

BOARD OF DIRECTORS' MEETING

March 17, 2022

9:00 A.M.

AGENDA

This meeting is being held pursuant to and in compliance with the Albemarle County Emergency Ordinance No. 20-E (2); An Emergency Ordinance to Ensure Continuity of Government during the Covid-19 Disaster. The ACSA Board of Directors is responsible for receiving public comment. The opportunities for the public to access and participate in the electronic meeting are as follows: Join the meeting virtually through Zoom by visiting our website at www.serviceauthority.org; call in and leave a message prior to the meeting at (434) 977-4511, or email the Board prior to the meeting at board@serviceauthority.org.

9:00 a.m.	1. Call to Order and Establish a Quorum –Statement of the Board Chair
9:05 a.m.	2. Approve Minutes of February 17, 2022
9:10 a.m.	3. Matters from the Public
9:20 a.m.	4. Response to Public Comment
9:25 a.m.	5. Consent Agenda
	a. Monthly Financial Reports
	b. Monthly Capital Improvement Program (CIP) Report
	c. CIP Authorizations
	d. Monthly Maintenance Update
	e. Rivanna Water and Sewer Authority (RWSA) Monthly Update
	f. ACSA Board Policy Future Issues Agenda 2022
	g. CMMS/ Cityworks (Work Order System) Update Report
	h. Advanced Metering Infrastructure (AMI) Project Update
9:40 a.m.	6. Proposed Capital Improvement Program (CIP) FY 2023
10:05 a.m.	7. Rate Study Update and Recommendations
10:30 a.m.	8. ACSA Investment Policy – Socially Responsible Investing Report and Recommended Policy Changes
10:50 a.m.	9. Items Not on the Agenda
11:00 a.m.	10. Executive Session – Executive Director Annual Performance Review; Legal Matter
	11. Adjourn



ALBEMARLE COUNTY SERVICE AUTHORITY

STATEMENT OF CHAIR TO OPEN FEBRUARY 17, 2022, MEETING

This meeting today is being held pursuant to and in compliance with the Albemarle County Ordinance No. 20-A (16); an Ordinance to Ensure the Continuity of Government During the COVID-19 Disaster.

The Directors who are electronically present at this meeting are.... **(Name the directors electronically present for the meeting)**

The opportunities for the public to access and participate in the electronic meeting are posted on the ACSA's website. Participation will include the opportunity to comment on those matters for which comments from the public will be received.

Albemarle County Service Authority Board of Directors

The Board of Directors of the Albemarle County Service Authority (ACSA) met virtually in a regular session on February 17, 2022, at 9:00 a.m. through Zoom. Mr. Roberts joined the virtual meeting at the Administration and Operations Center at 168 Spotnap Road in Charlottesville, Virginia.

Members Present: Mr. Richard Armstrong; Mr. Nathan Moore; Dr. Lizbeth Palmer; Mr. John Parcells; Mr. Clarence Roberts, Chair; Mr. Charles Tolbert, Vice-Chair.

Members Absent: None.

Staff Present: Kenny Barrow, Roland Bega, Jim Bowling, Daniel Fouch, Pete Gorham, Quin Lunsford, Jeremy Lynn, Michael Lynn, Alex Morrison, Gary O'Connell, Charlie Thomas, Calvin Underwood, Jennifer Bryant, Deanna Davenport, Tonya Foster, Terri Knight, Emily Roach, Danielle Trent, April Walker, Elizabeth Wallace, and Theresa Whiting.

Staff Absent: None.

Public Present: Michael Derdeyn, Flora Pettit; Neil Williamson, Free Enterprise Forum; Alison Wrabel, The Daily Progress.

1. Call to Order and Establish a Quorum – Statement of Board Chair

The Chair called the meeting to order, and a quorum was established. He then read the Board Chair statement declaring an electronic meeting (Attached as Page _____).

2. Approve Minutes of January 20, 2022

Mr. Parcells stated that he had two corrections to the minutes. He stated that the first was on page 21 of the Board packet, line 8. He stated that the word "are" needed to be added between the words "there" and "also." He stated that the second correction he had was on the same page, line 11. He stated that his suggestion would be to replace the word "this" with the phrase "PFAS are not present."

