

Board of Directors Meeting

October 27, 2020 2:15pm



BOARD OF DIRECTORS

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

DATE: October 27, 2020

LOCATION: Virtually via ZOOM

TIME: 2:15 p.m.

AGENDA

- 1. CALL TO ORDER
- 2. STATEMENT FROM THE CHAIR
- 3. MINUTES OF PREVIOUS BOARD MEETINGS a.Minutes of Regular Board Meeting on September 22, 2020
- 4. RECOGNITION
- 5. EXECUTIVE DIRECTOR'S REPORT
- 6. ITEMS FROM THE PUBLIC
- 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

9. OTHER BUSINESS

- a. Presentation: Disposition of FY 2020 Rate Center Results Director of Finance/Administration, Lonnie Wood
- b. Presentation: Capital Projects Update: Engineering Manager, Scott Schiller

10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA

11. CLOSED MEETING

12. ADJOURNMENT

GUIDELINES FOR PUBLIC COMMENT AT VIRTUAL RIVANNA BOARD OF DIRECTORS MEETINGS

If you wish to address the Rivanna Board of Directors during the time allocated for public comment, please use the "chat" feature in the Zoom Meeting interface.

Members of the public who submit comments will be recognized during the specific time designated on the meeting agenda for "Items From The Public." The comment(s) will be read aloud to the Board of Directors only during this agenda item, so comments must be received prior to the end of this agenda item. The comments will be read by the Rivanna Authority's Executive Coordinator/Clerk of the Board.

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

If you would like to submit a comment, please keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. In order to give all who wish to submit a comment proper respect and courtesy, the Board requests that commenter follow the following guidelines:

- Submit your comment prior to the start of or during the "Items from the Public" section of the Agenda.
- In your comment, state your full name and address and your organizational affiliation if commenting 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;
- Be respectful and civil in all interactions at Board meetings;
- 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 commenters who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

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

CALL TO ORDER

STATEMENT OF CHAIR TO OPEN MEETING

This is Mike Gaffney, Chair of the Rivanna Water and Sewer Authority.

I would like to call the October 27, 2020 meeting of the Board of Directors to order.

Notwithstanding any provision in our Bylaws to the contrary, as permitted under the City of Charlottesville's Continuity of Government Ordinance adopted on March 25, 2020, Albemarle County's Continuity of Government Ordinance adopted on April 15th, 2020, and revised effective October 1, 2020 and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective April 24, 2020, we are holding this meeting by real time electronic means with no board member physically present at a single, central location.

All board members are participating electronically. This meeting is being held pursuant to the second resolution of the City's Continuity of Government Ordinance and Section 6 of the County's revised Continuity of Government Ordinance. All board members will identify themselves and state their physical location by electronic means during the roll call which we will hold next. I note for the record that the public has real time audio-visual access to this meeting over Microsoft WebEx as provided in the lawfully posted meeting notice and real time audio access over telephone, which is also contained in the notice. The public is always invited to send questions, comments, and suggestions to the Board through Bill Mawyer, the Authority's Executive Director, at any time.

ROLL CALL:

Ms. Hildebrand: Please state your full name and location.
Mr. Blair: Please state your full name and location.
Mr. Snook: Please state your full name and location.
Dr. Palmer: Please state your full name and location.
Mr. Richardson: Please state your full name and location.
Mr. O'Connell: Please state your full name and location.
And I am Mike Gaffney and I am located at ______.

Joining us today electronically are the follow Authority staff members:

Lonnie Wood, Jennifer Whitaker, David Tungate, Scott Schiller, John Hull, and Katie McIlwee

We are also joined electronically by Kurt Krueger, counsel to the Authority.



RWSA BOARD OF DIRECTORS Minutes of Regular Meeting September 22, 2020

- 7 A regular meeting of the Rivanna Water and Sewer Authority (RWSA) Board of Directors was held on Tuesday, September 22, 2020 at 2:00 p.m. via Zoom. 8
- Board Members Present: Mike Gaffney, Dr. Tarron Richardson, Lloyd Snook, Dr. Liz Palmer, 10 Jeff Richardson, Gary O'Connell, and Lauren Hildebrand. 11
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- Board Members Absent: none. 13
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- Rivanna Staff Present: Bill Mawyer, Katie McIlwee, Lonnie Wood, Jennifer Whitaker, David 15 Tungate, and John Hull. 16
- 17
- Attorney(s) Present: Kurt Krueger. 18
- 19
- Also Present: Access to the meeting was available via Zoom for members of the public and 20 media representatives. 21
- 22

1. CALL TO ORDER 23

- Dr. Richardson called the September 22, 2020 regular meeting of the Rivanna Water and Sewer 24 Authority to order at 2:15 p.m. 25
- 26

27 2. STATEMENT FROM THE CHAIR

- Dr. Richardson read the following statement aloud: "Notwithstanding any provision in our Bylaws 28 to the contrary, as permitted under the City of Charlottesville's Continuity of Government 29 Ordinance adopted on March 25, 2020. Albemarle County's Continuity of Government Ordinance 30 adopted on April 15th, 2020, and Chapter 1283 of the 2020 Acts of the Virginia Assembly effective 31 April 24, 2020, and the Resolution of the Authority authorizing the adoption of procedures for 32 33 electronic public meetings and public hearings, adopted by the Authority on May 26, 2020, we are holding this meeting by real time electronic means with no board member physically present at a 34 single, central location. 35 36
- 37 "All board members are participating electronically. This meeting is being held pursuant to the
- second resolution of the City's Continuity of Government Ordinance and Section 6(e) of the 38
- County's Continuity of Government Ordinance. All board members will identify themselves and 39
- state their physical location by electronic means during the roll call which we will hold next. I note 40
- for the record that the public has real time audio-visual access to this meeting over Zoom as 41
- provided in the lawfully posted meeting notice and real time audio access over telephone, which is 42
- also contained in the notice. The public is always invited to send questions, comments, and 43
- suggestions to the Board through Bill Mawyer, the Authority's Executive Director at any time." 44
- 45
- Dr. Richardson called the roll. 46

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48	Ms. Lauren Hildebrand stated she was located at 305 4 th Street Northwest in Charlottesville, VA.
49 50	Mr. Gary O'Connell stated he was located at the ACSA offices at 168 Spotnan Road, Pantons
50	Wi. Oary O Connen stated ne was located at the ACSA offices at 100 Spothap Road, 1 anops.
52	Dr. Lizbeth Palmer stated she was located at 2958 Mechum Banks Drive in Charlottesville, VA.
53	
54 55	Mr. Jeff Richardson stated he was located at 401 McIntire Road (Albemarle County Office Building) in Charlottesville, VA.
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57	Dr. Tarron Richardson stated he was located at P.O. Box 991, City Hall, Charlottesville, VA 22902.
58 59 60	Mr. Lloyd Snook stated he was located at 408 East Market Street in Charlottesville, VA.
61 62 63 64	Dr. Richardson stated the following Authority staff members were joining the meeting: Bill Mawyer (Executive Director), Lonnie Wood (Director of Finance & Administration), Jennifer Whitaker (Director of Engineering and Maintenance), Dave Tungate (Director of Operations), Katie McIlwee (Communications Manager & Executive Coordinator), and John Hull (Software Analyst).
65 66 67	Dr. Richardson stated they were also joined electronically by Mr. Kurt Krueger (Counsel to the Authority).
68 69 70 71	3. MINUTES OF PREVIOUS BOARD MEETINGS a. Minutes of Regular Board Meeting on August 25, 2020
72	Dr. Richardson asked board members if they had comments or changes.
73 74 75 76	Dr. Palmer moved that the board approve the minutes of the previous board meeting. The motion was seconded by Mr. O'Connell and passed unanimously (7-0).
70 77 78 79	Mr. Mike Gaffney stated his attendance and stated he was located at 3180 Dundee Road in Earlysville, VA.
80 81 82	Mr. Mawyer noted for the record that Mr. Gaffney had a medical procedure and that although he was participating, he was relieved of his chairman duties that day.
83 84 85	4. RECOGNITION Mr. Jeff Richardson stated this was a joint resolution of appreciation for Dr. Tarron Richardson. He moved to adopt the resolution as he read the resolution aloud:
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87	"WHEREAS, Dr. Richardson has served as a member of the Rivanna Water & Sewer
88 89	Authority and Solid Waste Authority Boards of Directors since May of 2019; and "WHEREAS over that same period Dr. Richardson has demonstrated leadership in water
90 90	and sewer solid waste and recycling services: and has been a valuable member of the Boards of
91	Directors and a resource to the Authorities; and
92	"WHEREAS, Dr. Richardson's understanding of the water, sewer, solid waste and

recycling operations of the City of Charlottesville, the Water & Sewer Authority and the Solid 93 Waste Authority has supported a strategic decision-making process that provided benefits to the 94 customers served by the City of Charlottesville as well as the community as a whole. 95 WHEREAS, the Water & Sewer Authority and Solid Waste Authority Boards of Directors are 96 most grateful for the professional and personal contributions Dr. Richardson has provided to both 97 Authorities and to the community; and 98 "NOW, THEREFORE, BE IT RESOLVED that the Rivanna Water & Sewer Authority 99 and the Rivanna Solid Waste Authority Boards of Directors recognize, thank, and commend Dr. 100 Richardson for his distinguished service, efforts, and achievements as a member of the Rivanna 101 Water & Sewer Authority and the Rivanna Solid Waste Authority, and present this Resolution as 102 a token of esteem, with their best wishes in his future endeavors. 103 "BE IT FURTHER RESOLVED that this Resolution be entered upon both the permanent 104 Minutes of the Rivanna Water & Sewer Authority and the Rivanna Solid Waste Authority." 105 106 The motion was seconded by Dr. Palmer and passed unanimously (6-0). Dr. Richardson 107 abstained from the vote. 108 109 Mr. Richardson stated on behalf of the RWSA Board, they wanted to take the opportunity to give 110 Dr. Richardson a heartfelt thanks for his service not just to the City and to the community, but to 111 the board. 112 113 Mr. Mawyer thanked Dr. Richardson, recalling their trip to Sugar Hollow and the Blue Hole. He 114 wished Dr. Richardson the best in the future. 115 116 Dr. Palmer thanked Dr. Richardson and the City for approving the easement last month for the 117 waterline from South Rivanna to the Ragged Mountain Reservoir. She expressed her 118 appreciation for his service over the last year. 119 120 Mr. O'Connell thanked Dr. Richardson and wished him luck. 121 122 Dr. Richardson thanked everyone on the board. He stated he had a great time working with 123 everyone. 124 125 Mr. Snook stated although he had many more dealings with Dr. Richardson in dealings with the 126 City than with RWSA, he did not want the moment to pass without his own expression of his 127 thanks for Dr. Richardson's service to the City as well as to the RWSA Board. He stated he 128 regretted the fact that Dr. Richardson would not be with the board further, and that he understood 129 his decision-making process. He stated he was sorry for the board and wished Dr. Richardson 130 well. 131 132 133 5. EXECUTIVE DIRECTOR'S REPORT Mr. Mawyer stated to continue the recognitions, he wanted to recognize his staff. He stated Mr. 134 Paul Sugg earned his Class II Wastewater Operator's license. He stated Mr. Sugg came to 135 RWSA from Florida and Michigan, and had been with RWSA since January. He stated Mr. Sugg 136 137 is an important member of their team, and that he appreciated Mr. Sugg's efforts in attaining his license. 138

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Mr. Mawyer congratulated RWSA's Director of Finance, Mr. Lonnie Wood, and Senior 140 Accountant, Ms. Kathy Ware. He stated they again received the Government Finance Officers 141 Association award for the comprehensive annual financial report ending on June 30, 2019. He 142 stated this was about 25 years in a row that Mr. Wood and his staff have earned this award. 143 144 Mr. Mawyer stated under the strategic plan goal of Infrastructure and Master Planning, he would 145 report on the Rivanna to Ragged Mountain Waterline Pump Station and Sediment Removal 146 Facility project. He stated Mr. O'Connell and the Board of Directors of the ACSA renewed its 147 endorsement of RWSA's plan of constructing the pipeline between 2027 and 2033. He stated Mr. 148 O'Connell had several new members on the ACSA board, and that Mr. O'Connell took the 149 opportunity to revisit the project. He stated that the ACSA board endorsed the same schedule that 150 the prior board did, and that it was consistent with the schedule that the RWSA Board had in its 151 CIP. 152 153 Mr. Mawyer stated they made some more progress over the last few weeks as City Council 154 approved easements for four properties near Ragged Mountain. He presented an updated map, 155 noting that sections of the pipeline shown in black or shadowed in black had either been 156 completed or the easement had been obtained. He stated from the Ragged Mountain end, there 157 were two sections (in blue) that were owned by the UVA Foundation. He stated RWSA would be 158 meeting with UVA Foundation soon to move that process forward. 159 160 Mr. Mawyer stated RWSA did have a property at Route 250, just north of the Birdwood line, 161 with one easement completed and a second easement under negotiation. 162 163 Mr. Mawyer stated RWSA completed its discussions with VDOT, and the yellow sections 164 shown on the map were VDOT sections where the pipe was planned to be located in the VDOT 165 right-of-way. He stated VDOT does not grant easements, but RWSA had meetings and sent 166 VDOT a letter stating that we planned to put the pipe in the marked locations on the map. He 167 stated VDOT understood this plan. 168 169 Mr. Mawyer stated RWSA acquired the black section on the map to the north of Barracks Road. 170 171 He stated Sugarday Farm was shown on the map in green, and that they would acquire easements on that property, as well as behind Albemarle High School and Greer Elementary School. He 172 stated there was also a small green section on the map that has two private property owners near 173 the South Rivanna Water Treatment Plant and Woodburn Road. He stated although the process 174 175 appeared slow at times, RWSA was making steady progress and would expect to wrap up all the easements and agreements in the near future. 176 177 Mr. Mawyer stated RWSA continued to work with UVA on another project to replace the two 178 existing waterlines from Ragged Mountain Reservoir to the Observatory Water Treatment Plant. 179 He stated they were dealing with UVA in the orange sections on the presented map, and that 180 there was a VDOT area where RWSA had concurrence with the agency. He stated the purple 181 section of the map was a small section of public easement. He stated in green, there were a few 182 private property owners along Reservoir Road that RWSA had yet to deal with. 183 184

- 185 Mr. Mawyer stated on this project, RWSA had met with UVA and proposed an alignment of the
- pipe. He stated UVA offered comments, and that he was feeling confident that they would getthis easement completed in the near future as well.
- 188
- 189 Mr. Mawyer stated RWSA also attended a meeting about the Beaver Creek Dam and Spillway
- 190 project, on September 3 with residents of the Beaver Creek Reservoir area. He stated many of the 191 people in that area are farmers, who had concerns about how long Browns Gap Turnpike would
- be closed during construction of the spillway, which was the main issue. He stated it was a good
- 193 crowd and a lot of good feedback was received about their concerns.
- 194
- Mr. Mawyer stated RWSA will continue to communicate with this group, as well as with the group of people who live on the west side of Beaver Creek Reservoir, where they have a site for a raw water pump station. He stated they are communicating with the Clark Family about the pump station, and that they met with them as recently as the previous Friday about it.
- 199
- Mr. Mawyer stated the project was moving forward and progress was being made. He stated RWSA was working with the Natural Resources Conservation Service, which is a federal agency that RWSA is asking to fund 65% of the project. He stated it would be about a two-year process to get the agency to approve RWSA's plan, and so while nothing was yet finalized with that project, it was moving forward in the administrative areas.
- 205

206 6. ITEMS FROM THE PUBLIC

- 207 Dr. Richardson opened "Items from the Public."
- 208

Ms. Hanna Clark stated she was speaking on behalf of the Clark and Riopel families. She stated
she was the youngest of the three Clark children, all of who grew up on the land surrounding
their home on Mechum Heights Road, or as RWSA knows it as Pump Site 3.

212

Ms. Clark stated she wanted to put a face or voice to the names attached to that site. She stated her family hoped that additional consideration would be given to the site selection after hearing from her and learning more about her family and land. She stated the woods around their home are very near and dear to them, and the proposed pump and access roads across their property and near to their house would be devastating to her family.

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Ms. Clark stated her family has met with staff members of the RWSA, and thanked RWSA for the courtesy. She stated they have been professional, responsive, transparent, and seemingly open to considering other options.

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Ms. Clark stated her family believes there is a better option for the pump site that would have less impact on private citizens, the forest and wetlands, water quality, public access to Beaver Creek, and her family. She stated they hoped RWSA would continue to consider alternate locations and methods with all concerns in mind – environmental, monetary, and human.

- 227
- Ms. Clark stated if any board members would like to make a trip to Beaver Creek to see the land and most her family, she would be happy to arrange it
- and meet her family, she would be happy to arrange it.
- 230

- Ms. Clark stated she would close by reading a poem by a local writer and friend, Amelia
- Williams, which was called, "On Beaver Creek." She read the poem aloud to the board.
- 233
- Ms. Riley Wyant, NBC29 News, stated she was not sure the topic would come up later in the meeting, or if the board wanted to address it then. She stated she wondered if there would be consideration of doing wastewater COVID monitoring, now that it was working well at UVA.
- 237
- Dr. Palmer informed Ms. Wyant that the board typically takes comments but does not answer questions during this period of time.
- 240
- As there were some technical difficulties with the meeting, some board members asked for the comment to be repeated.
- 243
- Ms. Wyant stated she had seen there were a number of topics on the agenda, and she understood that there was a certain water treatment agreement with UVA and other presentations planned for more wastewater treatment operations. She stated she wondered if, at any point in the meeting, there would be any consideration of doing wastewater COVID monitoring, since it had worked
- well with UVA, and if this was on anyone's radar.
- 249

250 7. RESPONSES TO PUBLIC COMMENT

- Mr. Mawyer stated he would first address Ms. Clark's comments. He stated RWSA had met with
- Ms. Clark and her family several times and as recently as the past Friday. He stated RWSA was
- trying to fully understand the family's concerns and give them due consideration.
- 254

Mr. Mawyer stated that as RWSA looked at the pump station sites at the Beaver Creek Reservoir, they had started with six sites and then narrowed them down to two. He stated now,

- they have expanded the number of sites to five to fully address the environmental and cultural
- they have expanded the number of sites to five to fully address the environmental and cultural elements, constructability, impacts to neighbors, and cost factors for all five of those sites. He
- stated they have their consultant evaluating these criteria for all the sites.
- 260

Mr. Mawyer stated the pump station itself would be on Albemarle County property, on the west side of the reservoir. He stated some of the concerns were about the need to extend the pipe from the new pump station to the Crozet Water Treatment Plant, which may need to cross private properties. He stated the Clark property was one of the alignments under consideration.

