



Board of Directors Meeting

April 25, 2023

2:15pm

BOARD OF DIRECTORS

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

DATE: **APRIL 25, 2023**

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

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

AGENDA

1. CALL TO ORDER

2. AGENDA APPROVAL

3. MINUTES OF PREVIOUS BOARD MEETING ON MARCH 28, 2023

4. RECOGNITION

5. EXECUTIVE DIRECTOR'S REPORT

6. ITEMS FROM THE PUBLIC

Matters Not Listed for Public Hearing on the Agenda

7. RESPONSES TO PUBLIC COMMENTS

8. CONSENT AGENDA

a. Staff Report on Finance

b. Staff Report on Operations

c. Staff Report on Ongoing Projects

d. Staff Report on Wholesale Metering

e. Staff Report on Drought Monitoring

f. Approval of Preliminary Engineering Services - Beaver Creek Raw Water Pump Station and Intake – Hazen & Sawyer Engineers

- g. *Approval of Beaver Creek Dam No. 1 Supplemental Watershed Plan Agreement (Supplement No. 2)*

9. OTHER BUSINESS

- a. *Presentation and Vote to Consider Approval: Transfer of Scottsville Drinking Water Infrastructure to RWSA; Jennifer Whitaker, P.E., Director of Engineering and Maintenance*
- b. *Presentation: Urban Water System Permit Update including Releases from the Sugar Hollow Reservoir; Andrea Bowles, Water Resources Manager*
- c. *Presentation: Moores Creek Wastewater Master Plan Update
Scott Schiller, P.E., Engineering Manager*

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

11. CLOSED MEETING

12. 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, Matters Not Listed for Public Hearing on the Agenda.” 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 comments 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/RSWA Administration office upon request or can be viewed on the Rivanna website.

Rev. September 7, 2022



RWSA BOARD OF DIRECTORS
Minutes of Regular Meeting
March 28, 2023

A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, March 28, 2023 at 2:47 p.m. via Zoom.

Board Members Present: Mike Gaffney, Michael Rogers, Brian Pinkston, Ann Mallek, Lauren Hildebrand, Jeff Richardson, and Gary O'Connell.

Board Members Absent: None.

Rivanna Staff Present: Bill Mawyer, Lonnie Wood, Jennifer Whitaker, David Tungate, Deborah Anama, Betsy Nemeth, Jacob Woodson, Jeff Southworth.

Attorney(s) Present: Carrie Stanton.

1. CALL TO ORDER

Mr. Gaffney convened the March 28, 2023 regular meeting of the Board of Directors of the Rivanna Water and Sewer Authority at 2:47 p.m.

2. STATEMENT FROM THE CHAIR

Mr. Gaffney read the following statement aloud:

“This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority. I would like to call the March 28, 2023 meeting of the Board of Directors to order.

“This virtual meeting today is being held pursuant to and in compliance with Virginia Code § 2.2-3708.3.

“The opportunities for the public to access and participate in the electronic meeting were posted on the Rivanna Authority’s website. Participation will include the opportunity to comment on those matters not listed for public hearing on the agenda.

“All Board members are participating electronically. All Board members will identify themselves and state their physical location via electronic means during the roll call which we will hold next.”

Mr. Gaffney called the roll.

Ms. Hildebrand stated she was located at 305 Fourth Street NW, Charlottesville.

Ms. Mallek stated she was located at 4826 Advance Mills Road, Earlysville.

Mr. O'Connell stated he was located at the ACSA Offices, 168 Spotnap Road.

Mr. Pinkston stated he was located at 575 Alderman Road, Charlottesville.

Mr. Richardson stated he was located at the County Office Building, 401 McIntire Road, Charlottesville.

Mr. Rogers stated he was located at City Hall, 605 East Main Street, Charlottesville.

Mr. Gaffney stated he was located at 3180 Dundee Road, Earlysville.

3. AGENDA APPROVAL

There were no comments on or questions for the agenda.

Mr. Pinkston moved to approve the agenda. Ms. Mallek seconded the motion, which carried unanimously (7-0).

4. MINUTES OF PREVIOUS BOARD MEETING

a. Minutes of Regular Board Meeting on February 28, 2023

There were no comments on or questions regarding the minutes for the meeting held on February 28, 2023.

Ms. Mallek moved the Board to approve the minutes from the meeting held on February 28, 2023. Mr. O'Connell seconded the motion, which passed unanimously (7-0).

5. RECOGNITIONS

There were none.

6. EXECUTIVE DIRECTOR'S REPORT

Mr. Mawyer recognized that two staff members had improved their credentials. He stated Mr. Seth Morris passed the state exam and was now a Class II water operator. He stated that Mr. Keith Covington had achieved his Class I water operator license.

He stated that they continued to work on the planning and infrastructure for water and sewer. He stated that renovation of the Observatory WTP continued and they projected the project would be completed the following month. Mr. Mawyer stated that the South Rivanna and North Rivanna WTPs carried the full urban water system while the Observatory WTP was out of service.

He stated that there had been productive meetings with UVA and the UVA Foundation about the major piping projects. He stated that Mr. Gaffney had also met with the UVA Foundation to discuss the schedule and commitments to keep the projects moving forward. He stated that there were two sections where they required easements from the UVA Foundation, and there was one section where they required easements from UVA. Mr. Mawyer stated that they received 30% design drawings for the Central Waterline project. He stated that they were moving forward with 60% design completion for the waterline project.

93 Mr. Mawyer stated that it was Fix-A-Leak Month, and they partnered with the City and ACSA to
94 host events, such as a scavenger hunt and 5-K family run. He mentioned that former supervisor
95 Ken Boyd died, and he had served on the RWSA Board for about six years.

96
97 Mr. Pinkston clarified that the central waterline had completed 60% design.

98
99 Mr. Mawyer stated that they were moving from 30% design to 60%.

100
101 Mr. Pinkston asked if they had an estimate for when construction would start.

102
103 Mr. Mawyer stated that there was a summary table in Item 8c of the ongoing projects report.

104
105 Mr. Gaffney noted that the bid advertise date was December 2023.

106
107 Mr. Mawyer stated that construction would likely begin three to four months after the bid.

108
109 Mr. Richardson asked how long ago the Birdwood section of the pipe was completed.

110
111 Mr. Mawyer stated that it was completed in 2018 and 2019.

112
113 Mr. Richardson noted that there was a request for assistance and synchronization for another
114 project.

115
116 Mr. Mawyer stated that the UVA Foundation was planning to remodel the golf course at the
117 time. He stated that we wanted to install the pipe in the ground before the Foundation did its
118 major remodeling.

119
120 Mr. Richardson asked how many private easements the Authority had negotiated.

121
122 Mr. Mawyer stated that they had acquired 1 easement from UVAF, with 2 easements pending,
123 and they wanted to purchase over an acre to build the pump station. He stated that they acquired
124 an easement from Sugar Day Farm and one for a betterment project at Victorian Heights. He
125 stated that much of the project was in the public right-of-way of Woodburn Road, Rio Road, and
126 Lambs Road. He noted that they acquired an easement from the Albemarle School Board to build
127 the pipe behind Journey Middle School. He stated that they acquired an easement from the new
128 Regents School located on Reservoir Road. He stated that the City donated easements near
129 Ragged Mountain Reservoir. He stated that in total, there were 19 easements required on 31
130 parcels including 14 private property owners and 5 public property owners, (UVA, UVAF, DoF,
131 ACPS, City).

132
133 Mr. Richardson stated that they hoped to conclude the project in the near future.

134
135 Mr. Mawyer stated that they planned to complete the project by June 2023. He stated that they
136 had a good understanding with the UVA Foundation about the location of the easement.

137
138 Mr. Gaffney stated that the UVA Foundation negotiations had to be reviewed by the University

Office of the Architect to ensure it fit within their 200-year plan. He stated that adjustments had to go through the entire process again. He stated that the Foundation members were onboard with the project.

7. ITEMS FROM THE PUBLIC

For matters not listed on the agenda for public hearing

Mr. Gaffney opened Items from the Public.

Mr. James Bennett, 6430 Sugar Hollow Road, stated that he was speaking on behalf of the Moormans Scenic River Advisory Board, a VDCR board formed in 2022 of volunteer individuals approved to serve based on their interest in the health of the scenic Moormans River. He stated that on February 1, they met by teleconference with Andrea Bowles and Jennifer Whitaker of RWSA to express concerns about the Moormans River.

Mr. Bennett stated that the Community Water Supply Plan was developed in 2006 and signed by RWSA and other parties in 2008. He stated that the plan created resilience while meeting water supply needs and introduced advances in water supply protection. He stated that the biodiversity goals acknowledged in the plan had been formalized by the County. He stated that several surrounding states had referred to the plan as exemplary, and several of the goals of the plan had been completed or were in progress.

Mr. Bennett stated that the scientific analyses of hydrology and ecology of rivers had advanced significantly, and it led them to conclude that RWSA needed to integrate the goals further with the County's biodiversity plan. He requested that all formulas that estimated water inflows to the Sugar Hollow Reservoir be replaced by those that used modern technology to directly measure the inflow rates. He stated that the use of minimum instream flow (MIF) as a metric of river flow was out of date and had been replaced by ecological or environmental flow as a more meaningful metric.

Mr. Bennett requested that the ecological flow for the Moormans River be analyzed by an ecological hydrologist. He stated that the effects of reduced flows on summertime temperature variations and alkalinity of the river must be considered. He stated that "decommission in place" of the Sugar Hollow to Ragged Mountain needed more definition. He stated that a plan to preserve water volume in the Ragged Mountain Reservoir through water conservation measures should be developed before initiating flow limitations on the Moormans River.

8. RESPONSES TO PUBLIC COMMENTS

Mr. Mawyer stated that there was a permit from DEQ which established how they operated the Sugar Hollow Reservoir. He stated that they met with the Moormans Scenic River Advisory Board (MSRAB) in February, and they received a list of comments and thoughts from the board. He stated that they were preparing a response to elaborate on the facts and requirements of the permit.

Mr. Mawyer stated that they offered to meet with the MSRAB board along with Ms. Mallek. He noted that Dr. Liz Palmer was interested in meeting. He stated that they applied for a new urban

185 withdrawal permit in May 2021. He stated that the permit was originally issued in 2008, and it
186 expired in 2023. He stated that DEQ had reviewed the permit and given the Authority permission
187 to continue to operate until completion of the initial review. He stated that there would be a
188 public meeting on the draft permit.

189
190 Mr. Mawyer noted that the MSRAB had concerns that water should be released into the
191 Moormans River continuously. He stated that they had installed an automated valve, so they
192 were able to release water every day from the Sugar Hollow Reservoir. He stated that they were
193 required to release when the reservoir was not overflowing because the overflow constituted an
194 acceptable release. He stated that they calculated how much to release based on a hydrological
195 formula which used another watershed as a basis and gauges below the dam.

196
197 Ms. Mallek asked about the potential of installing gauges at the water intake rather than at the
198 bottom of the dams. She stated that they were making progress.

199
200 Mr. Mawyer stated that the item would be brought before the Board the following month for
201 presentation.

202
203 Mr. O'Connell clarified that the flow release had changed and was flowing daily.

204
205 Mr. Mawyer stated that if the dam was overflowing, there was a release to the river, and if the
206 reservoir was not overflowing, they had to calculate from the day before how much water flowed
207 into the reservoir. He stated that they released either 100% of the inflow or some minimum set
208 forth in the permit. He stated that the calculation was based on how much water was in the
209 Ragged Mountain Reservoir.

210
211 Ms. Mallek clarified that the water was released from a pipe at the bottom of the dam.

212
213 Mr. Mawyer stated that was correct.

214 215 **9. CONSENT AGENDA**

216 *a. Staff Report on Finance*

217
218 *b. Staff Report on Operations*

219
220 *c. Staff Report on Ongoing Projects*

221
222 *d. Staff Report on Wholesale Metering*

223
224 *e. Approval of Engineering Services – Moores Creek AWRRF Structural and Concrete*
225 *Rehabilitation – Hazen and Sawyer Engineering*

226
227 Mr. O'Connell asked for clarification about the total estimated cost for Item E.

228
229 Mr. Mawyer stated that the project totaled \$13.5M. He stated that they aggregated several
230 smaller projects into the one project.

Mr. Gaffney noted that engineering service contracts typically had a 10% limit for amendments, but the request was for 25%. He asked for clarification.

Mr. Mawyer stated that this was a request for authorization to amend the contract up to 25% as permitted in the Purchasing Manual for contracts exceeding \$200,000 if within the approved CIP project budget.

Mr. Rogers moved to approve the Consent Agenda. Ms. Mallek seconded the motion, which passed unanimously (7-0).

10. OTHER BUSINESS

a. Presentation and Approval: Introduction of FY 2023-2024 Budget and Approval of the Resolution to Adopt the Preliminary Rate Schedule *Bill Mawyer, Executive Director*

Mr. Mawyer stated that if approved, the proposed budget and rate schedule would be advertised to the public, and a public hearing would be held in May. He stated that the purpose of the presentation was as an introduction. He stated that optimization and resiliency, workforce development, communication and collaboration, planning and infrastructure, and environmental stewardship were part of the strategic plan and offered guidance for the Authority's programs.

Mr. Mawyer stated that the focus of the budget was to address the objectives of the 2024 – 2028 CIP, establish a framework to achieve the strategic plan priorities, support the workforce during a period of inflation, and to translate the objectives and priorities into reasonable charges to the ACSA and City. He stated that the objectives of the CIP included improving the water supply capacity by completing the South Fork Rivanna to Ragged Mountain pipeline by 2030. He stated that other goals included improving the water treatment system by providing additional granular activated carbon treatment at the Crozet and Red Hill WTPs, leveraging partnerships with the City, UVA, and VDOT on drinking water pipe projects on Emmet Street, and improving drinking water capacity and reliability in the Route 29 North area.

Mr. Mawyer stated that the proposed budget totaled \$47.7M, a \$5.8M increase, or 13.9%. He stated that the majority of the increase was due to the debt service, which totaled \$23.3M, an 18% increase. He stated that operations had a budget of \$24.4M, a \$2.2M increase, or 10%. He stated that they estimated the City allocation to be \$17.8M, a \$1.5M increase, or 9.3%. He stated the ACSA allocation would be \$27M, a \$3.2M increase, or 13.4%.

Mr. Mawyer stated that the budget had steadily increased year over year. He stated that the largest component of the budget was debt service, totaling 49% of the Authority's expenses. He stated that workforce represented 24% of the budget, operations and maintenance represented 16%, and general services represented 11%. He stated that chemical and workforce expenditures equated to 59% of the total operating budget. He stated that information technology was a growing component of the budget. He stated that the SCADA system had to be maintained and upgraded. He stated that they transported biosolids to Waverly, Virginia, to be disposed of in a compost facility, and the cost was \$750K. He stated that odor control system used chemicals to

277 reduce wastewater odor, and the cost was about \$400K.

278
279 Mr. Mawyer stated that the cost drivers for next year were, of the \$5.8M increase, debt service at
280 62% or almost \$3.6M, workforce at 19% or \$1.1M, chemicals were 11% or \$680,000, and
281 information technology was 8% or \$453,000. He stated that they worked within the strategic plan
282 priorities to try to optimize. He stated that they had come up with a number of programs where
283 they had optimized and expected to save \$187,000 in the coming year from improved metering
284 of chemicals usage to in-house Covid-19 testing, which allowed for results to be available within
285 30 minutes.

286
287 Mr. Mawyer stated that Mr. David Tungate and his Operations staff had optimized their usage of
288 chemicals and injection of the chemicals into the wastewater stream at an optimum quantity. He
289 stated that they had a need-based system technology and new equipment that allowed for the
290 right amount of chemical to be injected at the right time, which saved on costs for those
291 chemicals. He stated that they were not advertising their Board meeting in the newspaper each
292 month, but advertised it at the beginning of the year, unless they had a public hearing. He stated
293 that one public hearing was scheduled in May, but no others were scheduled to be advertised.

294
295 Mr. Mawyer stated that major achievements in FY2023 were the completion of the strategic
296 plan, completion of major renovations of the South Rivanna and Observatory treatment plants,
297 increase in the number of water and wastewater operator's licenses as Class I and Class II by
298 24% over the last year, and in their water group, 24 of the 25 had a Class I or Class II license, or
299 96%. He stated that there had been discussion regionally and nationally about how difficult it
300 was to hire Class I operators, so they were trained in-house.

301
302 Mr. Mawyer stated that Mr. Tungate and his managers had helped to hold training classes with
303 staff about the topics on the licensing exams. They hired a practiced expert with a Class I license
304 to provide a test review on what topics would be on the test, and it was paying off. He stated that
305 of their 14 Class I operators, 1 was required to be on site 24 hours a day at the South Rivanna
306 and Observatory Treatment Plants, so the value of this license was very high.

307
308 Mr. Mawyer stated that they had reduced staff turnover from 15% in FY2022 to 5% in FY2023.
309 He stated that they were now ready to implement a new human resources information system to
310 allow online management of payroll, annual and sick leave, and training. He stated that they had
311 created a lease and sale procedure for the Buck Mountain properties, and the sale was completed
312 for the Elliot House for \$136,500. He stated that the Rivanna Authorities had reduced safety
313 accidents by 82% over the last three years. He stated that they had produced over 3.5 billion
314 gallons (BG) of high-quality drinking water and processed over 3.5 BG of wastewater.

315
316 Mr. Mawyer stated that in FY2024, there would be construction projects occurring including the
317 Airport Road Water Pump Station, the Moores Creek 5kv Electrical Upgrade, the South Rivanna
318 River Crossing, the Ragged Mountain Reservoir to Observatory Water Treatment Plant Pipeline
319 and Pump Station, the Central Water Line, the Red Hill Water Treatment Plant upgrades and
320 GAC, the Scottsville Wastewater Plant emergency power generator, and the Moores Creek
321 Administration Building renovation and addition. He stated that they were continuing design
322 with the Rivanna to Ragged pipeline, the Beaver Creek dam, pump station, and piping, and the

323 Crozet Water Treatment Plant GAC systems.

324
325 Mr. Mawyer stated that part of the reason there were different shared allocations of the costs of
326 projects was because of the agreements between the ACSA and the City. He stated that some
327 projects were funded 100% by the ACSA, some were funded 52% ACSA and 48% City, and
328 some were funded 80% ACSA and 20% City. He stated that they also were proposing to create a
329 new administration and communications division to help with HR priorities and strategic plan
330 initiatives. He indicated on the slide the large 24-inch valves and pumps for the Airport Road
331 Water Pump Station.

332
333 Mr. Mawyer stated that the network for water and wastewater chemicals was expansive, reaching
334 up and down the east coast, to Illinois, and to Wyoming. He stated that timing and quantity of
335 these chemicals was essential for their water treatment plants. He stated that assessment of
336 workforce compensation for FY2024 was based in part on achieving the Strategic Plan goal of
337 keeping turnover below 10%.

338
339 Mr. Mawyer stated that for FY18-FY22, the average staff turnover was 15% for RWSA, but this
340 year from July of 2022 to February of 2023, they had reduced it to 5%, which they attributed to
341 the 10% cost of living increase and merit increase approved by the Board in CY2023. He stated
342 that they had maintained no increase in health insurance premiums for employees for a number
343 of years.

344
345 Mr. Mawyer stated that inflation since the last cost of living increase had risen 6.9% from
346 February 2022 to February 2023, and may be higher by July of 2023 when the increase would be
347 effective. He stated that they looked locally for market survey of other water and sewer utilities,
348 and from the results from 10 utilities, the increases proposed to their respective boards ranged
349 from 4% to 10% with an average of about 7.4%.

350
351 Mr. Mawyer stated that the consumer price index 12 month rolling average was 6%. He stated
352 that local proposals included from the County a 4% increase plus compensation study results,
353 and the City had a 6% increase plus compensation study results. He stated nationally, the
354 increase in Social Security Administration was 8.7% for its retirees in CY2023.

355
356 Mr. Mawyer stated that proposed was a 6% cost of living increase plus a 2% merit for the water
357 and sewer staff effective July 1, which was equivalent to \$601,000. He stated that they estimated
358 increases in benefit costs were \$274,000. He stated that they were proposing a new division for
359 administration and communications, and four additional positions that included a director, a
360 financial manager, an IT technician for cybersecurity, and an engineering inspector supervisor.
361 He stated that to help balance the budget and save expenses in FY24, the last three positions
362 would be filled during the second quarter of FY24.

363
364 Mr. Mawyer noted that there was a 0.4 water operator position that was eliminated so the net
365 increase was 3.6 additional positions. He stated that there was a proposed 10% shift in the pay
366 scale and additional funds would be only applied to those who were currently paid below the
367 minimum of their paygrade, which they estimated to be \$12,000. He stated that the staff would
368 need to complete about 2,700 hours of safety training next year.

Mr. Mawyer stated that under Operations and Maintenance costs, technology, communications, and equipment maintenance were the main expenses increases. He stated that there was a reduction in professional and other services by \$160,000.

Mr. Mawyer showed on the slide the organization chart proposed for next year. He stated that at the far left was the new administration and communications division that was proposed, and the other pink-colored positions on the slide were the assistant manager of the finance group, an IT technician, and the supervisor of engineering inspectors. He stated that the supervisor of engineering inspectors would supervise the four existing inspectors and help with specialty inspections.

Mr. Pinkston asked if some of this cost was shared with Solid Waste.

Mr. Mawyer stated yes. He stated that the organizational chart applied to all water and sewer positions. He stated that while the departments may be housed entirely within water and sewer, Solid Waste was billed for a portion of their time. He stated that they expected the new division to manage the human resource programs, including recruiting, hiring, payroll, and benefits, personnel management and training, leadership development, compensation and classification studies, and the new human resources information system.

Mr. Mawyer stated that the new administration and communications division would also design, implement, and manage their strategic plan initiatives, which included developing a public-facing brand identity in the community, promoting their services to the community through educational outreach and partnerships, increasing recruitment and retention of women and minority candidates in support of the DEI initiative.

Mr. Mawyer continued that they would also be enhancing the webpage and social media sources, creating educational videos and notices to the public to highlight improvements and achievements, support the ACSA and City in their effort to communicate with customers to explain what cost increases provided. He stated that this division would also manage continued enhancement of the safety program.

Mr. Mawyer stated that the four proposed positions were the director of administrations and communications, a finance manager who would supervise staff and become proficient with all finance programs of the RWSA and RSWA, an information technology technician to support systems including cybersecurity, and a supervisory engineering inspector. He stated that the inspector was somewhat self-funded because it kept them from having to hire as many consultant inspectors to monitor projects.

Mr. Mawyer stated that on the slide was a chart of the financial charges estimated to the City and the ACSA over the next five years. He stated that the FY24 Capital Budget was \$34.3M, the FY24-FY28 CIP was \$326.1M, which would be decreased with \$20.5M in grants, and as much as \$232M in additional debt was expected. He noted that they charged operating costs based on the urban retail water and wastewater flows that the City and ACSA were reporting to them, which helped them proportion the operating costs.

Mr. Mawyer stated that the results of the FY2022 actual flows showed that a cost of \$480,000 should shift from the City to the ACSA, including the terms of the Northern Area Drinking Water Agreement. He stated that this resulted in a 2.9% decrease for the City's charges and a 2% increase in the ACSA charges.

Mr. Mawyer stated that the previous debt service profile showed that around 2031, the debt service will go down and capacity would go up so that they could fund the Rivanna to Ragged Mountain pipeline. He stated that the red line was the FY2024 debt service charges, and the blue bars were the projected increase of debt service over the coming decades as they built their large projects.

Mr. Mawyer stated that in summary, the proposed budget was \$47.7M, which was a \$5.8M increase or 13.9%, with the major component of the increase being debt service to pay for the CIP. He stated that the charges to the City would increase by approximately 9.3%, and the ACSA charges would increase approximately 13.4%. He stated that the action requested by the Board would allow for authorization to advertise the preliminary rate schedule for a public hearing to be held on May 23, 2023.

Ms. Mallek thanked staff for all the work done with the process to help sell the Elliot House. She stated that she had seen that the grounds had been cleaned up and she thought it would be a wonderful place for a family to live, and she was glad that the County no longer had to deal with it. She asked if the grant for the GAC in Crozet that was just announced would get passed along to the ACSA share.

Mr. Mawyer stated that the Crozet facility was 100% an ACSA expense, so 100% of the grant would be allocated to the ACSA.

