371,226**	**-0.56%**
Operations Cost per 1,000 gallons	$8.595			$9.331	
Debt Service Budget					
Projected Revenue					
Debt Service Rate (monthly)	**$ 132**			**$ 315**	138.64%
Debt Service Rate Revenue - ACSA	$ 1,586	$ 792	$ 1,584	$ 3,778	138.21%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	1,000	1,087	2,174	3,100	210.00%
Total Debt Service Revenue	**$ 2,586**	**$ 1,879**	**$ 3,758**	**$ 6,878**	**165.97%**
Principal, Interest & Reserves					
Total Principal & Interest	$ 1,586	$ 793	$ 1,586	$ 1,578	-0.50%
Estimated New Principal & Interest				$ 2,200	
Reserve Additions - Interest	1,000	1,087	2,174	3,100	210.00%
Total Debt Principal and Interest	**$ 2,586**	**$ 1,880**	**$ 3,760**	**$ 6,878**	**165.97%**

Rate Center Summary					
Total Revenues	$ 375,906	$ 188,703	$ 377,406	$ 378,102	0.58%
Total Expenses	375,901	170,951	342,032	378,104	0.59%
Surplus/(Deficit)	**$ 5**	**$ 17,752**	**$ 35,374**	**$ (2)**	
Rates (Monthly)					
ACSA	**$ 31,192**			**$ 31,192**	**0.00%**

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Glenmore Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 61,600	$ 28,853	$ 57,706	$ 60,532	$ (1,068)	-1.73%
11010	Overtime & Holiday Pay	4,500	2,465	4,930	6,500	2,000	44.44%
12010	FICA	5,057	2,308	4,616	5,128	71	1.40%
12020	Health Insurance	13,620	6,978	13,956	13,584	(36)	-0.26%
12026	Employee Assistance Program	15	10	20	15	-	0.00%
12030	Retirement	5,926	2,262	4,524	5,823	(103)	-1.74%
12040	Life Insurance	807	355	710	793	(14)	-1.73%
12050	Fitness Program	50	38	76	50	-	0.00%
12060	Worker's Comp Insurance	800	476	635	800	-	0.00%
	Subtotal	$ 92,375	$ 43,745	$ 87,173	$ 93,225	$ 850	0.92%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 230	$ 50	$ 100	$ 230	$ -	0.00%
13150	Education & Training	775	329	658	775	-	0.00%
13200	Travel & Lodging	375	69	138	375	-	0.00%
13250	Uniforms	600	373	746	600	-	0.00%
13325	Recruiting & Medical Testing	100	39	78	100	-	0.00%
13350	Other	35	48	96	35	-	0.00%
	Subtotal	$ 2,115	$ 908	$ 1,816	$ 2,115	$ -	0.00%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	3,000	-	-	-	(3,000)	-100.00%
	Subtotal	$ 3,000	$ -	$ -	$ -	$ (3,000)	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 300	$ 250	$ 250	$ 300	$ -	0.00%
21150	Advertising & Communication	-	-	-	-	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	-	-	-	-	
21253	Safety Programs/Supplies	800	673	1,346	2,000	1,200	150.00%
21300	Authority Dues/Permits/Fees	3,300	2,768	5,536	3,300	-	0.00%
21350	Laboratory Analysis	1,500	516	1,032	1,500	-	
21400	Utilities	28,500	15,585	31,170	28,000	(500)	-1.75%
21420	General Other Services	110	-	-	110	-	
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 39,510	$ 19,792	$ 39,334	$ 35,210	$ (4,300)	-10.88%
22000	***Communication***						
22100	Radio	$ 400	$ 438	$ 440	$ 400	$ -	0.00%
22150	Telephone & Data Service	1,700	1,073	2,146	2,000	300	17.65%
22200	Cell Phones & Pagers	500	322	644	600	100	20.00%
	Subtotal	$ 2,600	$ 1,833	$ 3,230	$ 3,000	$ 400	15.38%
31000	***Information Technology***						
31100	Computer Hardware	$ 650	$ -	$ 650	$ 1,000	$ 350	53.85%
31150	SCADA Maint. & Support	2,500	-	2,500	2,500	-	0.00%
31200	Maintenance & Support Services	-	-	-	-	-	
31250	Software Purchases	200	-	200	200	-	0.00%
	Subtotal	$ 3,350	$ -	$ 3,350	$ 3,700	$ 350	10.45%
33000	***Supplies***						
33100	Office Supplies	$ 100	$ -	$ -	$ 100	$ -	0.00%
33150	Subscriptions/Reference Material	-	-	-	-	-	
33350	Postage & Delivery	-	-	-	-	-	
	Subtotal	$ 100	$ -	$ -	$ 100	$ -	0.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 8,500	$ 713	$ 1,426	$ 8,500	$ -	0.00%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	9,000	11,898	23,796	9,000	-	0.00%
41300	Dam Maintenance	-	-	-	-	-	
41350	Pipeline/Appurtenances	500	-	-	500	-	0.00%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Glenmore Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41400	Materials & Supplies	2,000	107	214	2,000	-	0.00%
41450	Chemicals	4,000	-	2,000	2,000	(2,000)	
41500	Vehicle Maintenance	750	612	1,224	750	-	0.00%
41550	Equipment Maint. & Repair	18,000	3,096	6,192	18,000	-	0.00%
41600	Instrumentation & Metering	5,100	239	478	5,100	-	0.00%
41650	Fuel & Lubricants	3,600	1,048	2,096	3,600	-	0.00%
41700	General Other Maintenance	70,000	32,660	65,320	70,000	-	0.00%
	Subtotal	$ 121,450	$ 50,373	$ 102,746	$ 119,450	$ (2,000)	-1.65%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 500	$ -	$ -	$ 500	$ -	0.00%
81200	Rental & Leases	-	-	-	-	-	
81250	Equipment (over $5000)	-	-	-	-	-	
81300	Vehicle Replacement Fund	2,400	1,200	2,400	2,400	-	0.00%
	Subtotal	$ 2,900	$ 1,200	$ 2,400	$ 2,900	$ -	0.00%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 19,708	$ 8,534	$ 18,956	$ 20,115	$ 407	2.07%
95300	Engineering Allocation	21,398	10,311	20,416	23,290	1,892	8.84%
95150	Maintenance Allocation	53,113	24,430	48,104	56,027	2,914	5.49%
95200	Laboratory Allocation	6,696	2,945	5,747	7,094	398	5.94%
	Subtotal	$ 100,915	$ 46,220	$ 93,223	$ 106,526	$ 5,611	5.56%
	Depreciation	5,000	2,500	5,000	$ 5,000	-	0.00%
	Subtotal	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	100.00%
	Total	**$ 373,315**	**$ 169,071**	**$ 338,272**	**$ 371,226**	**$ 2,911**	**0.78%**

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Rivanna Water & Sewer Authority
FY 2020 Proposed Budget

Scottsville Wastewater Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Projected Flow (MGD)	0.058			0.059	
Operations Budget					
Projected Revenues					
Operations Rate (monthly)	**$ 25,156**			**$ 25,749**	2.36%
Revenue	$ 301,872	$ 150,936	$ 301,872	$ 308,988	2.36%
Interest Allocation	500	380	760	600	20.00%
Total Operations Revenues	**$ 302,372**	**$ 151,316**	**$ 302,632**	**$ 309,588**	**2.39%**
Projected Expenses					
Personnel Cost	$ 94,515	$ 44,653	$ 88,989	$ 95,366	0.90%
Professional Services	2,000	-	-	2,000	
Other Services and Charges	28,400	11,410	22,236	28,000	-1.41%
Communications	2,630	2,194	3,736	3,930	49.43%
Information Technology	2,350	-	2,350	1,700	-27.66%
Supplies	100	446	892	25	-75.00%
Operations and Maintenance	57,850	22,760	54,916	58,850	1.73%
Equipment Purchases	3,200	1,200	2,400	3,200	0.00%
Depreciation	18,000	9,000	18,000	18,000	0.00%
Subtotal before allocations	$ 209,045	$ 91,663	$ 193,519	$ 211,071	0.97%
Allocations of Support Departments	93,328	42,730	86,351	98,522	5.57%
Total Operations Expenses	**$ 302,373**	**$ 134,393**	**$ 279,870**	**$ 309,593**	**2.39%**
Operations Cost per 1,000 gallons	$15.062			$14.376	95.45%
Debt Service Budget					
Projected Revenue					
Debt Service Rate (monthly)	**$ 667**			**$ 787**	17.99%
Debt Service Rate Revenue - ACSA	$ 8,006	$ 4,002	$ 8,004	$ 9,442	17.94%
Trust Fund Interest	-	87	174	100	
Reserve Fund Interest	1,000	1,075	2,150	3,100	210.00%
Total Debt Service Revenue	**$ 9,006**	**$ 5,164**	**$ 10,328**	**$ 12,642**	**40.37%**
Principal, Interest & Reserves					
Total Principal & Interest	$ 8,006	$ 4,003	$ 8,006	$ 7,742	-3.30%
Estimated New Principal & Interest	-	500	1,000	1,800	
Reserve Additions - Interest	1,000	1,075	2,150	3,100	210.00%
Total Debt Principal and Interest	**$ 9,006**	**$ 5,578**	**$ 11,156**	**$ 12,642**	**40.37%**

Rate Center Summary					
Total Revenues	$ 311,378	$ 156,480	$ 312,960	$ 322,230	3.49%
Total Expenses	311,379	139,971	291,026	322,235	3.49%
Surplus/(Deficit)	**$ (1)**	**$ 16,509**	**$ 21,934**	**$ (5)**	
Rates (Monthly)					
ACSA	**$ 25,823**			**$ 26,536**	**2.76%**