- Mr. Mawyer stated RWSA would reassess the sites. He stated there were some significant cost differences of about 30% more, or \$3-4 million more, for some of the various sites. He stated cost was therefore a factor RWSA was evaluating, adding that this was a project funded 100% by
- the Albemarle County Service Authority.
- 270

Mr. Mawyer stated he appreciated Ms. Clark's and the Clark Family's concerns and was giving

- them due consideration. He stated he expected RWSA to complete their evaluation in the next couple months and that likely, he would come to the board in January with some alternatives
- about possible locations for the new pump station and the pipeline. He noted that when RWSA
- works with the federal Natural Resources Conservation Service, they still have to get the agency

276 277	to ap the b	prove RV oard and	VSA's locations and designs. He stated they would develop a preliminary plan with will then work with NRCS to finalize it.
278			
279	Mr. 1	Mawyer s	tated Ms. Wyant commented about wastewater for COVID screening. He stated
280	RWS	SA has be	en working with researchers at UVA for many months to assist them as they can in
281	prov	iding acce	ess to the wastewater system and thus, RWSA was working with UVA in that way.
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283	<i>8. C</i>	CONSEN	TAGENDA
284		а.	Staff Report on Finance
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286		<i>b</i> .	Staff Report on Operations
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288		с.	Staff Report on Ongoing Projects
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290		d	Staff Report on Wholesale Metering
201		и.	Stajj Report on Whotesale Melering
291		e.	Approval of Supplemental Water Treatment Systems Study, Design and
293		Constr	ruction Agreement with UVA
294			C C C C C C C C C C C C C C C C C C C
295	Mr. (D'Connel	l asked Mr. Mawyer if he could speak to Item (e) in terms of the purpose of the
296	study	and its v	vater treatment.
297	•		
298	Mr. 1	Mawyer s	tated RWSA had been coordinating with UVA, particularly in some of their
299	medi	cal facilit	ties, for about a year to help them find ways to improve their water management
300 301	prog	ram. He s h water te	tated the hospitals where RWSA was planning to work are large buildings in
202 201	wine	following	the Center for Disease Control's program on water management and putting
302	toget	her an as	sessment of UVA's systems to provide recommendations to UVA on its water
304	quali	ty progra	m in those facilities.
305	4	•J P1081	
306	Mr. 1	Mawyer s	tated there was a confidentiality agreement UVA asked RWSA to execute. He
307	state	d this was	due to UVA's medical facilities, with the patient services having privacy
308	requi	rements u	under the HIPAA Privacy Act and, as well, they are private waters system within
309	the U	JVA build	lings. He stated they plan to execute the agreements with the board's approval.
310			
311	Mr. 1	Mawyer s	tated there would be a three-phased approach, which would involve studying the
312	exist	ing condi	tions within the facilities and making recommendations. He stated then, if
313	nece	ssary, the	y could construct supplemental water treatment systems within those buildings to
314	help	obtain wa	ater management enhancements.
315		. F	
316	Mr. l	Mawyer s	tated UVA would be sponsoring all the costs, including RWSA's, for this project.
317	He st	ated if R	w SA does install additional equipment, they would likely come back to the board
318 210	with	an operat	Mg agreement that they would operate the equipment for UVA in the future. He
213	state	u since K	work has needsed water operators, they left it most appropriate that it was their job

320 321 322	and skillset to run any supplemental water treatment systems in conjunction with the City utilities as well as with Mr. O'Connell and the ACSA for their customers.
323 324 325	Mr. O'Connell moved that the board approve the Consent Agenda. The motion was seconded by Dr. Palmer and passed unanimously (7-0).
326	9. OTHER BUSINESS
327	a. Presentation: Water and Wastewater Treatment Facilities and Processes
328	Director of Operations, Dave Tungate
329	
330	Mr. Mawyer introduced Mr. David Tungate, Director of Operations, and explained that Mr.
331	Tungate runs all the water treatment plants and wastewater plants as well as the laboratory that
332	analyzes all the samples RWSA takes from both of those systems. He stated they would give the
333	board an informational overview of those facilities and treatment processes.
334	
335	Mr. David Tungate stated in summary, he would talk about drinking water and wastewater.
336	
337	Mr. Tungate stated with regards to drinking water, in some respects, RWSA's tasks were simple.
338	He stated they protect the raw water supplies and quality in the reservoirs. He stated they pump
339	this water from the reservoirs to the water treatment plants, and treat the water to exceed the safe
340	drinking water standards. He stated these are standards set forth by the EPA, which RWSA is
341	required to meet.
342	
343	Mr. Tungate stated that after the water is treated, it is pumped into the distribution system to
344	meet their daily water demands. He stated they are then tasked to maintain the distribution
345	system water quality. He stated they maintain the systems in the urban area, Scottsville, Red Hill,
346	and Crozet as well as the water quality within those systems.
347	
348	Mr. Tungate stated there were five reservoirs: the South Rivanna Reservoir, behind Walmart on
349	Route 29; the Sugar Hollow Reservoir in the Sugar Hollow Recreation Area, in the northwest
350	corner of the County; Ragged Mountain – the newest and largest reservoir – located just north of
351	I-64, inside the City; Beaver Creek Reservoir in Crozet; and Totier Creek Reservoir in
352	Scottsville.
353	
354	Mr. Tungate stated with their five reservoirs, there were also six water treatment facilities
355	maintained by RWSA: South Rivanna, which is the largest facility at a capacity of 12 million
356	gallons per day (mgd) and which is currently under renovation; the Observatory facility, which is
357	on UVA grounds, with a capacity of 7.7 mgd and also under renovation; the North Rivanna
358	Treatment Plant, located north of the airport, which intakes from the North Fork Rivanna River
359	rather than from a reservoir; Crozet Water Treatment Plant at a current capacity of 1 mgd, which
360	has a renovation project underway that will take the capacity of the plant up to 2 mgd; a facility

- in Scottsville, at 0.25 mgd; a well field RWSA maintains in the Red Hill area, which serves 7-8
 homes and Red Hill School, with a designed capacity of 6,000 gallons per day.
- 363
- Mr. Tungate stated they staff all the facilities in the water department with 26.4 full-time employees.
- 366

Mr. Tungate stated on the wastewater side, the largest wastewater treatment plant was where

some of the staff attending were currently located, which was the Moores Creek facility,

permitted for 15 mgd. He stated they have a wastewater facility in the Glenmore subdivision,

east of Charlottesville near Keswick, which is permitted for 0.381 mgd. He stated they have a

wastewater facility in Scottsville that has a two-tiered permit and that 99% of the time, they are at less than 0.1 mgd, (100,000 gallons). He stated they operate a small wastewater treatment

package plant at the Stone Robinson School, which is permitted for 6,000 gallons per day.

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Mr. Tungate stated all the wastewater facilities were staffed with 16 full-time employees on the
wastewater side.

377

Mr. Tungate presented some aerial photos of the water treatment plants. He indicated in the
upper left corner of the slide is the North Rivanna Water Treatment Plant. He stated moving
geographically to the south was the South Rivanna Plant, which is the largest water facility. He
stated the next picture on the slide was the Observatory Water Treatment Plant on the grounds of

UVA. He indicated on the slide to the Crozet and Scottsville facilities, and to the Red Hill well

- field south of Charlottesville (off 29 South).
- 384

Mr. Tungate stated RWSA makes water at all the facilities 365 days a year and several can operate 24/7. He stated they like to think that their customers have no idea what the raw water quality is from day to day because the finished water quality stays the same. He stated that day was a particularly bad one at South Fork Rivanna Reservoir, where they had an extremely high rainfall amount and very high turbidity, and they could see (in the picture on the screen) what the raw water quality was like that day. He stated again, no matter the raw water quality, RWSA has to meet the same drinking water standards from the EPA.

392

393 Mr. Tungate stated on the drinking water side, RWSA's main concerns were giardia and

cryptosporidium. He presented a picture of a giardia organism, which is immobilized with

chlorine. He presented another picture, this time of two cryptosporidium cysts. He stated that

- another part of the treatment process, filtration, which removes of the cryptosporidium cysts.
- 397

Mr. Tungate stated this presentation was meant to highlight some of the things RWSA does. He stated they produce drinking water and talk to their employees every day about the steps and

precautions they take that provide for the safety and wellbeing of the community, which RWSAtakes very seriously.

402

Mr. Tungate stated the next slide would step through the South Rivanna plant. He stated on the left was the South Rivanna Raw Water Pump Station, located at the South Rivanna Dam. He

presented a picture of a series of high-service raw pumps, which pump the water from the

- 406 reservoir up to the plant.
- 407

Mr. Tungate stated as the water comes from the raw pump station, it first comes into the mixing basin, where they add and mix raw chemicals together. He stated the water then goes through a faster-speed rapid mix area. He stated it goes into the flocculators (of which there are three), and that the rate of mixing is faster the closer they get to the mixing basin, as the water flows from the top area shown on the screen to the bottom area. He stated mixing slows down as it gets

- towards the effluent (or exit) side of the flocculator.
- 414

Mr. Tungate stated the water then moves into a series of six sedimentation basins, which operate in parallel. He stated the basins allow the heavy flocculated particles a place to settle.

417

Mr. Tungate presented a slide depicting heavy floc particles. He stated these were particles that

came together and pass into the sedimentation basins. He stated the goal of sedimentation basins

is to settle out the solids. He stated the picture was taken looking down, noting that the cloudy

area was clear water on top of the clouds of floc that were settling into the sedimentation basins.

422

Mr. Tungate stated the next slide was an overview of the South Rivanna facility. He stated there is a main filtration plant, and the water goes through the sedimentation basins through the filters, then travels to the GAC building. He stated after the water goes through the GAC contactors and then finished water chemicals are added. He stated the water then mixes in the chlorine contact tank, which allows the chemicals to mix and become uniformly distributed. He stated it is then pumped out into the distribution system.

429

430 Mr. Tungate stated the bottom left corner of the slide showed some of the pumps that are used to 431 push the sodium hypochlorite (bleach solution) that is used in the disinfection process through

the treatment plant. He stated at the top of the slide was a picture of the filter press building,

- 433 which he would discuss later.
- 434

435 Mr. Tungate presented a picture of the pumps that RWSA uses to move the potable water from

the plant into their system and into people's homes. He stated these were four large high-service

- 437 pumps at South Rivanna that are used to pump the water into the system.
- 438

Mr. Tungate stated they had talked about GAC, noting that they use two forms of carbon in the 439 water treatment process. He presented a picture that showed two vials. He stated the vial on the 440 left contained powder-activated carbon (PAC), which is very fine, almost flour-like material. He 441 stated this material gets added in the treatment process as a slurry. He stated it is slurried in and 442 443 fed into the water treatment process, and is a one-time use. 444 Mr. Tungate stated the vial to the right was granular-activate carbon (GAC). He stated there was 445 a project that finished in 2018 where RWSA added GAC vessels to all of their facilities. He 446 447 stated the GAC is about the size of Grape Nuts and that this is not a one-time use. He stated this material lasts anywhere from 12 to 24 months, depending on the water quality. 448 449 Mr. Tungate presented a picture of South Rivanna, noting that he circled the application point in 450 the mixing basin for PAC. He stated it is fed into the water as it is processed through the plant, 451 and then the carbon settled out in sedimentation basins and is removed from the water and 452 disposed of. He stated PAC is a one-time use. 453 454 Mr. Tungate presented a picture of South Rivanna inside the GAC facility, where there are eight 455 contactors. He stated each contactor holds 40,000 pounds of GAC. 456 457 Mr. Tungate stated there are five facilities with GAC contactors, including South Rivanna (the 458 largest facility), with eight contactors and 320,000 pounds. He stated there is 8 mgd of treatment 459 capacity through the contactors but at South Rivanna, the plant has the ability to produce 12 460 mgd. He stated not all of the water, at that point, can be processed through the GAC, which was 461 an optimization measure RWSA took because they did not need all of the water to be treated 462 with GAC. 463 464 Mr. Tungate stated at the Observatory Water Treatment Plant, there is a capacity of 7.7 mgd. He 465 stated when the treatment plant is finished with its upgrade, it will be a 10-mgd facility. He 466 stated the contactors will be expanded there as part of the project, with the ability to treat up to 6 467 mgd. He stated it will have the same treatment capacity as South Rivanna relative to total 468 469 capacity at Observatory. He stated they will be able to do 10 mgd through the plant, but will be 470 able to treat 6 mgd through the GAC contactors. 471 Mr. Tungate stated the North Rivanna facility has one 40,000-pound contactor and a capacity of 472 1 mgd. He presented information on the slide for Scottsville and Crozet as well. 473 474 Mr. Tungate asked the board if they had any questions about GAC. 475 476 Mr. Gaffney asked Mr. Tungate if he could talk about how the water that does not go through the 477 GAC mixes with the water that does. 478

479

- 480 Mr. Tungate explained that RWSA, on an instantaneous basis, has the ability to determine how
- 481 much water goes through the GAC and how much does not. He stated after the GAC treatment,
- the water mixes together, then they add the finished water chemicals (corrosion inhibitor,
- fluoride, and chlorine) to the water before it goes out into the system. He stated they are able to
- determine how much goes through GAC and GAC bypass.
- 485

Mr. Tungate stated GAC was put into to ensure RWSA's compliance with the new disinfection byproduct rule. He stated they found that they were able to optimize the use of the GAC and still exceed the disinfection byproduct rules. He stated it has been a learning process as RWSA brought these online and looked at the results in the distribution system, while communicating with both their customers (City and County) and talking about the performance. He stated they meet on a quarterly basis to discuss distribution system water quality.

- 492
- 493 Mr. Tungate stated this was a benefit, moving forward, as they had been treating all the water 494 they could through the contactors, but they have been able to change that.
- 495

Dr. Palmer stated they had talked a lot about the benefits of the new pipeline from South Fork to
Ragged Mountain and Observatory Hill. She asked if he could mention the operational benefits
with respect to reducing the amount of carbon that they will have to use when they can move the
water from Ragged Mountain back down to South Fork, having the sediment being removed

from whatever kind of sediment trap they put in at South Fork to begin with.

501

Mr. Tungate stated Ragged Mountain Reservoir is the largest, at over 1.4 billion gallons. He stated the water that is in Ragged Mountain was transferred from Sugar Hollow Reservoir with a pipeline, and so it is not as susceptible to rain events like South Rivanna Reservoir. He stated as a rule, the water in Ragged Mountain is cleaner, turbidity-wise, than South Fork, and so it is possible they would be able to transfer water on a heavy precipitation day from Ragged Mountain to South Fork and take advantage of the water that is not as impacted by rain events.

508

Mr. Tungate stated to offer some perspective, with the rain the area had a couple weeks earlier,
South Fork Reservoir got about 40-50 NTUs, and anyone who looked at it could see it was

muddy and discolored. He stated it took more effort for RWSA to treat it, and that there was

512 more sediment to deal with from the process. He stated the system was designed to do that, but

- that it was much less effortless at Observatory where, after the big rain event, they still only had
 3-4 NTUs, and so the raw water was never impacted by the rain events at Observatory.
- 514 515

516 Mr. Tungate continued his presentation. He stated once they settle out all the solids at the South

- Rivanna Water Treatment Plant, they accumulate them in clarifiers and add polymer to it. He
- presented a picture of the top of a filter belt press, explaining that they take a thick sludge that

- looks almost like peanut butter, and run it through a belt press. He indicated to a picture showing
 two belts coming together and squeezing the water out, leaving behind a dry product that has 2223% solids. He stated this is a dry cake product that RWSA hauls to Moores Creek AWRRF to
- 522 dispose of it with the residuals.
- 523
- Mr. Tungate stated the more turbidity and the more solids there are in the raw water, the more of this product they make from SRWTP and that therefore, there is an advantage to having raw
- water supply that is not as impacted by rain events at South Rivanna.
- 527

Mr. Tungate stated on the water side, RWSA carries out a lot of testing and has to meet standards
established by the EPA. He stated they have to submit all their information to the Virginia
Department of Health on the tenth day of the month following the completed month (e.g. on

- 531 October 10, September reports are due).
- 532

533 Mr. Tungate stated the reports have to include a lot of information, not limited to the daily 534 volume of water pumped from each facility into the plant and how much they produce and send 535 out to the system. He noted there is sometimes a difference between how much they bring from 536 the source and how much they put into the system.