Ms. Mallek stated that was great. She asked if a site visit could be made to the Airport Road location where the new pipes were being installed. She asked if the chemicals received from all over the country came to them via truck or a combination of trucks and trains.

Mr. Tungate stated that they traveled by truck.

Ms. Mallek asked if the UV lights that required replacement must be disposed of in a particular fashion. She stated that there had been a shortage of locations available to dispose of LED lights. (These UV lamps are disposed with our vendor during the Household Hazardous Waste event). She stated that she had forwarded a relevant graph about the population increase in Albemarle County that had risen rapidly. She stated that it was no surprise to her that there was a slow and gradual increase in costs over time, because the demand had shot up.

Mr. O'Connell thanked all of the staff for their work on the budget. He stated that there were questions about areas where they could reduce some costs, and some changes occurred during that process to achieve that. He stated that he appreciated the time and effort they spent trying to look at the budget from a customer standpoint. He stated that the wholesale rates for customers was 13.4% and was not necessarily retail rates. He stated that ACSA was finishing the budget

and rates and would publicly present that on April 20, which would be significantly less than that 13.4%.

Mr. Mawyer stated that he appreciated their support and willingness to work with them on the charges. He stated that there was pressure on the rates, but they had an aggressive program to improve treatment, capacity, and to complete the community water supply plan projects.

Mr. Pinkston stated that the budgets for the RWSA and RSWA were impressive in their composition.

Mr. Rogers thanked Mr. Mawyer and commended the 6% cost of living increase and 2% merit increase. He asked, with respect to the 2% merit increase, if there was an established employee evaluation system.

Mr. Mawyer stated yes. He stated that there was a merit evaluation system in which employees are rated 1, 2, or 3 based on their performance evaluation, and their merit increase was based on that rating. He stated that when they approved a 2% pool, they took 2% of the salary dollars and put them in a pool, then allocated the funds associated with the merit scores.

Mr. Rogers asked if those increases were rolled into the pay plan.

Mr. Mawyer stated yes. He stated that there were not steps, but grades, and there were currently 23 pay grades. He stated that they would discuss in May about expanding to 27, but there was a minimum and maximum of each pay grade. He stated that the 2% and the 6% would be within the established pay grade, but they were going to propose all of the pay grades be shifted 10% so the minimum and the maximum would increase by that amount, but no money would be given to any employees who were above the minimum. He stated that very few staff would be below the minimum, with an estimated cost of \$12,000.

Ms. Hildebrand thanked the Rivanna staff for their work on the budget and their answering difficult questions. She stated that the City set their rates that incorporated these rates, which the City would see in June.

Mr. Gaffney stated that it was great to see the City, County, Service Authority, and RWSA, working together to bring the community resources. He thanked everyone for their commitment.

Mr. Pinkston moved to approve the resolution to adopt the preliminary rate schedule including authorization to advertise the preliminary rate schedule for a public hearing to be held during the regular meeting of the Board of Directors on May 23, 2023. Ms. Mallek seconded the motion, which passed unanimously (7-0).

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

There were no items.

11. CLOSED MEETING

There was no reason for a closed meeting.

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12. ADJOURNMENT

At 3:58 p.m., Mr. Pinkston moved to adjourn the meeting of the Rivanna Water and Sewer Authority. Mr. O’Connell seconded the motion, which passed unanimously (7-0).

DRAFT



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: APRIL 25, 2023

STRATEGIC PLAN PRIORITY: WORKFORCE DEVELOPMENT

Recognitions

The professional credentials of our staff continue to improve and enhance our services. We congratulate the following employees for successfully completing the requirements for a license from the State:

- Alison Henry - Class 1 Water Operator
- Ceara Schwake - Class 1 Water Operator
- Tyrone Hughes - HVAC & Refrigeration #4 (highest level; thru Valley VoTech)
- David Jeffries - Va Backflow Prevention Device Worker Certification

STRATEGIC PLAN PRIORITY: PLANNING AND INFRASTRUCTURE

Observatory WTP Renovation

We will resume partial production of drinking water (6 mgd) at the Observatory WTP this month. Full production capacity (10 mgd) is anticipated later this summer after all systems have been successfully completed and tested.

Other Major Projects

1. We continue to work with UVA and UVAF to acquire final easements on the following major water piping projects:
 - S. F. Rivanna to Ragged Mtn Reservoir Water Pipe: 8 miles of 36" pipe
 - Ragged Mtn Reservoir to Observatory WTP Water Pipe and Pump Station: 5 miles of 36" pipe

For these projects, there were 19 easements required on 31 parcels including 14 private property owners and 5 public property owners, (UVA, UVAF, Dept. of Forestry, ACPS, City). All of the private property easements have been acquired, with only those owned by UVA and UVAF remaining from public property owners.

2. After a detailed review by our City/ACSA/RWSA team, engineering plans and specifications are moving forward to the 60% completion stage for the Central Water Line project to be constructed along Cherry Avenue. Construction is expected to begin in April 2024. An extensive communication effort will be completed with the communities adjacent to the project before construction begins.

3. **Federal funding for the Beaver Creek Dam Modifications Project**

Funding totaling \$1,020,250 has been approved by the federal Natural Resources Conservation Service (NRCS) for professional engineering and project administration services to design modifications to the Beaver Creek Dam spillway. This funding is in addition to \$716,000 previously approved by NRCS for a planning study. We are optimistic that construction funding (\$17 M) will be approved after the design has been completed and approved by NRCS.

To conclude the planning study, the Albemarle County Board of Supervisors and the Thomas Jefferson Soil and Water Conservation District Board (TJSWCD) will be asked to approve a Supplemental Watershed Plan Agreement (Supplement No. 2), which outlines the responsibilities of the project Sponsors and the federal Natural Resources Conservation Service in executing the completed Plan Environmental Assessment. Albemarle County owns the land surrounding the reservoir, and the TJSWCD was a Sponsor of the original project to build the dam.

STRATEGIC PLAN PRIORITY: COMMUNICATION AND COLLABORATION

Granular Activated Carbon (GAC) Treatment System Presentation

Our Director of Operations, David Tungate, recently gave a presentation on our GAC treatment system to drinking water professionals attending a “Plant of the Future” seminar sponsored by the Virginia Section of the American Water Works Association held at the University of Richmond.

Educational Outreach



In March and April, several RWSA, (Alison Henry pictured) and RSWA employees volunteered with the Rivanna Conservation Alliance educational program for 6th graders in the City and County. Employees worked with 6th graders to conduct stream water quality monitoring. In addition, staff discussed their careers with students.

STRATEGIC PLAN PRIORITY: ENVIRONMENTAL STEWARDSHIP

Conservation Mowing Program

Staff have implemented a conservation = “do not mow” program in selected areas totaling about 7 acres at Moores Creek. The conservation areas will provide:

- habitat for insects, butterflies, birds and other animals.
- decreased erosion and increased precipitation infiltration.
- less mowing = reduced gasoline usage = reduced carbon dioxide emissions of about 9200 lbs per year.

MEMORANDUM

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

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: FEBRUARY 2023 MONTHLY FINANCIAL SUMMARY – FY 2023

DATE: APRIL 25, 2023

Financial Snapshot

February ended with an overall net deficit of \$258,700, or 0.6% above the annual budget of \$41.8 M. Operating rate revenues for the first eight months of the fiscal year are above average. However, operating expenses are currently over the prorated annual budget. Total revenues are \$1.27 million over budget estimates, and total expenses are \$1.53 million over budget. Urban Water flows and operating rate revenues are slightly (0.7%) below budget estimates through February, and Urban Wastewater flows and operating rate revenues are 7.6% over budget.

Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	\$ 6,210,332	\$ 6,956,001	\$ 1,741,306	\$ 14,907,639
Expenses	(6,272,175)	(7,209,462)	(1,827,265)	(15,308,902)
Surplus (deficit)	<u>\$ (61,843)</u>	<u>\$ (253,461)</u>	<u>\$ (85,959)</u>	<u>\$ (401,263)</u>
Debt Service				
Revenues	\$ 5,843,517	\$ 6,348,601	\$ 1,590,907	\$ 13,783,025
Expenses	(5,803,132)	(6,256,261)	(1,581,058)	(13,640,451)
Surplus (deficit)	<u>\$ 40,385</u>	<u>\$ 92,340</u>	<u>\$ 9,849</u>	<u>\$ 142,574</u>
Total				
Revenues	\$ 12,053,849	\$ 13,304,602	\$ 3,332,213	\$ 28,690,664
Expenses	(12,075,307)	(13,465,723)	(3,408,323)	(28,949,353)
Surplus (deficit)	<u><u>\$ (21,458)</u></u>	<u><u>\$ (161,121)</u></u>	<u><u>\$ (76,110)</u></u>	<u><u>\$ (258,689)</u></u>

A more detailed financial analysis is in the following monthly report which reviews more closely actual financial performance compared to budgeted estimates. There are comments listed that reference the applicable line items in the financial statement for each rate center and each support department in the following pages. Please refer to the Budget vs. Actual financial statements when reviewing these comments.

Detailed Financials

The Authority's actual operating revenues through February are \$620,000 over the prorated annual budget estimate, and operating expenses exceed budget by \$1,021,000. The following comments help explain most of the other budget vs. actual variances.

- A. Annual and Quarterly Transactions - Some revenues and expenses are over the prorated year-to-date budget due to one-time receipts of revenues for the year and quarterly or annual payments of expenses. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons but usually even out as the year progresses. Septage receiving support revenue of \$109,440 is billed to the County annually in July. Annual payments are made for leases, health savings account contributions, and certain maintenance agreements. Insurance premiums are paid quarterly.
- B. Personnel Costs (Urban Wastewater – page 5) – Urban Wastewater salaries are higher than budget due to salary overlap in one position and payout of accumulated leave upon leaving employment.
- C. Professional Services (Urban Wastewater, Glenmore Wastewater, Administration – pages 5, 6, 8) – Urban Wastewater and Glenmore Wastewater spent \$32,000 and \$15,000, respectively, on unbudgeted engineering and technical services for various surveys and studies. The Administration department incurred \$62,000 of unbudgeted engineering and technical services for grant program strategy and application development.
- D. Other Services & Charges (Urban Water, Crozet Water, Urban Wastewater – pages 2, 3, 5) – Urban Water paid some annual watershed management costs, as budgeted, and utilities are running high for Urban Water and Crozet Water. Some of Urban Wastewater's costs in this category are running higher than originally estimated, such as odor control chemical costs for the Crozet Pump Station, the cost of sludge hauling for composting, permit costs, and utilities.
- E. Information Technology (Urban Wastewater, Administration – pages 5, 8) – The Administration department has spent \$184,000 more than its annual budget in this category for computer hardware, software, and support costs. Urban Wastewater is over budget on SCADA Standard Graphics Rollout costs.
- F. Communication (Administration – page 8) – The Administration department switched to a new telephone system which was not included in the budget.
- G. Operations and Maintenance (Crozet Water, Scottsville Water, Urban Wastewater, Maintenance, Lab – pages 3, 4, 5, 9, 10) – Crozet Water and Scottsville Water are over the prorated budget for chemicals due to carbon exchanges of \$41,600 and \$19,000, respectively. Urban Wastewater paid \$86,000 for an annual equipment maintenance contract, and its chemical costs are running higher than originally estimated. The Maintenance department is slightly over the prorated budget on supplies and fuel costs. The Lab is also over budget on supplies.

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023
Fiscal Year 2023

Consolidated
Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 2023</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue		\$ 20,614,425	\$ 13,742,950	\$ 14,156,241	\$ 413,291	3.01%
Lease Revenue		85,000	56,667	79,487	22,820	40.27%
Admin., Maint. & Engineering Revenue		656,000	437,333	480,241	42,908	9.81%
Other Revenues		639,036	426,024	447,939	21,915	5.14%
Use of Reserves-GAC		150,000	100,000	147,600	47,600	47.60%
Interest Allocation		7,170	4,780	76,372	71,592	1497.74%
Total Operating Revenues		\$ 22,151,631	\$ 14,767,754	\$ 15,387,880	\$ 620,126	4.20%

Expenses

Personnel Cost	B	\$ 10,494,727	\$ 6,996,485	\$ 6,947,138	\$ 49,347	0.71%
Professional Services	C	629,900	419,933	503,717	(83,784)	-19.95%
Other Services & Charges	A, D	3,427,460	2,284,973	2,578,583	(293,610)	-12.85%
Communications	F	200,342	133,561	170,275	(36,713)	-27.49%
Information Technology	E	816,626	544,417	919,487	(375,070)	-68.89%
Supplies		39,950	26,633	33,560	(6,926)	-26.01%
Operations & Maintenance	A, G	5,222,531	3,481,687	3,871,625	(389,937)	-11.20%
Equipment Purchases		420,100	280,067	164,760	115,307	41.17%
Depreciation		900,000	600,000	600,000	-	0.00%
Total Operating Expenses		\$ 22,151,636	\$ 14,767,757	\$ 15,789,144	\$ (1,021,386)	-6.92%
Operating Surplus/(Deficit)		\$ (5)	\$ (3)	\$ (401,264)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue		\$ 19,522,929	\$ 13,015,286	\$ 13,015,288	\$ 2	0.00%
Septage Receiving Support - County	A	109,440	72,960	109,440	36,480	50.00%
Buck Mountain Lease Revenue		1,600	1,067	3,561	2,494	233.80%
Trust Fund Interest		990	660	104,259	103,599	15696.74%
Reserve Fund Interest		64,230	42,820	550,479	507,659	1185.56%
Total Debt Service Revenues		\$ 19,699,189	\$ 13,132,793	\$ 13,783,026	\$ 650,233	4.95%

Debt Service Costs

Total Principal & Interest		\$ 16,165,241	\$ 10,776,827	\$ 10,776,827	\$ -	0.00%
Reserve Additions-Interest		64,230	42,820	550,479	(507,659)	-1185.56%
Debt Service Ratio Charge		725,000	483,333	483,333	-	0.00%
Reserve Additions-CIP Growth		2,744,717	1,829,811	1,829,811	-	0.00%
Total Debt Service Costs		\$ 19,699,188	\$ 13,132,792	\$ 13,640,451	\$ (507,659)	-3.87%
Debt Service Surplus/(Deficit)		\$ 1	\$ 1	\$ 142,575		

Summary

Total Revenues	\$ 41,850,820	\$ 27,900,547	\$ 29,170,906	\$ 1,270,359	4.55%
Total Expenses	41,850,824	27,900,549	29,429,595	(1,529,045)	-5.48%
Surplus/(Deficit)	\$ (4)	\$ (3)	\$ (258,689)		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Urban Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 9,014,863	\$ 6,009,909	\$ 5,966,764	\$ (43,145)	-0.72%
Lease Revenue	60,000	40,000	57,945	17,945	44.86%
Miscellaneous	-	-	6,405	6,405	
Use of Reserves-GAC	150,000	100,000	147,600	47,600	47.60%
Interest Allocation	3,000	2,000	31,618	29,618	1480.90%
Total Operating Revenues	\$ 9,227,863	\$ 6,151,909	\$ 6,210,332	\$ 58,424	0.95%

Expenses

Personnel Cost	\$ 2,234,714	\$ 1,489,809	\$ 1,464,778	\$ 25,031	1.68%
Professional Services	222,000	148,000	123,901	24,099	16.28%
Other Services & Charges	716,300	477,533	590,393	(112,860)	-23.63%
Communications	100,920	67,280	68,962	(1,682)	-2.50%
Information Technology	104,950	69,967	70,869	(903)	-1.29%
Supplies	5,400	3,600	5,431	(1,831)	-50.86%
Operations & Maintenance	2,511,396	1,674,264	1,662,091	12,173	0.73%
Equipment Purchases	16,000	10,667	12,285	(1,618)	-15.17%
Depreciation	300,000	200,000	200,000	-	0.00%
Subtotal Before Allocations	\$ 6,211,680	\$ 4,141,120	\$ 4,198,710	\$ (57,590)	-1.39%
Allocation of Support Departments	3,016,183	2,010,789	2,073,464	(62,676)	-3.12%
Total Operating Expenses	\$ 9,227,863	\$ 6,151,909	\$ 6,272,175	\$ (120,266)	-1.95%
Operating Surplus/(Deficit)	\$ (0)	\$ (0)	\$ (61,842)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 8,302,224	\$ 5,534,816	\$ 5,534,816	\$ -	0.00%
Trust Fund Interest	400	267	38,159	37,892	14209.48%
Reserve Fund Interest	31,000	20,667	266,982	246,316	1191.85%
Lease Revenue	1,600	1,067	3,561	2,494	233.80%
Total Debt Service Revenues	\$ 8,335,224	\$ 5,556,816	\$ 5,843,517	\$ 286,701	5.16%

Debt Service Costs

Total Principal & Interest	\$ 6,964,724	\$ 4,643,149	\$ 4,643,149	\$ -	0.00%
Reserve Additions-Interest	31,000	20,667	266,982	(246,316)	-1191.85%
Debt Service Ratio Charge	400,000	266,667	266,667	-	0.00%
Reserve Additions-CIP Growth	939,500	626,333	626,333	-	0.00%
Total Debt Service Costs	\$ 8,335,224	\$ 5,556,816	\$ 5,803,132	\$ (246,316)	-4.43%
Debt Service Surplus/(Deficit)	\$ -	\$ -	\$ 40,386		

Rate Center Summary

Total Revenues	\$ 17,563,087	\$ 11,708,725	\$ 12,053,850	\$ 345,125	2.95%
Total Expenses	17,563,087	11,708,725	12,075,306	(366,582)	-3.13%
Surplus/(Deficit)	\$ (0)	\$ (0)	\$ (21,457)		
Costs per 1000 Gallons Operating and DS	\$ 2.72		\$ 2.79		
	\$ 5.17		\$ 5.37		
Thousand Gallons Treated or Flow (MGD)	3,397,700	2,265,133	2,249,063	(16,070)	-0.71%
	9.309		9.255		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Crozet Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 1,197,084	\$ 798,056	\$ 798,056	\$ -	0.00%
Lease Revenues	25,000	16,667	21,542	4,875	29.25%
Interest Allocation	400	267	4,277	4,010	1503.80%
Total Operating Revenues	\$ 1,222,484	\$ 814,989	\$ 823,874	\$ 8,885	1.09%

Expenses

Personnel Cost	\$ 352,559	\$ 235,040	\$ 232,640	\$ 2,400	1.02%
Professional Services	22,900	15,267	15,047	219	1.44%
Other Services & Charges	D 118,700	79,133	93,160	(14,027)	-17.73%
Communications	17,600	11,733	13,353	(1,619)	-13.80%
Information Technology	4,950	3,300	6,281	(2,981)	-90.34%
Supplies	1,500	1,000	781	219	21.88%
Operations & Maintenance	G 358,500	239,000	253,876	(14,876)	-6.22%
Equipment Purchases	3,000	2,000	2,000	-	0.00%
Depreciation	60,000	40,000	40,000	-	0.00%
Subtotal Before Allocations	\$ 939,709	\$ 626,473	\$ 657,138	\$ (30,665)	-4.89%
Allocation of Support Departments	282,780	188,520	193,845	(5,325)	-2.82%
Total Operating Expenses	\$ 1,222,489	\$ 814,993	\$ 850,983	\$ (35,990)	-4.42%
Operating Surplus/(Deficit)	\$ (5)	\$ (4)	\$ (27,109)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 2,161,704	\$ 1,441,136	\$ 1,441,136	\$ -	0.00%
Trust Fund Interest	80	53	8,862	8,809	16516.18%
Reserve Fund Interest	1,200	800	10,459	9,659	1207.38%
Total Debt Service Revenues	\$ 2,162,984	\$ 1,441,989	\$ 1,460,457	\$ 18,468	1.28%

Debt Service Costs

Total Principal & Interest	\$ 1,217,280	\$ 811,520	\$ 811,520	\$ -	0.00%
Reserve Additions-Interest	1,200	800	10,459	(9,659)	-1207.38%
Reserve Additions-CIP Growth	944,500	629,667	629,667	-	0.00%
Total Debt Service Costs	\$ 2,162,980	\$ 1,441,987	\$ 1,451,646	\$ (9,659)	-0.67%
Debt Service Surplus/(Deficit)	\$ 4	\$ 3	\$ 8,811		

Rate Center Summary

Total Revenues	\$ 3,385,468	\$ 2,256,979	\$ 2,284,331	\$ 27,353	1.21%
Total Expenses	3,385,469	2,256,980	2,302,629	(45,650)	-2.02%
Surplus/(Deficit)	\$ (1)	\$ (1)	\$ (18,298)		
Costs per 1000 Gallons	\$ 6.03		\$ 5.90		
Operating and DS	\$ 16.70		\$ 15.96		
Thousand Gallons Treated	202,697	135,131	144,286	9,155	6.77%
Flow (MGD)	0.555		0.594		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Scottsville Water Rate Center
Revenues and Expenses Summary

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 569,556	\$ 379,704	\$ 379,704	\$ -	0.00%
Interest Allocation	200	133	1,986	1,852	1389.26%
Total Operating Revenues	\$ 569,756	\$ 379,837	\$ 381,690	\$ 1,852	0.49%

Expenses

Personnel Cost	\$ 212,797	\$ 141,865	\$ 141,775	\$ 89	0.06%
Professional Services	5,000	3,333	8,558	(5,225)	-156.74%
Other Services & Charges	27,100	18,067	26,412	(8,346)	-46.19%
Communications	6,400	4,267	4,645	(379)	-8.87%
Information Technology	4,400	2,933	5,373	(2,439)	-83.16%
Supplies	100	67	138	(71)	-106.28%
Operations & Maintenance	97,925	65,283	83,939	(18,656)	-28.58%
Equipment Purchases	1,600	1,067	2,141	(1,075)	-100.76%
Depreciation	40,000	26,667	26,667	0	0.00%
Subtotal Before Allocations	\$ 395,322	\$ 263,548	\$ 299,648	\$ (36,100)	-13.70%
Allocation of Support Departments	174,433	116,289	117,347	(1,058)	-0.91%
Total Operating Expenses	\$ 569,755	\$ 379,837	\$ 416,995	\$ (37,158)	-9.78%
Operating Surplus/(Deficit)	\$ 1	\$ 0	\$ (35,306)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 150,300	\$ 100,200	\$ 100,200	\$ -	0.00%
Trust Fund Interest	10	7	938	932	13974.80%
Reserve Fund Interest	850	567	7,156	6,590	1162.86%
Total Debt Service Revenues	\$ 151,160	\$ 100,773	\$ 108,295	\$ 7,521	7.46%

Debt Service Costs

Total Principal & Interest	\$ 148,726	\$ 99,151	\$ 99,151	\$ -	0.00%
Reserve Additions-Interest	850	567	7,156	(6,590)	
Reserve Additions-CIP Growth	1,589	1,059	1,059	-	
Total Debt Service Costs	\$ 151,165	\$ 100,777	\$ 107,366	\$ (6,590)	-6.54%
Debt Service Surplus/(Deficit)	\$ (5)	\$ (3)	\$ 928		

Rate Center Summary

Total Revenues	\$ 720,916	\$ 480,611	\$ 489,984	\$ 9,374	1.95%
Total Expenses	720,920	480,614	524,361	(43,748)	-9.10%
Surplus/(Deficit)	\$ (4)	\$ (3)	\$ (34,377)		
Costs per 1000 Gallons	\$ 33.07		\$ 31.05		
Operating and DS	\$ 41.84		\$ 39.05		
Thousand Gallons Treated	17,230	11,487	13,428	1,941	16.90%
or					
Flow (MGD)	0.047		0.055		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Urban Wastewater Rate Center
Revenues and Expenses Summary

Budget FY 2023	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 9,033,662	\$ 6,022,441	\$ 6,478,877	\$ 456,436	7.58%
Stone Robinson WWTP	39,036	26,024	12,969	(13,055)	-50.16%
Septage Acceptance	500,000	333,333	389,436	56,103	16.83%
Nutrient Credits	100,000	66,667	39,129	(27,538)	-41.31%
Miscellaneous Revenue	-	-	-	-	
Interest Allocation	3,300	2,200	35,589	33,389	1517.69%
Total Operating Revenues	\$ 9,675,998	\$ 6,450,665	\$ 6,956,001	\$ 505,335	7.83%