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Scottsville Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 61,600	$ 28,853	$ 57,706	$ 60,532	$ (1,068)	-1.73%
11010	Overtime & Holiday Pay	4,500	2,465	4,930	6,500	2,000	44.44%
12010	FICA	5,057	2,308	4,616	5,128	71	1.40%
12020	Health Insurance	13,620	6,978	13,956	13,584	(36)	-0.26%
12026	Employee Assistance Program	15	10	20	16	1	6.67%
12030	Retirement	5,926	2,262	4,524	5,823	(103)	-1.74%
12040	Life Insurance	807	355	710	793	(14)	-1.73%
12050	Fitness Program	50	38	76	50	-	0.00%
12060	Worker's Comp Insurance	800	476	635	800	-	0.00%
	Subtotal	$ 92,375	$ 43,745	$ 87,173	$ 93,226	$ 851	0.92%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 230	$ 50	$ 100	$ 230	$ -	0.00%
13150	Education & Training	775	329	658	775	-	0.00%
13200	Travel & Lodging	375	69	138	375	-	0.00%
13250	Uniforms	600	373	746	600	-	0.00%
13325	Recruiting & Medical Testing	100	39	78	100	-	
13350	Other	60	48	96	60	-	0.00%
	Subtotal	$ 2,140	$ 908	$ 1,816	$ 2,140	$ -	0.00%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	2,000	-	-	2,000	-	
	Subtotal	$ 2,000	$ -	$ -	$ 2,000	$ -	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 700	$ 584	$ 584	$ 700	$ -	0.00%
21150	Advertising & Communication	-	-	-	-	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	-	-	-	-	
21253	Safety Programs/Supplies	400	305	610	2,000	1,600	400.00%
21300	Authority Dues/Permits/Fees	3,300	2,768	5,536	3,300	-	0.00%
21350	Laboratory Analysis	4,000	-	-	4,000	-	0.00%
21400	Utilities	15,000	7,753	15,506	18,000	3,000	20.00%
21420	General Other Services	-	-	-	-	-	
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 28,400	$ 11,410	$ 22,236	$ 28,000	$ (400)	-1.41%
22000	***Communication***						
22100	Radio	$ 430	$ 651	$ 650	$ 430	$ -	0.00%
22150	Telephone & Data Service	1,700	1,404	2,808	3,000	1,300	76.47%
22200	Cell Phones & Pagers	500	139	278	500	-	0.00%
	Subtotal	$ 2,630	$ 2,194	$ 3,736	$ 3,930	$ 1,300	49.43%
31000	***Information Technology***						
31100	Computer Hardware	$ 650	$ -	$ 650	$ 1,000	$ 350	53.85%
31150	SCADA Maint. & Support	1,500	-	1,500	500	(1,000)	-66.67%
31200	Maintenance & Support Services	-	-	-	-	-	
31250	Software Purchases	200	-	200	200	-	0.00%
	Subtotal	$ 2,350	$ -	$ 2,350	$ 1,700	$ (650)	-27.66%
33000	***Supplies***						
33100	Office Supplies	$ 100	$ -	$ -	$ 25	$ (75)	-75.00%
33150	Subscriptions/Reference Material	-	-	-	-	-	
33350	Postage & Delivery	-	446	892	-	-	
	Subtotal	$ 100	$ 446	$ 892	$ 25	$ (75)	-75.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 4,800	$ 2,821	$ 5,642	$ 4,800	$ -	0.00%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	10,500	-	5,000	10,500	-	0.00%
41300	Dam Maintenance	-	-	-	-		
41350	Pipeline/Appurtenances	500	-	-	500	-	0.00%
41400	Materials & Supplies	1,500	654	1,308	1,500	-	0.00%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Rate Center: Scottsville Wastewater

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41450	Chemicals	4,000	988	1,976	4,000	-	0.00%
41500	Vehicle Maintenance	750	686	1,372	750	-	0.00%
41550	Equipment Maint. & Repair	16,000	9,035	18,070	16,000	-	0.00%
41600	Instrumentation & Metering	10,000	302	5,000	10,000	-	0.00%
41650	Fuel & Lubricants	800	407	814	800	-	0.00%
41700	General Other Maintenance	9,000	7,867	15,734	10,000	1,000	11.11%
	Subtotal	$ 57,850	$ 22,760	$ 54,916	$ 58,850	$ 1,000	1.73%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 500	$ -	$ -	$ 500	$ -	0.00%
81200	Rental & Leases	300	-	-	300	-	
81250	Equipment (over $5000)	-	-	-	-	-	
81300	Vehicle Replacement Fund	2,400	1,200	2,400	2,400	-	0.00%
	Subtotal	$ 3,200	$ 1,200	$ 2,400	$ 3,200	$ -	0.00%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ 19,708	$ 8,534	$ 18,956	$ 20,115	$ 407	2.07%
95300	Engineering Allocation	21,398	10,311	20,416	23,290	1,892	8.84%
95150	Maintenance Allocation	45,526	20,940	41,232	48,023	2,497	5.48%
95200	Laboratory Allocation	6,696	2,945	5,747	7,094	398	5.94%
	Subtotal	$ 93,328	$ 42,730	$ 86,351	$ 98,522	$ 5,194	5.57%
	Depreciation	18,000	9,000	18,000	$ 18,000	-	0.00%
	Subtotal	$ 18,000	$ 9,000	$ 18,000	$ 18,000	$ -	0.00%
	Total	**$ 302,373**	**$ 134,393**	**$ 279,870**	**$ 309,593**	**$ 7,220**	**2.39%**

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Support Departments

Fiscal Year 2019-2020

Rivanna Water and Sewer Authority

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Administration

Operations Budget

Projected Revenues & Sources

	FY 2019 Budgeted FY 2019	FY 2019 Actual for 6 months	FY 2019 Projected 12 months	FY 2020 Proposed Budget	Budget % Change
Payment for Services SWA	$ 460,000	$ 230,000	$ 460,000	$ 466,000	1.30%
Miscellaneous Revenue	2,000	6,478	12,956	2,000	0.00%
Total Operations Revenues	**$ 462,000**	**$ 236,478**	**$ 472,956**	**$ 468,000**	**1.30%**

Projected Expenses

Personnel Cost	$ 1,796,151	$ 865,553	$ 1,738,874	$ 1,841,351	2.52%
Professional Services	228,000	75,385	228,636	229,000	0.44%
Other Services and Charges	140,980	60,570	135,852	106,400	-24.53%
Communications	20,280	11,550	21,784	18,500	-8.78%
Information Technology	138,500	40,517	133,202	174,250	25.81%
Supplies	21,000	11,447	22,894	21,500	2.38%
Operations and Maintenance	60,400	18,625	59,854	64,500	6.79%
Equipment Purchases	27,500	6,250	27,500	24,000	-12.73%
Depreciation	-	-	-	-	
Total Operations Expenses	**$ 2,432,811**	**$ 1,089,897**	**$ 2,368,596**	**$ 2,479,501**	**1.92%**

Department Summary

Total Revenues		$ 462,000	$ 236,478	$ 472,956	$ 468,000	1.30%
Total Expenses		2,432,811	1,089,897	2,368,596	2,479,501	1.92%
Net Costs Allocable to Rate Centers		**$ (1,970,811)**	**$ (853,419)**	**$ (1,895,640)**	**$ (2,011,501)**	2.06%
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 867,157**	**$ 375,504**	**$ 834,082**	**$ 885,060**	
Crozet Water	4.00%	**78,832**	**34,137**	**75,826**	**80,460**	
Scottsville Water	2.00%	**39,416**	**17,068**	**37,913**	**40,230**	
Urban Wastewater	48.00%	**945,989**	**409,641**	**909,907**	**965,520**	
Glenmore Wastewater	1.00%	**19,708**	**8,534**	**18,956**	**20,115**	
Scottsville Wastewater	1.00%	**19,708**	**8,534**	**18,956**	**20,115**	
	100.00%	**$ 1,970,810**	**$ 853,418**	**$ 1,895,640**	**$ 2,011,500**	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Administration