537

538 Mr. Tungate stated they have to keep very accurate records on the amounts of chemicals they

use. He stated they have filter turbidity information and online instruments throughout the plant

- that keep track of turbidity, water temperatures, and pH throughout the process. He stated they
- provide their calculations for disinfection, which takes care of things like giardia. He stated they
- collect total coliform results in the urban system, Crozet, Scottsville, and Red Hill, which are all
- submitted as part of their monthly report to the Virginia Department of Health.
- 544
- 545 Mr. Tungate concluded the water portion of the presentation and asked if there were questions. 546 Hearing none, he moved onto the wastewater portion.
- 547

548 Mr. Tungate stated at RWSA, they cover everything up to the tap and everything from the drain 549 backwards. He stated their largest facility located on the map on the screen was the Moores

550 Creek facility, which is where their offices are. He stated they have a very small facility (at 6,000

gallons per day) located at the Stone Robinson School, just east of the Moores Creek facility on

Route 250. He stated just south of that is the wastewater treatment plant in the Glenmore

- subdivision, and the new Rivanna Ridge area being developed off Route 250. He stated there is a
- facility in Scottsville that serves the Town of Scottsville.
- 555

556 Mr. Tungate presented an aerial photo of the Moores Creek facility and indicated to the location 557 of the administrative building. He indicated to the location of the band screens, whereas the

- sewage comes into the plant from two pump stations, it comes up to the screens to remove the inert material from the wastewater so that they do not have to be handled throughout the plant.
- 559 ment material from the wastewater so that they do no
 - Mr. Tungate indicated on the photo to the grit removal system, noting this was a new system in the last five years. He stated depending on the duration of a rain event and how heavy it is, they do get some grit that washes in. He stated the removal system captures the grit, with the idea to keep it out of the system.
 - 565

566 Mr. Tungate stated depending on the situation and the flows, there are two equalization basins 567 located just outside the parking lots. He stated the idea is that when it rains, the flows tend to 568 pick up at the Moores Creek plant, although it was not a linear progression. He stated as the 569 flows come up, they tend to store sewage in the equalization basins while they are setting up the 570 plant for a high flow event.

- 571
- 572 Mr. Tungate explained that the picture was not as recent as was two weeks earlier, since the 573 sediment in the equalization basins had been removed as part of the holding pond cleanout 574 project.
- 575

576 Mr. Tungate stated the photo showed the primary clarifiers, which were part of an odor control 577 project completed a couple years earlier. He stated these were covered and include an odor 578 control scrubber, which removes much of the odors out of the primary treatment.

579

580 Mr. Tungate indicated on the photo to the biological treatment aeration basins, where the 581 majority of the nutrient removal occurs. He stated there were four secondary clarifiers pictured 582 as well as holding ponds, where water is stored during a high-flow event. He stated the Moores 583 Creek plant is permitted to do 15 mgd and when they have very high-flow events where the plant 584 cannot process the water, there are a couple things they do. He stated they enter into a step feed, 585 which is a high-flow hybrid approach to treating wastewater. He stated they also store some of 586 the water in the holding ponds and as the flow goes down, they bring it back through the plant. 587

588 Mr. Tungate presented another picture, which was taken in December 2019. He stated there was 589 water in both the ponds pictured and that currently, there is a project underway to clean out the 590 ponds. He stated the pond closest to the facility (the westernmost pond) has been cleaned and 591 was down to concrete. He stated the material was moved over to the east pond and just that 592 morning, they began hauling out the material. He stated they will clean out both the holding 593 ponds.

594

595 Mr. Tungate presented a picture of a part of the plant visitors see upon arrival. He indicated to 596 the road and the bridge there. He stated there were two pieces of equipment in the photo that

597 would be removed: the lime silo (which was used when they had a plate frame press), and in-

plant clarifiers. He stated they are not using either and expect to remove them, per the CIP, infuture years.

600

Mr. Tungate stated they have five anerobic digesters. He stated the ball seen in the picture was a methane sphere where methane is stored. He stated most importantly, there are UV channels at

Moores Creek, which is what they use to inactivate the coliform bacteria before water is returned

- to Moores Creek. He indicated on the photo to the location of the outfall.
- 605

Mr. Tungate stated there are two sewer pump stations at Moores Creek. He stated the Moores

- Creek Pump Station is located near the entrance of the plant, and that the Rivanna Pump Station
 had been located outside their property but was recently located, through a CIP project, onto the
 property.
- 610

Mr. Tungate presented a map that showed the sewer sheds for the wastewater pump stations at

the plant. He stated the area Rivanna Pump Station serves was marked on the map in yellow. He

stated this area consists of the northside of Charlottesville, past the airport, up nearly to Greene

614 County and drains to the Rivanna Pump Station.

615

616 Mr. Tungate stated the Moores Creek Pump Station serves the south half of the City of

617 Charlottesville and, importantly, it receives sewage from the Crozet area. He stated the map

showed four green boxes with the notation "PS" and four pump stations, which pump the sewage

from Crozet to the gravity line, which ends up coming to the Moores Creek Pump Station. He

stated they maintain four pump stations on Route 250 that bring the Crozet sewage to the Moores

- 621 Creek facility.
- 622

Mr. Tungate presented a close-up photo of the band screens at Moores Creek. He stated as the sewage comes into the Moores Creek and Rivanna Pump Stations, they have diminuators, which can be thought of as large garbage disposals that grind up everything coming in. He stated some of the inert materials can then be captured by the screens.

627

Mr. Tungate presented a picture of the material which, after the screens are cleaned, gets

dewatered and compacted. He stated it comes out of the pictured chutes and then goes to a

dumpster to be disposed of. He stated the inert material is removed from the treatment system so

- that RWSA does not have to handle it again.
- 632

633 Mr. Tungate presented pictures of the grit removal system. He indicated to the cyclones, which

separate the heavier solids (grit) out of the wastewater. He stated the solids remain, and then the

635 wastewater can continue to move on.

636

system online for the first time, they found that the grit included cellphones, pagers, and all kinds 638 of things that were sitting in sewers for a number of years. 639 640 641 Mr. Tungate presented pictures of the primary clarifiers. He indicated on the photo to the air handling lines, which take the odors off the top of the clarifiers. He stated this was the next step 642 in the process (after sewage pump stations, band screens, and grit removal) where the sewage 643 comes into the two primary clarifiers, where the solid settles out and the cleaner sewage 644 continues on to aeration basins. 645 646 Mr. Tungate stated the odor control for the primary clarifiers is done by a large air scrubber that 647 removes the odor from the air. 648 649 Mr. Tungate stated the biological treatment was what most people think of when thinking about 650 wastewater treatment plants. He stated this is where much of the nutrient removal occurs. He 651 stated there are five aeration basins at Moores Creek. He stated the picture on the screen showed 652 bubbles from the aeration. He stated they put air into the water and that the amount of air 653 depends on the season, water temperatures, and what is happening at the plant. He stated it does 654 change seasonally and, at times, monthly. 655 656 Mr. Tungate stated once the sewage goes through the aerators to the biological treatment, there 657 are secondary clarifiers that capture sludge and keep clear water running through the system. He 658 noted that not all four secondary clarifiers were not usually kept in service. 659 660 Mr. Tungate stated that after secondary clarifiers the water is pumped to the sand filters, which 661 further remove impurities in the water to make it clearer so it can then put the water through the 662 UV channels. He stated the UV channels are high-intensity UV lightbulbs, and that not all the 663 channels are used at once. He stated they have backups in case something goes down for 664 maintenance. He stated the cleaner and clearer the water is, the more effective the UV system is. 665 666 667 Mr. Tungate presented a slide about the discharge to Moores Creek. He stated the top photo showed the sewage just after UV treatment, and the bottom photo showed the water going back 668 to Moores Creek, when then flows to the James River and the Chesapeake Bay. 669 670 671 Mr. Tungate presented a photo of one of the two centrifuges at Moores Creek. He stated they dewater solids from the digesters after 10-14 days in the digester. The thick sludge (which has 672 the consistency nearly like peanut butter) which is put through the centrifuges. 673 674

Mr. Tungate presented a photo of the grit after it had been removed. He stated after putting the

637

- Mr. Tungate stated the biosolids can be mixed with the water treatment plant residuals and are
- hauled to Waverly, Virginia to McGill Environmental, where they are made into commerciallyavailable compost. He stated the photo on the screen showed dewatered sewage sludge.
- 677 availab
- Mr. Tungate stated the trip to McGill is made anywhere from 10 to 15 times per week. He stated
- the contracted hauler hauls between Monday and Friday. He stated RWSA owns the trailers
- pictured on the screen and haul anywhere from 20 to 30 tons per load. He stated RWSA has a
- 682 private contractor and have bid out their hauling services, so the contractor pulls the trailers for 683 them and drives 120 miles one way to Waverly.
- 684

Mr. Tungate presented a slide with data from the August operations report. He stated from the wastewater side, RWSA was regulated by how many pounds of nitrogen and phosphorus they

- can put into the James River and Chesapeake Bay. He stated the state annual allocation is
- 282,000 pounds of nitrogen and 18,000 pounds of phosphorus. He stated taking those numbers
- and dividing them by 12, they arrive at their average monthly allocations.
- 690
- Mr. Tungate stated the third column on the chart showed how much they actually put in to
- Moores Creek in August. He stated they were allowed to put in 23,000 pounds and put in 4,300
- pounds, which was 19% of what they could put in. He stated the last column showed the Year-
- to-Date performance, noting that importantly, the allocations they do not use are sold on the
- 695 nutrients exchange.
- 696
- Mr. Tungate stated in August, RWSA received a check from the nutrient exchange in the order of \$80,000 to \$85,000. He stated it was important for RWSA to stay efficient to get high nutrient removals because there is a cost benefit to that. He stated the Nutrient Exchange sells credits to
- 700 other wastewater utilities in the James River Watershed. He stated those facilities are not as good
- as RWSA and needs those nutrient credits. He stated because RWSA does a good job in
- removing the nitrogen and phosphorus, they are able to sell those to people who cannot do it as
- well. He stated it was about \$80,000 to \$100,000 in benefits to the revenue stream each year,
- depending on flows.
- Mr. Tungate stated the next slide demonstrated that RWSA does on the wastewater side for
 testing. He stated on the wastewater side at Moores Creek, there are tests that must be performed
 on a daily basis, including dissolve oxygen, pH, total suspended solids and ammonia (five times
- per week), E. Coli (four times per week), total phosphorus and total nitrogen (two times per
- week), and chemical biological oxygen demand (once a week).
- 710
- Mr. Tungate stated there were multiple checks and balances in the process, both on the water
- side and wastewater side, as well as multiple reports that are filed. He stated there are stories in
- the water and wastewater industry of managers not meeting the rules, cooking the books, and
- getting caught, and that this is something RWSA takes very seriously. He stated there are

- multiple levels of checks and balances at RWSA to be sure this doesn't happen. He stated there are many layers that go into their work. 716 717 Mr. Tungate stated the final photo in the presentation was one taken at night of the Moores Creek 718 719 facility, from a drone. 720 721 Mr. Tungate asked if there were questions. 722 Dr. Palmer asked if the final picture was taken after the lights had been changed. 723 724 725 Mr. Tungate replied that the lights had not yet been changed. 726 Dr. Palmer asked if she could see the slide about tests. She asked Mr. Tungate if he could talk 727 more about the weekly chemical biological oxygen demand test. 728 729 Mr. Tungate replied that this test takes a look at how they are treating the water and what the 730 quality is before it goes back into Moores Creek to be sure they removed all the materials so they 731 are not creating a demand in the receiving stream. He stated in the past, there would be sewage 732 effluent that would then consume the oxygen in the receiving stream, and so they have to 733 maintain that. 734 735 Mr. O'Connell stated this was a great tour with many good pictures. 736 737 Mr. Gaffney stated he knew the water in Moores Creek is tested just before the water from the 738 treatment plant goes in. He asked how the water they put into Moores Creek compares to the 739 740 existing water there.
- 741

715

Mr. Tungate replied that on the water side, they do raw water sampling before they do any of the 742 treatment, and that there are usually high loads of coliform bacteria in any body of water or 743 moving stream in Virginia. He stated he could not recall offhand the information of Moores 744 745 Creek prior to their discharge but that depending on the day, their discharge is likely cleaner than 746 the receiving stream. He stated the amount of coliform bacteria of non-point source pollution in surface waters in much of the U.S. is usually very high, with runoff from dogs and the like. 747

- 748
- 749 **10. OTHER ITEMS FROM BOARD/STAFF NOT ON AGENDA**
- There were no other items. 750

11. CLOSED MEETING 751

- 752 There was no closed meeting.
- 753
- **12. ADJOURNMENT** 754
- At 3:26 p.m., Dr. Palmer moved to adjourn the meeting of the Rivanna Water and Sewer 755

Authority. The motion was seconded by Mr. O'Connell and passed unanimously (7-0).



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: EXECUTIVE DIRECTOR'S REPORT

DATE: OCTOBER 27, 2020

STRATEGIC PLAN GOAL: WORKFORCE DEVELOPMENT

Recognitions

The professional qualifications of our staff continue to improve and enhance our services. The following employee has successfully completed the requirements for a license from the State:

• Tom Corrice earned his Class 2 Wastewater Operator's License

STRATEGIC PLAN GOAL: COMMUNICATION AND COLLABORATION

Wayne Barnes, Assistant Water Department Manager, provided two tours of the Observatory Water Treatment Plant to students from the Department of Landscape Architecture, at the UVA School of Architecture.

We attended (virtually) the October meeting of the Crozet Community Advisory Committee and provided an update on our projects in the area including: Water Treatment Plant Upgrade; Wastewater Flow Equalization Tank, and the Beaver Creek Dam, Pump Station and Piping project, as well as on the SRR – RMR Pipeline project.

STRATEGIC PLAN GOAL: INFRASTRUCTURE AND MASTER PLANNING

<u>S. Rivanna to Ragged Mtn Reservoir Water Line, Pump Station and Sediment</u> <u>Removal Facility</u>

Progress continues in our efforts to acquire 9.5 miles of easements and agreements (with VDOT) for this 36" water line. We have completed our process to notify VDOT about our planned locations in the street right-of-ways. We expect the County School Board to consider granting an easement near Greer Elementary School in November. Pipe alignment, pump station site, and cost discussions are underway with the UVA Foundation. We recently reached agreement with a commercial property owner for an easement located

near Rt. 250. Easements have been obtained from 9 private owners, and negotiations continue with the remaining 3 private owners.

Negotiations with two private owners, as well as with UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements located between the Ragged Mtn Reservoir and the Observatory Water Treatment Plant.

A map of the pipe alignment with acquisition information is attached.

Sugar Hollow Dam Gate Replacement

Construction activities will began later this month in Sugar Hollow to replace the rubber "gate" which attaches to the top of the concrete dam. This inflatable rubber gate maintains the normal water pool elevation, and deflates automatically to allow additional flow in a controlled manner across the spillway during storm events. The reservoir water level will be lowered periodically during construction, and access to the construction site will be restricted to the public until completion of the project by the fall 2021, depending upon the weather. The attached Project Report was placed on our web page, and a similar media advisory will be issued, to inform the public about this project.

Albemarle-Berkley Basin Demolition

We received a nice letter from representatives of the Jack Jouett Magisterial District including the Board of Supervisors member, Diantha McKeel, School Board Member, Kate Acuff, and Planning Commission member, Julian Bivins, thanking us for removal of the abandoned concrete wastewater overflow basins located near Lambs Road. The letter is attached.

Attachments.







695 Moores Creek Lane Charlottesville, VA 22902 p.434-977-2970 www.rivanna.org www.rivannagis.org Data used in this map was provided by the RWSA, City of Charlottesville, Albemarle Co. GDS, and the UVA FM Dept. Duplication of data or redistribution of this map without permission from the RWSA Engineering Dept. is prohibited.

Date: 10/16/2020

Rivanna Water & Sewer Authority 695 Moores Creek Lane Charlottesville, VA 22902

October 5, 2020

Dear Members of the Rivanna Water & Sewer Authority Board of Directors and Mr. Bill Mawyer,

As the Jack Jouett Magisterial District representatives on the School Board, Board of Supervisors and Planning Commission, we write to express our appreciation for the Rivanna Water and Sewer Authority's recent demolition of the long-abandoned Albemarle-Berkley Basin.

This decaying wastewater pump and storage facility created an unsightly appearance along the Lambs Lane Campus (LLC) where Greer Elementary School, Jack Jouett Middle School, Albemarle High School, and the Ivy Creek School are located. The LLC is the most industrial educational campus in the County, housing the transportation center, with hundreds of buses moving in and out, and support functions including mechanic's bays, fueling stations, bus washing facilities all surrounded by chain link and barbed wire fencing. It is also the site of the ACPS Building Services Department. Your removal of the abandoned concrete water retention basin and returning the area to greenspace was a welcomed improvement, representing a first step in our goal of creating a more cohesive and welcoming pre-K-12 campus for the 3,000 students and their families who attend these schools. We are looking forward to other upcoming improvements, including the construction of a Boys and Girls Club and the addition of sidewalks.

We believe re-envisioning many aspects of the Lambs Lane Campus is critical to lessening the environmental burden born by our students on this campus and begins addressing longheld equity concerns. We thank you for supporting this important work.

Sincerely,

Kate Acuff Kate Acuff, Albemarle County School Board

Diantha McKeel Diantha McKeel, Albemarle County Board of Supervisors

Julian M. Bivins Julian M. Bivins, Albemarle County Planning Commission

cc: Dr. Matt Haas School Board Board of Supervisors Planning Commission



MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: SEPTEMBER MONTHLY FINANCIAL SUMMARY – FY 2021

DATE: OCTOBER 27, 2020

Urban Water flow and rate revenues are 12% over budget estimates through September, and Urban Wastewater flow and rate revenues are 6% over budget. Revenues and expenses are summarized in the table below:

	Urban Water	Urban Wastewater	Total Other Rate Centers	Total Authority
Operations				
Revenues	\$ 2,254,520	\$ 2,374,499	\$ 571,004	\$ 5,200,023
Expenses	(2,191,666)	(2,175,749)	(574,607)	(4,942,022)
Surplus (deficit)	\$ 62,854	\$ 198,750	\$ (3,603)	\$ 258,001
Debt Service Revenues Expenses Surplus (deficit)	\$ 1,724,396 (1,736,018) \$ (11,622)	\$ 2,203,367 (2,138,204) \$ 65,163	\$ 414,375 (417,327) \$ (2,952)	\$ 4,342,138 (4,291,549) \$ 50,589
Total Revenues Expenses	\$ 3,978,916 (3,927,684)	\$ 4,577,866 (4,313,953)	\$	\$ 9,542,161 (9,233,571)
Surplus (deficit)	\$ 51,232	\$ 263,913	\$ (6,555)	\$ 308,590

When reviewing the Authority as a whole, operating revenues are \$503,000 over budget and operating expenses are \$367,000 over budget.