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1 *Mr. Tolbert moved to approve the minutes, seconded by Mr.*
2 *Parcells. All members voted aye.*

3

4 3. Matters from the Public

5 There were no matters from the public.

6

7 4. Response to Public Comment

8 There was no response to public comment.

9

10 5. Consent Agenda

11 **a. Monthly Financial Reports** – Mr. Parcells stated that he was very
12 happy to see the arrearages have decreased, however, the accounts
13 receivables dropped more than just the amount of arrearages. Mr.
14 Lunsford replied that the application of the ARPA funds does reduce
15 the receivables. He mentioned to keep in mind that there is a
16 considerable reduction in customer consumption during this time of
17 year, which means the customer bills decrease. He added that this is
18 probably the biggest driver of decrease in receivables.

19 Mr. Parcells asked if the expectation was that reimplementing the
20 disconnection policy would further decrease the arrearages. Mr.
21 Lunsford replied yes. He stated that there is an item on the agenda
22 today that speaks directly to this matter, but he would be happy to
23 discuss it now. Mr. Roberts stated that he would prefer to wait and
24 discuss the item later, so that it can be considered separately.

25 **b. Monthly CIP Report** – Mr. Parcells stated that he was curious about
26 the Electric Vehicle (EV) approach for fleet replacement. He asked if
27 this would entail replacing the entire fleet including trucks, as he did
28 not know that trucks could be electric. He also asked if the upgrades to
29 the Avon Street Maintenance Yard included charging stations for the
30 number of vehicles that would be electric in the future.

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1 Mr. Gorham replied that part of the analysis would be whether to
2 replace the vehicles in mass, or as needed. He stated that he believes
3 there is a line of EV trucks that are coming out, and there seems to be
4 a lot of interest in them. He stated that in terms of larger equipment, it
5 would probably be a long time before there is an electric option. He
6 noted that conduit and a support structure for any future charging
7 stations have been installed at the current maintenance yard on
8 Spotnap Road, and the same will most likely be done at the Avon
9 Street property as well.

10 Mr. Parcels stated that his next question was about the Four-Story
11 Backflow Prevention Device Retrofit project. He stated that he noticed
12 there are still five holdouts and asked if there was an update.

13 Mr. Gorham replied that the ACSA staff is still attempting to reach
14 those five customers. He stated that the project is at the point where
15 there has been a fair amount of data collected for 50 customer homes,
16 most of which will not require an expansion tank. He stated that the
17 project is ready for bidding, as the staff can make an educated guess
18 as to what the scope of the work will be based on what has been seen
19 so far.

20 Mr. Parcels stated that his next question was about the Ragged
21 Mountain Phase 1 Water Main Replacement project on page 59. He
22 noted that the project description states that, in reference to the
23 counteroffer, the UVA Foundation rejects the ACSA's assertion of
24 value of the project. He asked if this means there is a big difference in
25 price, and if the UVA Foundation agrees to the third-party appraisal
26 being coordinated by the ACSA.

27 Mr. Gorham replied that there is a fairly large difference in price. He
28 stated that the UVA Foundation site plan shows the installation of a
29 PRV vault and water line crossing Murray Creek. He stated that the
30 case was made during negotiations that there would be a significant
31 amount of savings for the Foundation since the ACSA would be

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1 installing the PRV vault and water line. He noted that the Foundation
2 rejected the assertion that the project would save them money. He
3 mentioned that the Foundation asked if an appraisal had been done,
4 which it had not. He stated that the ACSA has a contract with an
5 appraisal group, and it will take about 6-8 weeks to complete the
6 appraisal.

7 Mr. Tolbert stated that there are several places where easements
8 are being negotiated with UVA or the Foundation, and there seems to
9 be difficulty with all of them. He asked if this is a new problem and if
10 the ACSA needed to bring in bigger fish, so to speak. Mr. Gorham
11 replied that he has had some previous experience in negotiating with
12 the UVA Foundation on another project and, in his experience, they
13 are historically tough negotiators. He stated that Mr. O'Connell did
14 meet with Tim Rose, which was helpful in moving the dealings forward.

15 Mr. O'Connell stated that he believes with an appraisal, the ACSA
16 should arrive at a value that both entities are comfortable with. He
17 stated that the concern was that the ACSA was not getting a response
18 at all from the Foundation. He added that he feels there is now an
19 approach that should lead to a successful negotiation.

20 Dr. Palmer asked Mr. O'Connell if the ACSA had someone on the
21 technical committee that the County, City of Charlottesville, RWSA,
22 and UVA have. She mentioned that it was one of the things that was
23 supposed to help in difficult situations like this one. Mr. O'Connell
24 replied that he has not seen it make any difference. He stated that it
25 may be helpful on some bigger issues such as future development
26 plans. Dr. Palmer asked if Tim Rose had retired, as she could not
27 recall the timing. Mr. O'Connell replied that he spoke with Mr. Rose last
28 week and he was not yet retired.