Expenses

Personnel Cost	B	\$ 1,325,384	\$ 883,589	\$ 977,878	\$ (94,289)	-10.67%
Professional Services	C	75,000	50,000	107,806	(57,806)	-115.61%
Other Services & Charges	A, D	2,276,980	1,517,987	1,695,617	(177,630)	-11.70%
Communications		1,900	1,267	8,437	(7,170)	-566.05%
Information Technology	E	110,400	73,600	123,981	(50,381)	-68.45%
Supplies		1,200	800	472	328	40.98%
Operations & Maintenance	A, G	1,698,660	1,132,440	1,510,737	(378,297)	-33.41%
Equipment Purchases		143,000	95,333	33,333	62,000	65.03%
Depreciation		470,000	313,333	313,333	(0)	0.00%
Subtotal Before Allocations		\$ 6,102,524	\$ 4,068,349	\$ 4,771,594	\$ (703,245)	-17.29%
Allocation of Support Departments		3,573,476	2,382,317	2,437,868	(55,551)	-2.33%
Total Operating Expenses		\$ 9,675,999	\$ 6,450,666	\$ 7,209,462	\$ (758,796)	-11.76%
Operating Surplus/(Deficit)		\$ (1)	\$ (1)	\$ (253,461)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue		\$ 8,878,107	\$ 5,918,738	\$ 5,918,736	\$ (2)	0.00%
Septage Receiving Support - County	A	109,440	72,960	109,440	36,480	50.00%
Trust Fund Interest		500	333	56,195	55,862	16758.61%
Reserve Fund Interest		31,000	20,667	264,230	243,563	1178.53%
Total Debt Service Revenues		\$ 9,019,047	\$ 6,012,698	\$ 6,348,601	\$ 335,903	5.59%

Debt Service Costs

Total Principal & Interest		\$ 7,808,347	\$ 5,205,565	\$ 5,205,565	\$ -	0.00%
Reserve Additions-Interest		31,000	20,667	264,230	(243,563)	-1178.53%
Debt Service Ratio Charge		325,000	216,667	216,667	-	0.00%
Reserve Additions-CIP Growth		854,700	569,800	569,800	-	0.00%
Total Debt Service Costs		\$ 9,019,047	\$ 6,012,698	\$ 6,256,261	\$ (243,563)	-4.05%
Debt Service Surplus/(Deficit)		\$ -	\$ -	\$ 92,340		

Rate Center Summary

Total Revenues	\$ 18,695,045	\$ 12,463,363	\$ 13,304,602	\$ 841,238	6.75%
Total Expenses	18,695,046	12,463,364	13,465,723	(1,002,359)	-8.04%
Surplus/(Deficit)	\$ (1)	\$ (1)	\$ (161,121)		
Costs per 1000 Gallons	\$ 2.85		\$ 2.96		
Operating and DS	\$ 5.51		\$ 5.54		
Thousand Gallons Treated or Flow (MGD)	3,390,400	2,260,267	2,432,011	171,744	7.60%
	9.289		10.008		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Glenmore Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 443,640	\$ 295,760	\$ 295,760	\$ -	0.00%
Interest Allocation	150	100	1,604	1,504	1503.82%
<i>Total Operating Revenues</i>	\$ 443,790	\$ 295,860	\$ 297,364	\$ 1,504	0.51%

Expenses

Personnel Cost	\$ 115,815	\$ 77,210	\$ 85,898	\$ (8,688)	-11.25%
Professional Services	5,000	3,333	20,082	(16,748)	-502.45%
Other Services & Charges	35,750	23,833	28,901	(5,067)	-21.26%
Communications	-	-	2,251	(2,251)	
Information Technology	4,425	2,950	7,715	(4,765)	-161.53%
Supplies	-	-	-	-	
Operations & Maintenance	134,950	89,967	72,908	17,059	18.96%
Equipment Purchases	3,800	2,533	2,533	(0)	0.00%
Depreciation	10,000	6,667	6,667	0	0.00%
<i>Subtotal Before Allocations</i>	\$ 309,740	\$ 206,494	\$ 226,955	\$ (20,461)	-9.91%
Allocation of Support Departments	134,045	89,363	87,663	1,700	1.90%
<i>Total Operating Expenses</i>	\$ 443,785	\$ 295,857	\$ 314,618	\$ (18,762)	-6.34%
<i>Operating Surplus/(Deficit)</i>	\$ 5	\$ 3	\$ (17,254)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 20,484	\$ 13,656	\$ 13,656	\$ -	0.00%
Trust Fund Interest	-	-	-	-	
Reserve Fund Interest	80	53	550	497	932.06%
<i>Total Debt Service Revenues</i>	\$ 20,564	\$ 13,709	\$ 14,206	\$ -	0.00%

Debt Service Costs

Total Principal & Interest	\$ 18,717	\$ 12,478	\$ 12,478	\$ -	0.00%
Reserve Additions-CIP Growth	1,761	1,174	1,174	-	0.00%
Reserve Additions-Interest	80	53	550	(497)	-932.06%
<i>Total Debt Service Costs</i>	\$ 20,558	\$ 13,705	\$ 14,202	\$ (497)	-3.63%
<i>Debt Service Surplus/(Deficit)</i>	\$ 6	\$ 4	\$ 4		

Rate Center Summary

Total Revenues	\$ 464,354	\$ 309,569	\$ 311,570	\$ 2,001	0.65%
Total Expenses	464,343	309,562	328,821	(19,259)	-6.22%
Surplus/(Deficit)	\$ 11	\$ 7	\$ (17,250)		
Costs per 1000 Gallons	\$ 10.72		\$ 11.90		
Operating and DS	\$ 11.22		\$ 12.43		
Thousand Gallons Treated or Flow (MGD)	41,401	27,601	26,446	(1,155)	-4.18%
	0.113		0.109		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Scottsville Wastewater Rate Center
Revenues and Expenses Summary

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Operations Rate Revenue	\$ 355,620	\$ 237,080	\$ 237,080	\$ -	0.00%
Interest Allocation	120	80	1,298	1,218	1522.93%
Total Operating Revenues	\$ 355,740	\$ 237,160	\$ 238,378	\$ 1,218	0.51%

Expenses

Personnel Cost	\$ 115,795	\$ 77,197	\$ 85,898	\$ (8,701)	-11.27%
Professional Services	5,000	3,333	2,878	455	13.66%
Other Services & Charges	26,650	17,767	21,273	(3,506)	-19.73%
Communications	3,770	2,513	2,494	19	0.75%
Information Technology	4,125	2,750	9,514	(6,764)	-245.95%
Supplies	-	-	-	-	
Operations & Maintenance	52,000	34,667	24,917	9,749	28.12%
Equipment Purchases	3,800	2,533	2,533	(0)	0.00%
Depreciation	20,000	13,333	13,333	(0)	0.00%
Subtotal Before Allocations	\$ 231,140	\$ 154,094	\$ 162,841	\$ (8,748)	-5.68%
Allocation of Support Departments	124,604	83,069	81,828	1,241	1.49%
Total Operating Expenses	\$ 355,744	\$ 237,163	\$ 244,669	\$ (7,506)	-3.17%
Operating Surplus/(Deficit)	\$ (4)	\$ (3)	\$ (6,291)		

Debt Service Budget vs. Actual

Revenues

Debt Service Rate Revenue	\$ 10,110	\$ 6,740	\$ 6,744	\$ 4	0.06%
Trust Fund Interest	-	-	104	104	
Reserve Fund Interest	100	67	1,101	1,034	1551.62%
Total Debt Service Revenues	\$ 10,210	\$ 6,807	\$ 7,949	\$ 1,143	16.79%

Debt Service Costs

Total Principal & Interest	\$ 7,447	\$ 4,965	\$ 4,965	\$ -	0.00%
Reserve Additions-Interest	100	67	1,101	(1,034)	-1551.62%
Estimated New Principal & Interest	2,667	1,778	1,778	-	0.00%
Total Debt Service Costs	\$ 10,214	\$ 6,809	\$ 7,844	\$ (1,034)	-15.19%
Debt Service Surplus/(Deficit)	\$ (4)	\$ (3)	\$ 106		

Rate Center Summary

Total Revenues	\$ 365,950	\$ 243,967	\$ 246,328	\$ 2,361	0.97%
Total Expenses	365,958	243,972	252,513	(8,541)	-3.50%
Surplus/(Deficit)	\$ (8)	\$ (5)	\$ (6,185)		
Costs per 1000 Gallons	\$ 15.05		\$ 18.40		
Operating and DS	\$ 15.48		\$ 18.99		
Thousand Gallons Treated	23,643	15,762	13,298	(2,464)	-15.63%
or					
Flow (MGD)	0.065		0.055		

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Administration

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$ 654,000	\$ 436,000	\$ 451,000	\$ 15,000	3.44%
Bond Proceeds Funding Bond Issuance Costs	-	-	-	-	
Miscellaneous Revenue	2,000	1,333	9,452	8,118	608.88%
Total Operating Revenues	\$ 656,000	\$ 437,333	\$ 460,452	\$ 23,118	5.29%

Expenses

Personnel Cost	\$ 2,450,092	\$ 1,633,395	\$ 1,565,772	\$ 67,623	4.14%
Professional Services	170,000	113,333	181,938	(68,605)	-60.53%
Other Services & Charges	162,600	108,400	106,629	1,771	1.63%
Communications	24,780	16,520	53,778	(37,258)	-225.53%
Information Technology	404,876	269,917	588,965	(319,048)	-118.20%
Supplies	23,000	15,333	21,750	(6,417)	-41.85%
Operations & Maintenance	67,850	45,233	44,739	494	1.09%
Equipment Purchases	13,100	8,733	8,733	(0)	0.00%
Depreciation	-	-	-	-	
Total Operating Expenses	\$ 3,316,298	\$ 2,210,866	\$ 2,572,305	\$ (361,440)	-16.35%

Department Summary

Net Costs Allocable to Rate Centers		\$ (2,660,298)	\$ (1,773,532)	\$ (2,111,854)	\$ 338,321	-19.08%
Allocations to the Rate Centers						
Urban Water	44.00%	\$ 1,170,531	\$ 780,354	\$ 929,216	\$ (148,861)	
Crozet Water	4.00%	\$ 106,412	\$ 70,941	\$ 84,474	\$ (13,533)	
Scottsville Water	2.00%	\$ 53,206	\$ 35,471	\$ 42,237	\$ (6,766)	
Urban Wastewater	48.00%	\$ 1,276,943	\$ 851,295	\$ 1,013,690	\$ (162,394)	
Glenmore Wastewater	1.00%	\$ 26,603	\$ 17,735	\$ 21,119	\$ (3,383)	
Scottsville Wastewater	1.00%	\$ 26,603	\$ 17,735	\$ 21,119	\$ (3,383)	
	100.00%	\$ 2,660,298	\$ 1,773,532	\$ 2,111,854	\$ (338,321)	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Maintenance

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA	\$	-	\$	-	\$	-	\$	-
Miscellaneous Revenue		-		-		1,220		1,220
<i>Total Operating Revenues</i>	\$	-	\$	-	\$	1,220	\$	1,220

Expenses

Personnel Cost	\$	1,477,565	\$	985,044	\$	939,258	\$	45,786	4.65%
Professional Services		-		-		4,132		(4,132)	
Other Services & Charges		33,600		22,400		10,251		12,149	54.24%
Communications		24,500		16,333		9,361		6,973	42.69%
Information Technology		32,500		21,667		19,779		1,888	8.71%
Supplies		2,500		1,667		657		1,009	60.55%
Operations & Maintenance	G	104,900		69,933		99,168		(29,235)	-41.80%
Equipment Purchases		212,600		141,733		85,733		56,000	39.51%
Depreciation		-		-		-		-	
<i>Total Operating Expenses</i>		\$ 1,888,165		\$ 1,258,777		\$ 1,168,340		\$ 90,437	7.18%

Department Summary

Net Costs Allocable to Rate Centers		\$ (1,888,165)	\$ (1,258,777)	\$ (1,167,120)	\$ (89,218)	7.09%
<u>Allocations to the Rate Centers</u>						
Urban Water	30.00%	\$ 566,450	\$ 377,633	\$ 350,136	\$ 27,497	
Crozet Water	3.50%	66,086	44,057	40,849	3,208	
Scottsville Water	3.50%	66,086	44,057	40,849	3,208	
Urban Wastewater	56.50%	1,066,814	711,209	659,423	51,786	
Glenmore Wastewater	3.50%	66,086	44,057	40,849	3,208	
Scottsville Wastewater	3.00%	56,645	37,763	35,014	2,750	
	100.00%	\$ 1,888,165	\$ 1,258,777	\$ 1,167,120	\$ 91,657	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Laboratory

Budget FY 2023	Budget Year-to-Date	Actual Year-to-Date	Budget vs. Actual	Variance Percentage
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Operating Budget vs. Actual

Notes

Revenues

N/A

Expenses

Personnel Cost	\$	415,324	\$	276,883	\$	270,156	\$	6,727	2.43%
Professional Services		-		-		-		-	
Other Services & Charges		11,780		7,853		569		7,285	92.76%
Communications		1,700		1,133		702		431	38.07%
Information Technology		1,000		667		1,165		(498)	-74.70%
Supplies		1,250		833		1,267		(433)	-51.99%
Operations & Maintenance	G	121,050		80,700		92,240		(11,540)	-14.30%
Equipment Purchases		1,700		1,133		1,133		(0)	0.00%
Depreciation		-		-		-		-	
Total Operating Expenses		\$ 553,804		\$ 369,203		\$ 367,231		\$ 1,972	0.53%

Department Summary

Net Costs Allocable to Rate Centers		\$ (553,804)	\$ (369,203)	\$ (367,231)	\$ (1,972)	0.53%
<u>Allocations to the Rate Centers</u>						
Urban Water	44.00%	\$ 243,674	\$ 162,449	\$ 161,582	\$ 868	
Crozet Water	4.00%	22,152	14,768	14,689	79	
Scottsville Water	2.00%	11,076	7,384	7,345	39	
Urban Wastewater	47.00%	260,288	173,525	172,599	927	
Glenmore Wastewater	1.50%	8,307	5,538	5,508	30	
Scottsville Wastewater	1.50%	8,307	5,538	5,508	30	
	100.00%	\$ 553,804	\$ 369,203	\$ 367,231	\$ 1,972	

Rivanna Water & Sewer Authority
Monthly Financial Statements - February 2023

Engineering

<i>Budget FY 2023</i>	<i>Budget Year-to-Date</i>	<i>Actual Year-to-Date</i>	<i>Budget vs. Actual</i>	<i>Variance Percentage</i>
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Operating Budget vs. Actual

Notes

Revenues

Payment for Services SWA

Total Operating Revenues

\$ -	\$ -	\$ 18,570	\$ 18,570	
\$ -	\$ -	\$ 18,570	\$ 18,570	

Expenses

Personnel Cost

Professional Services

Other Services & Charges

Communications

Information Technology

Supplies

Operations & Maintenance

Equipment Purchases

Depreciation

Total Operating Expenses

\$ 1,794,680	\$ 1,196,453	\$ 1,183,084	\$ 13,369	1.12%
125,000	83,333	39,374	43,959	52.75%
18,000	12,000	5,378	6,622	55.18%
18,772	12,515	6,292	6,223	49.72%
145,000	96,667	85,846	10,821	11.19%
5,000	3,333	3,064	270	8.09%
75,300	50,200	27,009	23,191	46.20%
21,500	14,333	14,333	0	0.00%
-	-	-	-	
\$ 2,203,252	\$ 1,468,835	\$ 1,364,380	\$ 104,454	7.11%

Department Summary

Net Costs Allocable to Rate Centers

\$ (2,203,252)	\$ (1,468,835)	\$ (1,345,811)	\$ (85,885)	5.85%
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Allocations to the Rate Centers

Urban Water

Crozet Water

Scottsville Water

Urban Wastewater

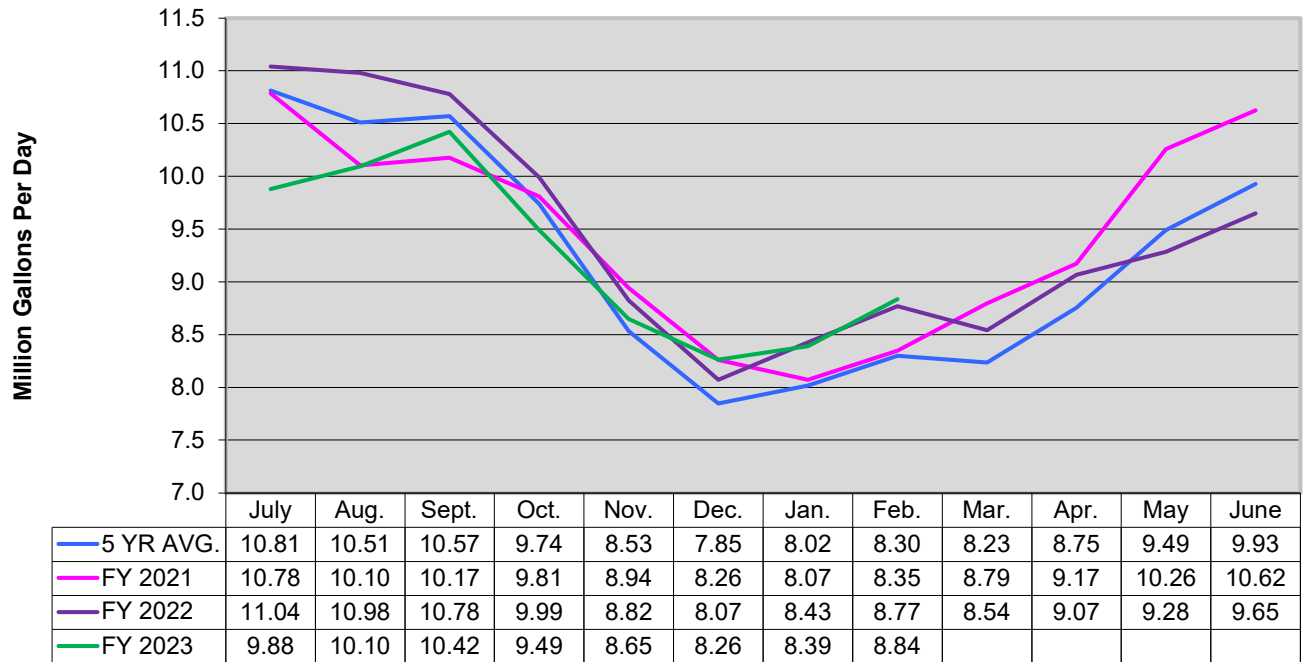
Glenmore Wastewater

Scottsville Wastewater

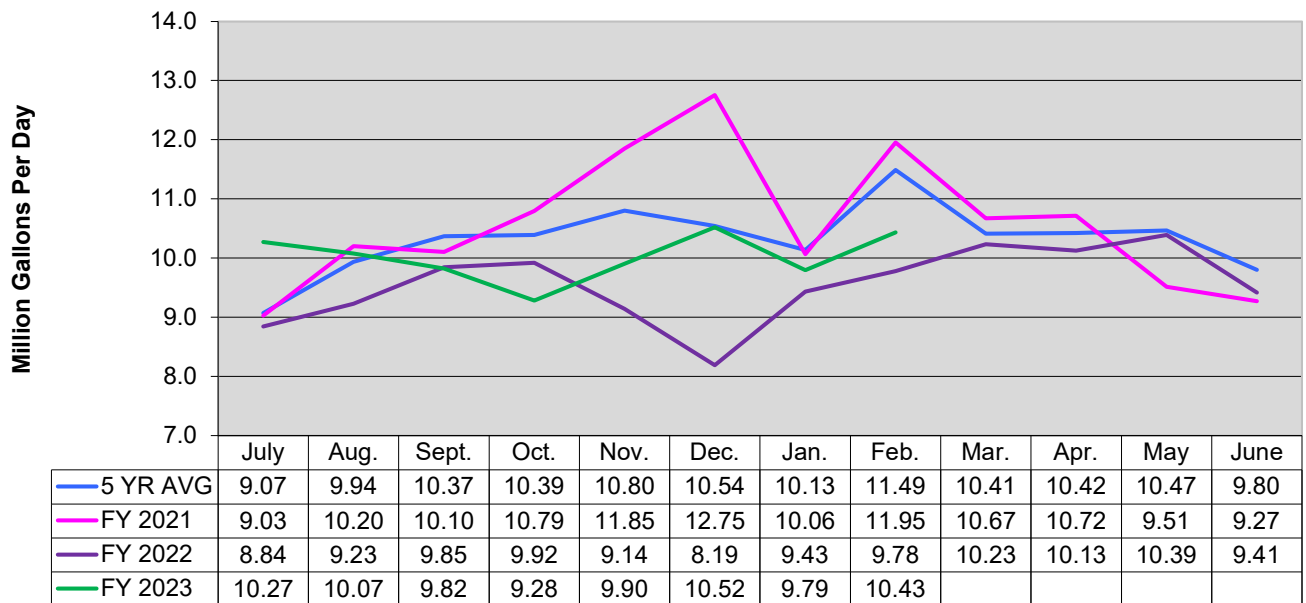
47.00%	\$ 1,035,528	\$ 690,352	\$ 632,531	\$ 57,821
4.00%	88,130	58,753	53,832	4,921
2.00%	44,065	29,377	26,916	2,460
44.00%	969,431	646,287	592,157	54,130
1.50%	33,049	22,033	20,187	1,845
1.50%	33,049	22,033	20,187	1,845
100.00%	\$ 2,203,252	\$ 1,468,835	\$ 1,345,811	\$ 123,024

**Rivanna Water and Sewer Authority
Flow Graphs**

Urban Water Flows



Urban Wastewater Flows



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 MARCH 2023

DATE: APRIL 25, 2023

WATER OPERATIONS:

The average and maximum daily water volumes produced in March 2023 were as follows:

<i>Water Treatment Plant</i>	<i>Average Daily Production (MGD)</i>	<i>Maximum Daily Production in the Month (MGD)</i>
South Rivanna	8.43	9.72 (3/14/2023)
Observatory	0.00	0.00 (All Month)
North Rivanna	<u>0.41</u>	<u>0.49 (3/16/2023)</u>
Urban Total	8.84	10.11 (3/14/2023)
Crozet	0.54	0.62 (3/30/2023)
Scottsville	0.04	0.064 (3/29/2023)
Red Hill	<u>0.0019</u>	0.004 (3/27/2023)
RWSA Total	9.42	-

- All RWSA water treatment facilities were in regulatory compliance during the month of March.
- Observatory Water Treatment Plant has been off-line for the renovation project since 12/01/2022.

Status of Reservoirs (as of April 18, 2023):

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

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during March 2023. Performance of the WRRFs in March was as follows compared to the respective VDEQ permit limits:

WRRF	<i>Average Daily Effluent Flow (MGD)</i>	<i>Average CBOD₅ (ppm)</i>		<i>Average Total Suspended Solids (ppm)</i>		<i>Average Ammonia (ppm)</i>	
		<i>RESULT</i>	<i>LIMIT</i>	<i>RESULT</i>	<i>LIMIT</i>	<i>RESULT</i>	<i>LIMIT</i>
Moore's Creek	9.37	<QL	9	<QL	22	0.21	2.2
Glenmore	0.109	3.0	15	4.7	30	NR	NL
Scottsville	0.05	2.0	25	11	30	NR	NL
Stone Robinson	0.002	4.0	30	7.0	30	NR	NL

NR = Not Required

NL = No Limit

<QL: Less than analytical method quantitative level (2.0 ppm for CBOD, 1.0 ppm for TSS, and 0.1 ppm for Ammonia).

Nutrient discharges at the Moore's Creek AWRRF were as follows for March 2023.