A. Annual Transactions

Some of the first quarter revenues and expenses are over the <u>prorated</u> year-to-date budget due to one-time annual payments made or revenues received for the year. These transactions appear to be significant impacts on the budget vs. actual monthly comparisons, but will even out as the year progresses. Septage receiving support revenue of \$109,441 is received annually from the County. Annual payments are made for some lease payments, health savings accounts, and certain maintenance agreements, and some insurance premiums are paid quarterly.

- B. Personnel Costs (Maintenance page 9) Maintenance department salaries were underbudgeted in error.
- C. Operations and Maintenance (Urban Water page 2) Urban Water is \$90,000 over its total annual budget for Pipeline and Appurtenances repairs due to several major line breaks.

Attachments

Rivanna Water & Sewer Authority

Monthly Financial Statements - September 2020 Fiscal Year 2021

		Budaet			Budaet		Actual	Budget		Variance
Consolidated			EV 2021	Y	ear-to-Date	Y	oar-to-Date			Porcentage
Revenues and Expenses Summary	/				7 01-10-2010		7 0 1-10-2010		73. Actuar	Ferdentage
	2									
Operating Budget vs. Actual										
	Notes									
Revenues	•••••									
Operations Rate Revenue		\$	17,381,293	\$	4,345,323	\$	4,683,103	\$	337,780	7.77%
Lease Revenue			105,000		26,250		28,011		1,761	6.71%
Admin., Maint. & Engineering Revenue			545,000		136,250		148,639		12,389	9.09%
Other Revenues			542,788		135,697		340,829		205,132	151.17%
USE OF RESERVES-GAU			535,∠∠u 240 027		133,805		000,00 60,007		(48,205)	-30.0370 0.00%
Interest Allocation			35,100		8,775		2,473		(6,302)	-71.81%
Total Operating Revenues		\$	19,384,428	\$	4,846,107	\$	5,348,663	\$	502,556	10.37%
Evanada										
Expenses Demonpol Cost	^ B	¢	0 012 257	¢	2 105 001	¢	2 115 032	¢	(0.0/1)	0 43%
Personnel Cost Professional Services	А, Б 4	φ	602 700	φ	2,100,991	φ	2,110,002	φ	(19,041)	-12 97%
Other Services & Charges	~		3.136,780		784,195		871,039		(86,844)	-11.07%
Communications	Α		161,020		40,255		68,956		(28,701)	-71.30%
Information Technology	A		392,950		98,238		104,311		(6,073)	-6.18%
Supplies			47,045		11,761		11,717		44	0.38%
Operations & Maintenance	A, C		4,918,416		1,229,604		1,461,663		(232,059)	-18.87%
Equipment Purchases			352,250		88,063		72,731		15,331	17.41%
Depreciation			860,000		215,000		215,000		(0)	0.00%
Reserve Transfers Total Operating Expenses		\$	- 19 384 418	\$	4 723 781	\$	- 5 090 661	\$	- (366,880)	-7.77%
		¢	10,001,110	¢	400 306	¢	258 001	¥	(000,000,	
Operating Surplus/(Dencity		φ		φ	122,320	φ	200,001	-		
Debt Service Budget vs. Actual										
Pavanuas										
Nevenues Dobt Service Rate Revenue		\$	15 861 016	\$	3 065 254	\$	3 065 256	\$	2	0.00%
Use of Reserves		Ψ	954.652	Ψ	238,663	Ψ	238,663	Ψ	-	0.0075
Septage Receiving Support - County			109,440		27,360		109,441		82.081	300.00%
Buck Mountain Lease Revenue			1,600		400		-		(400)	-100.00%
Trust Fund Interest			135,900		33,975		2,882		(31,093)	-91.52%
Reserve Fund Interest			666,000		166,500		25,895		(140,605)	-84.45%
Total Debt Service Revenues		\$	17,728,608	\$	4,432,152	\$	4,342,137	\$	(90,015)	-2.03%
Debt Service Costs										
Total Principal & Interest		\$	14 380,219	\$	3 595,055	\$	3 595.055	\$	-	0.00%
Reserve Additions-Interest		Ŧ	666,000	Ŧ	166,500	Ŧ	25,895	Ŧ	140,605	84.45%
Debt Service Ratio Charge			725,000		181,250		181,250		-	0.00%
Reserve Additions-CIP Growth			1,957,394		489,349		489,349			0.00%
Total Debt Service Costs		\$	17,728,613	\$	4,432,153	\$	4,291,548	\$	140,605	3.17%
Debt Service Surplus/(Deficit)		\$	(5)	\$	(1)	\$	50,589	=		
			Summar	у						
Total Revenues		\$	37 113 036	\$	9 278 259	\$	9 690 799	\$	412,540	4 45%
Total Expenses		Ψ	37.113,031	Ψ	9.155,935	Ψ	9.382,209	Ψ	(226,275)	-2.47%
Surplus/(Deficit)		\$	5	\$	122,324	\$	308,590	-	(, , ,	
								-		

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

<u>Urban Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Ye	Budget ear-to-Date		Actual Year-to-Date		Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual										
Povonuos	Notes									
Operations Rate Revenue Lease Revenue Miscellangeue		\$	7,118,541 75,000	\$	1,779,635 18,750	\$	1,995,980 20,735	\$	216,345 1,985	12.16% 10.58%
Use of Reserves-GAC Rate Stabilization Reserves			500,000 94,254		125,000 23,564		85,600 23,564		(39,400)	-31.52% 0.00%
Interest Allocation Total Operating Revenues		\$	7,802,395	\$	3,650 1,950,599	\$	2,254,520	\$	(2,621) 303,921	-/1.81% 15.58%
Frienses		<u> </u>							•	
Personnel Cost Professional Services Other Services & Charges	A	\$	1,918,361 134,000 738 130	\$	455,374 33,500 184 533	\$	447,978 119,532 237 664	\$	7,396 (86,032) (53,131)	1.62% -256.81% -28.79%
Communications Information Technology Supplies	A		76,000 85,500 5 745		19,000 21,375 1 436		28,228 15,842 2 776		(9,228) 5,533 (1,340)	-48.57% 25.89% -93.30%
Operations & Maintenance Equipment Purchases Depreciation	С		2,159,300 28,000 300,000		539,825 7,000 75,000		714,736 6,223 75,000		(174,911) 777	-32.40% 11.10% 0.00%
Reserve Transfers Subtotal Before Allocations Allocation of Support Departments		\$	5,445,036 2,357,359	\$	1,337,043 559,410	\$	1,647,979 543,687	\$	- (310,936) 15,723	-23.26% 2.81%
Total Operating Expenses		\$	7,802,395	\$	1,896,453	\$	2,191,666	\$	(295,213)	-15.57%
Operating Surplus/(Deficit)		\$	0	\$	54,146	\$	62,854	=		
Debt Service Budget VS. Actual Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Use of Reserves Lease Revenue Total Debt Service Revenues		\$	6,178,645 49,000 339,600 662,000 1,600 7,230,845	\$ \$	1,544,661 12,250 84,900 165,500 400 1,807,711	\$	1,544,649 1,040 13,206 165,500 - 1,724,396	\$	(12) (11,210) (71,694) - (400) (83,316)	0.00% -91.51% -84.44% 0.00% -100.00% - 4.61%
Debt Service Costs										
Total Principal & Interest Reserve Additions-Interest Debt Service Ratio Charge Reserve Additions-CIP Growth		\$	5,215,445 339,600 400,000 1,275,800	\$	1,303,861 84,900 100,000 318,950	\$	1,303,861 13,206 100,000 318,950	\$	71,694	0.00% 84.44% 0.00% 0.00%
Total Debt Service Costs		\$	7,230,845	\$	1,807,711	\$	1,736,018	\$	71,694	3.97%
Debt Service Surplus/(Deficit)		Þ		Þ		Þ	(11,622)	-		
		Ra	te Center S	Sun	nmary					
Total Revenues Total Expenses		\$	15,033,240 15,033,240	\$	3,758,310 3,704,164	\$	3,978,916 3,927,684	\$	220,606 (223,519)	5.87% -6.03%
Surplus/(Deficit)		\$	0	\$	54,146	\$	51,232	=		
Costs per 1000 Gallons Operating and DS		\$ \$	2.30 4.42			\$ \$	2.30 4.12			
Thousand Gallons Treated			3,397,700		849,425		952,734		103,309	12.16%
or Flow (MGD)			9.309				10.356			

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

<u>Crozet Water Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Y	Budget Tear-to-Date	Ye	Actual ear-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual	Notes									
Revenues	NOLES									
Operations Rate Revenue		\$	1,028,808	\$	257,202	\$	257,202	\$	-	0.00%
Lease Revenues			30,000		7,500		7,277		(223)	-2.98%
Use of Reserves-GAC			26,000		6,500		-		(6,500)	-100.00%
Interest Allocation		_	2,100		525		146	-	(379)	-72.20%
Total Operating Revenues		\$	1,086,908	\$	271,727	\$	264,625	\$	(7,102)	-2.61%
Expenses										
Personnel Cost		\$	302,598	\$	71,813	\$	71,338	\$	475	0.66%
Professional Services	Α		15,000		3,750		10,336		(6,586)	-175.63%
Other Services & Charges			142,360		35,590		20,974		14,616	41.07%
Communications			5,600		1,400		5,313		(3,913)	-279.49%
Supplies			2,250		202		120 574		(236)	70.00%
Operations & Maintenance	Δ		353 292		88 323		129 777		(41 454)	-09.94 %
Equipment Purchases	~		3.000		750		750		(+1,+0+)	0.00%
Depreciation			40,000		10,000		10,000		0	0.00%
Reserve Transfers			-		-		-		-	
Subtotal Before Allocations		\$	865,450	\$	212,526	\$	249,182	\$	(36,655)	-17.25%
Allocation of Support Departments			221,456	-	52,573	•	51,461	•	1,111	2.11%
Total Operating Expenses		\$	1,086,906	\$	265,099	\$	300,643	\$	(35,544)	-13.41%
Operating Surplus/(Dencit)		φ	2	φ	0,020	φ	(30,019)			
Revenues Debt Service Rate Revenue Trust Fund Interest		\$	1,311,312 11,600	\$	327,828 2,900	\$	327,828 245	\$	- (2,655)	0.00% -91.55%
Use of Reserves			198,252		49,563		49,563		-	0.00%
Reserve Fund Interest		¢	15,700	¢	3,925	¢	378 257	¢	(3,304)	-84.17%
Total Debt Service Revenues		Ψ	1,330,004	Ψ	504,210	Ψ	570,257	Ψ	(3,333)	-1.55 /6
Debt Service Costs										
Total Principal & Interest		\$	1,217,569	\$	304,392	\$	304,392	\$	-	0.00%
Reserve Additions-Interest			15,700		3,925		621		3,304	84.17%
Reserve Additions-CIP Growth			303,600		75,900		75,900	•	-	0.00%
Total Debt Service Costs		\$ ¢	1,536,869	\$ ¢	384,217	\$ ¢	380,914	\$	3,304	0.86%
		φ	(3)	φ	(1)	φ	(2,050)			
	R	ate	Center Su	mn	nary					
Total Revenues		\$	2,623,772	\$	655,943	\$	642,882	\$	(13,061)	-1.99%
Total Expenses			2,623,775		649,316		681,557		(32,241)	-4.97%
Surplus/(Deficit)		\$	(3)	\$	6,627	\$	(38,675)	:		
Costs per 1000 Gallons Operating and DS		\$ \$	5.47 13.20			\$ \$	4.79 10.86			
Thousand Gallons Treated		r	198,830		49,708	r	62,742		13,035	26.22%
Flow (MGD)			0.545				0.682			

Rivanna Water & Sewer Authority

Monthly Financial Statements - September 2020

<u>Scottsville Water Rate Center</u> Revenues and Expenses Summary		Budget FY 2021		Budget Year-to-Date		Actual Year-to-Date		Budget vs. Actual		Variance Percentage
Operating Budget vs. Actual										
	Notes									
Revenues										
Operations Rate Revenue		\$	520,812	\$	130,203	\$	130,203	\$	-	0.00%
Use of Reserves-GAC			9,220		2,305		- 70	\$	(2,305)	-100.00%
Total Operating Revenues		\$	531.032	\$	132.758	\$	130.275	\$	(2.483)	-1.87%
F			,	•	,	Ŧ	,	•	(_,,	
Expenses		۴	404.004	۴	40.054	¢	40 550	۴	00	0.000/
Personnel Cost Drefessional Services		\$	71 000	\$	43,651	ф	43,552	\$	99 16 207	01.23%
Other Services & Charges			71,000		17,750		1,543		10,207	91.31%
Communications			22,700		5,095		0,093		(996) (553)	-17.00%
Information Technology			4,000		1,150		320		(158)	-40.13%
Supplies			200		50		020		(150)	99.08%
Operations & Maintenance			87 662		21 916		15 022		6 894	31 46%
Equipment Purchases			2 500		625		625		(0)	0.00%
Depreciation			20.000		5.000		5.000		(0)	0.00%
Reserve Transfers					-,		-		-	
Subtotal Before Allocations		\$	393,423	\$	95,999	\$	74,459	\$	21,540	22.44%
Allocation of Support Departments			137,604		32,713		32,737		(23)	-0.07%
Total Operating Expenses		\$	531,027	\$	128,712	\$	107,196	\$	21,516	16.72%
Operating Surplus/(Deficit)		\$	5	\$	4,046	\$	23,079	-		
Revenues Debt Service Rate Revenue Trust Fund Interest Reserve Fund Interest Total Debt Service Revenues Debt Service Costs		\$	128,749 1,200 8,300 138,249	\$ \$	32,187 300 2,075 34,562	\$	32,187 26 311 32,524	\$ \$	(0) (274) (1,764) (2,039)	0.00% -91.36% <u>-85.03%</u> -5.90%
Total Principal & Interest		\$	126,032	\$	31,508	\$	31,508	\$		0.00%
Reserve Additions-Interest			8,300		2,075		311		1,764	
Reserve Additions-CIP Growth		¢	3,917	¢	9/9	¢	979	¢	1 764	5 10%
Debt Service Surplus/(Deficit)		\$		\$	- 34,302	\$	(274)	Ψ	1,704	5.1078
							· · · ·	-		
	R	ate	Center Su	Imn	nary					
Total Povonuos		¢	660 281	¢	167 200	¢	162 700	¢	(1 500)	2 700/
Total Expanses		φ	660 276	φ	162 27/	φ	130 004	φ	(4,JZZ) 23 281	-2.70%
i otal Expenses			009,270		103,274		139,994	-	23,201	14.2070
Surplus/(Deficit)		\$	5	\$	4,046	\$	22,805	-		
		¢	00 70			۴	40.07			
Costs per 1000 Gallons		¢	30.19			¢ ¢	18.3/			
		φ	30.01			φ	23.99			
Thousand Gallons Treated			17,245		4,311		5,835		1,524	35.34%
or Flow (MGD)			0.047				0.063			

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

<u>Urban Wastewater Rate Center</u> Revenues and Expenses Summary			Budget FY 2021	Ŷ	Budget ear-to-Date	Ŷ	Actual ear-to-Date	ı	Budget vs. Actual	Variance Percentage
Operating Budget vs. Actual										
	Notes									
Revenues										
Operations Rate Revenue		\$	8,033,620	\$	2,008,405	\$	2,129,840	\$	121,435	6.05%
Stone Robinson WWTP			22,788		5,697		3,672		(2,025)	-35.55%
Septage Acceptance			475,000		118,750		121,958		3,208	2.70%
Rate Stabilization Reserve			45,000		30 308		30,308		75,749	073.32%
Miscellaneous Revenue			-				587		587	0.0070
Interest Allocation			16,100		4,025		1,135		(2,890)	-71.80%
Total Operating Revenues		\$	8,713,741	\$	2,178,435	\$	2,374,499	\$	196,064	9.00%
Expenses										
Personnel Cost		\$	1.299.876	\$	307,495	\$	292.292	\$	15,203	4.94%
Professional Services		·	143,400		35,850		12,893		22,957	64.04%
Other Services & Charges	Α		2,020,300		505,075		552,757		(47,682)	-9.44%
Communications			10,700		2,675		5,915		(3,240)	-121.12%
Information Technology			69,500		17,375		9,742		7,633	43.93%
Supplies	^		1,900		475		/14 501.607		(239)	-50.31%
Equipment Purchases	A		1,767,000		31 313		23 258		(59,947) 8 054	-13.37%
Depreciation			470.000		117,500		117,500		(0)	0.00%
Reserve Transfers			-		-		-		-	
Subtotal Before Allocations		\$	5,907,926	\$	1,459,507	\$	1,516,768	\$	(57,261)	-3.92%
Allocation of Support Departments		_	2,805,815		666,455		658,981		7,474	1.12%
Total Operating Expenses		\$	8,713,741	\$	2,125,962	\$	2,175,749	\$	(49,787)	-2.34%
Operating Surplus/(Deficit)		ð	(0)	φ	52,474	φ	190,750	-		
Debt Service Budget vs Actual										
Revenues										
Debt Service Rate Revenue		\$	8 229 090	\$	2 057 273	\$	2 057 286	\$	14	0.00%
Septage Receiving Support - County		Ŧ	109,440	Ŧ	27,360	Ŧ	109,441	Ŷ	82,081	300.00%
Trust Fund Interest			74,000		18,500		1,568		(16,932)	-91.53%
Use of Reserves			94,400		23,600		23,600		-	0.00%
Reserve Fund Interest		_	295,200		73,800		11,471	•	(62,329)	-84.46%
Total Debt Service Revenues		\$	8,802,130	\$	2,200,533	\$	2,203,366	\$	2,834	0.13%
Debt Service Costs										
Total Principal & Interest		\$	7 812 130	\$	1 953 033	\$	1 953 033	\$	-	0.00%
Reserve Additions-Interest		Ψ	295.200	Ψ	73.800	Ψ	11.471	Ψ	62.329	84.46%
Debt Service Ratio Charge			325,000		81,250		81,250		-	0.00%
Reserve Additions-CIP Growth			369,800		92,450		92,450		-	0.00%
Total Debt Service Costs		\$	8,802,130	\$	2,200,533	\$	2,138,204	\$	62,329	2.83%
Debt Service Surplus/(Deficit)		\$	-	\$	-	\$	65,162	-		
		Rat	to Contor S	um	marv					
		INC		um	inal y					
Total Revenues		\$	17,515,871	\$	4,378,968	\$	4,577,865	\$	198,898	4.54%
Total Expenses			17,515,871		4,326,494		4,313,953	-	12,541	0.29%
Surplus/(Deficit)		\$	(0)	\$	52,474	\$	263,913	-		
Costs por 1000 Gallons		¢	0 57			¢	0 40			
Operating and DS		φ \$	2.07 5.17			φ \$	2.42 1 80			
		Ψ	5.17			Ψ	00			
Thousand Gallons Treated			3,390,400		847,600		899,045		51,445	6.07%
or							o			
Flow (MGD)			9.289				9.772			