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 1,298,900	$ 638,936	$ 1,277,872	$ 1,329,850	$ 30,950	2.38%
11010	Overtime & Holiday Pay	1,500	835	1,670	1,500	-	0.00%
12010	FICA	99,481	41,146	82,292	101,848	2,367	2.38%
12020	Health Insurance	210,000	105,793	211,586	217,000	7,000	3.33%
12026	Employee Assistance Program	200	148	296	200	-	0.00%
12030	Retirement	124,954	50,660	101,320	127,932	2,978	2.38%
12040	Life Insurance	17,016	7,882	15,764	17,421	405	2.38%
12050	Fitness Program	2,700	1,384	2,768	3,000	300	11.11%
12060	Worker's Comp Insurance	4,700	2,826	3,768	4,700	-	0.00%
	Subtotal	$ 1,759,451	$ 849,610	$ 1,697,336	$ 1,803,451	$ 44,000	2.50%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 2,000	$ 315	$ 2,000	$ 2,000	$ -	0.00%
13150	Education & Training	19,000	3,859	18,000	19,000	-	0.00%
13200	Travel & Lodging	5,000	2,366	4,732	4,500	(500)	-10.00%
13250	Uniforms	1,500	1,481	2,962	1,500	-	0.00%
13325	Recruiting & Medical Testing	1,200	1,645	3,290	1,000	(200)	-16.67%
13350	Other	8,000	6,277	10,554	9,900	1,900	23.75%
	Subtotal	$ 36,700	$ 15,943	$ 41,538	$ 37,900	$ 1,200	3.27%
	Professional Services						
20100	Legal Fees	$ 60,000	$ 30,318	$ 60,636	$ 60,000	$ -	0.00%
20200	Financial & Admin. Services	68,000	15,067	68,000	69,000	1,000	1.47%
20250	Bond Issue Costs	-	-	-	-	-	0.00%
20300	Engineering & Technical Services	100,000	30,000	100,000	100,000	-	0.00%
	Subtotal	$ 228,000	$ 75,385	$ 228,636	$ 229,000	$ 1,000	0.44%
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 11,900	$ 9,926	$ 9,926	$ 11,200	$ (700)	-5.88%
21150	Advertising & Communication	15,000	7,361	14,722	15,000	-	0.00%
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	500	-	-	-	(500)	
21253	Safety Programs/Supplies	5,000	2,549	35,098	5,000	-	0.00%
21300	Authority Dues/Permits/Fees	35,000	22,681	35,000	37,100	2,100	6.00%
21350	Laboratory Analysis	-	-	-	-	-	
21400	Utilities	900	499	998	1,100	200	22.22%
21420	General Other Services	3,000	1,023	2,046	2,000	(1,000)	-33.33%
21430	Governance & Strategic Support	64,680	16,531	33,062	30,000	(34,680)	-53.62%
21450	Bad Debt	5,000	-	5,000	5,000	-	
	Subtotal	$ 140,980	$ 60,570	$ 135,852	$ 106,400	$ (34,580)	-24.53%
22000	***Communication***						
22100	Radio	$ 1,280	$ 1,316	$ 1,316	$ 1,200	$ (80)	-6.25%
22150	Telephone & Data Service	12,000	5,106	10,212	10,000	(2,000)	-16.67%
22200	Cell Phones & Pagers	7,000	5,128	10,256	7,300	300	4.29%
	Subtotal	$ 20,280	$ 11,550	$ 21,784	$ 18,500	$ (1,780)	-8.78%
31000	***Information Technology***						
31100	Computer Hardware	$ 20,000	$ 10,092	$ 20,184	$ 27,000	$ 7,000	35.00%
31150	SCADA Maint. & Support	42,500	1,622	40,000	21,500	(21,000)	
31200	Maintenance & Support Services	63,000	22,294	60,000	91,750	28,750	45.63%
31250	Software Purchases	13,000	6,509	13,018	34,000	21,000	161.54%
	Subtotal	$ 138,500	$ 40,517	$ 133,202	$ 174,250	$ 35,750	25.81%
33000	***Supplies***						
33100	Office Supplies	$ 15,000	$ 7,364	$ 14,728	$ 15,000	$ -	0.00%
33150	Subscriptions/Reference Material	1,000	465	930	800	(200)	-20.00%
33350	Postage & Delivery	5,000	3,618	7,236	5,700	700	14.00%
	Subtotal	$ 21,000	$ 11,447	$ 22,894	$ 21,500	$ 500	2.38%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 53,000	$ 14,343	$ 50,000	$ 53,000	$ -	0.00%
41150	Building & Land Lease	-	1,416	2,832	4,100	4,100	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	-	-	-	-	-	
41350	Pipeline/Appurtenances	-	-	-	-	-	
41400	Materials & Supplies	400	-	400	400	-	0.00%
41450	Chemicals	-	-	-	-	-	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Administration

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41500	Vehicle Maintenance	3,000	805	2,500	3,000	-	0.00%
41550	Equipment Maint. & Repair		-	-	-	-	
41600	Instrumentation & Metering		-	-	-	-	
41650	Fuel & Lubricants	4,000	2,061	4,122	4,000	-	0.00%
41700	General Other Maintenance		-	-	-	-	
	Subtotal	$ 60,400	$ 18,625	$ 59,854	$ 64,500	$ 4,100	6.79%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ -	$ -	$ -	$ -	$ -	
81200	Rental & Leases		-	-	-	-	
81250	Equipment (over $5000)	15,000	-	15,000	10,000	(5,000)	
81300	Vehicle Replacement Fund	12,500	6,250	12,500	14,000	1,500	12.00%
	Subtotal	$ 27,500	$ 6,250	$ 27,500	$ 24,000	$ (3,500)	-12.73%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ -	$ -	$ -	$ -	$ -	
95300	Engineering Allocation	-	-	-	-	-	
95150	Maintenance Allocation	-	-	-	-	-	
95200	Laboratory Allocation	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Depreciation	-	-	-	$ -	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Total	**$ 2,432,811**	**$ 1,089,897**	**$ 2,368,596**	**$ 2,479,501**	**$ 46,690**	**1.92%**

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Maintenance

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Operations Budget					
Projected Revenues					
Miscellaneous Revenue	$ -	$ 1,534	$ 3,068	$ -	
Payment for Services SWA				10,000	
Total Operations Revenues	**$ -**	**$ 1,534**	**$ 3,068**	**$ 10,000**	
Projected Expenses					
Personnel Cost	$ 1,304,247	$ 585,115	$ 1,163,449	$ 1,345,633	3.17%
Professional Services	-	-	-	-	
Other Services and Charges	17,500	10,729	16,644	14,500	-17.14%
Communications	17,325	12,071	2,306	17,600	1.59%
Information Technology	6,500	3,025	8,050	6,500	0.00%
Supplies	2,000	361	722	2,000	0.00%
Operations and Maintenance	64,300	42,192	84,384	77,400	20.37%
Equipment Purchases	105,650	46,053	101,906	147,150	39.28%
Depreciation	-	-	-	-	
Total Operations Expenses	**$ 1,517,522**	**$ 699,546**	**$ 1,377,461**	**$ 1,610,783**	**6.15%**

Department Summary					
Total Revenues		$ -	$ 1,534	$ 3,068	$ 10,000
Total Expenses		1,517,522	699,546	1,377,461	1,610,783
Net Costs Allocable to Rate Centers		**$ (1,517,522)**	**$ (698,012)**	**$ (1,374,393)**	**$ (1,600,783)**
Allocations to the Rate Centers					
Urban Water	30.00%	**$ 455,257**	**$ 209,404**	**$ 412,318**	**$ 480,235**
Crozet Water	3.50%	**53,113**	**24,430**	**48,104**	**56,027**
Scottsville Water	3.50%	**53,113**	**24,430**	**48,104**	**56,027**
		-		**-**	
Urban Wastewater	56.50%	**857,400**	**394,377**	**776,532**	**904,442**
Glenmore Wastewater	3.50%	**53,113**	**24,430**	**48,104**	**56,027**
Scottsville Wastewater	3.00%	**45,526**	**20,940**	**41,232**	**48,023**
	100.00%	**$ 1,517,522**	**$ 698,011**	**$ 1,374,394**	**$ 1,600,781**

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Maintenance

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 880,100	$ 402,947	$ 805,894	$ 908,500	$ 28,400	3.23%
11010	Overtime & Holiday Pay	6,000	1,572	3,144	6,000	-	0.00%
12010	FICA	67,787	29,533	59,066	69,959	2,172	3.20%
12020	Health Insurance	210,000	93,221	186,442	217,000	7,000	3.33%
12026	Employee Assistance Program	250	140	280	250	-	0.00%
12030	Retirement	84,666	32,294	64,588	87,398	2,732	3.23%
12040	Life Insurance	11,529	5,044	10,088	11,901	372	3.23%
12050	Fitness Program	-	130	260	260	260	
12060	Worker's Comp Insurance	17,000	10,172	13,563	17,200	200	1.18%
	Subtotal	$ 1,277,332	$ 575,053	$ 1,143,325	$ 1,318,468	$ 41,136	3.22%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 500	$ 64	$ 128	$ 500	$ -	
13150	Education & Training	11,000	2,295	4,590	11,000	-	0.00%
13200	Travel & Lodging	500	175	350	500	-	
13250	Uniforms	13,915	5,610	11,220	13,915	-	0.00%
13325	Recruiting & Medical Testing	500	383	766	500	-	
13350	Other	500	1,535	3,070	750	250	
	Subtotal	$ 26,915	$ 10,062	$ 20,124	$ 27,165	$ 250	0.93%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 7,500	$ 6,256	$ 6,256	$ 7,500	$ -	0.00%
21150	Advertising & Communication	-	-	-	-	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies		150	300	-	-	
21253	Safety Programs/Supplies	2,500	4,034	8,068	4,500	2,000	80.00%
21300	Authority Dues/Permits/Fees	-	10	20	-	-	
21350	Laboratory Analysis	-	-	-	-	-	
21400	Utilities	-	-	-	-	-	
21420	General Other Services	2,500	279	2,000	2,500	-	0.00%
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 17,500	$ 10,729	$ 16,644	$ 14,500	$ (3,000)	-17.14%
22000	***Communication***						
22100	Radio	$ 6,900	$ 7,018	$ 7,018	$ 7,000	$ 100	1.45%
22150	Telephone & Data Service	825	288	576	1,000	175	21.21%
22200	Cell Phones & Pagers	9,600	4,765	9,530	9,600	-	0.00%
	Subtotal	$ 17,325	$ 12,071	$ 17,124	$ 17,600	$ 275	1.59%
31000	***Information Technology***						
31100	Computer Hardware	$ 2,000	$ -	$ 2,000	$ 2,000	$ -	0.00%
31150	SCADA Maint. & Support	-	-	-	-	-	
31200	Maintenance & Support Services	2,500	775	1,550	2,500	-	0.00%
31250	Software Purchases	2,000	2,250	4,500	2,000	-	0.00%
	Subtotal	$ 6,500	$ 3,025	$ 8,050	$ 6,500	$ -	0.00%
33000	***Supplies***						
33100	Office Supplies	$ 2,000	$ 361	$ 722	$ 2,000	$ -	0.00%
33150	Subscriptions/Reference Material	-	-	-	-	-	
33350	Postage & Delivery	-	-	-	-	-	
	Subtotal	$ 2,000	$ 361	$ 722	$ 2,000	$ -	0.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 9,300	$ 2,593	$ 5,186	$ 11,000	$ 1,700	18.28%
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	-	-	-	-	-	
41350	Pipeline/Appurtenances	2,500	-	-	2,500	-	0.00%
41400	Materials & Supplies	8,000	6,419	12,838	12,000	4,000	50.00%
41450	Chemicals	-	556	1,112	-	-	
41500	Vehicle Maintenance	11,000	16,117	32,234	14,900	3,900	35.45%
41550	Equipment Maint. & Repair	13,500	7,519	15,038	15,500	2,000	14.81%
41600	Instrumentation & Metering	1,500	1,587	3,174	1,500	-	0.00%
41650	Fuel & Lubricants	18,500	7,401	14,802	20,000	1,500	8.11%
41700	General Other Maintenance	-	-	-	-	-	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Maintenance