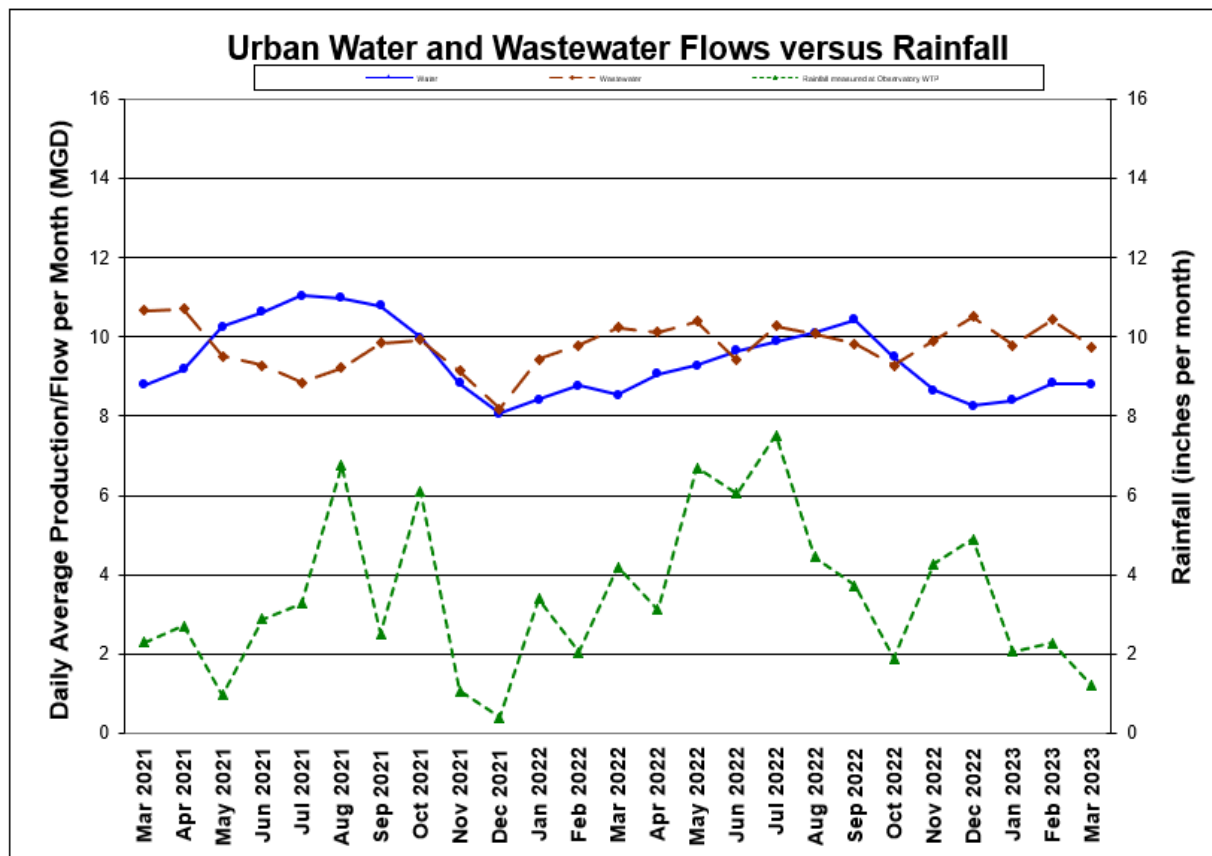
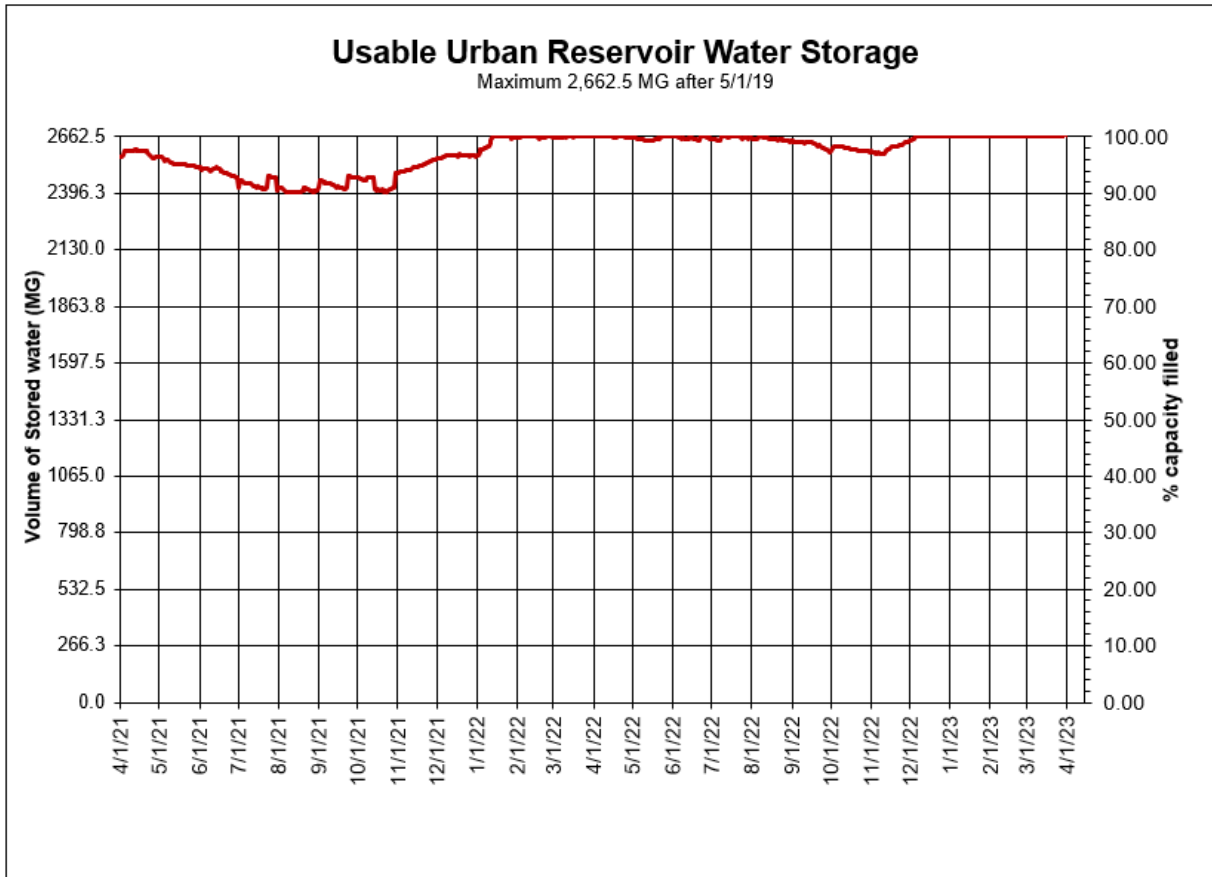
<i>State Annual Allocation (lb./yr.) Permit</i>		<i>Average Monthly Allocation (lb./mo.) *</i>	<i>Moore's Creek Discharge March (lb./mo.)</i>	<i>Performance as % of monthly average Allocation*</i>	<i>Year to Date Performance as % of annual allocation</i>
Nitrogen	282,994	23,583	9,183	39%	10%
Phosphorous	18,525	1,544	380	25%	4%

*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





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: APRIL 25, 2023

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

For the current, approved CIP, please visit: <https://www.rivanna.org/wp-content/uploads/2022/06/Final-2023-2027-CIP.pdf>

Summary Table

	Project	Bid Advertise Date	Construction Completion Date
1	SRWTP and OBWTP Renovations	November 2019	October 2023
2	Airport Rd. Water Pump Station and Piping	September 2021	September 2024
3	MC 5kV Electrical System Upgrades	December 2021	December 2024
4	RMR to OBWTP Raw Water Line and Pump Station	April 2024	December 2028
5	SFRR to RMR Pipeline, Intake, and Facilities	December 2025	December 2030
6	Beaver Creek Dam, Pump Station and Piping	April 2025	June 2028
7	South Fork Rivanna River Crossing	September 2023	September 2025
8	Central Water Line	December 2023	December 2028
9	MC Administration Building Renovation and Addition	January 2024	June 2026
10	Upper Schenks Branch Interceptor, Phase II	TBD	TBD
11	Red Hill Water Treatment Plant Upgrades	September 2023	November 2024
12	Emmet Street Water Line Betterment	Varies	July 2036
13	Scottsville WRRF Whole Plant Generator and ATS	December 2023	June 2025
14	Crozet Pump Stations Rehabilitation	November 2024	December 2026
15	MC Structural and Concrete Rehabilitation	September 2024	June 2026
16	MC Building Upfits and Gravity Thickener Improvements	April 2024	December 2025

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations
2. Airport Road Water Pump Station and Piping
3. MC 5kV Electrical System Upgrades

Design and Bidding

4. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
5. SRR to RMR Pipeline, Intake, and Facilities
6. Beaver Creek Dam, Pump Station and Piping Improvements
7. South Fork Rivanna River Crossing
8. Central Water Line
9. Moores Creek Administration Building Renovation and Addition
10. Upper Schenks Branch Interceptor, Phase II
11. Red Hill Water Treatment Plant Upgrades
12. Emmet Street Water Line Betterment
13. Scottsville WRRF Whole Plant Generator and ATS
14. Crozet Pump Stations Rehabilitation
15. MCAWRRF Structural and Concrete Rehabilitation
16. MCAWRRF Building Upfits and Gravity Thickener Improvements

Planning and Studies

17. Asset Management Plan
18. SFRR to RMR Pipeline – Pretreatment Pilot Study
19. MCAWRRF Biogas Upgrades

Other Significant Projects

20. Urgent and Emergency Repairs
21. Security Enhancements

Under Construction

1. South Rivanna and Observatory Water Treatment Plant Renovations

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company (Lynchburg, VA)
Construction Start:	May 2020
Percent Complete:	84%
Base Construction Contract + Change Orders to Date = Current Value:	\$36,748,500 + \$1,141,441 = \$37,889,941
Completion:	October 2023
Budget:	\$43,000,000

Current Status: Work at the OBWTP includes the new Chemical Storage Building, GAC Building expansion, a large retaining wall, Intermediate Pump Station improvements, installation of a new settled water flume, filter rebuilds and installation of a sludge control vault. Shutdown of the OBWTP was planned for December 5, 2022 – March 12, 2023; however, unforeseen conditions have delayed the work and the shutdown is now anticipated to end by April 24, 2023.

2. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Anderson Construction, Inc. (ACI) (Lynchburg, VA)
Construction Start:	December 2021
Percent Complete:	40%
Base Construction Contract + Change Order to Date = Current Value:	\$8,520,312
Completion:	September 2024
Budget:	\$10,000,000

Current Status: Site piping and the concrete pour for the pump station footings were completed this month. Installation of two parallel water lines is on-going along Berkmar Drive between the pump station site and Timberwood Blvd, however, production has been slow due to the amount of rock encountered.

3. MCAWRRE 5kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer (Hazen)
Construction Contractor:	Pyramid Electrical Contractors (Richmond, VA)
Construction Start:	May 2022
Percent Complete:	15%
Base Construction Contract + Change Order to Date = Current Value:	\$5,180,000 - \$970,000 + \$78,812 = \$4,288,812
Completion:	December 2024
Budget:	\$5,050,000

Current Status: Ductbank installation, required to connect the new switchgear to the existing ductbank network and allow the necessary cable replacements to take place later in the project, is now complete. The Contractor is beginning work on the equipment pad for the new switchgear building.

Design and Bidding

4. Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Pump Station

Design Engineer:	Kimley-Horn
Project Start:	August 2018
Project Status:	Design (60%)
Construction Start:	2024
Completion:	December 2028
Budget:	\$44,000,000

Current Status: Preparation of engineering plans and specifications continues as well as easement and property negotiations with UVA and the UVA Foundation. The pump station design report was submitted on April 5th. Waterline design is progressing towards 90% completion between Ragged Mountain Reservoir and UVA Foundation property, as well as between the new pump station site and Fontaine Avenue. Utility test holes and geotechnical borings are also underway.

5. **SRR to RMR Pipeline, Intake, and Facilities**

Design Engineer:	TBD
Project Start:	July 2023
Project Status:	Work Authorization Development
Construction Start:	June 2026
Completion:	December 2030
Budget:	\$79,700,000

Current Status: This project will include construction of a raw water pipeline from the South Fork Rivanna Reservoir (SFRR) to the northern terminus of the previously constructed Birdwood Raw Water Line. This project, combined with the Ragged Mountain Reservoir (RMR) to Observatory Water Treatment Plant Raw Water Line, will complete the SFRR-RMR transfer line. The project will also include the construction of a new 25 MGD raw water intake and pump station at SFRR. The section of waterline previously to be constructed under the Birdwood to Old Garth Project will now be included in this larger effort, due to the schedule advancement discussed at the February Board Meeting. The draft CSX railroad permit was received for this portion of the project and staff is working through comments with the railroad. One remaining easement is under negotiation with the UVA Foundation for this portion of the project. A topographic survey for the pipeline is underway. The remainder of design of this project will start in July 2023, after selection and approval of a Design Engineer.

6. **Beaver Creek Dam, Pump Station and Piping Improvements**

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen & Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	99% NRCS Planning Process
Construction Start:	2025
Completion:	June 2028
Budget:	\$43,000,000

Current Status: A Joint Permit Application and supporting documents were submitted to VDEQ in October 2022, and are under review. The revised Plan-Environmental Assessment was approved by the NRCS National Water Management Center on October 18, 2022, and the Draft Report was posted for public comment from November 4-December 19, 2022. The final report is under review by NRCS with approval anticipated by the end of April 2023. A funding request for final design of the spillway upgrades has been approved by NRCS. Construction funds will be requested near the end of the design phase. A work authorization for preliminary engineering for the raw water pump station, intake, and hypolimnetic oxygenation system (HLOS) is on this month's consent agenda.

7. S. F. Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	85% Design
Construction Start:	Fall 2023
Completion:	September 2025
Budget:	\$7,000,000

Current Status: Easement acquisition work is on-going and a draft easement package for the work in Brookhill Park was sent to the County last month. A required easement on the south side of the river is on a remnant property from the VDOT Berkmar Bridge project and we cannot finalize that easement until the property transfer back to the original property owner is complete. WPO plans are being finalized and a submittal to the County is anticipated in the next month.

8. Central Water Line

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	35% Design
Construction Start:	April 2024
Completion:	December 2028
Budget:	\$41,000,000

Current Status: A stakeholder 30% design workshop was completed on March 16, 2023 and Baker is incorporating comments and advancing the plans to 60% design.

9. Moore's Creek Administration Building Renovation and Addition

Design Engineer:	SEH
Project Start:	October 2022
Project Status:	15% Design
Construction Start:	March 2024
Completion:	June 2026
Budget:	\$15,000,000

Current Status: Survey work and geotechnical borings have been completed. Floor plan design is currently being finalized. Conceptual elevations are being generated to present to the leadership team in mid-April and to the Board in May. The project has an initial site plan submittal to the County anticipated in May.

10. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	Frazier Engineering, P.A.
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD

Budget: \$4,725,000

Current Status: Project, easement and valuation information was submitted to the County for review. The County has provided some initial comments related to tree protection which are being evaluated for project impacts. A regional coordination meeting to discuss the project has been scheduled for May 2, 2023.

11. Red Hill Water Treatment Plant Upgrades

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2022
Project Status:	95% Design
Construction Start:	November 2023
Completion:	November 2024
Budget:	\$800,000

Current Status: A work authorization amendment is being finalized to incorporate GAC contactors and rehabilitation of the existing hydropneumatic tank with an anticipated bid advertisement this fall. This project was selected by Albemarle County to receive ARPA grant funding.

12. Emmet Street Water Line Betterment

Design Engineer:	Whitman, Requardt & Associates (WRA)
Project Start:	September 2021
Project Status:	Ivy Corridor Public Realm – Complete Contemplative Commons – Complete Emmet Streetscape – Preliminary Design Hydraulic/29 – Preliminary Design
Completion:	July 2036
Budget:	\$2,900,000

Current Status: RWSA is coordinating with the City for design of a 24-30” water main in Emmet Street as part of the City’s Emmet Streetscape Phase I project. RWSA has initiated discussion with VDOT on potential pipe routing in the upcoming design-build Hydraulic/29 project.

13. Scottsville WRRF Whole Plant Generator and ATS

Design Engineer:	Wiley Wilson
Project Start:	December 2021
Project Status:	100% Design
Construction Start:	April 2024
Completion:	June 2025
Budget:	\$520,000

Current Status: The 100% design documents have been submitted and are currently under internal review. A grant application has been submitted to VDEM, and incorporation of the timeline associated with grant review, approval and award is anticipated to delay the start of construction until the end of this calendar year.

14. Crozet Pump Stations Rehabilitation

Design Engineer:	Wiley Wilson
Project Start:	Fall 2022
Project Status:	Work Authorization Development
Completion:	December 2026
Budget:	\$1,004,400

Current Status: A work authorization has been developed for completion of this project. Project funds required for design have been included in the proposed FY24 CIP and as a result, a request to the Board for approval to proceed will coincide with adoption of the proposed FY24 to FY28 CIP in May 2023.

15. MCAWRRF Structural and Concrete Rehabilitation

Design Engineer:	Hazen and Sawyer (Hazen)
Project Start:	April 2023
Project Status:	Preliminary Engineering
Completion:	June 2026
Budget:	\$13,550,000

Current Status: A project kickoff meeting was held at the beginning of April with all project team members and preliminary engineering work is commencing.

16. MCAWRRF Building Upfits and Gravity Thickener Improvements

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	Spring 2023
Project Status:	Work Authorization Development
Construction Start:	August 2024
Completion:	December 2025
Budget:	\$5,000,000

Current Status: Work authorization development is ongoing.

Planning and Studies

17. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	CMMS Implementation – 93% Complete AMP Implementation – 35% Complete
Completion:	CMMS Implementation – April 2023 AMP Implementation – 2024
Budget:	\$1,180,000

Current Status: For implementation of the new Computerized Maintenance Management System (CMMS), GHD has completed updates to our facility geodatabase and is continuing the software configuration process. A recent software update has complicated the process, but GHD and RWSA staff worked with Cityworks to resolve it. Cityworks training begins this month in preparation for going live with the software later this spring. Work continues to fully implement the Asset Management program across all applicable Authority facilities with development of management strategy group assignments and attributes for both vertical and horizontal assets and preparation for condition assessments.

18. SFRR to RMR Pipeline – Pretreatment Pilot Study

Design Consultant:	SEH/DiNatale
Project Start:	August 2020
Project Status:	5% Complete (Phase 3)
Completion:	December 2023
Budget:	\$31,739 (Phase 3)

Current Status: Final efforts by the consultant to better clarify operations of the raw water transfer system and associated reservoir levels during drought conditions have been completed. The next phase of the study is underway, which will include installation of nutrient monitoring/measuring equipment, as well as a summary write-up detailing the effectiveness of the equipment and the summary/takeaways from the study.

19. MCAWRRF Biogas Upgrades

Design Engineer:	SEH
Project Start:	October 2021
Project Status:	Preliminary Engineering/Study (99%)
Completion:	December 2024
Budget:	\$2,145,000

Current Status: This project now includes the Methane Sphere Rehabilitation, in addition to the Cogeneration Upgrades. Staff is meeting internally this month to review the findings of the study to date and determine next steps for the project.

Other Significant Projects

20. Urgent and Emergency Repairs

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

Project No.	Project Description	Approx. Cost
2022-09	CZI Force Main ARV Replacements	\$300,000
2022-02/05/12	Miscellaneous MCI/PCI/RVI MH Repairs	\$70,000
2023-01	Finished Water System ARV Repairs	TBD
2023-02	WWM 32-02 Valve Replacement	\$40,000

2023-05	MCI-MH-16 Repair	\$10,000
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- CZI Force Main ARV Replacements: Over the past several years, staff have been monitoring the condition of the air release valves (ARVs) up and down the force main portions of the Crozet Interceptor, as they have been continuing to degrade. These valves are 1980s-vintage, and while they have been serviced and partially rebuilt over the years by the RWSA Maintenance Department, replacement of the tapping saddle and corporation stop has not been possible, since shutdown of the force main is required. Historically, it has taken several hours to drain the force main to allow for the work to take place, and by the time that has occurred, the upstream pump stations need to turn on to prevent overflow. Now with the Flow Equalization Tank complete, this work can take place with the force main offline for up to a 24-hr period. All materials for the job arrived near the end of January, and the work started on March 6th. Five of the six ARV replacements have been replaced as of April 11th, with work anticipated to be complete by the end of May.
- Miscellaneous MCI/PCI/RVI MH Repairs: Over the past several months, staff have identified issues with various manholes on the Moores Creek, Powell Creek, and Rivanna Interceptors (MCI, PCI, and RVI, respectively). These include one manhole on MCI that needs to be raised, as it was historically buried but found in Summer 2021 by the RWSA Maintenance & Engineering Departments, one manhole on RVI that needs a failing HDPE liner to be removed and cementitious mortar to be installed, and one manhole each on PCI and MCI that need to be coated with cementitious mortar due to root intrusion and groundwater infiltration. This work will be performed through the On-Call Maintenance contract with Digs, and staff visited the site with the Contractor on July 15th. The appropriate MH on MCI was raised on November 1st, 2022. The remaining coating efforts were completed during the week of January 30th. Two additional small MH repairs are being planned for the spring, including one additional MH coating and height adjustment of one MH.
- RWSA Finished Water ARV Repairs: RWSA Engineering staff recently met with Maintenance staff, to identify a list of Air Release Valves (ARVs) that need to be repaired, replaced, or abandoned. Several of these locations will require assistance from RWSA On-Call Maintenance Contractors, due to the complexity of the sites (proximity to roadways, depth, etc.). The initial round will include six (6) sites, all along the South Rivanna Waterline, and will be completed starting late Spring/early Summer, following the Observatory Shutdown.
- WWM 32-02 Replacement: An 8" gate valve at RWSA's Wholesale Water Meter site 32 was identified as defective during a recent meter calibration effort. Staff is coordinating the replacement efforts for this valve for after the Observatory WTP shutdown with its On-Call Maintenance Contractor, as well as ACSA and the RWSA Water & Maintenance Departments.
- MCI-MH-16 Repair: On March 13th, during a routine inspection, RWSA Maintenance found that MCI-MH-16, located near Monticello Avenue, appeared to have been struck by a piece of construction equipment, causing damage to the MH. Repairs to this manhole were completed on March 16th. Repairs included installation of a new MH cone and pouring a concrete collar to reseal the cone to the original 1950s-vintage brick structure.

21. Security Enhancements

Design Engineer:	Hazen & Sawyer
Construction Contractor:	Security 101 (Richmond, VA)
Construction Start:	March 2020
Percent Complete:	95% (WA5), 0% (WA6), 0% (WA7)
Based Construction Contract +	

Change Orders to Date = Current Value:	\$718,428 (WA1) + \$611,764 (WA2-7)
Completion:	October 2022 (WA5), May 2023 (WA6)
Budget:	\$2,810,000

Current Status: WA5, which authorizes card access installation at Glenmore Water Resource Recovery Facility (GWRRF), Scottsville Water Resource Recovery Facility (SVWRRF), and Red Hill Water Treatment Plant (RHWTP), began during the week of June 20th, 2022. Conduit and cable pulling is complete at all facilities covered in the WA, and the only work that remains is programming work at each site, likely to be completed by this Spring. WA6 will include card access installation at RWSA's remote sites, including all dams and pump stations. This work was authorized in early August, with completion scheduled for July 2023. WA7, which includes a pilot of a program that will test electronic padlocks at several RWSA facilities, has been authorized. These electronic padlocks have the potential to add an extra layer of security to unmanned facilities such as tanks, dams, and other facilities. If the pilot is successful, wide scale implementation of this technology is possible. Staff has also kicked off final design of a project with Hazen & Sawyer to improve the front entrance of MCAWRRF and install additional fencing, gates, and card access. This will allow staff to better control access to the facility and provide staff with the means to vet access by visitors, vendors, consultants, and contractors. Design is underway, with discussions with Dominion Energy also ongoing, as relocation of existing electrical infrastructure will be required. This relocation process will need to be finalized prior to the project proceeding to the permitting phase.

MEMORANDUM

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

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: WHOLESALE METERING REPORT FOR MARCH 2023

DATE: APRIL 25, 2023

The monthly and average daily Urban water system usages by the City and the ACSA for March 2023 were as follows:

	<i>Month</i>	<i>Daily Average</i>	
City Usage (gal)	134,638,651	4,343,182	49.3%
ACSA Usage (gal)	138,406,943	4,464,740	50.7%
Total (gal)	273,045,594	8,807,922	

The *RWSA Wholesale Metering Administrative and Implementation Policy* requires that water use be measured based upon the annual average daily water demand of the City and ACSA over the trailing twelve (12) consecutive month period. The *Water Cost Allocation Agreement (2012)* established a maximum water allocation for each party. If the annual average water usage of either party exceeds this value, a financial true-up would be required for the debt service charges related to the Ragged Mountain Dam and the SRR-RMR Pipeline projects. Below are graphs showing the calculated monthly water usage by each party, the trailing twelve-month average (extended back to April 2022), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA). Completed in 2019 for a cost of about \$3.2 M, our Wholesale Metering Program consists of 25 remote meter locations around the City boundary and 3 finished water flow meters at treatment plants.