Rivanna Water & Sewer Authority

Monthly Financial Statements - September 2020

<u>Glenmore Wastewater Rate Center</u> Revenues and Expenses Summary		Budget FY 2021	Ye	Budget ear-to-Date	Actual Year-to-Date		Budget vs. Actual		Variance Percentage
Operating Budget vs. Actual									
N Revenues	lotes								
Revenues	¢	270 524	¢	00 601	¢	02 624	¢		0.00%
Rate Stabilization Reserve	φ	370,524 24 540	Φ	92,031	Ф	92,031	Φ	-	0.00%
Interest Allocation		700		175		49		(126)	-71.73%
Total Operating Revenues	\$	395,764	\$	98,941	\$	98,815	\$	(126)	-0.13%
Expenses									
Personnel Cost	\$	97,804	\$	23,165	\$	21,331	\$	1,834	7.92%
Professional Services		24,200		6,050		34		6,016	
Other Services & Charges		36,800		9,200		11,015		(1,815)	-19.73%
Communications		3,200		800		1,212		(412)	-51.50%
Information Technology		4,050		1,013		915		98	9.66%
Supplies		-		-		0		(0)	10 - 10
Operations & Maintenance		109,100		27,275		30,695		(3,420)	-12.54%
Equipment Purchases		3,700		925		925		0	0.00%
	¢	288 854	¢	2,500	¢	2,500	¢	2 300	3 24%
Allocation of Support Departments	φ	106 907	φ	25 455	φ	25 856	φ	2,300	-1 58%
Total Operating Expenses	\$	395.761	\$	96,383	\$	94,484	\$	1.899	1.97%
Operating Surplus/(Deficit)	\$	3	\$	2,558	\$	4,331	<u> </u>	.,	
						,			
Revenues Debt Service Rate Revenue Trust Fund Interest	\$	3,778	\$	945 -	\$	945	\$	1	0.05%
Reserve Fund Interest		3,000		750		129		(621)	-82.74%
Total Debt Service Revenues	\$	6,778	\$	1,695	\$	1,074	\$	1	0.03%
Debt Service Costs									
Total Principal & Interest	\$	1,579	\$	395	\$	395	\$	-	0.00%
Reserve Additions-CIP Growth		2,199		550		550		-	0.00%
Reserve Additions-Interest		3,000		750		129		621	82.74%
Total Debt Service Costs	\$	6,778	\$	1,695	\$	1,074	\$	621	36.62%
Debt Service Surplus/(Deficit)	\$	-	\$	-	\$	1	:		
	Rat	e Center Su	ımn	nary					
Total Revenues Total Expenses	\$	402,542 402,539	\$	100,636 98,077	\$	99,890 95,558	\$	(746) 2,519	-0.74% 2.57%
Surplus/(Deficit)	\$	3	\$	2,558	\$	4,332	:		
Costs per 1000 Gallons Operating and DS	\$ \$	9.51 9.67			\$ \$	9.42 9.53			
Thousand Gallons Treated		41,629		10,407		10,027		(380)	-3.65%
Flow (MGD)		0.114				0.109			
Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

<u>Scottsville Wastewater Rate Center</u> Revenues and Expenses Summary		Budget FY 2021	Ŷ	Budget ear-to-Date	Ŷ	Actual ear-to-Date	v	Budget rs. Actual	Variance Percentage
Operating Budget vs. Actual									
Notes									
Revenues									
Operations Rate Revenue	\$	308,988	\$	77,247	\$	77,247	\$	-	0.00%
Interest Allocation		600		150		42		(108)	-71.98%
Total Operating Revenues	\$	309,588	\$	77,397	\$	77,289	\$	(108)	-0.14%
Expenses									
Personnel Cost	\$	97.317	\$	23.044	\$	21.331	\$	1.712	7.43%
Professional Services		2,100	•	525	•	34		491	93.48%
Other Services & Charges		23,710		5,928		8,840		(2,912)	-49.13%
Communications		3,720		930		1,220		(290)	-31.22%
Information Technology		1,500		375		478		(103)	-27.42%
Supplies		500		125		0		125	99.72%
Operations & Maintenance		57,812		14,453		10,601		3,852	26.65%
Equipment Purchases		3,700		925		925		0	0.00%
Depreciation		20,000		5,000		5,000		(0)	0.00%
Subtotal Before Allocations	\$	210,359	\$	51,304	\$	48,430	\$	2,874	5.60%
Allocation of Support Departments		99,228	_	23,618	_	23,854	_	(236)	-1.00%
Total Operating Expenses	\$	309,587	\$	74,923	\$	72,284	\$	2,639	3.52%
Operating Surplus/(Deficit)	\$	1	\$	2,474	\$	5,005	=		
Revenues Debt Service Rate Revenue Trust Fund Interest Recence Fund Interest	\$	9,442 100 4 200	\$	2,361 25 1.050	\$	2,361 3 155	\$	1 (22) (895)	0.02% -88.48% -85.20%
Total Debt Service Revenues	\$	13.742	\$	3,436	\$	2.519	\$	(916)	-26.67%
	<u> </u>		¥	6,100	*	2,010	*	(010)	20:01 /0
Debt Service Costs									
Total Principal & Interest	\$	7,464	\$	1.866	\$	1.866	\$	-	0.00%
Reserve Additions-Interest		4,200	•	1,050	•	155		895	85.20%
Estimated New Principal & Interest		2,078		520		520		-	0.00%
Total Debt Service Costs	\$	13,742	\$	3,436	\$	2,541	\$	895	26.04%
Debt Service Surplus/(Deficit)	\$	-	\$	-	\$	(22)			
			_		_		_		
	Rate	e Center S	umi	mary					
Total Devenues	۴	202.020	۴	00.000	۴	70.000	۴	(4.004)	4.070/
Total Expenses	Ф	323,330	Ф	00,000	Ф	79,000	Ф	(1,024)	-1.27%
i otal Expenses		323,329		10,000		74,620	-	3,533	4.31%
Surplus/(Deficit)	\$	1	\$	2,474	\$	4,983			
Costs per 1000 Gallons	\$	13.39			\$	11.48			
Operating and DS	\$	13.98			\$	11.89			
					ŕ				
Thousand Gallons Treated		23,126		5,782		6,295		514	8.88%
or									
Flow (MGD)		0.063				0.068			

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

Administration									
		Budget FY 2021	Y	Budget lear-to-Date	Ye	Actual ar-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual									
	Notes								
Revenues									
Payment for Services SWA		\$ 543,000	\$	135,750	\$	135,750	\$	-	0.00%
Miscellaneous Revenue		 2,000		500		4,638		4,138	827.56%
Total Operating Revenues		\$ 545,000	\$	136,250	\$	140,388	\$	4,138	3.04%
Expenses									
- Personnel Cost	Α	\$ 1,906,136	\$	448,603	\$	456,138	\$	(7,535)	-1.68%
Professional Services		183,000		45,750		20,397		25,353	55.42%
Other Services & Charges		80,600		20,150		18,760		1,390	6.90%
Communications		21,500		5,375		6,039		(664)	-12.35%
Information Technology	Α	177,000		44,250		55,057		(10,807)	-24.42%
Supplies		24,250		6,063		5,556		507	8.36%
Operations & Maintenance		75,200		18.800		14,795		4.005	21.30%
Equipment Purchases		24,000		6,000		3,500		2,500	41.67%
Depreciation		-		-		-		-	
Total Operating Expenses		\$ 2,491,686	\$	594,990	\$	580,242	\$	14,748	2.48%

Department Summary										
Net Costs Allocable to Rate Centers		\$	(1,946,686)	\$	(458,740)	\$	(439,854)	\$	(18,886)	4.12%
Allocations to the Rate Centers										
Urban Water	44.00%	\$	856,542	\$	201,846	\$	193,536	\$	8,310	
Crozet Water	4.00%	\$	77,867		18,350		17,594		755	
Scottsville Water	2.00%	\$	38,934		9,175		8,797		378	
Urban Wastewater	48.00%	\$	934,409		220,195		211,130		9,065	
Glenmore Wastewater	1.00%	\$	19,467		4,587		4,399		189	
Scottsville Wastewater	1.00%	\$	19,467		4,587		4,399		189	
	100.00%	\$	1,946,686	\$	458,740	\$	439,854	\$	18,886	

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

Maintonanco

<u>Maintenance</u>				Budgot		Budgot		Actual		Budgot	Varianco
				FY 2021		Year-to-Date		Year-to-Date	V	s. Actual	Percentage
Operating Budge	et vs. Actual										
		Notes									
Revenues											
Payment for Services SWA	Ą		\$	-	\$	-	\$	-	\$	-	
Miscellaneous Revenue			_	-		-	_	983		983	
	Total Operating Revenues		\$	-	\$	-	\$	983	\$	983	
Expenses											
Personnel Cost		в	\$	1,233,605	\$	291,718	\$	321,853	\$	(30,136)	-10.33%
Professional Services				-		-		-		-	
Other Services & Charges				50,700		12,675		7,899		4,776	37.68%
Communications		Α		17,400		4,350		11,185		(6,835)	-157.12%
Information Technology				8,500		2,125		5,868		(3,743)	-176.14%
Supplies				2,000		500		119		381	76.23%
Operations & Maintenance	1			84,550		21,138		23,642		(2,504)	-11.85%
Equipment Purchases				139,000		34,750		30,750		4,000	11.51%
Depreciation				-		-		-		-	
	Total Operating Expenses		\$	1,535,755	\$	367,255	\$	401,315	\$	(34,060)	-9.27%
			Der	nartment S	um	mary					
						initial y					
Net Costs Allocable t	o Rate Centers		\$	(1,535,755)	\$	(367,255)	\$	(400,333)	\$	35,043	-9.54%
Allocations to the I	Rate Centers										
Urban Wa	ater	30.00%	\$	460,727	\$	110,177	\$	120,100	\$	(9,923)	
Crozet Wa	ater	3.50%	·	53,751	·	12,854	ŕ	14,012	·	(1,158)	
Scottsville V	Water	3.50%		53,751		12,854		14,012		(1,158)	
Urban Waste	ewater	56.50%		867,702		207,499		226,188		(18,689)	
Glenmore Was	stewater	3.50%		53,751		12,854		14,012		(1,158)	
Scottsville Was	stewater	3.00%		46,073		11,018		12,010		(992)	
	-	100.00%	\$	1,535,755	\$	367,255	\$	400,333	\$	(33,077)	

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

Laboratorv

<u>Laboratory</u>			Budget FY 2021	Ye	Budget ear-to-Date	Ye	Actual ar-to-Date	v	Budget s. Actual	Variance Percentage
Operating Budget vs. Actual										
Revenues	Notes									
N/A										
Expenses										
Personnel Cost Professional Services		\$	404,171 -	\$	95,225 -	\$	94,131 -	\$	1,095 -	1.15%
Other Services & Charges			7,600		1,900		362		1,538	80.93%
Communications			2,100		525		442		83	
Information Technology			2,500		625		102		524	83.76%
Supplies			1,300		325		438		(113)	-34.78%
Operations & Maintenance			97,250		24,313		12,507		11,805	48.56%
Equipment Purchases			1,600		400		400		0	0.00%
Depreciation		*	-	•	-	*	-	*	-	10 110/
i otai Operating Expenses		φ	510,521	φ	123,313	φ	100,302	φ	14,931	12.1170
	Depa	rtme	ent Summ	ary	1					
Net Costs Allocable to Rate Centers		\$	(516,521)	\$	(123,313)	\$	(108,382)	\$	(14,931)	12.11%
Allocations to the Rate Centers										
Urban Water	44.00%	\$	227,269	\$	54,258	\$	47,688	\$	6,570	
Crozet Water	4.00%		20,661		4,933		4,335		597	
Scottsville Water	2.00%		10,330		2,466		2,168		299	
Urban Wastewater	47.00%		242,765		57,957		50,940		7,017	
Glenmore Wastewater	1.50%		7,748		1,850		1,626		224	
Scottsville Wastewater	1.50%		7,748		1,850		1,626		224	
	100.00%	\$	516,521	\$	123,313	\$	108,382	\$	14,931	

Rivanna Water & Sewer Authority Monthly Financial Statements - September 2020

Engineering

		Budget FY 2021		Budget Year-to-Date		Actual Year-to-Date	l vs	Budget 5. Actual	Variance Percentage
	\$		\$	-	\$	7,269	\$	7,269	
	\$	-	\$	-	\$	7,269	\$	7,269	
	\$	1,469,358	\$	345,903	\$	345,087	\$	816	0.24%
		30,000		7,500		5,443		2,057	27.43%
		13,800		3,450		6,074		(2,624)	-76.06%
		16,200		4,050		7,699		(3,649)	-90.10%
Α		41,500		10,375		15,867		(5,492)	-52.93%
		9,800		2,450		1,540		910	37.15%
		127,250		31,813		8,191		23,622	74.25%
		21,500		5,375		5,375		(0)	0.00%
		-		-		-		-	
	\$	1.729.408	\$	410,916	\$	395.276	\$	15,640	3.81%
	Α	\$ \$ \$	Budget FY 2021 \$ - \$ - \$ 1,469,358 30,000 13,800 16,200 - \$ 41,500 9,800 127,250 21,500 -	Budget FY 2021 \$ - \$ \$ - \$ \$ 1,469,358 \$ 30,000 13,800 16,200 41,500 9,800 127,250 21,500 -	Budget FY 2021 Budget Year-to-Date \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ 1,469,358 \$ 345,903 30,000 7,500 13,800 3,450 16,200 4,050 10,375 9,800 2,450 127,250 31,813 21,500 5,375 -	Budget FY 2021 Budget Year-to-Date \$ - \$ - \$ \$ - \$ - \$ \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,469,358 345,903 \$ 1,6,200 4,050 16,200 4,050 16,200 4,050 16,200 4,050 16,200 4,050 127,250 31,813 21,500 5,375	Budget FY 2021 Budget Year-to-Date Actual Year-to-Date \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ - \$ 7,269 \$ 1,469,358 \$ 345,087 30,000 7,500 5,443 13,800 3,450 6,074 16,200 4,050 7,699 \$ 41,500 10,375 15,867 9,800 2,450 1,540 127,250 31,813 8,191 21,500 5,375 5,375	Budget FY 2021 Budget Year-to-Date Actual Year-to-Date I \$ - \$ 7,269 \$ \$ \$ - \$ 7,269 \$ \$ \$ - \$ 7,269 \$ \$ \$ - \$ 7,269 \$ \$ \$ - \$ 7,269 \$ \$ \$ 1,469,358 \$ 345,903 \$ 345,087 \$ \$ 30,000 7,500 \$ 5,443 \$ 13,800 3,450 \$ 6,074 \$ 16,200 4,050 \$ 7,699 \$ \$ 9,800 2,450 \$ 1,540 \$ 127,250 31,813 \$ 8,191 \$ 21,500 5,375 \$ 5,375 \$	Budget FY 2021 Budget Year-to-Date Actual Year-to-Date Budget year-to-Date Budget year-to-Date \$ - \$ 7,269 \$ 7,269 \$ - \$ 7,269 \$ 7,269 \$ - \$ 7,269 \$ 7,269 \$ - \$ 7,269 \$ 7,269 \$ - \$ 7,269 \$ 7,269 \$ - \$ 7,269 \$ 7,269 \$ 1,469,358 \$ 345,903 \$ 345,087 \$ 816 30,000 7,500 5,443 2,057 13,800 3,450 6,074 (2,624) 16,200 4,050 7,699 (3,649) 16,200 910 127,250 31,813 8,191 23,622 21,500 5,375 5,375 (0) - - - - - - - - - - - - - - - - - - -

Net Costs Allocable to Rate Centers		\$ (1,729,408)	\$ (410,916)	\$ (388,007)	\$ (8,371)	2.0
Allocations to the Rate Centers						
Urban Water	47.00%	\$ 812,822	\$ 193,130	\$ 182,363	\$ 10,767	
Crozet Water	4.00%	69,176	16,437	15,520	916	
Scottsville Water	2.00%	34,588	8,218	7,760	458	
Urban Wastewater	44.00%	760,939	180,803	170,723	10,080	
Glenmore Wastewater	1.50%	25,941	6,164	5,820	344	
Scottsville Wastewater	1.50%	25,941	6,164	5,820	344	
	100.00%	\$ 1,729,408	\$ 410,916	\$ 388,007	\$ 22,909	

Rivanna Water and Sewer Authority Flow Graphs







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 SEPTEMBER 2020

DATE: OCTOBER 27, 2020

WATER OPERATIONS:

The average daily/monthly total water distributed for September 2020 was as follows:

Water Treatment Plant	Average Daily Production (MGD)	Total Monthly Production (MG)	Maximum Daily Production in the Month (MGD)
Observatory	1.19	35.67	1.88 (09/03/20)
South Rivanna	8.58	257.42	9.33 (09/14/20)
North Rivanna	<u>0.40</u>	<u>12.13</u>	0.51 (09/07/20)
Urban Total	10.17	305.22	11.05 (09/14/20)
Crozet	0.65	19.43	0.84 (09/07/20)
Scottsville	0.070	2.10	0.14 (09/13/20)
Red Hill	<u>0.0021</u>	<u>0.64</u>	0.005 (9/07/20)
RWSA Total	10.89	327.47	

• All RWSA water treatment facilities were in regulatory compliance during the month of September.