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
	Subtotal	$ 64,300	$ 42,192	$ 84,384	$ 77,400	$ 13,100	20.37%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 12,850	$ 4,903	$ 9,806	$ 14,850	$ 2,000	15.56%
81200	Rental & Leases	1,000	150	300	3,500	2,500	250.00%
81250	Equipment (over $5000)	9,800	-	9,800	36,800	27,000	275.51%
81300	Vehicle Replacement Fund	82,000	41,000	82,000	92,000	10,000	12.20%
	Subtotal	$ 105,650	$ 46,053	$ 101,906	$ 147,150	$ 41,500	39.28%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ -	$ -	$ -	$ -	$ -	
95300	Engineering Allocation	-	-	-	-	-	
95150	Maintenance Allocation	-	-	-	-	-	
95200	Laboratory Allocation	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Depreciation	-	-	-	$ -	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Total	**$ 1,517,522**	**$ 699,546**	**$ 1,392,279**	**$ 1,610,783**	**$ 93,261**	**6.15%**

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Laboratory Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***

Operations Budget

Projected Revenues

N/A

Projected Expenses

Personnel Cost	$ 301,101	$ 148,094	$ 294,398	$ 394,222	30.93%
Professional Services	-	-	-	-	
Other Services and Charges	14,230	1,657	5,872	9,230	-35.14%
Communications	800	1,153	-	1,153	44.13%
Information Technology	2,500	-	-	2,500	0.00%
Supplies	2,150	386	772	2,150	0.00%
Operations and Maintenance	53,500	34,251	68,502	61,500	14.95%
Equipment Purchases	72,100	10,818	13,600	2,200	-96.95%
Depreciation	-	-	-	-	
Total Operations Expenses	**$ 446,381**	**$ 196,359**	**$ 383,144**	**$ 472,955**	**5.95%**

Department Summary						
Total Revenues		$ -	$ -	$ -	$ -	
Total Expenses		446,381	196,359	383,144	472,955	5.95%
Net Costs Allocable to Rate Centers		**$ (446,381)**	**$ (196,359)**	**$ (383,144)**	**$ (472,955)**	
Allocations to the Rate Centers						
Urban Water	44.00%	**$ 196,408**	**$ 86,398**	**$ 168,583**	**$ 208,100**	
Crozet Water	4.00%	**17,855**	**7,854**	**15,326**	**18,918**	
Scottsville Water	2.00%	**8,928**	**3,927**	**7,663**	**9,459**	
		-	**-**	**-**		
Urban Wastewater	47.00%	**209,799**	**92,289**	**180,078**	**222,289**	
Glenmore Wastewater	1.50%	**6,696**	**2,945**	**5,747**	**7,094**	
Scottsville Wastewater	1.50%	**6,696**	**2,945**	**5,747**	**7,094**	
	100.00%	**$ 446,382**	**$ 196,358**	**$ 383,144**	**$ 472,954**	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Laboratory

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 204,800	$ 103,026	$ 206,052	$ 273,465	$ 68,665	33.53%
11010	Overtime & Holiday Pay	9,000	6,557	13,114	6,000	(3,000)	-33.33%
12010	FICA	16,356	7,996	15,992	21,379	5,023	30.71%
12020	Health Insurance	36,400	14,417	28,834	50,429	14,029	38.54%
12026	Employee Assistance Program	50	28	56	50	-	0.00%
12030	Retirement	19,702	8,151	16,302	26,307	6,605	33.52%
12040	Life Insurance	2,683	1,258	2,516	3,582	899	33.51%
12050	Fitness Program	500	260	520	500	-	
12060	Worker's Comp Insurance	4,500	2,685	3,580	5,400	900	20.00%
	Subtotal	$ 293,991	$ 144,378	$ 286,966	$ 387,112	$ 93,121	31.67%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 500	$ 211	$ 422	$ 500	$ -	0.00%
13150	Education & Training	1,680	1,275	2,550	1,680	-	0.00%
13200	Travel & Lodging	1,930	1,820	3,640	1,930	-	0.00%
13250	Uniforms	2,000	75	150	2,000	-	0.00%
13325	Recruiting & Medical Testing	600	-	-	600	-	0.00%
13350	Other	400	335	670	400	-	0.00%
	Subtotal	$ 7,110	$ 3,716	$ 7,432	$ 7,110	$ -	0.00%
	Professional Services						
20100	Legal Fees	$ -	$ -	$ -	$ -	$ -	
20200	Financial & Admin. Services	-	-	-	-	-	
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 530	$ 442	$ 442	$ 530	$ -	0.00%
21150	Advertising & Communication	-	-	-	-	-	
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	600	1,200	-	-	
21253	Safety Programs/Supplies	700	134	268	700	-	0.00%
21300	Authority Dues/Permits/Fees	3,000	-	3,000	3,000	-	0.00%
21350	Laboratory Analysis	4,500	481	962	4,500	-	0.00%
21400	Utilities	-	-	-	-	-	#DIV/0!
21420	General Other Services	500	-	-	500	-	0.00%
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-		-	
	Subtotal	$ 14,230	$ 1,657	$ 5,872	$ 9,230	$ (5,000)	-35.14%
22000	***Communication***						
22100	Radio	$ -	$ -	$ -		$ -	
22150	Telephone & Data Service	-	-	-		-	
22200	Cell Phones & Pagers	800	1,153	2,306	1,153	353	44.13%
	Subtotal	$ 800	$ 1,153	$ 2,306	$ 1,153	$ 353	
31000	***Information Technology***						
31100	Computer Hardware	$ 1,500	$ -	$ -	$ 1,500	$ -	0.00%
31150	SCADA Maint. & Support	-	-	-	-	-	
31200	Maintenance & Support Services	800	-	-	800	-	0.00%
31250	Software Purchases	200	-	-	200	-	0.00%
	Subtotal	$ 2,500	$ -	$ -	$ 2,500	$ -	0.00%
33000	***Supplies***						
33100	Office Supplies	$ 1,500	$ 329	$ 658	$ 1,500	$ -	0.00%
33150	Subscriptions/Reference Material	300	-	-	300	-	
33350	Postage & Delivery	350	57	114	350	-	0.00%
	Subtotal	$ 2,150	$ 386	$ 772	$ 2,150	$ -	0.00%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ -	$ -	$ -	$ -	$ -	
41150	Building & Land Lease	-	-	-	-	-	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	-	-	-	-	-	
41350	Pipeline/Appurtenances	-	-	-	-	-	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Laboratory

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41400	Materials & Supplies	30,000	17,150	34,300	30,000	-	0.00%
41450	Chemicals	15,000	6,249	12,498	15,000	-	0.00%
41500	Vehicle Maintenance	-	3,897	7,794	-	-	
41550	Equipment Maint. & Repair	6,000	6,667	13,334	6,000	-	0.00%
41600	Instrumentation & Metering	2,000	-	-	10,000	8,000	
41650	Fuel & Lubricants	500	288	576	500	-	
41700	General Other Maintenance	-	-	-	-	-	
	Subtotal	$ 53,500	$ 34,251	$ 68,502	$ 61,500	$ 8,000	14.95%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 500	$ -	$ -	$ 500	$ -	0.00%
81200	Rental & Leases		-	-	-	-	
81250	Equipment (over $5000)	70,000	10,018	12,000	-	(70,000)	
81300	Vehicle Replacement Fund	1,600	800	1,600	1,700	100	6.25%
	Subtotal	$ 72,100	$ 10,818	$ 13,600	$ 2,200	$ (69,900)	-96.95%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ -	$ -	$ -	$ -	$ -	
95300	Engineering Allocation	-	-	-	-	-	
95150	Maintenance Allocation	-	-	-	-		
95200	Laboratory Allocation	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Depreciation	-	-	-	$ -	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Total	**$ 446,381**	**$ 196,359**	**$ 385,450**	**$ 472,955**	**$ 26,574**	**5.95%**

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Engineering Summary

	FY 2019			FY 2020	
	Budgeted FY 2019	Actual for 6 months	Projected 12 months	***Proposed Budget***	***Budget % Change***
Operations Budget					
Projected Revenues					
Payment for Services SWA	$ -	$ 14,246	$ 28,492	$ -	
Total Operations Revenues	**$ -**	**$ 14,246**	**$ 28,492**	**$ -**	
Projected Expenses					
Personnel Cost	$ 1,210,438	$ 587,637	$ 1,170,777	$ 1,347,631	11.33%
Professional Services	44,000	8,252	16,504	20,000	-54.55%
Other Services and Charges	19,550	26,027	47,967	10,350	-47.06%
Communications	17,180	8,528	11,908	14,500	-15.60%
Information Technology	44,500	27,847	55,694	21,200	-52.36%
Supplies	9,500	2,026	4,052	9,800	3.16%
Operations and Maintenance	54,880	28,566	57,132	86,798	58.16%
Equipment Purchases	26,500	12,750	25,500	42,400	60.00%
Depreciation	-	-	-	-	
Total Operations Expenses	**$ 1,426,548**	**$ 701,633**	**$ 1,389,534**	**$ 1,552,679**	**8.84%**