Figure 1: City of Charlottesville Monthly Water Usage and Allocation

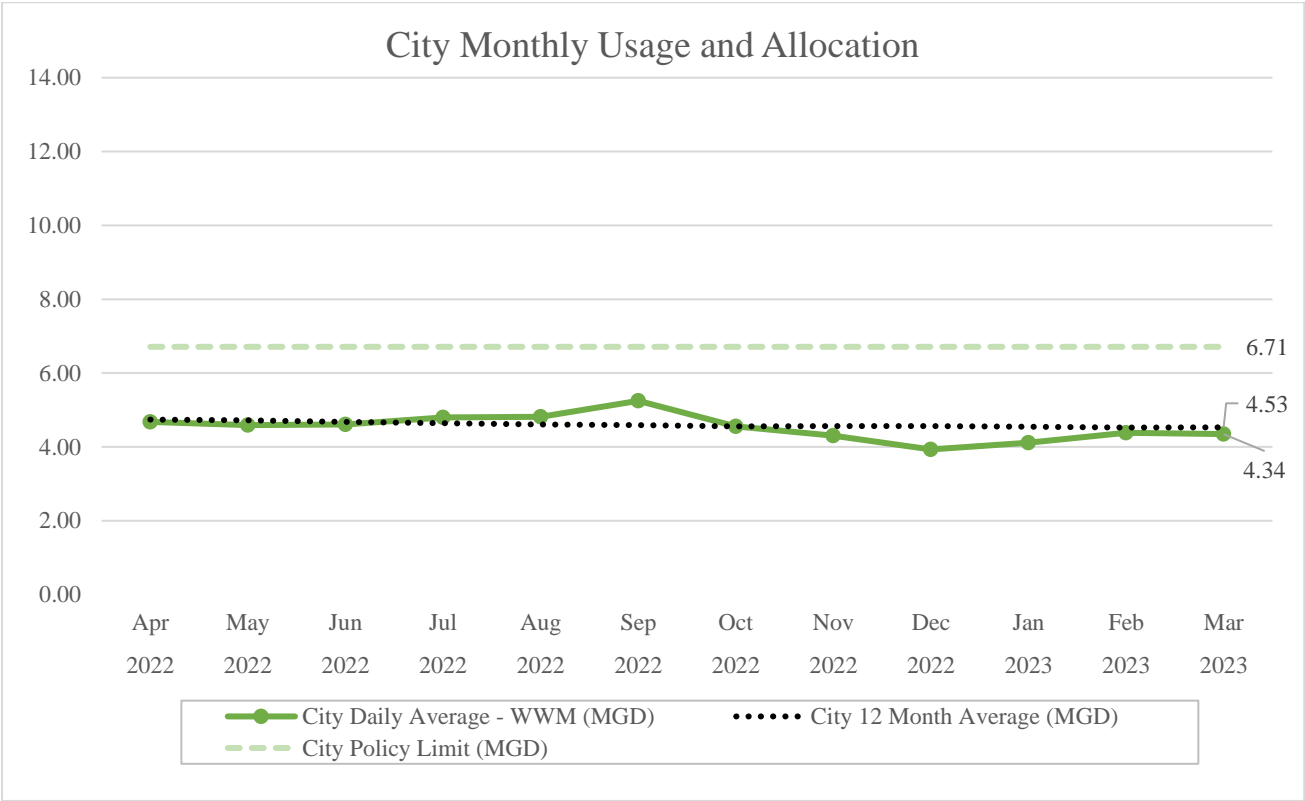
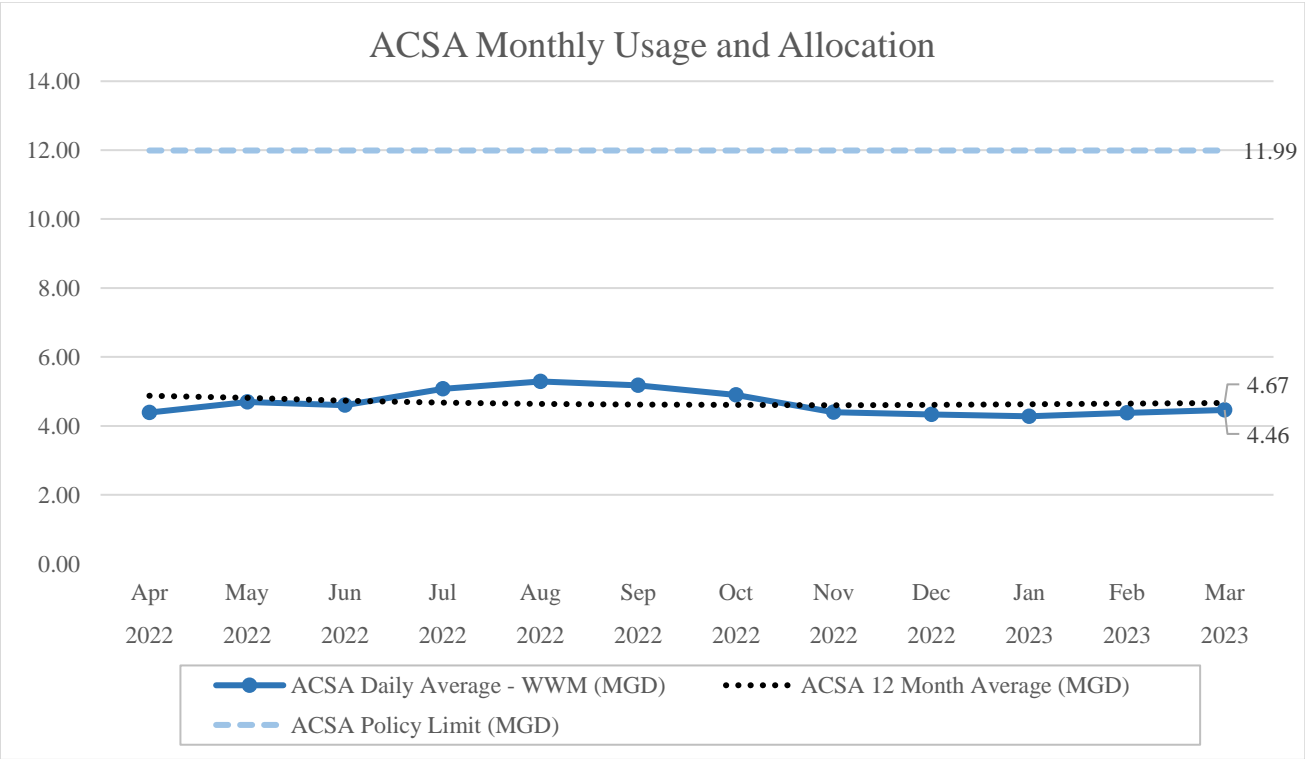


Figure 2: Albemarle County Service Authority Monthly Water Usage and Allocation



Meter Locations for the Wholesale Water Metering Project



A scale bar labeled "Miles" with markings at 0, 0.25, and 0.5.

Date: 4/21/2017



695 Moores Creek Lane
Charlottesville, VA 22902
p.434-977-2970
www.rivanna.org
www.rivannagis.org

 Meter Site Locations - W&MP

- 01, Pepsi Place
02, Michael Pl / Wilson Ct
03, Wilder Dr
06, Long St / River Rd

- | | | | |
|---|-----------------------------------|-----------------------------|-----------------------|
| 08, Franklin St / Carlton Ave / Broadway St | 16, Ricky Rd / Barracks Rd | 23, Greenbrier Dr / Rio Rd | 30, Darden Towle Park |
| 09, Moores Creek Ln | 17, Ricky Rd (near Wayne Ave) | 24, Greenbrier Ter | 31, Stribling Ave |
| 11, Avon St | 18, North Berkshire Rd | 25, University Heights Apts | 32, Fontaine Ave |
| 12, Loma Ln / Harris Rd | 19, Hydraulic Rd / Inglewood Dr | 26, Seminole Trl | |
| 14, Old Lynchburg Rd | 20, Trader Joes | 28, Rio Rd / Melbourne Rd | |
| 15, Ivy Rd / Colomnade Dr | 22, Rio Rd @ Church of Our Savior | 29, Pen Park Ln | |



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

**FROM: ANDREA BOWLES, WATER RESOURCES MANAGER
JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &
MAINTENANCE**

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: DROUGHT MONITORING REPORT

DATE: APRIL 25, 2023

Drinking Water Supply and Drought Monitoring, as of April 12, 2023:

- A. U.S. Drought Monitoring Report:
 - Albemarle County is noted to be in a “moderate drought” status.
- B. VDEQ Drought Status Report:
 - Our region is at a “Warning” level for groundwater.
- C. Reservoirs; Sugar Hollow, South Rivanna, Ragged Mountain, Beaver Creek, Totier Creek:
 - 100% full.

Precipitation

Charlottesville Precipitation				
Year	Month	Observed (in.)	Normal (in.)	Departure (in.)
2021	Total: Jan - Dec	33.82	41.61	-7.79
2022	Total: Jan - Dec	43.53	41.61	+1.92
2023	Total: Jan - Mar	4.59	8.73	-4.14

Source: National Weather Service, National Climatic Data Center.

Drought History in Virginia

Severe: 1930, 1982, 2002

Longest: May 2007 – April 2009 = 103 weeks

Significant: every 10 -15 years

Source: National Drought Information System – NOAA



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: BEAVER CREEK RAW WATER PUMP STATION AND INTAKE –
PRELIMINARY ENGINEERING WORK AUTHORIZATION

DATE: APRIL 25, 2023

This request is to authorize the Executive Director to execute a work authorization with Hazen and Sawyer totaling \$693,212 to provide preliminary engineering services of the Beaver Creek Raw Water Pump Station, Intake, Raw Water Transmission Main, and Hypolimnetic Oxygenation System (HLOS) project. The total project cost is estimated to be \$20 million.

Background

The existing Raw Water Pump Station and Intake facility at the Beaver Creek Reservoir was constructed in 1964 and is located immediately downstream of the Beaver Creek Dam. Obligatory dam safety spillway upgrades necessitate moving the pump station away from its current location downstream of the dam. Additionally, the Drinking Water Infrastructure Plan for the Crozet water service area recommends installation of a new Raw Water Pump Station and Intake to provide adequate raw water pumping capacity to serve the growing Crozet community for the next 50 years. The new pump station will be constructed adjacent to the dam on property owned by Albemarle County on the south side of the Beaver Creek Reservoir.

RWSA entered into a term agreement with Hazen and Sawyer on May 3, 2018 for Professional Engineering Services. Under this contract, Hazen and Sawyer will provide preliminary engineering services for the Beaver Creek Raw Water Pump Station, Intake, Raw Water Transmission Main, and HLOS Project. Engineering staff has negotiated an initial scope of work for these services to include the following:

- Field survey efforts
- Geotechnical investigations
- Confirm any necessary temporary or permanent easements required for construction of the pump station, access road, raw water transmission main and HLOS
- Analysis and design activities to prepare a Preliminary Engineering Report for VDH approval

These preliminary engineering services were negotiated under the existing term agreement with

Hazen and Sawyer This work is being advanced ahead of scope negotiation for final design, bidding, and construction phase services to maintain the project schedule, and is within the proposed CIP Budget for the Beaver Creek Raw Water Pump Station and Intake project.

Board Action Requested:

Authorize the Executive Director to execute a work authorization with Hazen and Sawyer for preliminary engineering services for the Beaver Creek Raw Water Pump Station and Intake project totaling \$693,212, and any amendments needed to complete the tasks identified above, not to exceed 25% of the Work Authorization amount, provided the resulting total cost is within the approved CIP project budget.



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: APPROVAL OF BEAVER CREEK DAM NO. 1 SUPPLEMENTAL
WATERSHED PLAN AGREEMENT (SUPPLEMENT NO. 2)

DATE: APRIL 25, 2023

This memorandum is to request authorization for the Executive Director to execute the *Supplemental Watershed Plan Agreement (Supplement No. 2)* for the rehabilitation of Beaver Creek Dam. This Agreement will establish RWSA as the sole Sponsor responsible for completion of the infrastructure required to increase the flow capacity of the dam's overflow structure. The governing Boards of the TJSWCD and Albemarle County will be requested to co-sign this Agreement.

Background:

The Beaver Creek Dam was constructed in 1963 under the authority of the *Watershed Protection and Flood Prevention Act* and was administered by the federal Soil Conservation Service, now the Natural Resources Conservation Service (NRCS). The project was sponsored at that time by the Thomas Jefferson Soil Conservation District (now TJSWCD) and the Albemarle County Board of Supervisors. The 1960 *Watershed Work Plan Agreement* and 1963 *Supplemental Watershed Work Plan Agreement (Supplement No. 1)* designate these two agencies as "Sponsoring Local Organizations" (SLO's or sponsors). In the years since the dam was completed, RWSA has assumed rights and responsibilities for operation and maintenance of the dam and pumping facilities. Albemarle County retains ownership of the property surrounding the reservoir and dam.

Changes to the Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the Beaver Creek Dam from Significant Hazard to High Hazard, necessitating an upgrade to the capacity of the dam's spillway. To address this requirement, RWSA and its consultants, Schnabel Engineering and Hazen and Sawyer, have developed a Supplemental Watershed Work Plan-Environmental Assessment (Plan-EA) for the rehabilitation of the dam with funding and support from NRCS.

This *Supplemental Watershed Plan Agreement (Supplement No. 2)* is an update to the 1960 *Watershed Work Plan Agreement* and 1963 *Supplement No. 1* and obligates the sponsors to install the proposed improvements in accordance with the terms, conditions, and stipulations provided for in the Plan-EA. TJSWCD and the Albemarle County Board of Supervisors have requested to be removed as sponsors as part of this supplemental agreement, designating RWSA as the sole party responsible for meeting the requirements set forth in the Plan-EA and *Supplement No. 2*.

Board Action Requested:

Authorize the Executive Director to execute the *Supplemental Watershed Plan Agreement (Supplement No. 2)* for the Rehabilitation of Beaver Creek Dam, including any changes as may be requested by NRCS, the Albemarle County Board of Supervisors, or the Thomas Jefferson Soil and Water Conservation District, after consultation with Authority counsel.

Attachments

BEAVER CREEK WATERSHED AGREEMENT

Supplemental Watershed Plan Agreement
(Supplement No. 2)

Between the

Rivanna Water and Sewer Authority
Albemarle County Board of Supervisors
Thomas Jefferson Soil and Water Conservation District

and the

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
Formerly the Soil Conservation Service (SCS)
(Referred to herein as NRCS)

Whereas, the Thomas Jefferson Soil and Water Conservation District (formerly the Thomas Jefferson Soil Conservation District) (“TJSWCD”) and the Albemarle County Board of Supervisors (the “County”) (TJSWCD and the County, collectively hereinafter the “Original Sponsors”) executed with NRCS that certain Watershed Plan Agreement for the Beaver Creek Watershed, Commonwealth of Virginia (the “Watershed Plan Agreement”) that became effective on August 31, 1960; and

Whereas, the Watershed Plan Agreement was amended by a Supplemental Watershed Plan Agreement executed by the Original Sponsors and NRCS and became effective in June 1963; and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act, has been assigned by the Secretary of Agriculture to NRCS; and

Whereas, application has heretofore been made to the Secretary of Agriculture by the Rivanna Water and Sewer Authority (the “Authority”) for assistance in preparing a plan for works of improvement for Structure No. 1 in the Beaver Creek Watershed, Commonwealth of Virginia, under the authority of the Watershed Protection and Flood Prevention Act, as amended (16 U.S.C. Sections 1001 to 1008, 1010, and 1012);

Whereas, there has been developed through the cooperative efforts of the Original Sponsors, the Authority and NRCS a Watershed Work Plan No. 2 – Environmental Assessment for works of improvement for the restructuring of Structure No. 1, Beaver Creek Watershed, Commonwealth of Virginia, hereinafter referred to as the Plan-EA or plan, which plan is annexed to and made a part of this agreement; and

Whereas, the Original Sponsors, the Authority, and NRCS desire to substitute the Authority for TJSWCD and the County as Sponsoring Local Organizations, and, therefore the Authority is hereinafter referred to as the “Sponsor”;

Now, therefore, in view of the foregoing considerations, the Secretary of Agriculture, through NRCS, and the Sponsor hereby agree on this watershed project plan and that the works of

improvement for this project will be installed, operated, and maintained in accordance with the terms, conditions, and stipulations provided for in this plan and including the following:

1. **Term.** The term of this agreement is for the installation period and evaluated life of the project (50 years following completion of construction) and does not commit NRCS to assistance of any kind beyond the end of the evaluated life.
2. **Costs.** The costs shown in this plan are preliminary estimates. Final costs to be borne by the parties hereto will be the actual costs incurred in the installation of works of improvement.
3. **Real property.** The Sponsor will acquire such real property as will be needed in connection with the works of improvement. The amounts and percentages of the real property acquisition costs to be borne by the Sponsor and NRCS are as shown in the cost-share table in Section 5 hereof. The Sponsor agrees that all land acquired for measures, other than land treatment practices, with financial or credit assistance under this agreement will not be sold or otherwise disposed of for the evaluated life of the project except to a public agency which will continue to maintain and operate the development in accordance with the operation and maintenance agreement.
4. **Uniform Relocation Assistance and Real Property Acquisition Policies Act.** The Sponsor hereby agrees to comply with all of the policies and procedures of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. Section 4601 et seq. as further implemented through regulations in 49 CFR Part 24 and 7 CFR Part 21) when acquiring real property interests for this federally assisted project. If the Sponsor is legally unable to comply with the real property acquisition requirements, it agrees that, before any Federal financial assistance is furnished, it will provide a statement to that effect, supported by an opinion of the chief legal officer of the state containing a full discussion of the facts and law involved. This statement may be accepted as constituting compliance.
5. **Cost-share for Watershed Project Plans.** The following table will be used to show cost-share percentages and amounts for Watershed Project Plan implementation.

Works of Improvement	NRCS		Sponsor		Total
	Percent	Cost	Percent	Cost	Cost
Cost-Sharable Items ^{1/}					
Construction: Multiple-Purpose Structure No. 1 (Flood Control) ^{2/}	100%	17,590,750	0%	\$0	\$17,590,750
Sponsor Planning Costs ^{4/}	0%	\$0	100%	\$445,602	\$445,602
Subtotal - Cost Sharable Items – Flood Control		\$17,590,750		\$445,602	\$18,036,352
Construction: Multiple Purpose Structure No. 1 (M&I) ^{3/}	0%	\$0	100%	\$17,850,000	\$17,850,000
Subtotal - Cost Sharable Items - M&I		\$0		\$17,850,000	\$17,850,000
Subtotal – Cost Sharable Items	49.0%	\$17,590,750	51.0%	\$18,295,602	\$35,886,352
Non Cost-Sharable Items^{6/}					
Sponsor Engineering Costs ^{5/}	0%	\$0	100%	\$2,430,000	\$2,430,000
Property Acquisition ^{7/}	0%	\$0	100%	\$125,000	\$125,000

Works of Improvement	NRCS		Sponsor		Total
	Percent	Cost	Percent	Cost	Cost
NRCS Technical Assistance/Engineering ^{8/}	100%	\$750,000	0%	\$0	\$750,000
Project Administration ^{9/}	NA	\$25,000	NA	\$50,000	\$75,000
Real Property Rights ^{10/}	0%	\$0	100%	\$3,151,875	\$3,151,875
Permits	0%	\$0	100%	\$404,000	\$404,000
Subtotal: Non Cost-Sharable Items	11%	\$775,000	89%	\$6,160,875	\$6,935,875
TOTAL:	43%	\$18,365,750	57%	\$24,456,477	\$42,822,227

1/ Price Base: 2022

2/ Includes rehabilitation of the dam and spillway to meet requirements for high hazard potential dams.

3/ Includes costs associated with the construction of new raw water pump station and withdrawal infrastructure.

4/ Includes costs incurred by the Sponsor prior to NRCS and Sponsor agreement, July 29, 2020.

5/ Includes engineering for raw water pump station, temporary detour route, and new spillway bridge.

6/ If actual costs incurred are greater than shown here, each party shall bear the responsibility for their costs.

7/ Includes purchase of 2.5 acres of private property for spillway rehabilitation. Assumed purchase price of \$50,000 per acre.

8/ Includes engineering costs associated with the design of the new spillway structure and dam safety related measures.

9/ Includes costs associated with contract administration.

10/ Includes construction of temporary on-site detour route, permanent vehicular bridge to span spillway, relocation of power pole.

6. **Land Treatment Agreements.** The Sponsor will acquire, with other than Watershed Protection and Flood Prevention Act funds, such real property as will be needed in connection with the works of improvement. The value of real property is eligible as in-kind contributions toward the Sponsor's share of the works of improvement cost. In no case will the amount of an in-kind contribution exceed the Sponsor's share of the cost for the works of improvement. The maximum cost eligible for in-kind credit is the same as that for cost sharing.
7. **Floodplain Management.** Before construction of any project for flood prevention, the Sponsor must agree to participate in and comply with applicable Federal floodplain management and flood insurance programs.
8. **Water and mineral rights.** The Sponsor will acquire or provide assurance that landowners or resource users have acquired such water, mineral, or other natural resources rights pursuant to State law as may be needed in the installation and operation of the works of improvement. Any costs incurred must be borne by the Sponsor and these costs are not eligible as part of the Sponsor's cost-share.
9. **Permits.** The Sponsor will obtain and bear the cost for all necessary Federal, State, and local permits required by law, ordinance, or regulation for installation of the works of improvement. These costs are not eligible as part of the Sponsor's cost-share.
10. **NRCS assistance.** This agreement is not a fund-obligating document. Financial and other assistance to be furnished by NRCS in carrying out the plan is contingent upon the fulfillment of applicable laws and regulations and the availability of appropriations for this purpose.

- 11. Additional agreements.** A separate agreement will be entered into between NRCS and the Sponsor before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.
- 12. Amendments.** This plan may be amended or revised only by mutual agreement of the Sponsor and NRCS, except that NRCS may deauthorize or terminate funding at any time it determines that the Sponsor has failed to comply with the conditions of this agreement or when the program funding or authority expires. In this case, NRCS must promptly notify the Sponsor in writing of the determination and the reasons for the deauthorization of project funding, together with the effective date. Payments made to the Sponsor or recoveries by NRCS must be in accordance with the legal rights and liabilities of the parties when project funding has been deauthorized. An amendment to incorporate changes affecting a specific measure may be made by mutual agreement between NRCS and the Sponsor having specific responsibilities for the measure involved.
- 13. Prohibitions.** No member of or delegate to Congress, or resident commissioner, may be admitted to any share or part of this plan, or to any benefit that may arise therefrom; but this provision may not be construed to extend to this agreement if made with a corporation for its general benefit.
- 14. Operation and Maintenance (O&M).** The Sponsor will be responsible for the operation, maintenance, and any needed replacement of the works of improvement by actually performing the work or arranging for such work, in accordance with an O&M Agreement. An O&M agreement will be entered into before Federal funds are obligated and will continue for the project life (50 years). Although the Sponsor's responsibility to the Federal Government for O&M ends when the O&M agreement expires upon completion of the evaluated life of measures covered by the agreement, the Sponsor acknowledges that continued liabilities and responsibilities associated with works of improvement may exist beyond the evaluated life.
- 15. Emergency Action Plan.** Prior to construction, the Sponsor must prepare an Emergency Action Plan (EAP) for the dam where failure may cause loss of life or as required by state and local regulations. The EAP must meet the minimum content specified in the NRCS Title 180, National Operation and Maintenance Manual (NOMM), Part 500, Subpart F, Section 500.52, and meet applicable State agency dam safety requirements. The NRCS will determine that an EAP is prepared prior to the execution of fund obligating documents for construction of the structure. EAPs must be reviewed and updated by the Sponsor annually.
- 16. Nondiscrimination Provisions.** In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

By signing this agreement the recipient assures the Department of Agriculture that the program or activities provided for under this agreement will be conducted in compliance with all applicable Federal civil rights laws, rules, regulations, and policies.