Status of Reservoirs (as of October 16, 2020):

- ▶ Urban Reservoirs: 99.6 % of Total Useable Capacity
- ▶ Ragged Mountain Reservoir is -0.18 feet (99.26 %)
- Sugar Hollow Reservoir is full (100%)
- South Rivanna Reservoir is full (100%)
- Beaver Creek Reservoir is full (100%)
- Totier Creek Reservoir is full (100%)

WASTEWATER OPERATIONS:

All RWSA Water Resource Recovery Facilities (WRRFs) were in regulatory compliance with their effluent limitations during September 2020. Stone-Robinson School was closed for the month of September and had zero discharge. Performance of the WRRFs in September was as follows compared to the respective VDEQ permit limits:

WRRF	Average Daily Effluent	Average (pp	CBOD5 m)	Averag Suspende (pp	e Total ed Solids m)	Average Ammonia (ppm)		
	Flow (mgd)	RESULT	LIMIT	RESULT	LIMIT	RESULT	LIMIT	
Moores Creek	10.2	2.0	10	0.5	22	<ql< th=""><th>2.2</th></ql<>	2.2	
Glenmore	0.107	3.0	15	5.0	30	NR	NL	
Scottsville	0.078	3.0	25	3.0	30	NR	NL	
Stone Robinson	0.000	NR	30	NR	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 Moores Creek AWRRF were as follows for September 2020.

State Annual . (lb./yr.) F	Allocation Permit	Average Monthly Allocation (lb./mo.) *	Moores Creek Discharge September (lb./mo.)	Performance as % of monthly average Allocation*	Year to Date Performance as % of annual allocation
Nitrogen	282,994	23,583	4,013	17%	20%
Phosphorous	18,525	1,544	504	33%	20%

*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
- Yearly water production by system I will update the bar graphs again before the BOD packet is sent out









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: OCTOBER 27, 2020**

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: <u>https://www.rivanna.org/wp-content/uploads/2020/06/2021-2025-CIP-Final.pdf</u>

Under Construction

- 1. Crozet Water Treatment Plant Expansion
- 2. South Rivanna and Observatory Water Treatment Plant Renovations
- 3. MC Holding Ponds, Solids Removal and Disposal Odor Control Phase 2
- 4. Crozet Flow Equalization Tank
- 5. MC Aluminum Slide Gate Replacements
- 6. South Rivanna Dam Gate Repairs
- 7. Sugar Hollow Dam Gate Replacement and Intake Tower Repairs

Design and Bidding

- 8. Ragged Mtn Reservoir to Observatory WTP Raw Water Line and Pump Station
- 9. Beaver Creek Dam, Pump Station and Piping Improvements
- 10. Airport Road Water Pump Station and Piping
- 11. South Fork Rivanna River Crossing
- 12. MC Clarifier and Silo Demolition
- 13. MC Generator Fuel Expansion
- 14. MC Facility Renovations
- 15. MC Exterior Lighting Improvements
- 16. MC 5kV Electrical System Upgrades
- 17. Glenmore WRRF Influent Pump & VFD Addition

Planning and Studies

- 18. South Rivanna Reservoir to Ragged Mtn Reservoir Water Line Right-of-Way
- 19. Urban Finished Water Infrastructure Master Plan
- 20. Upper Schenks Branch Interceptor, Phase II
- 21. Asset Management Plan
- 22. Albemarle-Berkeley PS Capacity Analysis
- 23. MC Facilities Master Plan
- 24. SRR to RMR Pipeline Pretreatment Pilot Study

Other Significant Projects

- 25. Urgent and Emergency Repairs
- 26. Interceptor Sewer & Manhole Repair
- 27. Security Enhancements

Under Construction

1. Crozet Water Treatment Plant Expansion

Design Engineer: Construction Contractor: Construction Start: Percent Complete: Base Construction Contract + Change Order to Date = Current Value: Completion: Budget: Short Elliot Hendrickson (SEH) Orders Construction Co. (WVA) December 2018 80%

\$7,170,000- \$225,600.80 = \$6,944,399.20 March 2021 \$8,500,000

<u>Current Status</u>: Work continues on the expansion of the Chemical Building with installation of platforms and chemical feed pumps and piping; the jack and bore for piping under Route 240; the installation of pumps, mixers and piping inside the backwash tank; reconstruction of the second filter; and site improvements including grading and asphalt installation. Upcoming work includes completion of the backwash tank and renovation of the lab and control room.

2. 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:	15%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$36,748,500
Completion:	March 2023
Budget:	\$43,000,000

<u>Current Status</u>: Work continues on the SR WTP for the liquid lime enclosure and masonry walls, filter building expansion including excavation for the building's foundation along with backwash waste piping and filter effluent piping, yard piping modifications including chemical feed lines and relocation of the backwash waste line for the eventual construction of the Alum and Fluoride Chemical Storage Building, and excavations for foundations at the Administration Building and the Sludge and Recycle Control/Electrical Room.

3. MC Holding Ponds, Solids Removal and Disposal – Odor Control Phase 2

Design Engineer:	Short Elliot Hendrickson (SEH)
Construction Contractor:	Merrell Bros., Inc. (Indiana)
Construction Start:	August 2020
Percent Complete:	65%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$839,785
Completion:	November 2020
Budget:	\$975,000

<u>Current Status</u>: Contractor has cleaned out both equalization basins near the head of the plant and transferred solids from the west holding pond to the east holding pond. Press operations are on-going and approximately 500 dry tons of solids have been removed as of mid-October.

4. Crozet Flow Equalization Tank

Design Engineer:	Schnabel Engineering
Construction Contractor:	Anderson Construction (Lynchburg, VA)
Construction Start:	September 2020
Percent Complete:	0%
Based Construction Contract +	
Change Orders to Date = Current Value:	\$4,406,300
Completion:	November 2022
Budget:	\$5,400,000

<u>Current Status</u>: A preconstruction meeting was held on October 6, 2020 and Notice to Proceed was given on October 9, 2020. The contractor is acquiring all necessary permits and will be mobilizing to the site this month.

5. MC Aluminum Slide Gate Replacements

Design Engineer:	Hazen and Sawyer
Construction Contractor:	Waco Incorporated (Sandston, VA)
Construction Start:	September 2020
Percent Complete:	0%
Base Construction Contract +	
Change Orders to Date = Current Value:	\$373,600 - \$30,400 = \$343,200

Completion: Budget: October 2021 \$675,000

<u>Current Status</u>: The preconstruction and safety meeting was held on October 1st and the Notice to Proceed has been issued. Due to the submittal process and long lead time on the new gates, Waco does not anticipate mobilization until January 2021.

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

Design Engineer:	N/A
Contractor:	Bander Smith, Inc. (Richmond, VA)
Construction Start:	December 2020
Project Status:	30%
Completion:	January 2021
Budget:	\$900,000

<u>Current Status</u>: A condition assessment of the 36" mud gates has been completed. RWSA's on-call dam maintenance contractor will proceed with replacement of missing stem guides and actuators to improve the seal of the existing gates. This work is anticipated to be completed in December 2020. If replacement of one or more of the gates is determined to be necessary, that work is expected to take place in early 2021.

7. <u>Sugar Hollow Dam – Gate Replacement and Intake Tower Repairs</u>

Design Engineer:	Schnabel Engineering
Contractor:	Allegheny Construction (Roanoke, VA)
Project Status:	0%
Construction Start:	October 2021
Completion:	December 2021
Budget:	\$1,900,000

<u>Current Status</u>: A Notice to Proceed was issued on October 1, 2020 and shop drawing review has begun. A project specific web page has been developed to inform the public of impacts to the construction areas.

Design and Bidding

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

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Prelim Design & Easement Acquisition in Progress

Construction Start:	2023
Completion:	2026
Budget:	\$18,000,000

Current Status: Easement discussions with private owners and UVA continue.

9. 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:	5% Design and Permitting Underway
Construction Start:	2023
Completion:	2026
Budget:	\$27,000,000

<u>Current Status</u>: A site selection study for the new Raw Water Pump Station, Intake and Piping has been substantially completed. Hazen is moving forward with environmental investigations required for development of a Joint Permit Application to be submitted to the VDEQ in early 2021. A two-year planning study for the Beaver Creek Dam and Pump Station upgrades kicked off in late August 2020. The study is being completed with 100% funding from the Natural Resources Conservation Service (NRCS), part of the US Department of Agriculture (USDA). Following completion of the study and approval by NRCS in 2022, staff will pursue additional federal funding for up to 65% of the cost of design and construction.

10. Airport Road Water Pump Station and Piping

Design Engineer:	Short Elliot Hendrickson (SEH)
Project Start:	July 2019
Project Status:	40% Design
Construction Start:	Spring 2021
Completion:	2022
Budget:	\$7,600,000

<u>Current Status</u>: The site plan submittal to the County of Albemarle was made on August 24, 2020 and comments have been received. The Preliminary Engineering Report submittal to VDH is anticipated this month and development of bid documents has begun. Easement acquisition process required for installation of the water line has begun.

11. South Fork Rivanna River Crossing

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Fall 2021
Completion:	Summer 2023

Budget:

\$3,655,000

<u>Current Status</u>: Execution of the work authorization and project kick-off meeting are anticipated this month.

12. MC Clarifier and Lime Silo Demolition

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Summer 2021
Completion:	Summer 2022
Budget:	\$655,000

<u>Current Status</u>: A Work Authorization for design, bidding and construction administration services required for this project is being developed with Hazen and Sawyer.

13. MC Generator Fuel Storage Expansion

Design Engineer:	SEH, Inc.
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$100,000

<u>Current Status</u>: This project is required to increase the amount of diesel storage for the main plant generator from a 22 hour supply to a 72 hour supply. A final work authorization for design services is anticipated this month.

14. MC Facility Renovations

Design Engineer:	SEH, Inc.
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$750,000

<u>Current Status</u>: Staff is developing a work authorization to evaluate the Duty Station for conversion into office space. This conversion will require extensive cleaning and the relocation of load bearing walls. As part of this analysis an updated cost estimate has been developed by SEH for this conversion and these updated costs are being evaluated through the CIP planning process to confirm the viability of the project.

15. MC Exterior Lighting Improvements

Design Engineer:	Hazen and Sawyer
Project Start:	May 2019
Project Status:	30% Design
Construction Start:	December 2020
Completion:	February 2022
Budget:	\$1,900,000

<u>Current Status</u>: Coordination with the County for submittal approvals continues. Hazen continues working on design documents, and tasks to be completed by the RWSA Maintenance department have been identified. The material selection and procurement process is beginning for lights to be installed by the RWSA Maintenance department.

16. MC 5 kV Electrical System Upgrades

Design Engineer:	Hazen and Sawyer
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	March 2022
Completion:	June 2024
Budget:	\$4,600,000

<u>Current Status</u>: Staff has executed the Work Authorization with the Design Engineer, and a project kickoff meeting was held virtually on October 20, 2020. Hazen is examining the existing 5kV system including the critical electrical conduits and pull boxes under the bridge between the North and South sides of MCAWRRF.

17. Glenmore WRRF Influent Pump and VFD Addition

Design Consultant:	Wiley Wilson
Project Start:	August 2020
Project Status:	0% Design
Construction Start:	Winter 2020/2021
Completion:	Summer 2021
Budget:	\$65,000

<u>Current Status</u>: Wiley|Wilson is finalizing a Work Authorization for design, bid, and construction administration services.

Planning and Studies

18.	South	Rivanna	Reservoir	to Raggeo	l Mtn.	Reservoir	Water	Line	Right- o	of-Wa	y
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Design Engineer:	
Project Start:	

Michael Baker International (Baker) October 2017

Project Status:	Easement Acquisition Underway
Completion:	2021
Budget:	\$2,295,000

<u>Current Status</u>: Progress continues in our efforts to acquire the 9.5 miles of easements and agreements (with VDOT) for this 36" water line. City Council approved easements on four properties located near Ragged Mtn reservoir on September 8th. Easements have been obtained from 9 private owners, and negotiations continue with the remaining 3 private owners. We have completed our process to notify VDOT about our planned locations in the streets right-of-way. Discussions continue on remaining easements with the UVA Foundation and the County School Board.

Negotiations with two private owners, as well as with UVA, the UVA Foundation and the Virginia Department of Forestry are also ongoing for water line easements between the planned Ragged Mtn Reservoir pump station and the Observatory Water Treatment Plant.

19. Urban Finished Water Infrastructure Master Plan

Michael Baker International (Baker)
November 2018
90% complete
December 2020
\$253,000

<u>Current Status</u>: Baker is finalizing hydraulic model runs to indicate infrastructure piping and storage tank requirements at specific locations. Workshops with ACSA and the City are scheduled for mid-October.

20. Upper Schenks Branch Interceptor, Phase II

Design Engineer:	Frazier Engineering, P.A.
Project Start:	TBD
Project Status:	Alignment Analysis
Construction Start:	TBD
Completion:	TBD
Budget:	\$3,985,000

<u>Current Status</u>: Discussions about the pipe alignment continue with the County and the City. Following pipe alignment determinations, the design plans will be updated and the construction approach will be coordinated with a City project planned for the same general area.

21. Asset Management Plan

Design Engineer:	GHD, Inc.
Project Start:	July 2018
Project Status:	Phase 2 – 70% Complete
Completion:	2020

Budget:

\$1,115,000

<u>Current Status</u>: Development of an asset register, condition assessment protocols and a pilot study of the asset management process is underway. Recent work includes an initial condition assessment workshop and a consequence of failure workshop as the pilot study process continues. A request for quotations for procurement of computerized maintenance management software (CMMS) was advertised and quotes were received on September 24th. The quotes are being reviewed with an award anticipated this month.

22. Albemarle-Berkley PS Capacity Analysis

Design Consultant:	GHD, Inc.
Project Start:	September 2019
Project Status:	60% Complete
Completion:	December 2020
Budget:	\$40,000

<u>Current Status</u>: A draft report was submitted and comments were provided to the Design Consultant. They are working to address the initial round of staff comments, as well as implement some new data into the study. An internal RWSA workshop will be held in mid-late October following receipt of the next draft of the report, and then a follow-up workshop will be held with external stake holders, including ACPS and ACSA.

23. MC Facilities Master Plan

Hazen and Sawyer
August 2019
65% Complete
March 2021
\$275,000

<u>Current Status</u>: Study is underway and multiple workshops have been held with staff. Asset management discussions with Hazen have prompted additional projects, such as the MC 5kV Electrical System Upgrades, and structural inspections of our equalization basins, holding ponds, and digesters.

24. SRR to RMR Pipeline – Pretreatment Pilot Study

Design Consultant:	SEH
Project Start:	August 2020
Project Status:	Project Planning
Completion:	TBD
Budget:	TBD

<u>Current Status</u>: Staff is reviewing previous studies associated with pretreatment needs and project costs. Initial discussions have taken place with SEH related to updating the pretreatment approach. An initial Work Authorization has been finalized with SEH to update existing cost estimates. A Work Authorization related to the overall pretreatment approach is being developed.

Other Significant Projects

25. Urgent and Emergency Repairs

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

Project	Project Description	Approx. Cost
No.		
2018-06	South Rivanna Dam Apron and River Bank Repairs	\$200,000
2019-07	Urban Water Line Valve and Blow-off Repair	\$125,000
2020-05	Erosion Near MCI-MH-80	\$10,000
2020-06	Erosion between WBI MH-22 and MH-23	\$150,000
2020-10	Erosion along access road to South Rivanna RWPS	\$10,000
2020-14	MCWWPS Gate Valve 205 Replacement	TBD
2020-16	Albemarle-Berkeley WWPS Bypass Connection	\$50,000
2020-18	NRW Erosion Near Airport Road	\$5,000
2020-19	RMRW Erosion Near RMRW-015	\$5,000
2020-20	Finished Water Sampling Stations	TBD
2020-21	PCI Erosion	TBD

- <u>South Rivanna Dam Apron and River Bank Repairs:</u> Repairs to the north and south concrete aprons are being designed by Schnabel Engineering and a manufacturer's representative was recently on site to review repair procedures. As this approach is finalized, repair services will be procured from the on-call dam maintenance contractor.
- <u>Urban Water Line Valve and Blow-off Repair</u>: Faulconer Construction has completed the installation of a new drain valve at UWL-017, as well as the associated modifications to the drain line outlet and creek bank. With the installation of the new drain valve on March 18th, any leakage in this location has ceased. Staff continues to coordinate the logistics of the UWL-025 replacement near Gasoline Alley, including the appropriate location of the discharge. Staff has also been notified of a similar (slight leakage) issue at UWL-010 near Route 29. Staff will continue coordinating and planning these repairs with Faulconer Construction, with the repairs tentatively scheduled for completion in the Fall.
- <u>Erosion Near MCI-MH-80:</u> In Spring 2020, a minor area of erosion was identified over the Moores Creek Interceptor (MCI) near MCI-MH-80 at the end of Sunset Avenue Extended. Staff continued to monitor this area, and the area continued to take large amounts of stormwater from an uphill

development, which necessitated installation of backfill, a shallow rip-rap v-ditch, and other minor drainage improvements by the RWSA Maintenance Department. This work was completed on October 5, 2020.