Department Summary						
Total Revenues		$ -	$ 14,246	$ 28,492	$ -	
Total Expenses		1,426,548	701,633	1,389,534	1,552,679	8.84%
Net Costs Allocable to Rate Centers		**$ (1,426,548)**	**$ (687,387)**	**$ (1,361,042)**	**$ (1,552,679)**	
Allocations to the Rate Centers						
Urban Water	47.00%	**$ 670,478**	**$ 323,072**	**$ 639,690**	**$ 729,759**	
Crozet Water	4.00%	**57,062**	**27,495**	**54,442**	**62,107**	
Scottsville Water	2.00%	**28,531**	**13,748**	**27,221**	**31,054**	
Urban Wastewater	44.00%	**627,681**	**302,450**	**598,858**	**683,179**	
Glenmore Wastewater	1.50%	**21,398**	**10,311**	**20,416**	**23,290**	
Scottsville Wastewater	1.50%	**21,398**	**10,311**	**20,416**	**23,290**	
	100.00%	**$ 1,426,548**	**$ 687,387**	**$ 1,361,043**	**$ 1,552,679**	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Engineering

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 861,350	$ 433,776	$ 867,552	$ 957,874	$ 96,524	11.21%
11010	Overtime & Holiday Pay	6,000	3,087	6,174	6,000	-	0.00%
12010	FICA	66,352	31,982	63,964	73,736	7,384	11.13%
12020	Health Insurance	134,700	57,728	115,456	151,286	16,586	12.31%
12026	Employee Assistance Program	140	98	196	150	10	7.14%
12030	Retirement	82,862	35,229	70,458	92,147	9,285	11.21%
12040	Life Insurance	11,284	5,513	11,026	12,548	1,264	11.20%
12050	Fitness Program	2,000	1,038	2,076	2,000	-	0.00%
12060	Worker's Comp Insurance	18,800	11,246	14,995	18,200	(600)	-3.19%
	Subtotal	$ 1,183,488	$ 579,697	$ 1,151,897	$ 1,313,941	$ 130,453	11.02%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 2,200	$ 1,295	$ 2,590	$ 2,500	$ 300	13.64%
13150	Education & Training	8,450	2,544	8,088	12,840	4,390	51.95%
13200	Travel & Lodging	11,300	2,665	5,330	13,300	2,000	17.70%
13250	Uniforms	3,500	521	1,042	3,500	-	0.00%
13325	Recruiting & Medical Testing	500	55	110	550	50	10.00%
13350	Other	1,000	860	1,720	1,000	-	0.00%
	Subtotal	$ 26,950	$ 7,940	$ 18,880	$ 33,690	$ 6,740	25.01%
	Professional Services						
20100	Legal Fees	$ 25,000	$ 143	$ 286	$ 5,000	$ (20,000)	-80.00%
20200	Financial & Admin. Services	4,000	-	-	-	(4,000)	-100.00%
20250	Bond Issue Costs	-	-	-	-	-	
20300	Engineering & Technical Services	15,000	8,109	16,218	15,000	-	0.00%
	Subtotal	$ 44,000	$ 8,252	$ 16,504	$ 20,000	$ (24,000)	-54.55%
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 4,900	$ 4,087	$ 4,087	$ 4,900	$ -	0.00%
21150	Advertising & Communication	200	-	-	200	-	0.00%
21250	Watershed Management	-	-	-	-	-	
21252	EMS Programs/Supplies	-	-	-	-	-	
21253	Safety Programs/Supplies	4,000	644	1,288	3,000	(1,000)	-25.00%
21300	Authority Dues/Permits/Fees	1,500	1,090	2,180	1,500	-	0.00%
21350	Laboratory Analysis	250	-	-	250	-	0.00%
21400	Utilities	300	186	372	500	200	66.67%
21420	General Other Services	3,400	20,020	40,040	-	(3,400)	-100.00%
21430	Governance & Strategic Support	5,000	-	-	-	(5,000)	
21450	Bad Debt	-	-	-	-	-	
	Subtotal	$ 19,550	$ 26,027	$ 47,967	$ 10,350	$ (9,200)	-47.06%
22000	***Communication***						
22100	Radio	$ 8,000	$ 4,824	$ 4,500	$ 4,500	$ (3,500)	-43.75%
22150	Telephone & Data Service	1,500	697	1,394	1,500	-	0.00%
22200	Cell Phones & Pagers	7,680	3,007	6,014	8,500	820	10.68%
	Subtotal	$ 17,180	$ 8,528	$ 11,908	$ 14,500	$ (2,680)	-15.60%
31000	***Information Technology***						
31100	Computer Hardware	$ 7,000	$ 331	$ 662	$ 9,000	$ 2,000	28.57%
31150	SCADA Maint. & Support	-	-	-	-	-	
31200	Maintenance & Support Services	34,500	27,516	55,032	9,200	(25,300)	-73.33%
31250	Software Purchases	3,000	-	-	3,000	-	0.00%
	Subtotal	$ 44,500	$ 27,847	$ 55,694	$ 21,200	$ (23,300)	-52.36%
33000	***Supplies***						
33100	Office Supplies	$ 5,000	$ 1,854	$ 3,708	$ 5,000	$ -	0.00%
33150	Subscriptions/Reference Material	4,000	33	66	4,200	200	5.00%
33350	Postage & Delivery	500	139	278	600	100	20.00%
	Subtotal	$ 9,500	$ 2,026	$ 4,052	$ 9,800	$ 300	3.16%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 18,940	$ 7,120	$ 14,240	$ 29,500	$ 10,560	55.76%
41150	Building & Land Lease	-	-	-	6,600	6,600	
41200	Pump Station Maintenance	-	-	-	-	-	
41300	Dam Maintenance	-	-	-	-		
41350	Pipeline/Appurtenances	19,690	6,857	13,714	20,698	1,008	5.12%
41400	Materials & Supplies	4,250	1,422	2,844	4,000	(250)	-5.88%
41450	Chemicals	-	-	-	-	-	

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Department: Engineering

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41500	Vehicle Maintenance	6,000	9,980	19,960	20,000	14,000	233.33%
41550	Equipment Maint. & Repair	1,000	19	38	500	(500)	-50.00%
41600	Instrumentation & Metering	-	-	-	-	-	
41650	Fuel & Lubricants	5,000	3,168	6,336	5,500	500	10.00%
41700	General Other Maintenance	-	-	-	-	-	
	Subtotal	$ 54,880	$ 28,566	$ 57,132	$ 86,798	$ 31,918	58.16%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 8,000	$ 3,500	$ 7,000	$ 23,800	$ 15,800	197.50%
81200	Rental & Leases	-	-	-	-	-	
81250	Equipment (over $5000)	-	-	-	-	-	
81300	Vehicle Replacement Fund	18,500	9,250	18,500	18,600	100	0.54%
	Subtotal	$ 26,500	$ 12,750	$ 25,500	$ 42,400	$ 15,900	60.00%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ -	$ -	$ -	$ -	$ -	
95300	Engineering Allocation	-	-	-	-	-	
95150	Maintenance Allocation	-	-	-	-	-	
95200	Laboratory Allocation	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Depreciation	-	-	-	$ -	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Total	**$ 1,426,548**	**$ 701,633**	**$ 1,389,534**	**$ 1,552,679**	**$ 126,131**	**8.84%**

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APPENDICES

Rivanna Water and Sewer Authority

Fiscal Year 2019-2020

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Flow Projections

	(1,000 GALLONS)			*(MILLION GALLONS PER DAY)*		
	FY 2019	***FY 2020***	***% Change***	***FY 2019***	***FY 2020***	***% Change***
Water						
Urban	3,397,700	3,397,700	0.00%	9.309	9.309	0.00%
Crozet	196,946	199,053	1.07%	0.540	0.545	0.93%
Scottsville	18,738	18,151	-3.13%	0.051	0.050	-1.96%
Total	3,613,384	3,614,904	0.04%	9.900	9.904	0.04%
Wastewater						
Urban	3,390,400	3,390,400	0.00%	9.289	9.289	0.00%
Glenmore	43,412	39,892	-8.11%	0.119	0.109	-8.40%
Scottsville	19,966	21,677	8.57%	0.055	0.059	7.27%
Total	3,453,778	3,451,969	-0.05%	9.463	9.457	-0.06%

Allocation (Urban Area Only)	***FY 2019***	***FY 2020***	***% Change***
Water			
City	51%	51%	0.00%
ACSA	49%	49%	0.00%
Wastewater			
City	51%	50%	-1.96%
ACSA	49%	50%	2.04%

FY 2020 allocations are based on FY 2018 retail flows reported by the City and ACSA.