- 17. Certification Regarding Drug-Free Workplace Requirements (7 CFR Part 3021).** By signing this agreement, the Sponsor is providing the certification set out below. If it is later determined that the Sponsor knowingly rendered a false certification, or otherwise violated the requirements of the Drug-Free Workplace Act, the NRCS, in addition to any other remedies available to the Federal Government, may take action authorized under the Drug-Free Workplace Act.

Controlled substance means a controlled substance in Schedules I through V of the Controlled Substances Act (21 U.S.C. Section 812) and as further defined by regulation (21 CFR Sections 1308.11 through 1308.15);

Conviction means a finding of guilt (including a plea of *nolo contendere*) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes;

Criminal drug statute means a Federal or non-Federal criminal statute involving the manufacturing, distribution, dispensing, use, or possession of any controlled substance;

Employee means the employee of a grantee directly engaged in the performance of work under a grant, including: (i) all direct charge employees; (ii) all indirect charge employees unless their impact or involvement is insignificant to the performance of the grant; and (iii) temporary personnel and consultants who are directly engaged in the performance of work under the grant and who are on the grantee's payroll. This definition does not include workers not on the payroll of the grantee (e.g., volunteers, even if used to meet a matching requirement; consultants or independent contractors not on the grantees' payroll; or employees of subrecipients or subcontractors in covered workplaces).

Certification:

- A. The Sponsor certifies that it will or will continue to provide a drug-free workplace by—

- (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition.
 - (2) Establishing an ongoing drug-free awareness program to inform employees about—
 - (a) The danger of drug abuse in the workplace;
 - (b) The grantee's policy of maintaining a drug-free workplace;
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (d) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.
 - (3) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (1).
 - (4) Notifying the employee in the statement required by paragraph (1) that, as a condition of employment under the grant, the employee must—
 - (a) Abide by the terms of the statement; and
 - (b) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.
 - (5) Notifying the NRCS in writing, within 10 calendar days after receiving notice under paragraph (4)(b) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice must include the identification numbers of each affected grant.
 - (6) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (4) (b), with respect to any employee who is so convicted—
 - (a) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (b) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
 - (7) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (1), (2), (3), (4), (5), and (6).
- B. The Sponsor may provide a list of the sites for the performance of work done in connection with a specific project or other agreement.
- C. Agencies will keep the original of all disclosure reports in the official files of the agency.

18. Certification Regarding Lobbying (7 CFR Part 3018) (for projects > \$100,000)

A. The Sponsor certifies to the best of its knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Sponsor, to any person for influencing or attempting to influence an officer or employee of an agency, Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned must complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The Sponsor must require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients must certify and disclose accordingly.

B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by U.S. Code, Title 31, Section 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

19. Certification Regarding Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions (7 CFR Part 3017).

A. The Sponsor certifies to the best of its knowledge and belief, that it and its principals:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (2) Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph A(2) of this certification; and

- (4) Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.
- B. Where the primary Sponsor is unable to certify to any of the statements in this certification, such prospective participant must attach an explanation to this agreement.

20. Clean Air and Water Certification.

- A. The Sponsor's signatory to this agreement certify as follows:
 - (1) Any facility to be utilized in the performance of this proposed agreement is not listed on the Environmental Protection Agency List of Violating Facilities.
 - (2) To promptly notify the NRCS-State administrative officer prior to the signing of this agreement by NRCS, of the receipt of any communication from the Director, Office of Federal Activities, U.S. Environmental Protection Agency, indicating that any facility which is proposed for use under this agreement is under consideration to be listed on the Environmental Protection Agency List of Violating Facilities.
 - (3) To include substantially this certification, including this subparagraph, in every nonexempt sub-agreement.
- B. The Sponsor's signatory to this agreement agree as follows:
 - (1) To comply with all the requirements of section 114 of the Clean Air Act as amended (42 U.S.C. Section 7414) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. Section 1318), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, issued there under before the signing of this agreement by NRCS.
 - (2) That no portion of the work required by this agreement will be performed in facilities listed on the EPA List of Violating Facilities on the date when this agreement was signed by NRCS unless and until the EPA eliminates the name of such facility or facilities from such listing.
 - (3) To use their best efforts to comply with clean air standards and clean water standards at the facilities in which the agreement is being performed.
 - (4) To insert the substance of the provisions of this clause in any nonexempt subagreement.
- C. The terms used in this clause have the following meanings:
 - (1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. Section 7401 et seq.).
 - (2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et seq.).
 - (3) The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110 of the Air Act (42 U.S.C. Section 7414) or an approved implementation procedure under section 112 of the Air Act (42 U.S.C. Section 7412).
 - (4) The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standards, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. Section 1342), or by a local

government to assure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. Section 1317).

- (5) The term “facility” means any building, plant, installation, structure, mine, vessel, or other floating craft, location or site of operations, owned, leased, or supervised by a Sponsor, to be utilized in the performance of an agreement or subagreement. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location will be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

- 21. Assurances and Compliance.** As a condition of the grant or cooperative agreement, the Sponsor assures and certifies that it is in compliance with and will comply in the course of the agreement with all applicable laws, regulations, Executive orders and other generally applicable requirements, including those set out below which are hereby incorporated in this agreement by reference, and such other statutory provisions as are specifically set forth herein.

State, Local, and Tribal Governments: OMB Circular Nos. A-87, A-102, A-129, and A-133; and 7 CFR Parts 3015, 3016, 3017, 3018, 3021, and 3052.

Nonprofit Organizations, Hospitals, Institutions of Higher Learning: OMB Circular Nos. A-110, A-122, A-129, and A-133; and 7 CFR Parts 3015, 3017, 3018, 3019, 3021 and 3052.

- 22. Examination of Records.** The Sponsor must give the NRCS or the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to this agreement, and retain all records related to this agreement for a period of three years after completion of the terms of this agreement in accordance with the applicable OMB Circular.

- 23. TJSWCD and the County.** TJSWCD and the County are Original Sponsors and signatories to this agreement pursuant to section 12 of the Watershed Work Plan Agreement for the sole purpose of substituting the Authority for TJSWCD and the County as Sponsoring Local Organizations. Neither TJSWCD nor the County shall bear any responsibility or liability pursuant to this agreement. Neither TJSWCD nor the County shall be a party to any future supplement to the Watershed Work Plan Agreement unless by mutual agreement of TJSWCD and/or the County (as applicable), the Sponsor, and NRCS.

24. Signatures

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, Virginia 22902

By: _____

Title: _____

Date: _____

The signing of this supplemental watershed agreement was authorized by the governing body of the Rivanna Water and Sewer Authority at a meeting held on _____.

Administrative Secretary or Notary

Rivanna Water and Sewer Authority
695 Moores Creek Lane
Charlottesville, Virginia 22902

Date: _____

Albemarle County Board of Supervisors
401 McIntire Road
Charlottesville, Virginia 22902

By: _____

Title: _____

Date: _____

The signing of this supplemental watershed agreement was authorized by the governing body of the Albemarle County Service Authority at a meeting held on _____.

Administrative Secretary or Notary

Albemarle County Board of Supervisors
401 McIntire Road
Charlottesville, Virginia 22902

Date: _____

**Thomas Jefferson Soil & Water
Conservation District**
705 Dale Ave
Charlottesville, Virginia 22903

By: _____

Title: _____

Date: _____

The signing of this supplemental watershed agreement was authorized by the governing body of the Thomas Jefferson Soil & Water Conservation District at a meeting held on _____.

Administrative Secretary or Notary

Thomas Jefferson Soil & Water
Conservation District
705 Dale Ave
Charlottesville, Virginia 22903

Date: _____

USDA, Natural Resources Conservation Service

Approved by:

Edwin Martinez Martinez, Ph.D., State Conservationist
Virginia

Date: _____

Scottsville Water System Transfer



PRESENTED TO THE BOARD OF DIRECTORS

BY JENNIFER WHITAKER, DIRECTOR OF ENGINEERING AND
MAINTENANCE

APRIL 25, 2023

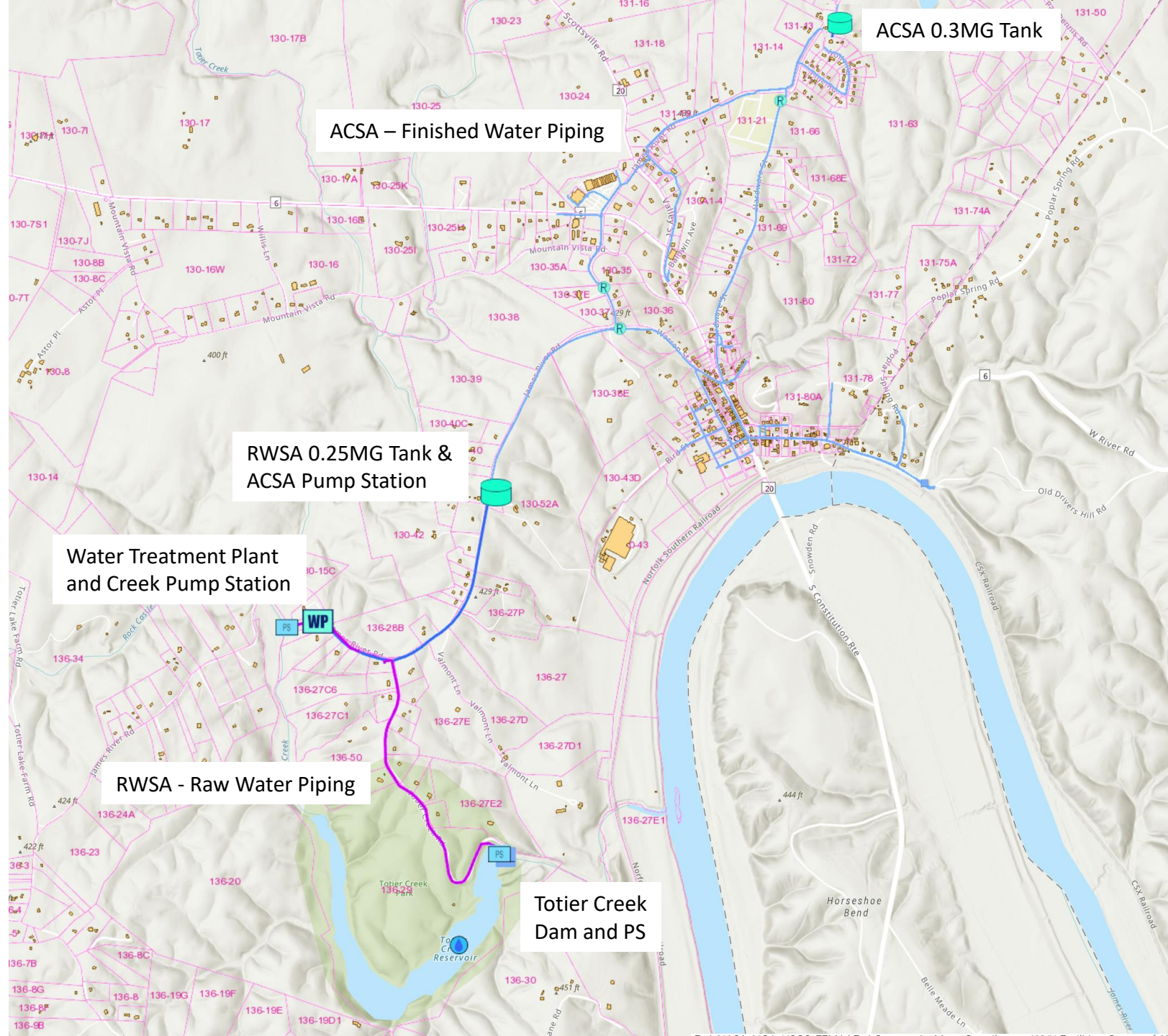


Background

- ACSA and RWSA jointly operate the water system serving the Town of Scottsville
- Ownership of the system is based on the 1973 Four-Party Agreement and the supplemental documents of 1983, 1989 and 2015.
 - [RWSA Operates](#): Totier Creek Reservoir and Scottsville Water Treatment Plant, Limited Piping, and a 0.25MG Water Tank
 - [ACSA Operates](#): System Transmission and Distribution Piping, Control Valves, and a 0.3 MG Tank at Stoney Point
 - [Jointly Operate](#): Pump Station located on James River Road (adjacent to RWSA Tank)



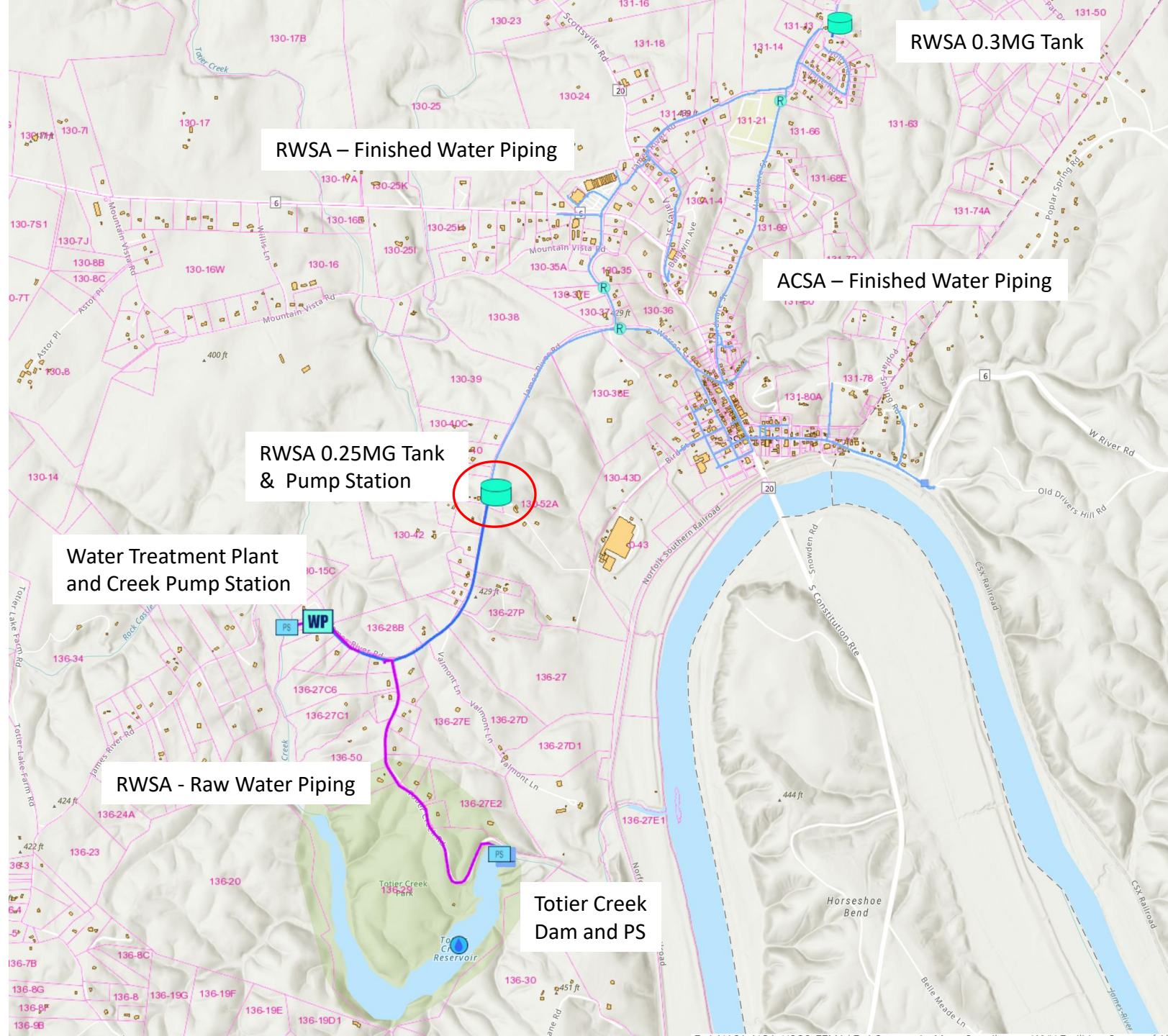
Current System Mapping



Objective

- ACSA and RWSA have agreed to transfer key assets from ACSA to RWSA to simplify operations and more clearly define responsibilities.
- Allows for responsibilities similar to the Urban System.
- RWSA:
 - Raw Water: Storage, Pumping and Treatment
 - Finished Water: Pumping, Transmission and Tanks
- ACSA:
 - Finished Water: Distribution, Fire Flow, and Customer Service

Future System Mapping



Future System Mapping



Future System Mapping



Future System Mapping



Next Steps

- April 2023 - Final Review of Transfer Documents
- May 2023 - Review and Approval by ACSA Board of Directors
- June 2023 – File and Record Transfer Documents
- July & August 2023 – Staff Transfer Operation & Maintenance Responsibilities

Questions?

Action Requested by the Board:

Approve the transfer of Scottsville drinking water system from the ACSA to RWSA, and authorize the Executive Director to execute any required documents.

Urban Water System Permit Update

*~Including Releases
from Sugar Hollow
Reservoir~*

Board of Directors Meeting
Presented by: Andrea Bowles,
Water Resources Manager
April 25, 2023

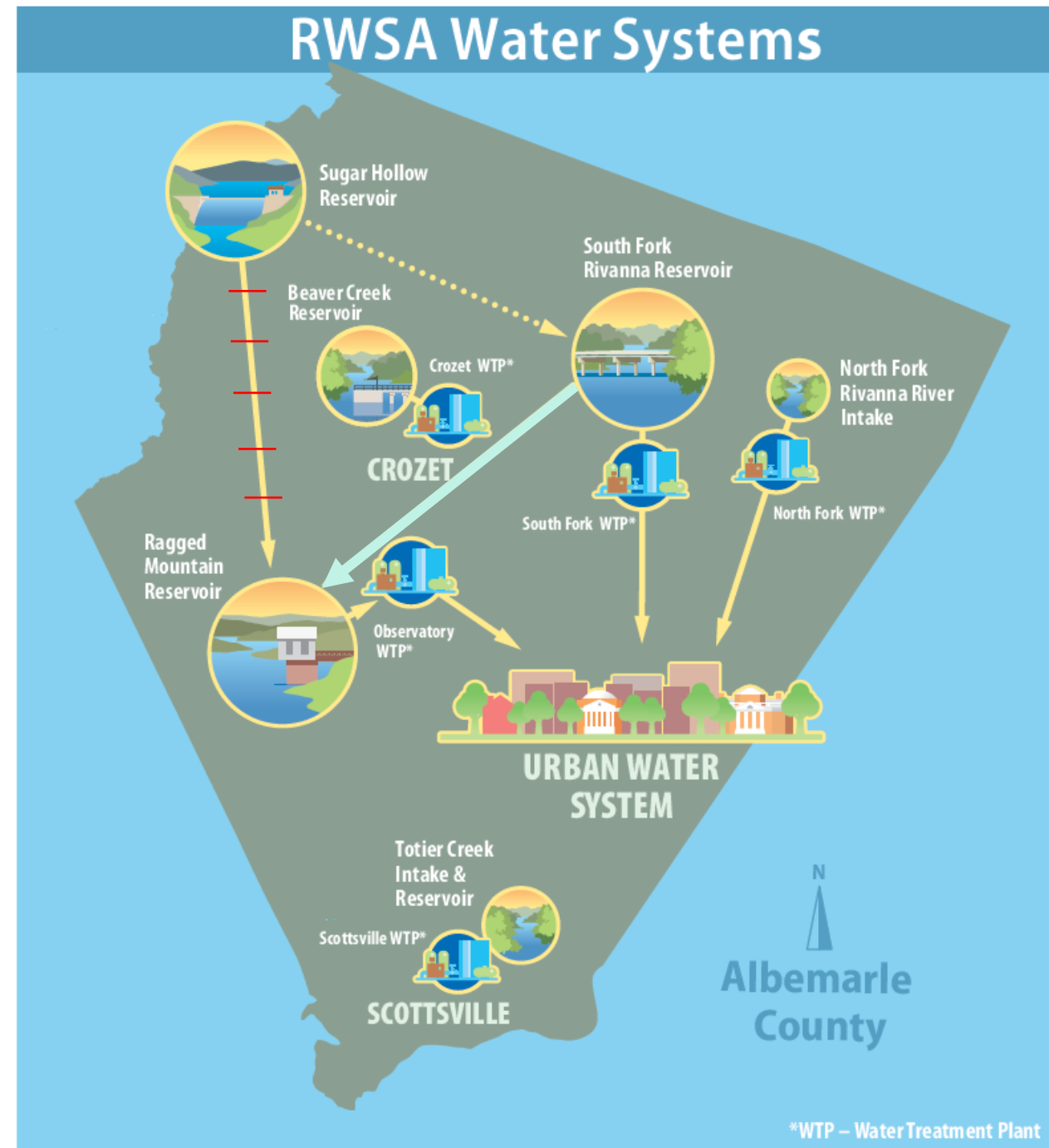


Topics for Discussion

- RWSA Water Supply System
- 2008 DEQ and USACE Permits
- Modifications to 2008 Permits
- History of Sugar Hollow Property
- History of Instream Flow Releases from SHR to the Moormans River
- Flow Measurement Design Plan and Operations Manual
- SFRR to RM Reservoir Pipeline Progress

Plan to Increase the Capacity and Reliability of our Urban Public Drinking Water Supply

- Build new, higher dam at RMR
- Build new pipe from SRR to RMR
- Close existing pipe from SHR



2008 DEQ and USACE Permits

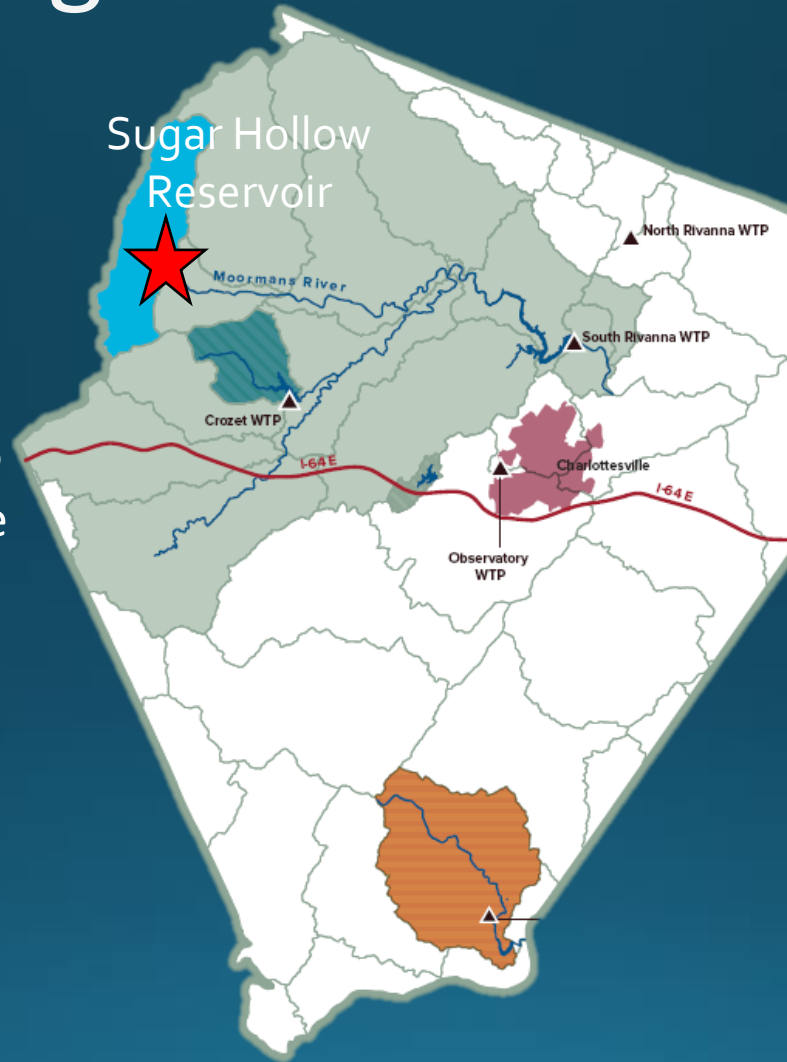
- New dam downstream of existing lower dam at Ragged Mountain
- Pipeline between Ragged Mountain and South Fork Rivanna Reservoirs
- Pipeline from RMR to Observatory WTP
- Two water pumping stations
- DEQ Permit expired February 2023; USACE Permit expires June 2023
- Submitted a Joint Permit Application in May 2021
- Granted an administrative continuance by DEQ in August 2022
- Expecting a 15 – year permit from the VDEQ and a 10- year permit extension by USACE

Modifications to 2008 Permits

- Minor Mod 2 – December 21, 2020: *Changed the gage used to estimate inflows to Sugar Hollow Reservoir from the Mechums gage to the Moormans gage*
- Minor Mod 4 – December 19, 2022: *1) Modified the definition of “Natural Inflow” and stream gage used regarding the South Fork Rivanna Reservoir, to more accurately reflect inflows to the reservoir, 2) Added to the definition of “Natural Inflow” regarding Sugar Hollow Reservoir to more accurately represent inflows under low-flow conditions.*
- Minor Mod 1 – March 20, 2009: Extended the time period for recordation following approval of the final stream compensation plan to be changed from 180 day to 365 days.
- Major Mod 1 – December 28, 2011: further defined an Intermediate-Expanded Ragged Mountain Reservoir (IERMR) with a normal pool elevation of 671 feet, mean sea level (MSL), as a separate phase prior to a Fully-Expanded Ragged Mountain Reservoir (FERMR) with a normal pool elevation of 683 feet MSL.
- Minor Mod 3 – July 21, 2021: Authorized the transfer of 0.086 acres at the Buck Mountain Project Area to VDOT as a riparian buffer for bridge replacement.