- Erosion over WBI Between MH-22 and MH-23: While performing routine line inspections in March, the RWSA Maintenance Department discovered that an adjacent creek had eroded its way over the top of RWSA's 12" Woodbrook Interceptor (WBI). While no infrastructure is exposed at this time, the sewer was not designed to run under the creek (no encasement present), and future high flow events will continue to erode cover from the top of the pipe (currently estimated at 2-4'). Staff has received regulatory approval from the U.S. Army Corps of Engineers, as well as sent notifications to surrounding property owners. Bank repair efforts began during the week of September 14, 2020. A smaller, but necessary bank repair was completed downstream of the main project site on September 29, 2020. The main bank repair, which required a significant shift in the existing stream channel, is underway and expected be completed during the week of October 19, 2020. Two additional, smaller bank repairs upstream of the main bank repair site will be completed once the main repair is done, prior to Faulconer Construction performing site restoration and demobilizing in late October/early November.
- <u>Erosion along access road to South Rivanna Raw Water Pump Station/Dam</u>: Staff was notified in April that the access road to the South Rivanna Raw Water Pump Station and Dam had become undermined, caused by the lack of an armored v-ditch. RWSA Maintenance staff has installed fresh fill and a rip-rap v-ditch along the road, in order to fill in the undermined locations and allow for better control of stormwater. Staff is evaluating the need for additional improvements, which may be required to ensure that the stormwater makes it to the culvert located adjacent to the pump station.
- Moores Creek WWPS Gate Valve 205 Replacement: In July 2020, RWSA Operations staff identified that MCWWPS Gate Valve 205 had become stuck in nearly the fully closed position, causing a reduction in the discharge capacity of the pumping station (PS), especially during wet weather events where both of the 24" force mains leaving the PS are required. Waco, Inc. was selected to perform the work under an Emergency Declaration by the Executive Director, and staff worked with Waco to plan for the associated force main shutdown and valve replacement. Due to excessive lead times and impending weather, a spool piece of pipe was procured for temporary installation while the replacement valve is procured. The existing gate valve was ultimately replaced with the spool piece of pipe during a planned pumping station shutdown during the early morning hours of August 2, 2020, restoring full pumping capabilities to the PS. In the preliminary attempts to shut down one of the two discharge force mains and replace the No. 205 valve, it was discovered that additional valves inside of the PS are not fully holding when placed in a closed position. Staff is currently evaluating the needs associated with bypass pumping around MCWWPS, which would allow for the permanent installation of the No. 205 Gate Valve Replacement, as well as replacement of the adjacent valves mentioned above and inspections of equipment inside of the PS that normally can't be inspected due to the incoming flows.

- <u>Albemarle-Berkeley WWPS Bypass Pumping Connections:</u> The existing pumping equipment inside of the Albemarle-Berkeley WWPS was installed in 1973, and in recent years, has seen excessive run times with minimal starts and stops. The pumping equipment has well exceeded its useful life expectancy, and the ongoing Capacity Analysis (discussed above in Planning & Studies) will serve to establish the basis for future improvements to the PS. However, in the interim, there is a need to provide emergency pumping capabilities, in the event of unanticipated pump failure. On September 8th, RWSA will be coordinating a planned, overnight shutdown of the Albemarle-Berkeley WWPS for its On-Call Maintenance Contractor, Faulconer Construction, to tie-in an emergency bypass connection, which will allow RWSA Operations and Maintenance staff to quickly mobilize a temporary pump in the event of unanticipated issues with the permanent pumping equipment. The single PS shutdown will be needed to cut in a tee/valve assembly during the overnight hours, but the rest of the work will have no impact to PS operations. Preparatory work at the site began during the week of August 31st, with the tie-in completed on September 8, 2020. The remainder of the piping work, backfill, and site restoration was completed during the week of September 14, 2020.
- <u>NRW Erosion Near Airport Road</u>: During routine line maintenance activities, the RWSA Maintenance Department identified an area of minor erosion along the North Rivanna Waterline (NRW) near Airport Road. Staff will be investigating this area further during a site visit on October 14, 2020 and will begin planning and coordinating repairs/drainage improvements.
- <u>RMRW Erosion Near RMRW-015</u>: While marking for a Miss Utility Locate, the RWSA Engineering Department identified an area of minor erosion along the Ragged Mountain Raw Waterline (RMRW) near RMRW-015, which is located along Stribling Avenue. RMRW crosses a small stream, which appears to have caused minor erosion along a pipe joint. Staff is coordinating/planning a repair with the RWSA Maintenance Department, which will likely include placement of small rip-rap along the creek bank/pipe joint.
- <u>Finished Water Sampling Stations:</u> As a part of its ongoing Water Quality Monitoring Program, members of the RWSA Water & Laboratory Departments collect water samples from throughout the distribution system to track parameters such as Chlorine Residuals and Disinfection Byproducts. Historically, this has meant that staff must enter local businesses to collect the samples, which takes several minutes and further exposes RWSA staff to members of the public. In order to minimize staff exposure to the public during the COVID-19 pandemic, seven (7) prefabricated sampling stations will be installed along ACSA finished water lines throughout the distribution system, which will allow RWSA staff to quickly and safely retrieve water samples. Faulconer Construction will be performing this work for RWSA, likely just after completion of the WBI Bank Repair between MH-22 and MH-23 mentioned above. RWSA has been working with ACSA on site selection for the sampling stations, and a site visit with RWSA and Faulconer staff is scheduled for October 16, 2020.
- <u>PCI Erosion</u>: RWSA Maintenance Department staff recently finished its annual inspection of the Powell Creek Interceptor in early October, and a number of erosion concerns were identified throughout the interceptor alignment. RWSA Engineering and Maintenance Department staff

have a site visit scheduled for October 14, 2020, in order to evaluate, prioritize, and plan for the associated repairs in order of severity.

26. Interceptor Sewer and Manhole Repair

Design Engineer:	Frazier Engineering		
Construction Contractor:	IPR Northeast		
Construction Start:	November 2017		
Percent Complete:	40%		
Base Construction Contract +			
Change Orders to Date = Current Value:	\$1,000,838.79		
Expected Completion:	June 2021		
Total Capital Project Budget:	\$1,088,330 (Urban) + \$880,000 (Crozet) =		
	\$1,968,330		

<u>Current Status</u>: Repairs to the Upper Morey Creek Interceptor remain underway. Design efforts for a new manhole to be installed North of Rt. 250 are underway (with a slight sewer realignment to rectify an existing utility conflict), with survey work completed, and staff reviewing the preliminary design documentation. Staff continues to coordinate with both the consultant and contractor to get the repairs completed as soon as possible on this portion of MRI. Staff also coordinated a site visit on September 29, 2020 with the Contractor along the Powell Creek Interceptor, which will be the focus for the next rehabilitation efforts.

27. Security Enhancements

Design Engineer:	N/A		
Construction Contractor:	Security 101		
Construction Start:	March 2020		
Percent Complete:	75%		
Based Construction Contract +			
Change Orders to Date = Current Value:	\$744,136.80 - \$25,708.80 = \$718,428.00 (WA#1)		
Completion:	2021		
Approved Capital Budget:	\$2,730,000		

<u>Current Status</u>: Access control system installation is underway for all exterior doors at MCAWRRF, as well as all WTP motorized gates. Device installation remains underway across the MCAWRRF site, with most buildings across the site having been completed. Work is ongoing to finish up the Digester Building, which is the last operational/process building remaining, and staff is coordinating and finalizing its access control policy, which will allow badges to be distributed and work to be completed in the Administration and Engineering Buildings. Once the MCAWRRF site has been completed, Security 101 will transition to the WTPs to complete installations on the motorized gates.

History

Under Construction

1. <u>Crozet Water Treatment Plant Expansion</u>

This project was created to increase the supply capacity of the existing Crozet WTP by modernizing plant systems. The goal was to not drastically increase the plant footprint in regard to the existing filter plant, flocculation tanks, and sedimentation basins. By modernizing the outdated equipment within these treatment systems, the plant treatment capacity will be improved by approximately 100% (from 1 to 2 MGD). A Notice to Proceed was issued on December 13, 2018 and the contractor mobilized on February 26, 2019.

2. South Rivanna and Observatory Water Treatment Plant Renovations

An informational meeting with prospective contractors was held on September 26, 2019 to maximize interest in the project. A project kickoff meeting with staff was held on November 14, 2018 and 30% design documents were provided in February. A Value Engineering Workshop took place the week of April 8, 2019, and a memo summarizing the results has being completed. Agreed upon results were incorporated into the project. The project was advertised, and bids were received. English Construction was awarded the contract and a Notice to Proceed was issued on May 18, 2020.

Observatory: This project will upgrade the plant from 7.7 to 10 MGD capacity. Costs to upgrade the plant to 12 MGD were determined to be too high at this time. Much of the Observatory Water Treatment Plant is original to the 1953 construction. A Condition Assessment Report was completed by SEH in October of 2013. The approved Capital Improvement Plan project was based on the findings from this report. The flocculator systems were replaced and upgraded as part of the Drinking Water Activated Carbon and WTP Improvements project (GAC). Four additional GAC contactors will be included in the design.

South Rivanna: The work herein includes expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation for the electrical gear from a sub terrain location at the Sludge Pumping Station; a new building on site for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; of new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase the 12 MGD plant treatment capacity.

3. MC Holding Pond Solids Removal and Disposal – Odor Control Phase 2

Over the last 10 – 20 years, grit and organic material have accumulated in the Wet Weather Holding Ponds and Equalization Basins at the Moores Creek Advanced Water Resource Recovery Facility (MC). Following extensive liquid and vapor phase testing and computer modeling, these solids were identified as a major source of odor in Hazen and Sawyer's Phase 2 Odor Control Plan, and approved at the January 2015 Board of Directors meeting for incorporation into the 2015-19 Capital Improvement Plan. Now that all other Phase 2 Odor Control projects have been completed, this final phase of the project is to remove these accumulated solids. An RFP was advertised in April 2020 and Merrell Brothers was selected. A Notice to Proceed was provided on August 6, 2020.

4. Crozet Flow Equalization Tank

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

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

While the study indicates that capacity should not be an issue until 2025, a flow equalization tank would also provide a significant benefit to the maintenance of the Crozet Pumping Station system which currently lacks system storage necessary to allow adequate time to perform repairs on the pumps and the associated force mains while the system is down.

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

A work authorization with Schnabel Engineering was finalized and a Project Kick-off Meeting was held on July 12, 2018. The construction bids were received on July 16, 2020. Anderson Construction of Lynchburg, VA was awarded the construction contract. Notice to Proceed on this project was given on October 9, 2020.

5. MC Aluminum Slide Gate Replacements

Several large aluminum slide gates are located at the influent side of the Moores Creek Pump Station. These gates allow staff to stop or divert flow to perform maintenance activities. After repeated attempts to repair the deteriorated gates, it is now necessary to replace the gates and modify the gate arrangement. There are also several deteriorated gates at the Ultraviolent disinfection facility that leak water, causing a reduced capacity of the facility. Replacement of these gates will restore the process to full capacity. Work also includes replacement of the cast iron gates in the holding pond pump station and new actuators on the headworks gates. A Notice to Proceed for these efforts was provided on October 6, 2020. The work specific to the Moores Creek Pump Station will be bid under a separate project due to the extensive bypass pumping.

6. South Rivanna Dam – Gate Repairs

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

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

In 1998, the Sugar Hollow Dam underwent a significant upgrade to improve structural stability and spillway capacity. The original metal spillway gates were replaced with a manufactured five-foot-high inflatable rubber dam that is bolted to the existing concrete structure. This rubber dam allows for the normal storage of water in the reservoir with the ability to be lowered during extreme storm events. The rubber dam has an approximate service life of twenty years and is therefore now due for replacement. The aging intake tower structure has been inspected and evaluated. Recommended repairs include repair or replacement of intake trash racks and sealing/grouting of minor concrete wall cracks. This project was advertised for construction in July 2020 and Allegheny Construction was awarded the project. A Notice to Proceed was provided on October 1, 2020.

Design and Bidding

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

A Work Authorization was executed in December 2018 with Michael Baker International for the raw water line routing study, preliminary design, plat creation and the easement acquisition process for this portion of the project. Raw water is transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant (WTP) by way of two 18-inch cast iron pipelines, which have been in service for more than 110 and 70 years, respectively. The increased frequency of emergency repairs and expanded maintenance requirements are one impetus for replacing these pipelines. The proposed water line will be able to reliably transfer water to the expanded Observatory plant. The new pipeline will be constructed of 36-inch ductile iron and will be approximately 2.6 miles feet in length. The segment of the project immediately east of the RMR will constitute a portion of the proposed South Rivanna Reservoir to RMR raw water main project as part of the approved 50-year Community Water Supply Plan.

The RMR to Observatory WTP raw water pump station is planned to replace the existing Stadium Road and Royal pump stations, which have exceeded their design lives or will require significant upgrades with the Observatory WTP expansion. The pump station will pump up to 10 million gallons per day (MGD) of raw water to the Observatory WTP. The new pump station site selection and design are being conducted in coordination with the South Rivanna Reservoir to RMR pipeline in the interest

of improved operational and cost efficiencies. An integrated pump station would also include the capacity to transfer up to 16 MGD of raw water from RMR back to the SR WTP.

9. Beaver Creek Dam and Pump Station Improvements

<u>Dam</u>: RWSA operates the Beaver Creek Dam and reservoir as the sole raw water supply for the Crozet Area. In 2011, an analysis of the Dam Breach inundation areas and changes to Virginia Department of Conservation and Recreation (DCR) *Impounding Structures Regulations* prompted a change in hazard classification of the dam from Significant to High Hazard. This change in hazard classification requires that the capacity of the spillway be increased. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project will be coordinated with the new relocated raw water pump station and intake and a reservoir oxygenation system project.

Schnabel Engineering developed three alternatives for upgrading the capacity of the Beaver Creek Dam Spillway in 2012. Following the adoption of a new Probable Maximum Precipitation (PMP) Study on December 9, 2015 and the release of DCR guidelines for implementing the PMP study in March of 2016, RWSA determined it would proceed with an updated alternatives analysis and Preliminary Engineering Report for upgrading the dam spillway. Following the completion of an updated alternatives analysis by Schnabel Engineering, staff met with members of Albemarle County and ACSA staff to discuss the preferred alternative. It was determined that staff would proceed with design of a labyrinth spillway and chute through the existing dam with a bridge to allow Browns Gap Turnpike to cross over the new spillway.

In 2020, staff received grant funding for a planning and environmental study from the Natural Resources Conservation Service (NRCS). The project kicked off in August 2020 and is expected to be completed in July 2022. Following completion of the study and acceptance of the Plan-Environmental document by NRCS, staff will pursue additional grant funding through NRCS that, if available, could cover up to 65% of final design and construction costs.

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

10. Airport Road Water Pump Station and Piping

The Rt. 29 Pump Station and Pipeline master plan was developed in 2007 and originally envisioned a multi-faceted project that reliably connected the North and South Rivanna pressure bands, reduced excessive operating pressures, and developed a new Airport pressure zone to serve the highest elevations near the Airport and Hollymead Town Center. The master plan update was completed in June of 2018 to reflect the changes in the system and demands since 2007. This project, along with the South Rivanna River Crossing and North Rivanna Transmission Main project, will provide a reliable and redundant finished water supply to the North Rivanna area. The proposed pump station

will be able to serve system demands at both the current high pressure and future low pressure conditions. These facilities will also lead to future phase implementation which will include a storage tank and the creation of the Airport water pressure zone. The North Rivanna Transmission Main improvements included under a separate CIP project have been added to this project to allow connection of the pump station to the distribution system.

11. South Fork Rivanna River Crossing

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 29 Solutions projects, including approximately 10,000 LF of 24-inch water main along Rt. 29 and 600 LF of 24-inch water main along the new Berkmar Drive Extension, behind the Kohl's department store. To complete the connection between the SRWTP and the new 24-inch water main in Rt. 29, there is a need to construct a new river crossing at the South Fork Rivanna River. Acquisition of right-of-way will be required at the river crossing.

12. MC Clarifier and Lime Silo Demolition

The two in-plant clarifiers were constructed in the late 1950's and were taken out of service as a result of the Odor Control Project at the plant. Due to the age of the tanks, various components have significantly deteriorated over time and no additional uses for these tanks have been identified. In addition, due to their out-of-service status, they remain empty and a safety concern for plant staff and visitors. There is also an abandoned lime silo currently located adjacent to the Solids Handling Building. Lime was previously used with the old plat and frame presses before centrifuges were installed for sludge dewatering purposes. This project will include the complete demolition of the inplant clarifiers by removing all existing components, backfilling the area and returning the area to open space and removing the lime silo from the plant and properly disposing of it.

13. MC Generator Fuel Expansion

The Moores Creek AWRRF south side electrical facilities have a single large system back-up power generator that was installed between 2009 - 2012 during the ENR plant upgrade. The generator has a belly tank that allows for approximately 22 hours of operation. This project will install an ancillary fuel tank that will allow for approximately three days of operation.

14. MC Facility Renovations

The RWSA Administration Building Board Room finishes are generally original to the facility. The proposed project will update the wall and floor coverings, alter the shelving and update the room furnishings in order to create a more modern and useable meeting space.

The Duty Pump Station was construction in 1958 and no longer functions as an actual pump station. It currently houses electrical equipment that serves the plant, but otherwise has available space that could be beneficially used for other purposes. RWSA has a need for additional office space and has evaluated repurposing portions of the Duty Pump Station for office and work space in order to make use of all available space at the plant before proceeding with more significant administrative expansions. This project includes demolition of a select portion of the interior of the station, cleaning and sanitizing of the areas to be repurposed, and an interior upfit of the space to provide additional office and work space.

15. MC Exterior Lighting Improvements

The lighting at the 80-acre MCAWRRF consists of over 300 fixtures installed over the entire life of the facilities presence at Moores Creek. In 2019, Albemarle County investigated the lighting plan at the facility and issued a Zoning Notice of Violation.