	(1,000 GALLONS)			*(MILLION GALLONS PER DAY)*		
Allocation (Urban Area Only)	***FY 2019***	***FY 2020***	***% Change***	***FY 2019***	***FY 2020***	***% Change***
Water						
City	1,732,827	1,732,827	0.00%	4.747	4.747	0.00%
ACSA	1,664,873	1,664,873	0.00%	4.561	4.561	0.00%
	3,397,700	3,397,700				
Wastewater						
City	1,729,104	1,695,200	-1.96%	4.737	4.644	-1.96%
ACSA	1,661,296	1,695,200	2.04%	4.551	4.644	2.04%
	3,390,400	3,390,400				

URBAN WATER DEBT SERVICE COSTS

Summary of Debt Service Budget to be included in Monthly Charges

City Allocation of Debt Service Costs	Estimated Debt Service Budget FY 2020	City %	City Amount	Annual Total
ALLOCATION BASED ON FLOWS				
Regional Water System Projects:				
47% of 2012A Refunding Bond	135,051	51.00%	68,876	
14.20% of 2015B Bond - New Projects	240,463	51.00%	122,636	**191,512**
Revenues that offset Debt Service				
Trust Fund Interest	(54,000)	51.00%	(27,540)	
Buck Mountain Surcharge	(125,900)	FIXED	(25,900)	
Lease Revenues	(1,600)	51.00%	(816)	**(54,256)**
RATES BASED ON FIXED AGREEMENTS				
2003 & 2012 Urban Water Agreement				
Water Supply Expansion (15%/85%)				
100% of 2012B Revenue Bond	1,338,456	15.00%	200,768	
9.00% of 2015B Bond - Refunding	142,009	15.00%	21,301	
Water Pipeline (20%/80%)				
10.39% of 2018 Bond	234,274	20.00%	46,855	
Non-Water Supply - Other Projects (48%/52%)				
47.40% of 2015B Bond - Refunding	747,916	48.00%	359,000	
77.80% of 2015B Bond - New Projects	1,317,465	48.00%	632,383	
37.70% of 2018 Bond	850,062	48.00%	408,030	
South Rivanna Expansion of 1999				
10.30% of 2015B Bond - Refunding	162,522	0.00%	-	**1,668,337**
Southern Loop Water Line, West Branch				
3.9% of 2012A Refunding Bond	11,197	24.51%	2,744	**2,744**
South Rivanna Connector Main				
15.3% of 2012A Refunding Bond	44,083	52.00%	22,923	**22,923**
DEBT SERVICE PROJECTED FROM 5-YEAR CIP				
CIP Growth Rate from 2016-2020 CIP	736,600	FIXED	343,700	**343,700**
Debt Service Coverage Ratio / Policy Charge	400,000	37.00%	148,000	**148,000**
Total Debt Service For Rate Computation	**$ 6,178,598**		**$ 2,322,960**	**$ 2,322,960**

ACSA Allocation of Debt Service Costs	Estimated Debt Service Budget FY 2020	ACSA %	ACSA Amount	Annual Total
ALLOCATION BASED ON FLOWS				
Regional Water System Projects:				
47% of 2012A Refunding Bond	135,051	49.00%	66,175	
14.20% of 2015B Bond - New Projects	240,463	49.00%	117,827	**184,002**
Revenues that offset Debt Service				
Trust Fund Interest	(54,000)	49.00%	(26,460)	
Buck Mountain Surcharge	(125,900)	FIXED	(100,000)	
Lease Revenues	(1,600)	49.00%	(784)	**(127,244)**
RATES BASED ON FIXED AGREEMENTS				
2003 & 2012 Urban Water Agreement				
Water Supply Expansion (15%/85%)				
100% of 2012B Revenue Bond	1,338,456	85.00%	1,137,688	
9.00% of 2015B Bond - Refunding	142,009	85.00%	120,708	
Water Pipeline (20%/80%)				
10.39% of 2018 Bond	234,274	80.00%	187,419	
Non-Water Supply - Other Projects (48%/52%)				
47.40% of 2015B Bond - Refunding	747,916	52.00%	388,916	
77.80% of 2015B Bond - New Projects	1,317,465	52.00%	685,082	
37.70% of 2018 Bond	850,062	52.00%	442,032	
South Rivanna Expansion of 1999				
10.30% of 2015B Bond - Refunding	162,522	100.00%	162,522	**3,124,367**
Southern Loop Water Line, West Branch				
3.9% of 2012A Refunding Bond	11,197	75.49%	8,453	**8,453**
South Rivanna Connector Main				
15.3% of 2012A Refunding Bond	44,083	48.00%	21,160	**21,160**
DEBT SERVICE PROJECTED FROM 5-YEAR CIP				
CIP Growth Rate from 2016-2020 CIP	736,600	FIXED	392,900	**392,900**
Debt Service Coverage Ratio / Policy Charge	400,000	63.00%	252,000	**252,000**
Total Debt Service For Rate Computation	**$ 6,178,598**		**$ 3,855,638**	**$ 3,855,638**

SUMMARY OF DEBT SERVICE REVENUES:		
CITY SHARE OF TOTAL DEBT SERVICE	**$ 2,322,960**	**38%**
ACSA SHARE OF TOTAL DEBT SERVICE	**3,855,638**	**62%**
	$ 6,178,598	**100%**

URBAN WASTEWATER DEBT SERVICE COSTS
Summary of Debt Service Budget to be Included in Charges

City Allocation of Debt Service Costs		Estimated Debt Service Budget FY 2020	City %	City Amount	
ALLOCATION BASED ON FLOWS					
System Projects Rate					
	22.9% of 2015B Bond Refunding	361,335	50%	180,668	
	100% 2005A Bond VRA/VRLF	159,339	50%	79,670	
	88.5% of 2009A Bond VRA/VRLF	1,419,716	50%	709,858	
	37.9% of 2011 A,B Bond VRA/RLF	192,130	50%	96,065	
	30.6% of 2012A Bond (new money)	370,610	50%	185,305	
	100% of 2016 Bond	627,265	50%	313,633	
	2.41% of 2018 Bond	54,341	50%	27,171	**1,592,370**
Revenues/Reserves that offset Debt Service					
	County MOU - Septage	(109,440)	50%	(54,720)	
	Use of reserves for 2016 Bond DS	-	50%	-	
	Trust Fund Interest	(96,900)	50%	(48,450)	**(103,170)**
ALLOCATION BASED ON FIXED AGREEMENTS					
2014 Wastewater Agreement					
Meadowcreek	**97.9% of 2010A, and 13.6% of 2012A Bonds**	1,107,418	Segments	908,803	
Wet Weather MCWWTP	**11.5% of 2009A, and 62.1% of 2011 A/B Bonds**	499,293	Segments	317,447	
Moores Creek Pump Stn.	**100% of 2011 D/E Bond**	296,944	Segments	181,964	
Rivanna Pump Stn. & F.M.	**7.2% of 2012A Bond & 100% of 2014A Bond**	1,969,538	Segments	1,233,420	
Albemarle Berkley Pump Stn.	**4.2% of 2012A Bond**	50,868	0%	-	
Crozet Interceptor	**2.9% of 2012A Bond & 13.78% of 2018**	345,835	0%	-	
Schenks Branch Agreement	**20.0% of 2012A, 2.1% of 2010A Bonds and 100% of 2015A**	332,642	100%	332,642	**2,974,276**
Four Party Rate					
Regional System Projects	**19.6% of 2012A Refunding Bond**	56,341	N/A	18,780	
Crozet Interceptor	**3.9% of 2012A Refunding Bond**	11,226	N/A	3,742	
Facilities Purchase	**7.2% of 2012A Refunding Bond**	20,562	N/A	6,854	**29,376**
Moores Creek Relief IS, Pt 1	**1.6% of 2012A Refunding Bond**	4,676	30%	1,403	**1,403**
DEBT SERVICE PROJECTED FROM 5-YEAR CIP					
CIP Growth Charge from 2016-2020 CIP		230,400	Fixed	195,300	**195,300**
Debt Service Coverage Ratio / Policy Charge		325,000	62%	201,500	**201,500**
	Total	**$ 8,229,139**		**$ 4,891,055**	**$ 4,891,055**

ACSA Allocation of Debt Service Costs		Estimated Debt Service Budget FY 2020	ACSA %	ACSA Amount	
ALLOCATION BASED ON FLOWS					
System Projects Rate					
	22.9% of 2015B Bond Refunding	361,335	50%	180,668	
	100% 2005A Bond VRA/VRLF	159,339	50%	79,670	
	88.5% of 2009A Bond VRA/VRLF	1,419,716	50%	709,858	
	37.9% of 2011 A,B Bond VRA/RLF	192,130	50%	96,065	
	30.6% of 2012A Bond (new money)	370,610	50%	185,305	
	100% of 2016 Bond	627,265	50%	313,633	
	2.41% of 2018 Bond	54,341	50%	27,171	**1,592,370**
Revenues that offset Debt Service					
	County MOU - Septage	(109,440)	50%	(54,720)	
	Use of reserves for 2016 Bond DS	-	50%	-	
	Trust Fund Interest	(96,900)	50%	(48,450)	**(103,170)**
ALLOCATION BASED ON FIXED AGREEMENTS					
2014 Wastewater Agreement					
Meadowcreek	**97.9% of 2010A, and 13.6% of 2012A Bonds**	1,107,418	Segments	198,615	
Wet Weather MCWWTP	**11.5% of 2009A, and 62.1% of 2011 A/B Bonds**	499,293	Segments	181,845	
Moores Creek Pump Stn.	**100% of 2011 D/E Bond**	296,944	Segments	114,981	
Rivanna Pump Stn. & F.M.	**7.2% of 2012A Bond**	1,969,538	Segments	736,118	
Albemarle Berkley Pump Stn.	**4.2% of 2012A Bond**	50,868	100%	50,868	
Crozet Interceptor	**2.9% of 2012A Bond & 13.78% of 2018**	345,835	100%	345,835	
Schenks Branch Agreement	**20.0% of 2012A, 2.1% of 2010A Bonds and 100% of 2015A**	332,642	0%	-	**1,628,262**
Four Party Rate					
Regional System Projects	**19.6% of 2012A Refunding Bond**	56,341	N/A	37,561	
Crozet Interceptor	**3.9% of 2012A Refunding Bond**	11,226	N/A	7,484	
Facilities Purchase	**7.2% of 2012A Refunding Bond**	20,562	N/A	13,708	**58,753**
Moores Creek Relief IS, Pt 1	**1.6% of 2012A Refunding Bond**	4,676	70%	3,273	**3,273**
DEBT SERVICE PROJECTED FROM 5-YEAR CIP					
CIP Growth Charge from 2016-2020 CIP		230,400	Fixed	35,100	**35,100**
Debt Service Coverage Ratio / Policy Charge		325,000	38%	123,500	**123,500**
	Total	**$ 8,229,139**		**$ 3,338,088**	**$ 3,338,088**

SUMMARY OF DEBT SERVICE REVENUES:		
CITY SHARE OF TOTAL DEBT SERVICE	**$ 4,891,055**	**59%**
ACSA SHARE OF TOTAL DEBT SERVICE	**3,338,088**	**41%**
	$ 8,229,143	**100%**