History of Sugar Hollow Reservoir

- 837 acres owned by City of Charlottesville
- Dam built in 1920 as a source of water supply
- Current Dam was built in 1947
- Dam Upgraded in 1999
- Bordered by Shenandoah National Park to the north and west. Private owners to the south.



History of Instream Releases from SHR

- In 2004, The Nature Conservancy contracted with HydroLogics to develop in-stream flow recommendations in the South Rivanna watershed. This community-wide process included TNC, RWSA, Albemarle County, City of Charlottesville, ACSA, state and local regulatory agencies and other interested parties to develop the Instream flow provisions that eventually ended up in the 2008 Urban Virginia Water Protection Permit (VWPP)
- A VWPP is required for withdrawal of surface water from waters of the U.S.
- *This process was recognized to be a first of its kind in Virginia and a model for other communities.*
- Prior to the construction and initial fill of the expanded Ragged Mountain Reservoir, RWSA voluntarily implemented a release of 400,000 gpd from SHR when the reservoir was not spilling.
- When the Ragged Mountain Reservoir completed its initial fill in 2015, in-stream flow provisions which mimic natural inflow were required in lieu of the 400,000 gpd release.

Sugar Hollow Reservoir Minimum Instream Flow (MIF) Requirements

- MIF based on definition of Natural Inflow to SHR and total useable storage in RMR

“Natural inflow,” when used with respect to Sugar Hollow Reservoir, uses the gage at the Moormans River near Free Union (USGS gage #02032250) and is calculated as follows: $[17.43 * ((Q_{\text{gage}} - Q_{\text{SHR}}) * 0.65)] / (77.0 - 17.43)$, where:

- 17.43 mi² is the Sugar Hollow Drainage area
- 77.0 mi² is the Moorman’s gage drainage area
- Q_{gage} is the previous day’s provisional mean daily flow at the Moorman’s gage, in cubic feet per second (cfs)
- Q_{SHR} is the previous day’s flow from SHR, in cfs, to include any discharge or spillage from the dam or reservoir.
- 0.65 is the conversion factor from cfs to millions of gallons per day (Mgal/day)



Stream Gage Locations



- Moormans River gage used in estimation of inflows to Sugar Hollow Reservoir

Sugar Hollow Reservoir Minimum Instream Flow (MIF) Requirements

- Current MIF Phase (2 of 3): After an Expanded RMR is Operational, but Before the Pipeline from SFRR to RMR is Operational
 - When useable storage in RMR is > 1.08 BG and natural inflow to SHR > 5.0 mgd, total downstream flow past SHR must be at least 100% of inflow, or 10 mgd, whichever is less.
 - When useable storage in RMR is < 1.08 BG and natural inflow to SHR > 5.0 mgd, total downstream flow past SHR must be at least 100% of inflow, or 2 mgd, whichever is less.
 - Under low flow conditions (estimated inflows are < 5 mgd) the natural inflow may be estimated based on the release rate from SHR required to maintain a stable reservoir elevation.

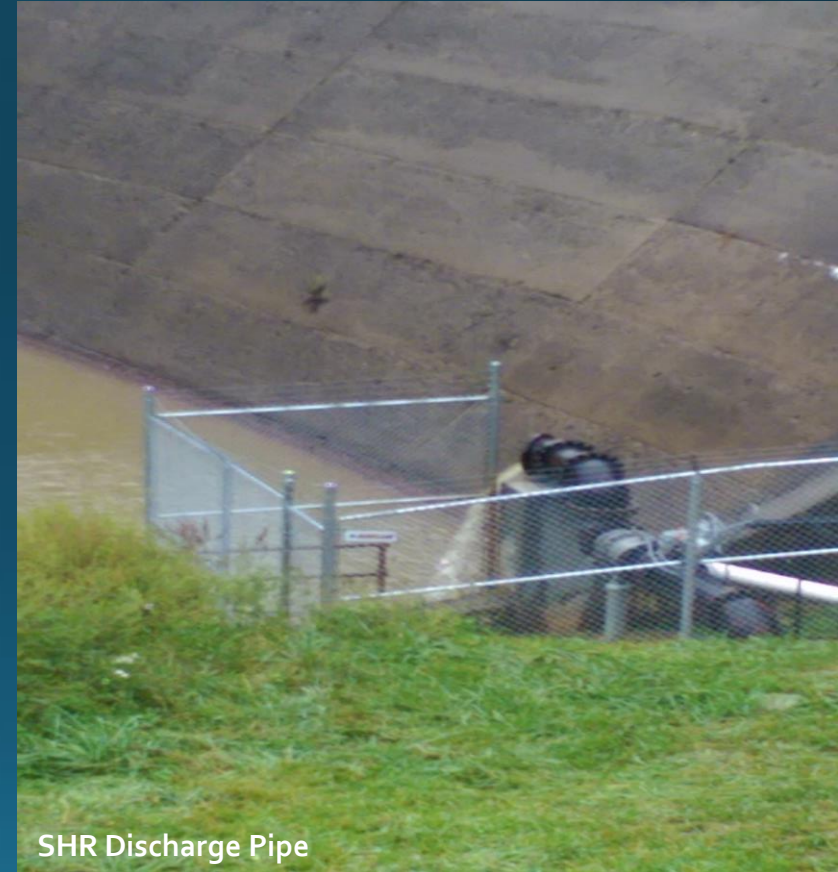
Release Requirements

- If SHR spills at all during the day, the minimum release requirements of the permit have been met



Release Requirements

- Current permit requires release on third day after the SHR stops spilling.
- Previously, to open the release required operators to go to the dam. The release valve is now automated and remotely controlled.
- To support recent requests, RWSA is voluntarily going to open the release valve on the first day the reservoir stops spilling.
- RWSA checks the dam daily at approx. 6 am thru our remote cameras. If the reservoir is not spilling, operators will open the release valve, and close the valve when spilling resumes.



SHR Discharge Pipe

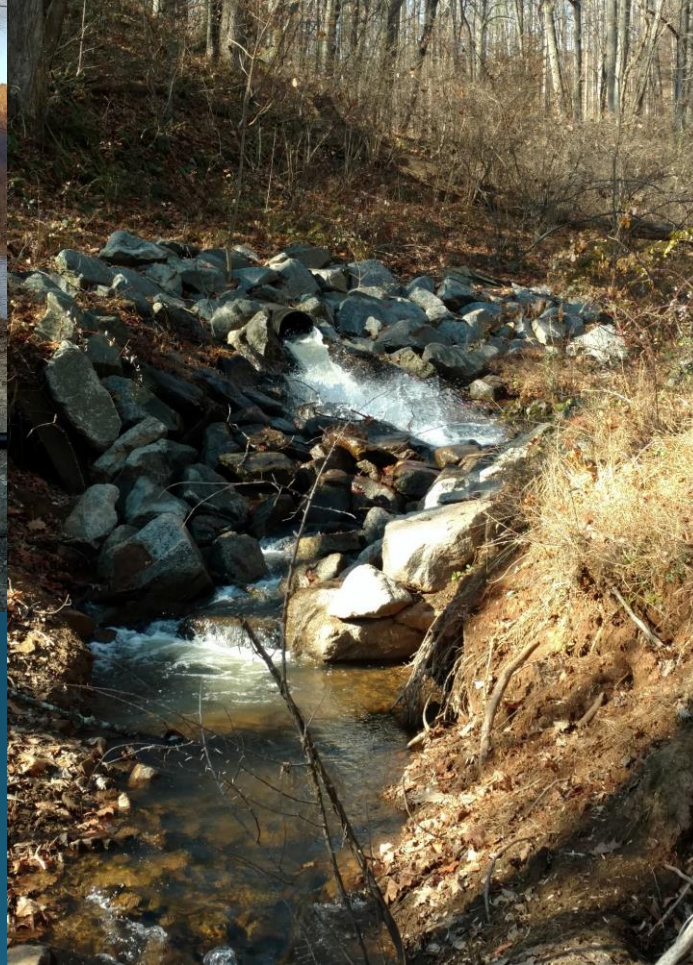
Water Transfer from Sugar Hollow

- SHR is the designated raw water source for the Ragged Mtn Reservoir
- The transfer pipeline from SHR supplies about 3 MGD to RMR when there is an adequate water supply in SHR
- Minimum In-Stream Flow release requirements of our permit are met at all times, including during transfers
- Seasonal operating transfer strategies were developed by staff and presented to the Board in 2017 to provide additional protections for the water level in SHR

Transfer from Sugar Hollow to Ragged Mountain



Sugar Hollow Reservoir



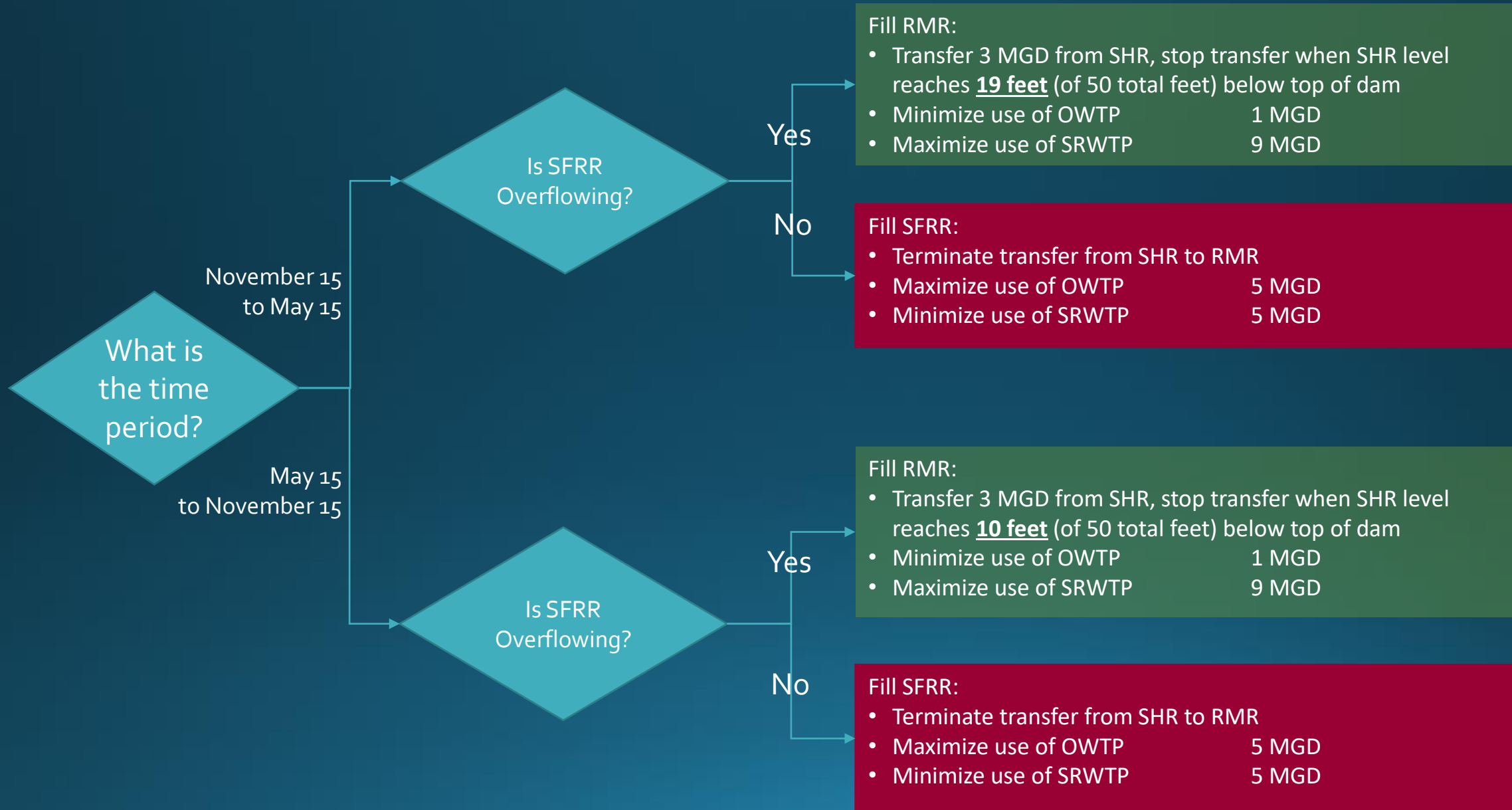
SHR to RMR Outfall Pipe



Ragged Mtn Reservoir



Transfer Strategy



Community Outreach

- RWSA is meeting with the Moormans River Scenic Advisory Committee on May 8 at the SHR to review the release of water procedures.
- The “Flow Measurement Design Plan and Operations Manual” is currently under revision to reflect Minor Modification 4.
- A public meeting to discuss the draft report will be held on May 16, 2023 at the Crozet Library at 3:00 pm.
- The revised report must be submitted to DEQ prior to August 22, 2023.

Summary

- Reapplication of the VWP for the Urban System is currently under review by DEQ
- In response to comments offered by the Moormans River Scenic Advisory Board, RWSA will reduce the time to begin the flow release from three days to one.
- Release requirements are regulated by the VDEQ through it's VWP permit.

Questions ?

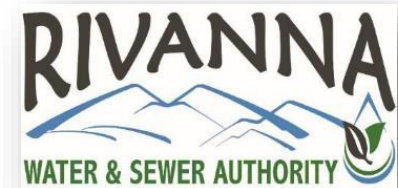
Action Requested by the Board

This presentation is for information only.



Moores Creek Wastewater Facilities Master Plan

PRESENTED BY:
SCOTT SCHILLER, P.E., ENGINEERING MANAGER
BOARD OF DIRECTORS MEETING
APRIL 25, 2023

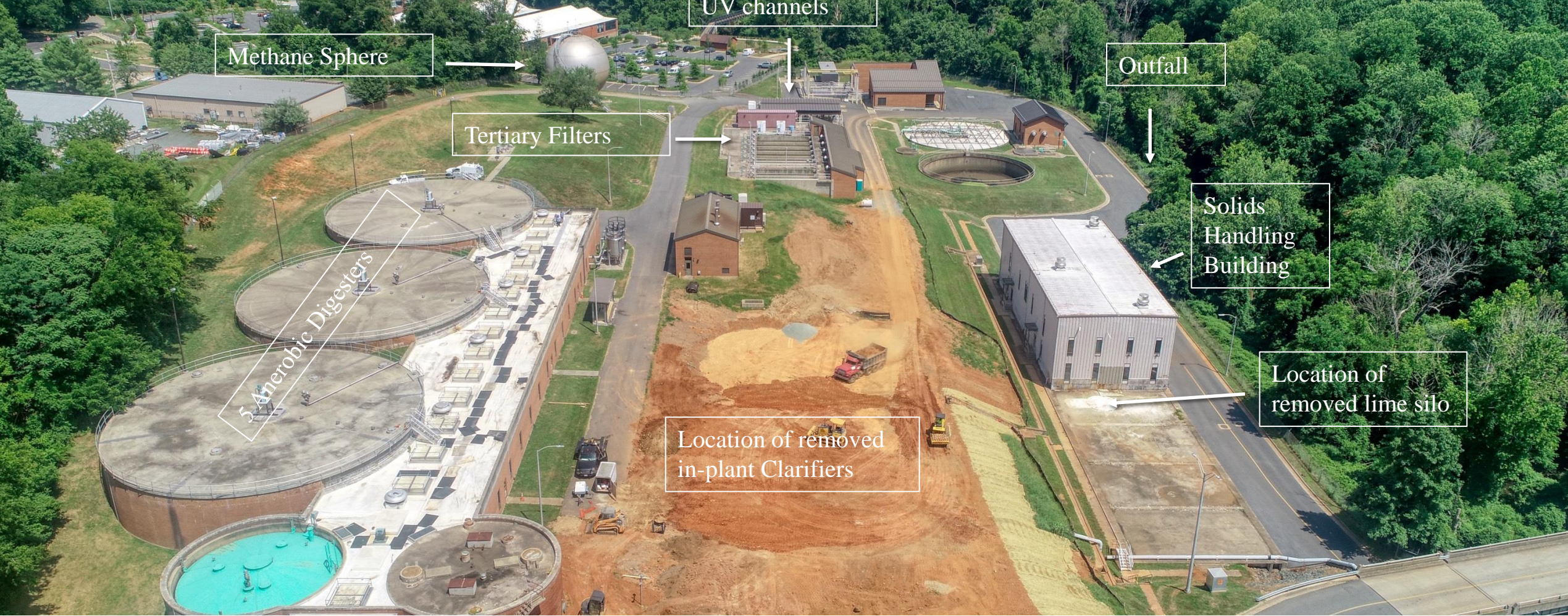




Moores Creek “Wet Side” *looking west*



Moores Creek “Wet Side” *looking east*



Moores Creek “Dry Side”

Master Plan Objectives

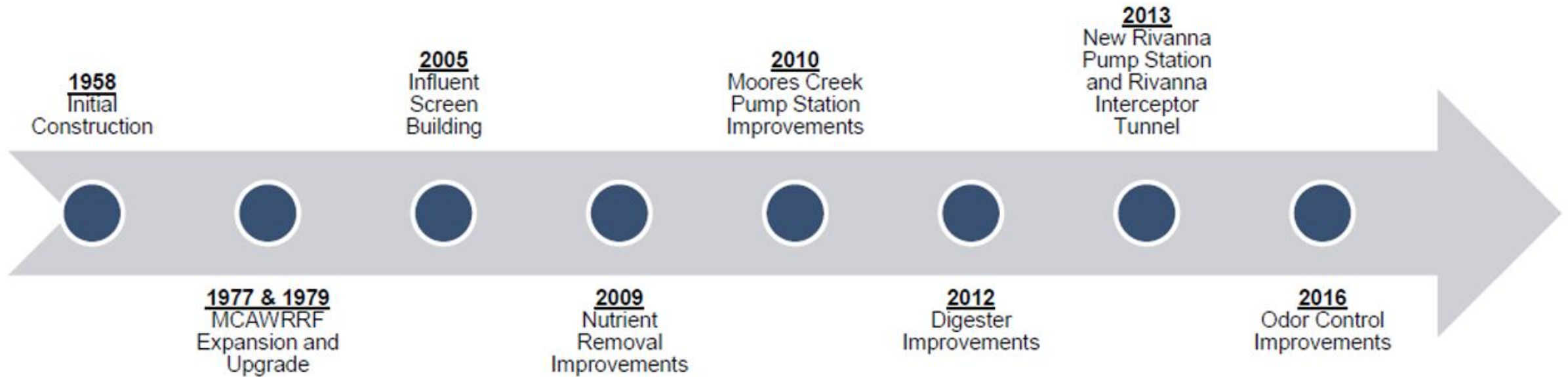
- Understand Specific Challenges of the Moores Creek Wastewater Facilities
- Provide Trigger-Based Master Planning
- Identify Near and Long-Term CIP Projects

Moores Creek

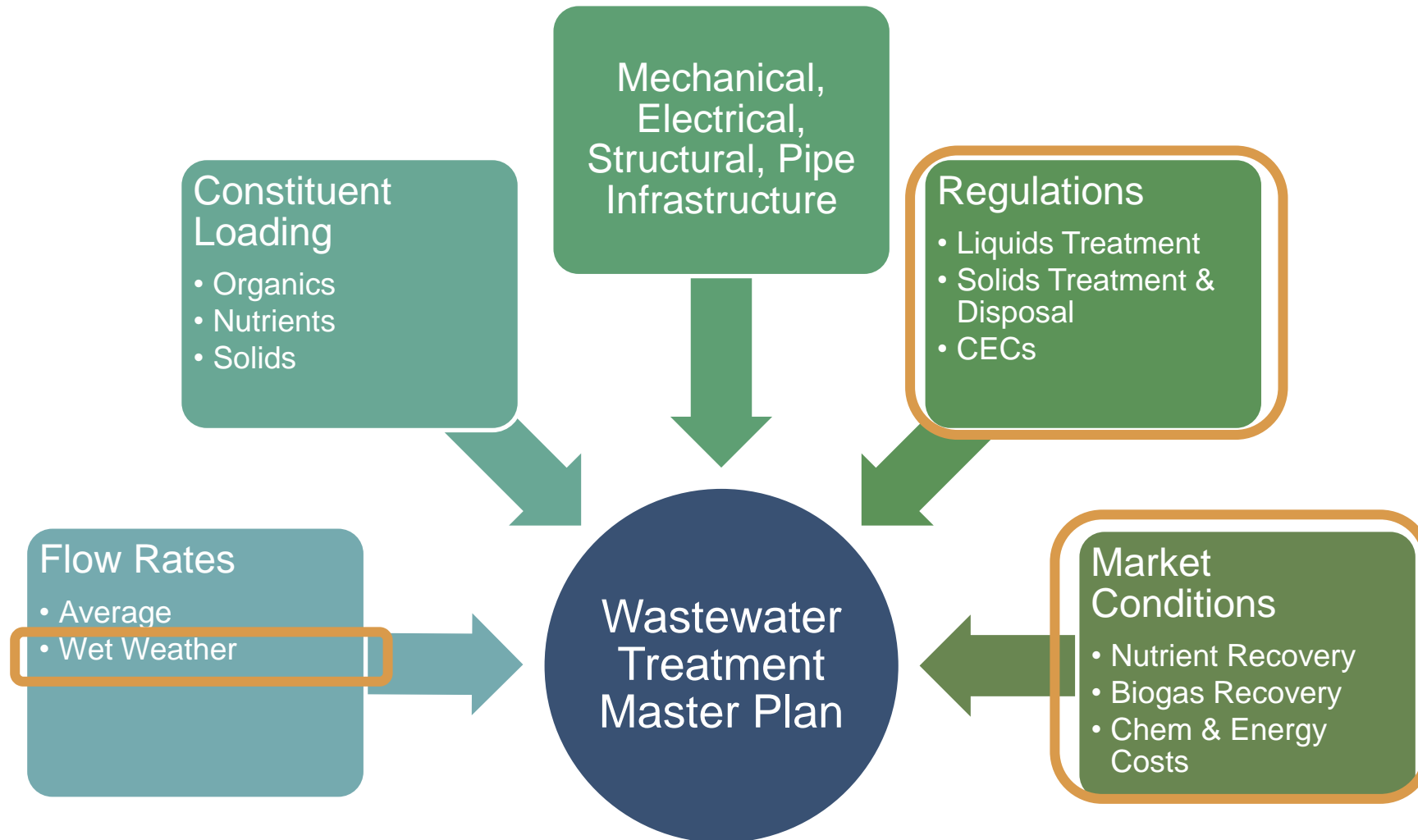
Advanced Water Resource Recovery Facility

- Provides wastewater treatment for Urban area public utility customers of the City of Charlottesville (48,000), parts of Albemarle County (71,000), and community of Crozet (11,000), a population of approx. 130,000
- Capacity to treat 15 million gallons per day, and a peak flow of 45 million gallons per day
- Hydraulic capacity of 85 million gallons per day (inflow and infiltration from a 2-year storm)
- Flow projections are required to be updated every 5 years (2025, 2030, 2035, etc) by the Wastewater Projects Cost Allocation Agreement of 2014