RWSA and Albemarle County staff have been working together to best address the issue. A photo metric plan of existing lighting was submitted to the county for review. RWSA has submitted a minor site plan amendment and Architectural Review Board submission that will include a large scale replacement of non-compliant fixtures as well as address industrial lighting standards for the entire facility.

16. MC 5 kV Electrical System Upgrades

After discussions through the Moores Creek Facilities Master Plan, it was identified that several areas of the MCAWRRF, including the Blower Building, Sludge Pumping Building, Grit Removal Building, Moores Creek Pumping Station, and the Administration Building are all still connected to the original 5kV switchgear in the Blower Building. This equipment, including the associated cabling, switchgear, transformers and motor control centers (MCCs), has a useful life expectancy of 20-30 years. Most of this equipment was installed around 1980. With the equipment having well exceeded its useful life expectancy at this point, safety is a concern given the large electric loads that the cabling and other equipment are handling on a day-to-day basis. Failure of the existing 5kV infrastructure could also result in temporary outages of certain treatment processes, and repairs could take weeks to months given the lead times associated with equipment of this age. A technical memo was provided in July 2020 by Hazen & Sawyer, which recommended that a CIP Project be added immediately to encompass replacement of the original 1980s-vintage 5kV cables, switchgear, transformers, and MCCs. A CIP Amendment Recommendation and Engineering Services Work Authorization was approved during the August 2020 Board of Directors Meeting. The Design Work Authorization was executed on October 6, 2020.

17. Glenmore WRRF Influent Pump and VFD Addition

The 0.381-mgd water resource recovery facility, located within the Glenmore subdivision, is operated by RWSA. The facility includes an influent pumping station located immediately adjacent to the treatment facility. The Glenmore WRRF is predicted to see additional dry and wet weather flows as construction within the service area continues. Future wet weather flows will require higher influent pumping capacity and an additional pump and electrical variable frequency drive will be required to maintain firm capacity. After discussions with the Operations and Maintenance departments, installation of a new exhaust fan in the influent pump station will also be included.

Planning and Studies

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

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

Baker has completed the routing study. Preliminary design, plat creation and the acquisition of easements are underway. Property owners were contacted to request permission to access properties for topographical surveying. A community information meeting was held in June 2018.

19. Urban Finished Water Infrastructure Master Plan

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

20. Upper Schenks Branch Interceptor, Phase II

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

The remaining sections, which are considered the Upper Schenks Branch Interceptor, were split into 2 phases. The first phase has been completed and is located within City-owned Schenks Greenway adjacent to McIntire Road, and the second phase is to be located on County property (baseball field and County Office Building) adjacent to McIntire Road or within McIntire Road.

21. Asset Management Plan

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

22. Albemarle-Berkeley PS Capacity Analysis

The Albemarle Berkley wastewater pump station serves the schools and other connections in the area near Albemarle High School. Due to unacceptably high run times on the pumps, a capacity analysis of the pump station, given the current and projected upstream conditions, will be completed to provide design data for replacement of the pump station.

The Capacity Analysis Study began in Spring 2020.

23. MC Facilities Master Plan

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

24. <u>SRR to RMR Pipeline – Pretreatment Pilot Study</u>

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously study and a significant amount of pretreatment was initially identified as being needed to avoid reducing the quality of the raw water contained within the RMR. With the pipeline easement acquisition process well underway and additional information now available associated with the proposed timing of this overall project based on water demand projections, the intent of this project is to update the pretreatment needs anticipated.

Other Significant Projects

25. Urgent and Emergency Repairs

• South Rivanna Dam Apron and River Bank Repairs

Intense rainfall between May 30-31, 2018 resulted in extensive flooding throughout Charlottesville and parts of Albemarle County, with flows over the South Fork Rivanna Dam reaching more than 7 feet over the spillway crest at its peak. Staff has inspected the dam and abutments to determine the

extent of damage resulting from the extreme flooding. Although there is no discernible damage to the dam itself, staff found erosion damage to the north downstream river bank and substantial displacement of large stone downstream of the dam to form a rock dam and pool below the north apron. Additionally, some damage to concrete structures on both aprons was noted, including possible creation of voids beneath the concrete and loss of concrete joint filler. Repairs to the river bank and removal of the rock dam were completed June 3-7, 2019 under RWSA's on-call construction contract.

<u>Urban Water Line Valve and Blow-off Repair</u>

During its routine inspections of the Water System, the Maintenance Department discovered a blowoff (drain) valve along the Urban Waterline (UWL-017) that had significant leakage. In addition, during one of the numerous heavy rain events received in 2018, the water in the creek adjacent to the drain line rose, eroding the area around the drain line and causing the headwall to become disconnected from the end of the pipe. Staff will be coordinating internally to confirm the overall scope of the project, including whether the drain line will need to be further reinforced or restrained.

26. Interceptor Sewer and Manhole Repair

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

Lining work on the Upper Morey Creek Interceptor began in Fall 2019 and was completed in Fall 2020. A critical section of upper Morey Creek Interceptor under Rt. 250 was lined on August 28, 2020.

27. Security Enhancements

As required by the Federal Bioterrorism Act of 2002 and the American Water Infrastructure Act of 2018, water utilities must conduct Vulnerability Assessments and have Emergency Response Plans. RWSA recently completed an updated Risk Assessment of its water system in collaboration with the Albemarle County Service Authority (ACSA), City of Charlottesville (City), and University of Virginia (UVA). A number of security improvements that could be applied to both the water and wastewater systems were identified. The purpose of this project will be to install security improvements at RWSA facilities including additional security gate and fencing components, vehicle bollards, facility signage, camera system enhancements, additional security lighting, intrusion detection systems, door and window hardening, installation of industrial strength locks, communication technology and cable hardening, and an enhanced access control program.

RWSA Engineering staff held a meeting with Operations staff to discuss overall project needs and priorities in October 2018. Meetings with ACSA and City staff were held in Fall/Winter 2018-2019 to discuss how access control and intrusion detection systems have been implemented into to the day-to-day operations of the two utilities. A Request for Proposal (RFP) for an Implementer to facilitate selection of an access control system, confirmation of design requirements based upon RWSA's facilities and project goals, and installation of the selected system was issued on June 6, 2019. RWSA

conducted a Pre-Proposal Meeting on June 14, 2019, and proposals were opened on June 27, 2019. Interviews were conducted on July 15-16, 2019, and a Contract Award Recommendation was approved by the Board on July 23, 2019. Access Control System Installation at MCAWRRF began in March 2020.



MEMORANDUM

TO:RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORSFROM:JENNIFER WHITAKER, DIRECTOR OF ENGINEERING &
MAINTENANCEREVIEWED BY:BILL MAWYER, EXECUTIVE DIRECTORSUBJECT:WHOLESALE METERING REPORT FOR SEPTEMBER 2020DATE:OCTOBER 27, 2020

The monthly and average daily Urban water system usages by the City and the ACSA for September 2020 were as follows:

	Month	Daily Average	
City Usage (gal)	122,929,794	4,097,660	40.3%
ACSA Usage (gal)	182,295,453	6,076,515	59.7%
Total (gal)	305,225,247	10,174,175	

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 October 2019*), and that usage relative to the maximum allocation for each party (6.71 MGD for the City and 11.99 MGD for ACSA).

Notes:

*Usage data for October 2019 is based on retail metered flows due to the unavailability of wholesale metering data. Data shown from November 2019 forward represents the usage calculated through the RWSA Wholesale Metering program.

Meter Site 1 (Pepsi Place) is currently experiencing reporting issues. Flows for that site for September 2020 were calculated using the average of the most recent three months of available data in accordance with the *RWSA Wholesale Metering Administrative and Implementation Policy*. A new meter for site 1 is expected to be installed in mid-October 2020.



Figure 1: City of Charlottesville Monthly Water Usage and Allocation

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




MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY BOARD OF DIRECTORS

FROM: LONNIE WOOD, DIRECTOR OF FINANCE AND ADMINISTRATION

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: RECOMMENDATION FOR DISPOSITION OF FY 2020 RATE CENTER RESULTS

DATE: OCTOBER 27, 2020

The Authority ended the previous fiscal year with a cumulative net deficit of roughly \$95,200. There were contrasting results when comparing the two Urban rate center results for FY 2020. The Urban Water rate center finished the year with a \$432,300 deficit while the Urban Wastewater rate center had a \$153,000 surplus. The deficit in Urban Water was due to several unbudgeted expenses for legal fees related to the Observatory lease, several engineering studies that were not budgeted and utility increases related to the South Rivanna hydropower plant being formally eliminated from the utility agreement with Dominion Energy. For Urban Wastewater, despite overspending the budget by \$300,000, there was still a surplus due to excess revenues of roughly \$560,000 more than budget estimates. Crozet Water had a surplus due to fewer reservoir algae treatments and equipment repairs. The two Scottsville Rate Centers had surpluses and Glenmore had several equipment repairs that were not budgeted causing that rate center to have a year-end deficit.

<u>Background</u>: After the completion of the audit, staff performs an analysis and reconciliation between rate centers of the year ending financial results and the effect on the operating cash liquidity position. This is also done to ensure that rate center results are kept separate from each other. In some years similar to FY 2020, one rate center may have a deficit and others may have a surplus, therefore, we do not want one rate center's surplus funding another rate center's deficit.

There is only one operating cash account where all transactions originate during the year for all capital and operating activities including inflow from revenues and bond proceeds, and outflow for expenses and debt payments. Capital transactions are reconciled and separated at the end of each month, (i.e., no capital funds are in the operations account at the end of each month or at year end). However, all of the rate centers' operating results are comingled until this process of determining the results for the year and making transfers to or from the respective rate center reserves to ensure proper segregation.

The operations account has a <u>target</u> working cash balance of 60 days of cash and cash equivalents on hand to meet daily and monthly cash flow needs, which currently is \$6,101,000 (based on the FY 2021 budget). This is an increase of \$155,600 from the prior year, because the FY 2021 budget was increased compared to the FY 2020 budget. At year end, this target is compared to actual <u>cash basis</u> results for the fiscal year, and the variance, if any, is brought before the Board for action, which is consistent with the Authority's financial policy.

At year end, operating cash and cash equivalents were as follows:

Cash on hand	\$3,883,300
Cash equivalents	<u>\$2,122,300</u>
Total	\$6,005,600
60 Day Cash Target	\$6,100,800
Deficit Operational Cash	(\$ 95,200)

The target amount of operating cash is underfunded by \$95,200 due to the previously mentioned yearend results. Therefore, the following transfers to/(from) the discretionary reserves are recommended for FY 2020 to bring the operations account back to the target balance and properly keep the six rate center reserves separated. FY 2019 to FY 2016 transfers are included for comparison:

Transfers to (from) reserves based on ending results for each rate center:

	<u>FY2020</u>	<u>FY2019</u>	<u>FY2018</u>		<u>FY2017</u>	1	FY2016
Urban Water	\$ (432,300)	\$ (1,466,200)	\$ 1,800	\$	113,700	\$	113,700
Urban Wastewater	153,000	1,716,400	(1,313,500)		(673,900)		355,437
Crozet Water	117,500	(80,300)	(58,500)		(18,600)		17,618
Scottsville Water	64,500	1,100	30,100		30,200		11,382
Glenmore Wastewater	(25,500)	25,400	26,800		(5,300)		(1,896)
Scottsville Wastewater	27,600	33,200	 17,700	_	7,900		(6,263)
	\$ (95,200)	\$ 229,600	\$ (1,295,600)	\$	(546,000)	\$	489,978

To summarize the year-end process, one of the Authority's financial policies is to keep the operations account, defined here as cash and cash equivalents, financially sound with 60 days of cash for normal operating cash flow needs. That goal will continue to be met, and the reserves will continue to provide for the yearly variances in budget versus actual results. As any given year progresses, the operations account temporarily funds rate center deficits and accumulates surpluses, and a reconciliation of the results to allocate the respective surpluses and deficits is performed annually after the year-end audit is complete. The Board has taken similar action for the previous 15 years. Attached is a summary of the ending reserves for Fiscal Year 2020.

Board Action Requested:

Approval to transfer funds to/(from) the respective reserves for FY 2020 ending results to or from the operations account as follows:

Urban Water	\$ (432,300)	Urban Wastewater	\$ 153,000
Crozet Water	\$ 117,500	Glenmore Wastewater	\$ (25,500)
Scottsville Water	\$ 64,500	Scottsville Wastewater	\$ 27,600

Attachment

Rivanna Water and Sewer Authority			FROM (TO)			
Statement of Reserve Balances			OPERATIONS ACCOUNT			
June 2020 Reserves			FY 2020 ending results			
		June	reserve adjustment		Adjusted	
		FY 2020	proposed	FY 2020		
	En	ding Balance	Board action needed		Ending Balance	
Urban Water			**			
Discretionary Reserve	\$	12,048,954	\$ (432,300)	\$	11,616,654	
Rate Stabilization Fund		1,000,000			1,000,000	
Watershed Management Fund		161,027			161,027	
Subtotal	\$	13,209,981		\$	12,777,681	
Urban Wastewater	•			•		
Discretionary Reserve	\$	10,660,268	153,000	\$	10,813,268	
Rate Stabilization Fund	_	1,000,000		•	1,000,000	
Subtotal	\$	11,660,268		\$	11,813,268	
Crozot Water						
Discretionary Possaryo	¢	694 000	117 500	¢	002 400	
Discretionary Reserve	φ	004,900	117,500	φ	002,400	
Scottsville Water						
Discretionary Reserve	\$	327 491	64 500	\$	391 991	
	Ψ	027,401	04,000	Ψ	001,001	
Glenmore Wastewater						
Discretionary Reserve	\$	103,469	(25,500)	\$	77,969	
,		,				
Scottsville Wastewater						
Discretionary Reserve	\$	120,475	27,600	\$	148,075	
·						
Capital Fund						
Specific Capital Projects	\$	5,008,906		\$	5,008,906	
Vehicle Replacement Fund	\$	976,305		\$	976,305	
Subtotal Discretionary Reserves	\$	32,091,795	<u>\$ (95,200)</u>	\$	31,996,595	
				. –		
Indenture Restricted Minimum	\$	500,000		\$	500,000	
Total Reserves *	\$	32,591,795		\$	32,496,595	

* - Agrees to investment balances - audited.

** - Proposed Board action

Major Capital Projects Construction Update



Presented By: Scott Schiller, Engineering Manager October 27, 2020

Recently Completed Projects

Albemarle-Berkley PS Basin Demo



- Basins from old treatment plant
- Pump station built in 1975
- Added PS bypass connections to project
- Completed September 2020
- \$200k







Valve Repair-Replacement – Phase 2









- Replacement of malfunctioning valves
- 12 valves and 1 ARV
- Mostly night work
- Completed August 2020
- \$1M

Scottsville WTP – Finished Water Flow Meter

- Added flow meter, new discharge piping and valves
- Completed February 2020
- \$145K





Currently Under Construction

Crozet Water Treatment Plant Expansion



- New PAC contactors, plate settlers in the sedimentation basins, chemical building expansion, backwash storage improvements and filter rebuilds
- Notice to Proceed December 13, 2018
- Completion March 2021
- Budget \$8.5M





Observatory and South Rivanna WTPs – Rehabilitation and Expansion Project







- Increases OBWTP capacity to 10 MGD and increases SRWTP reliability at 12 MGD
- Includes plate settlers and new chemical building at OBWTP, new Alum and Fluoride Building and 2 new filters at SRWTP
- Notice to Proceed May 18, 2020
- Completion March 2023
- Budget \$43M





South Rivanna Dam Gate Repairs







- Leakage past 36" mud gates on the north and south abutments
- Bander Smith inspected both gates and identified missing stem guides and actuator issues that may contribute to leakage
- Full replacement as a next phase should the leakage not improve
- December 2020
- Budget \$900K



Sugar Hollow Rubber Crest Gate Replacement

- Replacement of rubber gate, and electrical and mechanical components
- Notice to Proceed October 1, 2020
- Completion Fall 2021
- Budget \$2M









Crozet Flow Equalization Tank and Pumping Station Upgrade

- Store wet-weather flow to minimize impact on downstream sewer capacity
- 1 MG Capacity and improvements to existing Crozet Pump Station No. 4
- Notice to Proceed October 9, 2020
- Completion November 2022
- Budget \$5.4M





Holding Pond Cleanout





- Hold excess flow during storm events and solids have settled out over time
- Solids are being removed to regain capacity
- Pumping solids from pond and dewatering with belt filter presses
- Notice to Proceed August 6, 2020
- Completion November 2020
- Budget \$975K





Scottsville WTP Improvements

- Addition of ultra-violet light system to meet EPA/VDH disinfection requirements
- Notice to Proceed September 24, 2020
- Completion June 2021
- Budget \$190K







Design Phase and Upcoming Construction Projects

MC Lighting Improvements

- Updating site lighting to meet Albemarle County requirements
- PER completed and minor site plan amendment submitted to County for approval
- Design underway with some lights to be installed by Maintenance and others to be bid
- Completion February 2022
- Budget \$1.9M





Figure 3-1 Atlas WLM Full Cutoff Visor





MC 5kv Electrical System Upgrade

- Completion 2021 2024
- Budget \$4.6 M



Airport Road Pump Station and Piping

roffit Rd



Will feed the Piney Mountain Tank and will be part of future Airport pressure zone

Exterior Perspective

- Design underway
- Completion 2022
- Budget \$7.6M







SR River Crossing & NR Transmission Main

- Second Crossing under the South Rivanna River
- Completion 2021 2024
- Budget \$3.65 M



Central Water Line

- Improve water flow, pressure, redundancy in Urban System
- Completion 2024-2027
- Budget \$13 million



Beaver Creek Dam, Pump Station & Piping Modifications

- Upgrade the spillway to meet DCR dam safety standards
- Replace the raw water pump station, intake, and pipe to the Crozet WTP
- Completion 2024 2026
- Budget \$27 M









Questions?