OTHER RATE CENTERS DEBT SERVICE RATES

Summary of Debt Service Payments Due

	Existing Estimated Debt Service Budget FY 2020	Estimated New Debt Service	Total Annual Debt Service	ACSA Monthly Rate
WATER				
Crozet Water				
System Upgrades				
1.0% of 2012A Refunding Bond	$ 2,830			
17.0% of 2012A Bond (new money)	205,894			
7.4% of 2015B Bond Refunding	116,763			
5.9% of 2015B Bond New Projects	99,911			
35.72% of 2018 Bond	805,417			
Estimated DS - CIP Growth in Rate		**$ 86,000**		
Revenues that offset Debt Service				
Trust Fund Interest	(5,500)			
	$ 1,225,315	$ 86,000	**$ 1,311,315**	**$ 109,276**
Scottsville Water				
System Upgrades				
0.2% of 2012A Refunding Bond	$ 492			
4.2% of 2012A Bond (new money)	50,868			
2.7% of 2015B Bond Refunding	42,603			
2.1% of 2015B Bond New Projects	35,561			
Estimated DS - CIP Growth in Rate		**925**		
Revenues that offset Debt Service				
Trust Fund Interest	(1,700)			
	$ 127,824	$ 925	**$ 128,749**	**$ 10,729**
WASTEWATER				
Glenmore Wastewater				
System Upgrades				
0.10% of 2015B Bond Refunding	$ 1,578			
Revenues that offset Debt Service		**2,200**		
Trust Fund Interest	-			
	1,578	**2,200**	**$ 3,778**	**$ 315**
Scottsville Wastewater				
Facilities Purchase				
0.3% of 2012A Refunding Bond	$ 953			
System Upgrades				
0.3% of 2012A Bond (new money)	3,633			
0.20% of 2015B Bond Refunding	3,156			
Estimated DS - CIP Growth in Rate		**1,800**		
Revenues that offset Debt Service				
Trust Fund Interest	(100)			
	$ 7,642	$ 1,800	**$ 9,442**	**$ 787**
TOTAL	**$ 1,362,359**	**$ 90,925**	**$ 1,453,284**	**$ 121,107**

DEBT SUMMARY

	Total Revenue Bond Debt	Total FY 2020 Debt Service	Total FY 2019 Debt Service
CURRENT EXISTING DEBT			
DEBT BY BOND ISSUE			
2005 A Bond VRA/VRLF	1,063,050	159,339	159,339
2009A Bond	15,812,877	1,604,199	1,604,199
2010A Bond	9,816,467	962,522	962,521
2011A Bond	4,869,766	443,608	443,608
2011B Bond	695,230	63,332	63,331
2011D,E Bond	3,373,638	296,944	296,944
2012A Bond (refunding & new money)	18,425,000	1,498,556	1,572,609
2012B Bond	22,715,000	1,338,456	1,337,656
2014A Bond	25,954,584	1,882,336	1,882,336
2015A Bond	1,052,840	70,593	70,593
2015B Bond (refunding & new money)	40,460,000	3,271,281	3,275,338
2016 Bond	9,198,000	627,265	626,924
2018 Bond	36,855,000	2,254,806	
	$ 190,291,452	**$ 14,473,237**	**$ 12,295,398**
Ratio of Debt / Debt Service	*7.6%*		
PRINCIPAL AND INTEREST PAYMENTS BY CENTER - Annual			
Urban Water		5,223,498	4,190,796
Crozet Water		1,230,815	426,071
Scottsville Water		129,524	129,680
Urban Wastewater		7,880,079	7,539,261
Glenmore Wastewater		1,578	1,586
Scottsville Wastewater		7,742	8,006
	$ -	**$ 14,473,237**	**$ 12,295,398**

Stone Robinson School WWTP Estimated Charges

	Total	***Monthly***
Expenses		
Fixed Costs		
Wages	$ 6,531	
Benefits	3,426	
Mileage	1,693	
Subtotal	$ 11,650	
Overhead at 35%	4,078	
Total Fixed Charge	$ 15,728	
Variable Costs		
Repairs, Maintenance, Other	$ 5,000	
Overhead at 35%	1,750	
Total Variable Charge	$ 6,750	
Total Annual Charge Estimate	$ 22,478	$ 1,873

Red Hill Community Water System Estimated Charges

	Total	***Monthly***
Expenses		
Fixed Costs		
Wages	$ 21,500	
Benefits	3,995	
Mileage	6,322	
Subtotal	$ 31,817	
Overhead at 35%	11,136	
Total Fixed Charge	$ 42,953	
Variable Costs		
Repairs, Maintenance, Other	$ 39,000	
Overhead at 35%	13,650	
Total Variable Charge	$ 52,650	
Total Annual Charge Estimate	$ 95,603	$ 7,967

All Rate Centers

Detailed Summary of Revenues

	FY 2019	*FY 2020*	*$ Change*	*% Change*
OPERATIONS				
Operations Rate Revenues	$ 16,387,174	$ 17,381,293	$ 994,119	6.07%
Other Operations Revenues				
Interest Allocation	$ 28,050	$ 31,500	$ 3,450	12.30%
Red Hill Community Water System	-	-	-	
Stone Robinson WWTP	28,084	22,478	(5,606)	-19.96%
Septage/Sludge Acceptance	410,000	450,000	40,000	9.76%
Leases	100,000	100,000	-	0.00%
Administration	462,000	468,000	6,000	1.30%
Nutrient Credits	90,000	90,000	-	0.00%
Use of Reserves	-	667,000	667,000	0.00%
Miscellaneous	-	10,000	10,000	
	$ 1,118,134	$ 1,838,978	$ 720,844	64.47%
Total Operations Revenues	$ 17,505,308	$ 19,220,271	$ 1,714,963	9.80%
DEBT SERVICE				
Debt Service Rate Revenues				
City	$ 7,071,216	$ 7,214,015	$ 142,799	2.02%
ACSA	7,781,315	8,647,007	865,692	11.13%
	$ 14,852,531	$ 15,861,022	$ 1,008,491	6.79%
Other Debt Service Revenues				
Interest	390,400	848,200	457,800	117.26%
Urban WW Reserves Used	300,000	-	(300,000)	
County MOU - Septage	109,440	109,440	-	0.00%
Buck Mountain Surcharge	118,600	125,900	7,300	6.16%
Leases	1,600	1,600	-	0.00%
	$ 920,040	$ 1,085,140	$ 165,100	17.94%
Total Debt Service Revenues	$ 15,772,571	$ 16,946,162	$ 1,173,591	7.44%
Total Revenues	$ 33,277,879	$ 36,166,433	$ 2,888,554	8.68%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Authority as a Whole

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
10000	***Salaries & Benefits***						
11000	Salaries	$ 5,683,450	$ 2,710,493	$ 5,420,986	$ 5,876,908	$ 193,458	3.40%
11010	Overtime Pay	247,500	151,367	302,734	285,500	38,000	15.35%
12010	FICA	453,719	205,279	410,558	471,423	17,704	3.90%
12020	Health Insurance	1,128,890	510,137	1,020,274	1,182,867	53,977	4.78%
12026	Employee Assistance Program	1,245	797	1,594	1,256	11	0.88%
12030	Retirement	546,749	216,825	433,650	565,358	18,609	3.40%
12040	Life Insurance	74,453	33,734	67,468	76,986	2,533	3.40%
12050	Fitness Program	10,650	5,709	11,418	11,160	510	4.79%
12060	Worker's Comp Insurance	93,000	55,487	73,984	89,500	(3,500)	-3.76%
	Subtotal	$ 8,239,656	$ 3,889,828	$ 7,742,666	$ 8,560,958	$ 321,302	3.90%
13000	***Other Personnel Costs***						
13100	Employee Dues & Licenses	$ 10,890	$ 3,035	$ 7,440	$ 11,190	$ 300	2.75%
13150	Education & Training	79,130	25,126	63,534	83,520	4,390	5.55%
13200	Travel & Lodging	33,850	9,528	19,056	35,250	1,400	4.14%
13250	Uniforms	47,615	24,019	48,038	48,515	900	1.89%
13325	Recruiting & Medical Testing	6,450	3,450	6,900	6,300	(150)	-2.33%
13350	Other	12,195	14,577	27,154	14,345	2,150	17.63%
	Subtotal	$ 190,130	$ 79,735	$ 172,122	$ 199,120	$ 8,990	4.73%
	Professional Services						
20100	Legal Fees	$ 94,000	$ 54,199	$ 108,398	$ 85,000	$ (9,000)	-9.57%
20200	Financial & Admin. Services	72,000	15,067	68,000	69,000	(3,000)	-4.17%
20250	Bond Issue Costs	-	-	-	-	-	0.00%
20300	Engineering & Technical Services	544,250	326,279	712,558	512,050	(32,200)	-5.92%
	Subtotal	$ 710,250	$ 395,545	$ 888,956	$ 666,050	$ (44,200)	-6.22%
	Other Services and Charges						
21100	General Liability/Property Ins.	$ 144,750	$ 120,740	$ 120,740	$ 144,090	$ (660)	-0.46%
21150	Advertising & Communication	15,425	12,189	24,378	15,425	-	0.00%
21250	Watershed Management	125,000	28,687	115,000	112,000	(13,000)	-10.40%
21252	EMS Programs/Supplies	1,000	1,562	3,124	500	(500)	-50.00%
21253	Safety Programs/Supplies	40,790	30,813	91,626	104,687	63,897	156.65%
21300	Authority Dues/Permits/Fees	89,300	50,429	94,472	91,400	2,100	2.35%
21350	Laboratory Analysis	110,480	52,949	110,544	131,000	20,520	18.57%
21400	Utilities	1,311,700	816,241	1,632,482	1,323,600	11,900	0.91%
21420	General Other Services	839,610	587,185	1,175,812	1,017,910	178,300	21.24%
21430	Governance & Strategic Support	131,680	16,531	33,062	35,000	(96,680)	-73.42%
21450	Bad Debt	5,000	-	5,000	5,000	-	
	Subtotal	$ 2,814,735	$ 1,717,326	$ 3,406,240	$ 2,980,612	$ 165,877	5.89%
22000	***Communication***						
22100	Radio	$ 26,420	$ 24,135	$ 24,892	$ 22,940	$ (3,480)	-13.17%
22150	Telephone & Data Service	74,525	41,402	82,804	74,600	75	0.10%
22200	Cell Phones & Pagers	42,160	23,122	46,244	45,053	2,893	6.86%
	Subtotal	$ 143,105	$ 88,659	$ 153,940	$ 142,593	$ (512)	-0.36%
31000	***Information Technology***						
31100	Computer Hardware	$ 47,700	$ 13,231	$ 35,688	$ 63,900	$ 16,200	33.96%
31150	SCADA Maint. & Support	170,100	25,431	152,782	138,500	(31,600)	-18.58%
31200	Maintenance & Support Services	100,800	50,585	116,582	104,750	3,950	3.92%
31250	Software Purchases	22,850	8,759	17,918	45,600	22,750	99.56%
	Subtotal	$ 341,450	$ 98,006	$ 322,970	$ 352,750	$ 11,300	3.31%
33000	***Supplies***						
33100	Office Supplies	$ 29,600	$ 11,951	$ 23,952	$ 29,700	$ 100	0.34%
33150	Subscriptions/Reference Material	5,920	498	1,006	5,430	(490)	-8.28%
33350	Postage & Delivery	8,400	7,196	14,692	11,050	2,650	31.55%
	Subtotal	$ 43,920	$ 19,645	$ 39,650	$ 46,180	$ 2,260	5.15%
41000	***Operation & Maintenance***						
41100	Building & Grounds	$ 328,340	$ 129,612	$ 280,538	$ 361,600	$ 33,260	10.13%
41150	Building & Land Lease	32,500	33,729	35,145	43,200	10,700	32.92%
41200	Pump Station Maintenance	102,500	51,278	107,556	114,500	12,000	11.71%
41300	Dam Maintenance	99,500	50,876	103,252	146,990	47,490	47.73%
41350	Pipeline/Appurtenances	369,850	274,650	974,400	328,298	(41,552)	-11.23%
41400	Materials & Supplies	132,150	82,912	166,224	135,900	3,750	2.84%
41450	Chemicals	1,564,900	940,930	2,600,860	2,682,190	1,117,290	71.40%
41500	Vehicle Maintenance	38,200	53,545	107,980	59,600	21,400	56.02%