Major MCAWRRF Improvement and Expansion Projects



Considerations for Master Planning



Uncertainty associated with these considerations

Challenges to Address Through Master Planning

Increasing flows
and loads

Non-Process
Spaces
Deficiencies

Aging
infrastructure

Tight site plan

Evolving
regulatory
landscape

Uncertainty in
the regulatory
and economic
landscapes

Aging Infrastructure



Digester Roof



EQ Basin



Primary Building



Holding Pond Overflow



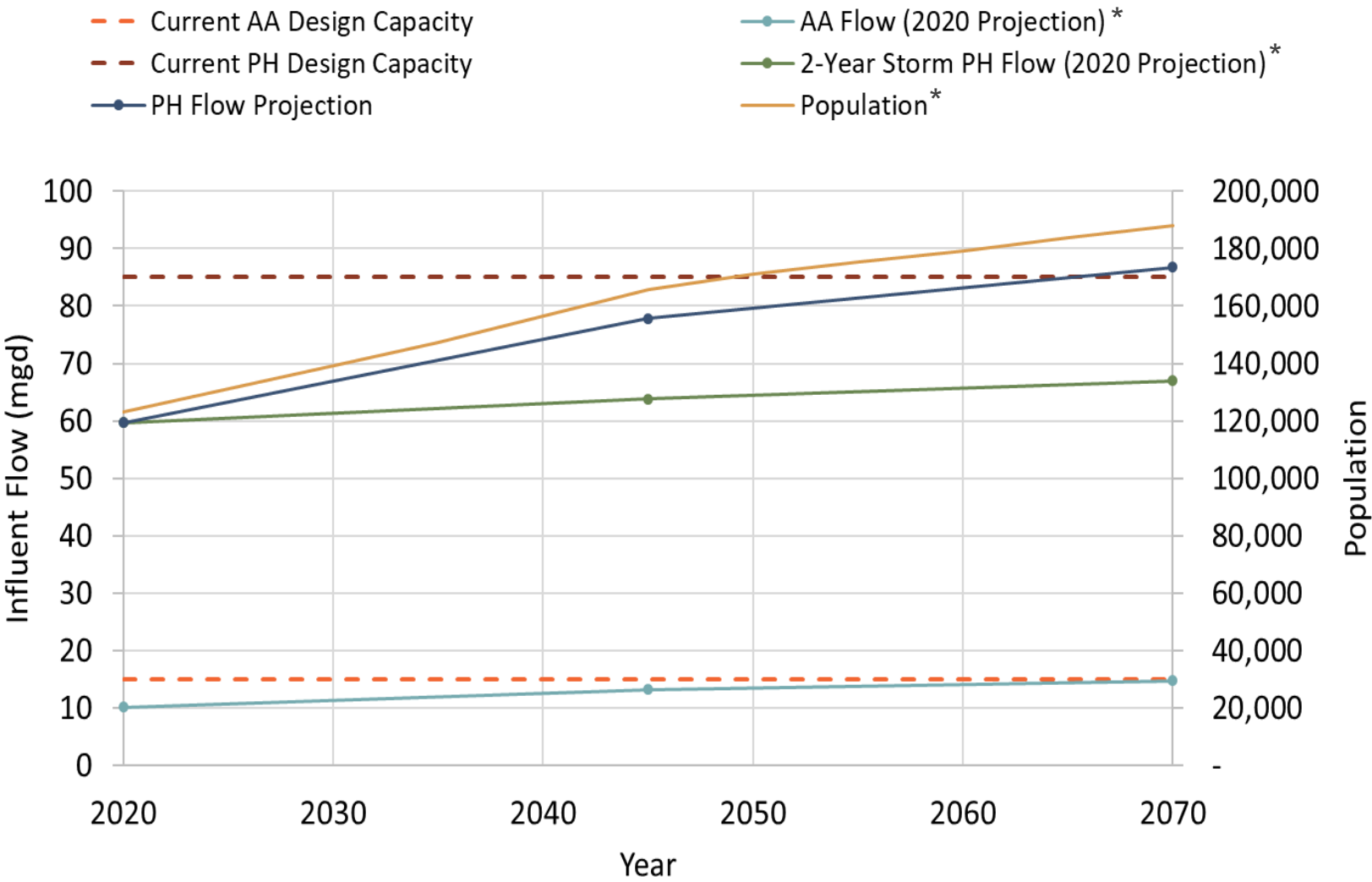
Holding Ponds

Non-Process Space Needs

- Extensive personnel growth over 45 years
- Personnel Spaces (locker rooms, break rooms)
- Small and large parts storage
- Offices, meeting space, and computer network
- Laboratories
- Line Break and Equipment Storage
- Parking for personnel and RWSA fleet vehicles



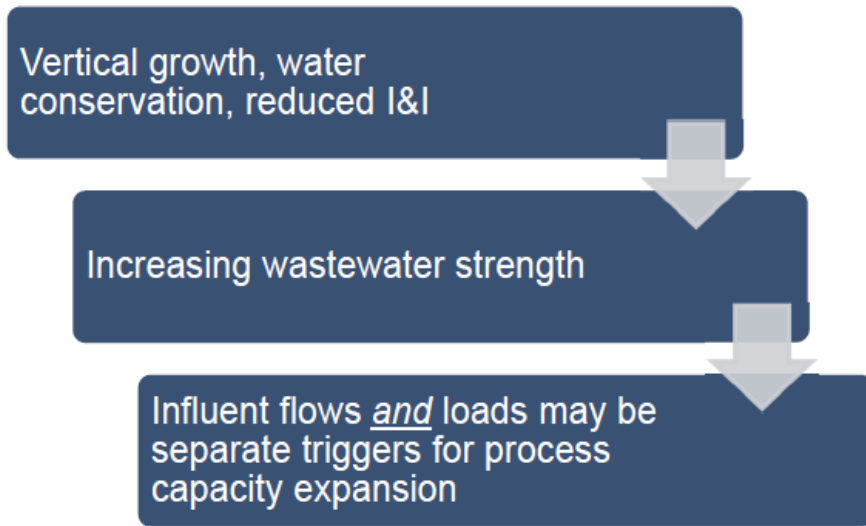
Increasing Flows:



Key takeaway:
Projected 2070 flows have decreased due to the inflow & infiltration reduction efforts of RWSA, the City and ACSA

*Based on 2020 Wastewater Cost Allocation Update. Flow projections updated every 5 years. Population projections updated every 10 years.

Increasing Loads:



Key takeaways:

- High strength waste (BOD) has been increasing separately from Total Suspended Solids (TSS) and Ammonia (NH₄) which is indicative of non-domestic discharges rather than population growth
- I&I reductions have increased waste strength to Moores Creek WRRF

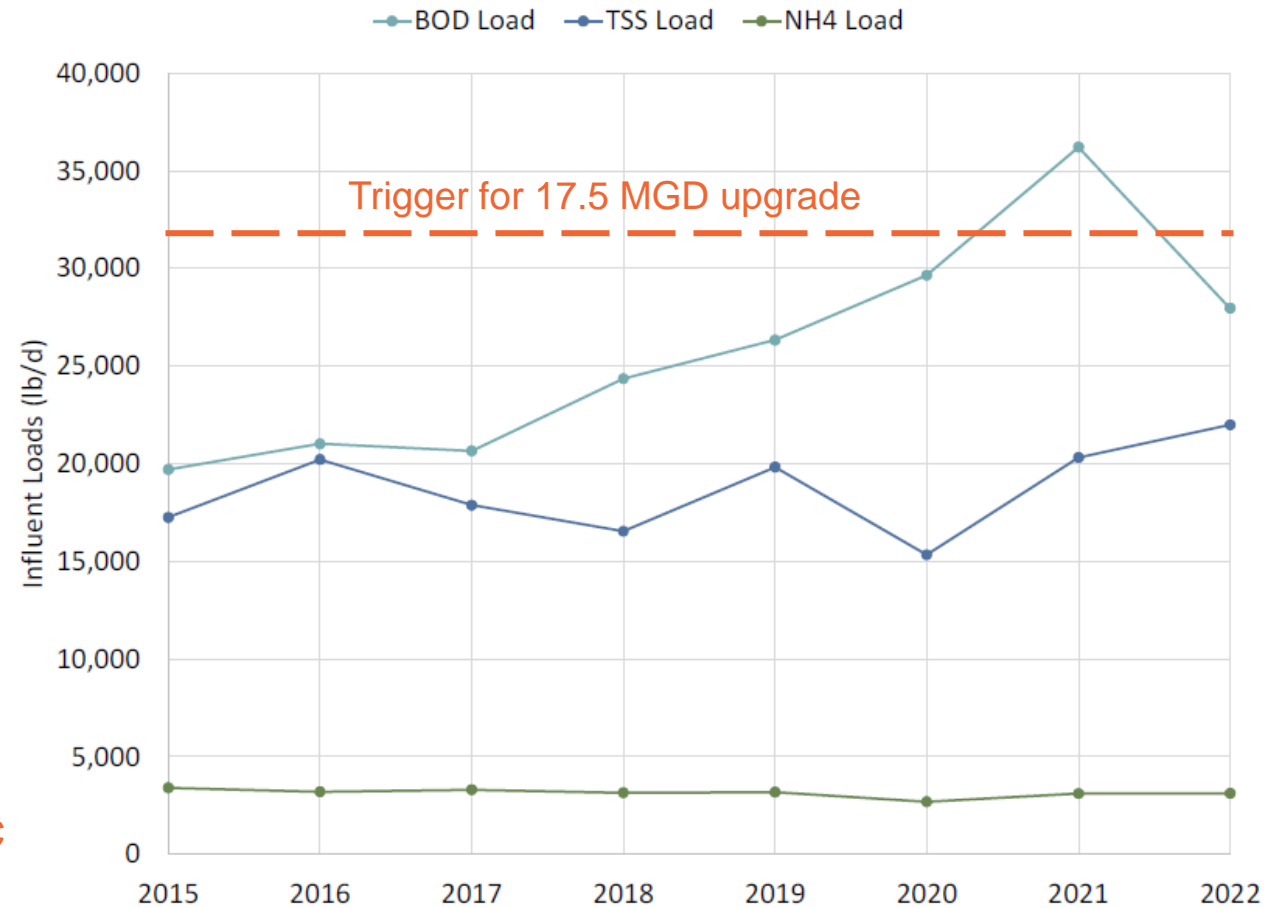
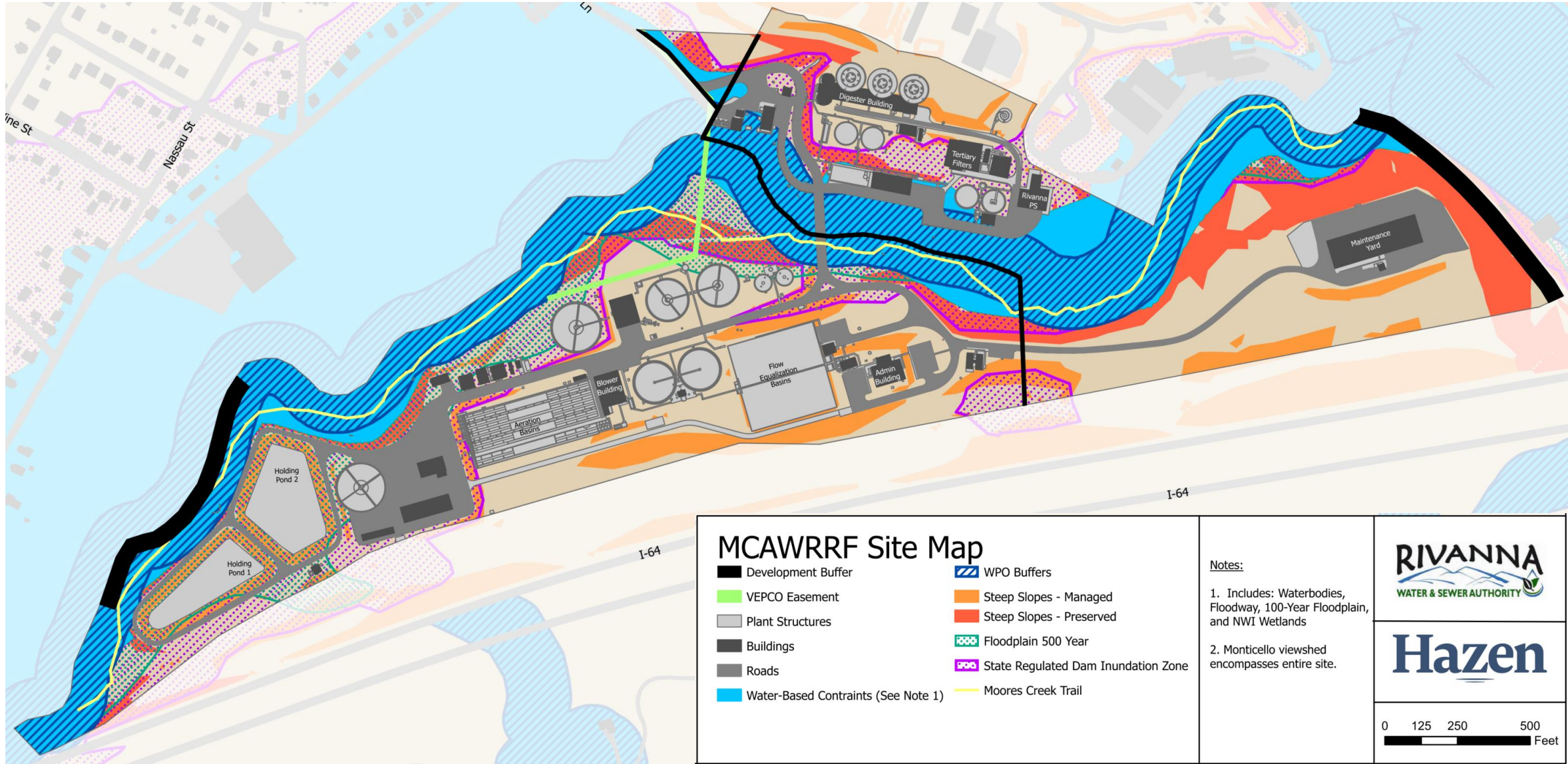
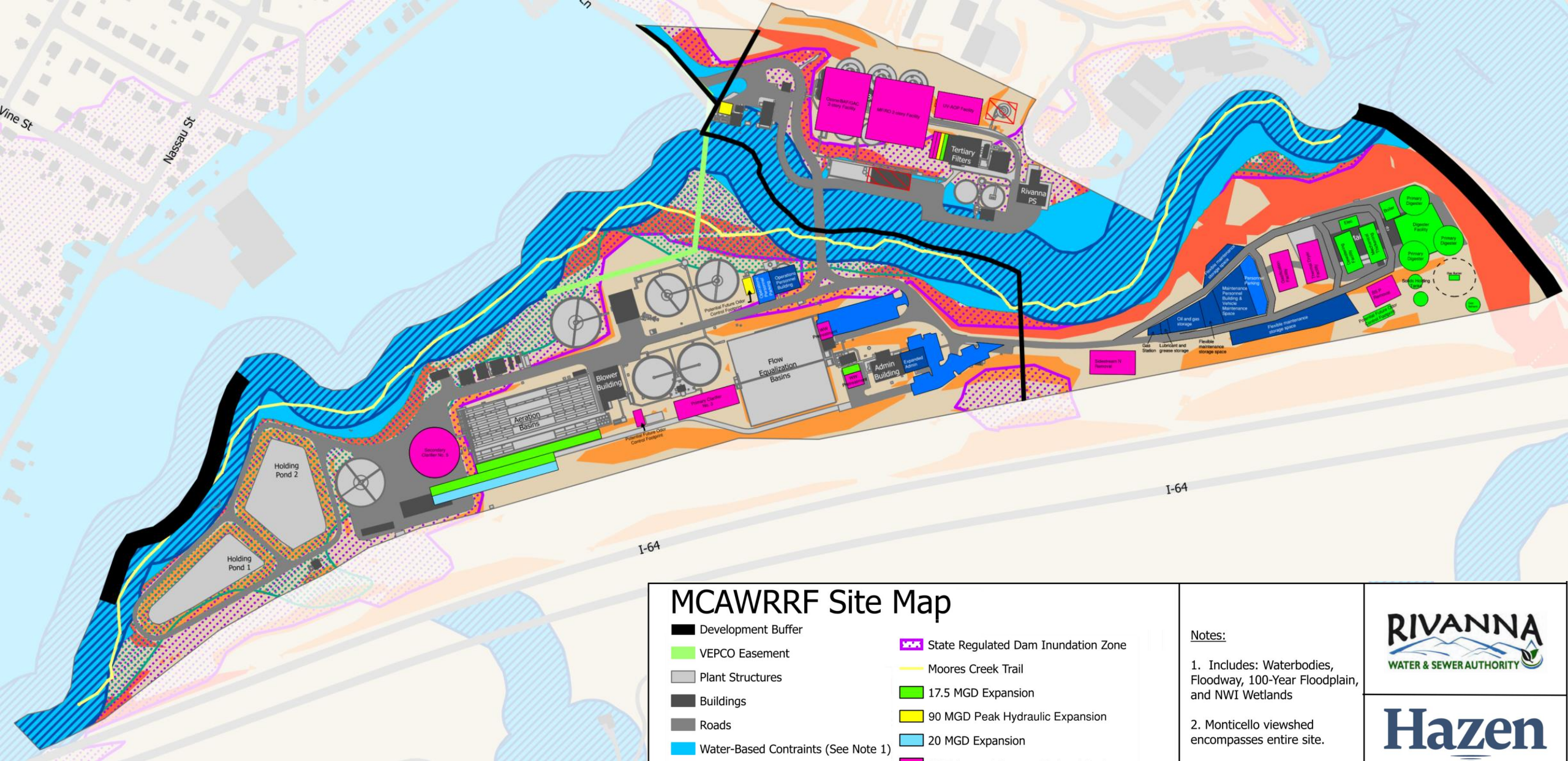


Figure 2-4: Historical Annual Average Influent Loads at the MCAWRRF

BOD = Biological Oxygen Demand

Tight Site Plan





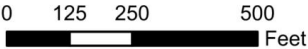
Proposed Long-Term Planning Site Plan

MCAWRRF Site Map

- Development Buffer
- VEPCO Easement
- Plant Structures
- Buildings
- Roads
- Water-Based Constraints (See Note 1)
- WPO Buffers
- Steep Slopes - Managed
- Steep Slopes - Preserved
- Floodplain 500 Year
- State Regulated Dam Inundation Zone
- Moore's Creek Trail
- 17.5 MGD Expansion
- 90 MGD Peak Hydraulic Expansion
- 20 MGD Expansion
- "If"-Triggered Process-Related Projects
- Non-Process Expansion - Building
- Non-Process Expansion - Parking
- Demolition

Notes:

- Includes: Waterbodies, Floodway, 100-Year Floodplain, and NWI Wetlands
- Monticello watershed encompasses entire site.



Trigger Based Master Planning

Description

- Projects may be triggered by a wide range of potential triggers
- “When” type triggers are expected
- “If” type triggers account for uncertainties in potential regulatory, wet weather, and economic landscapes through the long-term planning period

Planning

- Include footprint on site plans for build-out conditions

**Near-Term:
2020 – 2040**

**Long-Term:
2041 - 2075**



Liquids Strategy: Baseline (2020-2075)



"When" the project will happen



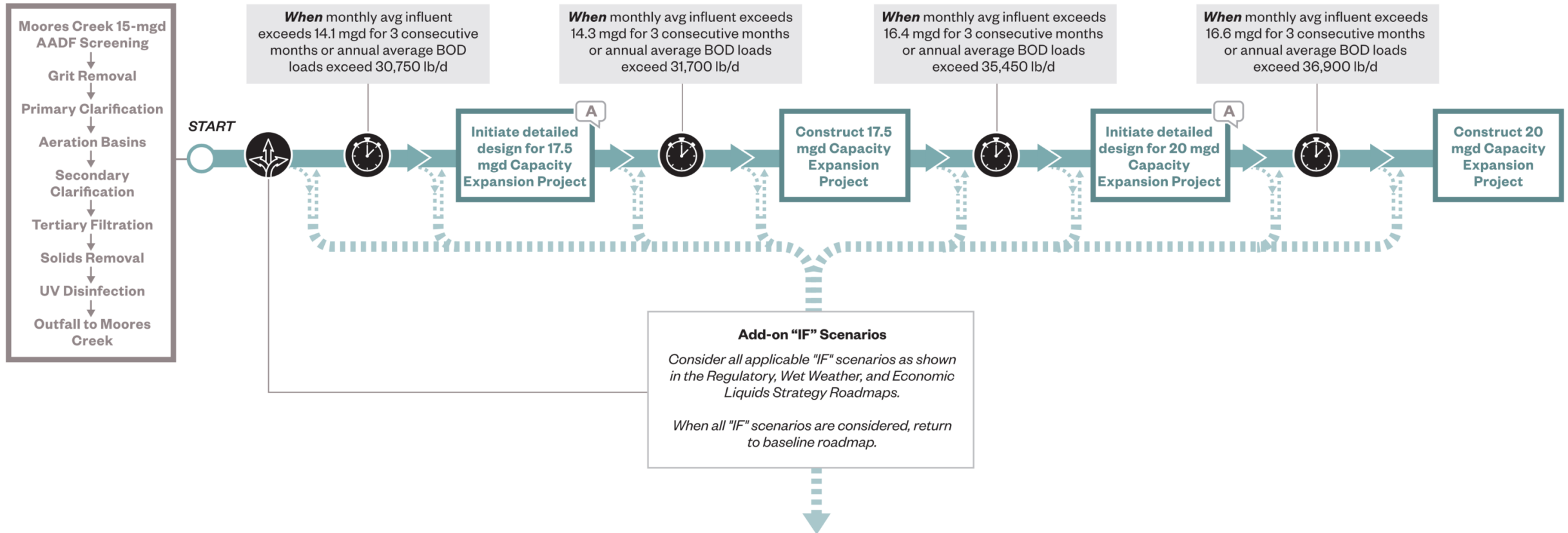
"If" triggered, the project may happen



Baseline Strategy



"If" Strategy Implemented



Major Near-Term Projects 2023 – 2040

➤ 17.5 MGD Plant Expansion	\$55 M	2029 – 2036
➤ Mechanical Thickeners	\$15 M	2029 – 2036
➤ Replace Digesters	\$125 M	2031 - 2036
➤ Remove Solids Handling Facilities	\$9 M	2033 – 2036
➤ Relocation of Biogas Facilities	\$3 M	2033 – 2036

These projects are included in the 15-year CIP. Budgets are in \$2022.

Major Long-Term Projects 2040 - 2080

➤ Ammonia and Phosphorus Removal	\$28 M	2040 – 2050
➤ PFAS Treatment / GAC	\$60 M	2050 – 2060
➤ 20 MGD Expansion	\$15 M	2050 – 2060
➤ 90 MGD Hydraulic Expansion	\$26 M	2060 – 2070
➤ Contaminants of Emerging Concern	\$350 M	2060 – 2080

These projects are not in our 15-year CIP. Budgets are in \$2022.

Next Step: Evaluation of 17.5-MGD Capacity Expansion & Mechanical Thickening Projects

Purpose: Reduce “strong waste” levels to maintain compliance with discharge permit.

Options:

- ✓ Additional Treatment Facilities
- ✓ Pretreatment System by Dischargers
- ✓ Surcharge for waste levels > 240 mg/l

- Master Plan Schedule: by 2036*
- Cost: \$60 to \$70 M (depending on final project scope)

**A sampling program is underway by RWSA to evaluate sources of strong waste, as well as innovative technologies and optimization opportunities to reduce impacts to future CIP budgets.*



Summary of our Wastewater Master Planning Effort

- This Master Plan was developed to assist in near-term (2040) and long-term (2080) wastewater treatment process, site, and financial planning
- Growth in our community, along with emerging environmental regulations and contaminants, will require additional wastewater treatment facilities at Moores Creek over the next 55 years.
 - increase to 17.5 mgd treatment capacity by 2036
 - increase to 20 mgd treatment capacity by 2060
 - a pretreatment program or “strong waste” surcharge may be needed
- Costs for these facilities will be strategically integrated into our CIP budget to maintain reasonable charges



Questions?

Action Requested by the Board

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