Rivanna Water and Sewer Authority
Fiscal Year 2019-2020 Proposed Budget
Expense Detail

Authority as a Whole

Object Code	Line Item	Adopted Budget FY 2018-2019	Current Year Activity: Six Month Actual 12/31/2018	Current Year Activity: Projected Year end 6/30/2019	Proposed Budget FY 2019-2020	2019 vs. 2020 Variance $	2019 vs. 2020 Variance %
41550	Equipment Maint. & Repair	609,500	346,210	702,420	669,000	59,500	9.76%
41600	Instrumentation	184,420	49,762	160,024	328,400	143,980	78.07%
41650	Fuel & Lubricants	93,800	46,981	93,962	95,800	2,000	2.13%
41700	General Other Maintenance	164,000	79,773	139,546	104,000	(60,000)	-36.59%
	Subtotal	$ 3,719,660	$ 2,140,258	$ 5,471,907	$ 5,069,478	$ 1,349,818	36.29%
81000	***Equipment Purchases***						
81100	Small Equipment & Tools	$ 53,050	$ 42,802	$ 85,604	$ 70,850	$ 17,800	33.55%
81200	Rental & Leases	14,300	5,793	46,586	16,800	2,500	17.48%
81250	Equipment (over $5000)	196,800	104,613	175,990	56,800	(140,000)	-71.14%
81300	Vehicle Replacement Fund	195,250	97,625	195,250	215,100	19,850	10.17%
	Subtotal	$ 459,400	$ 250,833	$ 503,430	$ 359,550	$ (99,850)	-21.73%
95000	***Allocations from Departments***						
95100	Administrative Allocation	$ -	$ -	$ -	$ -	$ -	
95300	Engineering Allocation	-	-	-	-	-	
95150	Maintenance Allocation	-	-	-	-	-	
95200	Laboratory Allocation	-	-	-	-	-	
	Subtotal	$ -	$ -	$ -	$ -	$ -	
	Depreciation	843,000	421,500	843,000	$ 843,000	-	0.00%
	Subtotal	$ 843,000	$ 421,500	$ 843,000	$ 843,000	$ -	0.00%
	Total	**$ 17,505,306**	**$ 9,101,335**	**$ 19,544,881**	**$ 19,220,291**	**$ 1,714,985**	**9.80%**

Audit Check	
Less revenue allocation in Admin.	(468,000)
Less revenue allocation in Maint.	(10,000)
Less revenue allocation in Eng.	-
Detail Check on Expenses	$ 18,742,291
Total Summary Sheet Rate Center Only	$ 18,742,287

RWSA Staffing by Department

OPERATIONS	*Approved Positions FY 2019*	*Changes*	*Postions FY 2020*
Engineering & Maintenance			
Director of Engineering & Maintenance	1		1
Engineering Department			
Engineering Manager	1		1
Senior Civil, Civil Engineers	4		4
Water Resources Manager (moved from Water)	1		1
Engineering Technician/Inspector/GIS	3	1	4
GIS Coordinator (moved to Admin)	0		0
Administrative Office Technician	1		1
(Director FTE included) Subtotal	11	1	12
Maintenance Department			
Maintenance Manager	1		1
Maintenance Supervisor	1		1
Mechanics	10		10
Industrial Controls/Instrumentation Specialist	1		1
Vehicle Equipment Mechanic	1		1
Mechanic Helper	1		1
Maintenance Workers	2		2
Subtotal	17		17
Operations			
Director of Operations	1		1
Laboratory			
Laboratory Manager	1		1
Chemist	1	1	2
Lab Technician	1		1
Subtotal	3	1	4
Wastewater Department			
Wastewater Manager	1		1
Wastewater Assistant Manager	1		1
Treatment Supervisor	1		1
Plant Operators (14 total)			
Operators - Relief Shift Differential all plants	2		2
Operators - Urban	9		9
Operator - Glenmore	1		1
Operator - Scottsville	1		1
Subtotal	16		16
Water Department			
Water Manager	1		1
Water Assistant Manager	1		1
Water Quality Specialist	1		1

RWSA Staffing by Department

OPERATIONS	***Approved Positions FY 2019***	***Changes***	***Postions FY 2020***
Water Treatment Plant Supervisor	2		2
Plant Operators			
Operators - Relief Shift Differential all plants	3		3
Operators - Urban	14.4	-0.5	13.9
Operators - Crozet	2.6		2.6
Operators - Scottsville	1.4	0.5	1.9
Subtotal	26.4	-	26.4
Subtotal	74.4	2	76.4

				FTE Split		
Joint Administrative Staff				RWSA	SWA	
Executive Director	1		1	0.85	0.15	1.00
Communications Manager/Executive Coordinator	1		1	0.60	0.40	1.00
Director of Finance & Administration	1		1	0.80	0.20	1.00
Office/HR Manager	1		1	0.80	0.20	1.00
Accountant	1		1	0.80	0.20	1.00
Payroll & Benefits Coordinator	1		1	0.75	0.25	1.00
Accounts Payable/Purchasing Technician	1		1	0.75	0.25	1.00
Accounts Receivable Technician	1		1	0.30	0.70	1.00
Reception/Secretary III	1		1	0.75	0.25	1.00
Administrative Office Technician	1		1	0.70	0.30	1.00
Environmental & Safety Manager	1		1	0.70	0.30	1.00
IT/SCADA						
Information Systems Administrator	1		1	0.60	0.40	1.00
Information Systems Asst. Administrator	1		1	0.60	0.40	1.00
GIS Coordinator (moved from Engineering)	1		1	1.00	0.00	1.00
Software Analyst	1		1	0.80	0.20	1.00
IT Specialist - SCADA	1		1	1.00	0.00	1.00
SCADA Technician	1		1	1.00	0.00	1.00
Administration and allocation with RSWA	17		17	12.80	4.20	
Total all positions	91.40	2.00	93.40			
FTE Position Allocated to RSWA	-3.95		-4.20			
Total Adjusted FTEs	87.45		89.20			

Data for ACSA

		FY 2019	FY 2020	Change
Total RWSA Expenses				
Water		$ 15,872,000	$ 17,675,000	$ 1,803,000
Wastewater		16,943,000	18,013,000	1,070,000
Add Administration revenue allocation		462,000	468,000	6,000
Add Maintenance revenue allocation		-	10,000	10,000
Add Engineering revenue allocation		-	-	-
				-
	Total	$ 33,277,000	$ 36,166,000	$ 2,889,000

RWSA Rate Charges Allocated to ACSA, by Service Area

Water

Urban		$ 7,138,223	$ 7,343,723	$ 205,500
Crozet		1,952,952	2,340,120	387,168
Scottsville		572,608	649,561	76,953
	Total	$ 9,663,783	$ 10,333,404	$ 669,621

Wastewater

Urban		$ 6,521,468	$ 7,354,898	$ 833,430
Scottsville		309,878	318,430	8,552
Stone Robinson School		28,084	22,478	(5,606)
Glenmore		374,306	374,302	(4)
				-
	Total	$ 7,233,736	$ 8,070,108	$ 836,372

Total for ACSA	**$ 16,897,519**	**$ 18,403,512**	**$ 1,505,993**