29 Mr. Parcels stated that his next question was about the Hessian
30 Hills Water Main Replacement. He asked if there was any timeline on
31 the repaving along Barracks Road and Georgetown Road. Mr. Gorham

1 replied that the contractor has either finished or is close to finishing the
2 water main crossings on Barracks Road and is beginning the crossings
3 on Georgetown. He mentioned that once those crossings are in and
4 tested, the paving can be scheduled.

5 Mr. Parcels stated that his last question was about the Oak Forest
6 Pump Station Abandonment project. He stated that the new manhole is
7 subject to sinking and asked if the bore casing would have the same
8 issue. Mr. Gorham replied that the bore casing is not showing any
9 signs of moving. He stated that there is a spot upstream from the
10 manhole, outside of the bore casing, that has a good, undisturbed
11 base. He stated that the contractor is in the process of shifting the
12 manhole to that spot. Mr. Parcels asked if the additional work would
13 still be within the project budget. Mr. Gorham replied that the contractor
14 may request additional compensation for moving the manhole, but the
15 ACSA has not heard anything from them yet about the cost.

16 ***c. CIP Authorizations –***

17 ***d. Monthly Maintenance Update –***

18 ***e. Rivanna Water and Sewer Authority (RWSA) Update –***

19 ***f. ACSA Board Policy Future Issues Agenda 2022 –***

20 ***g. CMMS/Cityworks (Work Order system) Update Report –***

21 ***h. Advanced Metering Infrastructure (AMI) Project Update –***

22 ***Mr. Parcels moved to approve the Consent Agenda,***
23 ***seconded by Mr. Tolbert. All members voted aye.***

24
25 6. Customer Assistance Grants Program Update

26 Mr. Lunsford stated that the ACSA has applied the \$195,000 in
27 ARPA funding to eligible, single-family customers, which has considerably
28 helped the arrearage balance at the end of February. He stated that with
29 these funds, in addition to the CARES Act funding received in late 2020,
30 the ACSA was able to apply over \$375,000 to eligible customer accounts.
31 He mentioned that the ACSA has received feedback from several

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1 customers who were very appreciative of the programs and outreach
2 efforts related to those programs. He stated that the momentum created by
3 applying the ARPA funding provides a great opportunity to begin
4 conversations with targeted customers about getting back to where they
5 were pre-pandemic, from a collection perspective.

6
7 7. Disconnection Policy Recommendation

8 Mr. Lunsford stated that in March of 2020, the ACSA Board allowed
9 the staff to place a moratorium on disconnections for nonpayment. He
10 stated that prior to this, the ACSA had a handful of accounts in the arrears
11 at any given time. He noted that when the moratorium went into effect,
12 many customers had been negatively impacted by the pandemic and the
13 ACSA thought it important to continue to provide service to those
14 customers.

15 Mr. Lunsford stated that one thing the staff noticed pre-pandemic, is
16 that there is a portion of the ACSA customer base that make payment upon
17 receiving a final notice. He mentioned that when the moratorium went into
18 effect, those final notices quit being sent. He stated that the thought is once
19 the moratorium is lifted and the final notices resume, some of the
20 arrearages will take care of themselves and resolve. He stated that this is
21 seen as a first step of sorts in the process of lifting the moratorium on
22 disconnections for nonpayment. He added that this will be a methodic and
23 deliberate process over the next few months to initiate conversations with
24 those customers in arrears, establish a communication channel, and
25 provide any available assistance such as payment plans.

26 Dr. Palmer asked about the number of customers that were not
27 eligible for funding from either program, haven't paid their bill over the past
28 two years, and now must continue to pay their current bill while making
29 scheduled payments through a payment arrangement. Mr. Lunsford replied
30 that the eligibility related to the CARES Act funding required a customer
31 request, which made it more difficult to apply funds to customer accounts.

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1 He stated that the ARPA program allowed the ACSA more latitude to apply
2 the funding to eligible accounts. He mentioned that there is some context to
3 those arrearages to consider as well. He stated that there are a handful of
4 non-single-family customers that are no longer on service but owe a
5 considerable amount of money and make up a decent amount of the total
6 arrearages balance.

7 Mr. Armstrong asked if there is a way to forgive the debt of those
8 customers that have been deemed as unable to ever pay their arrearages.
9 Mr. Lunsford replied that conceptually it is possible, but the ACSA must be
10 careful because its debt covenants are particular about providing service
11 for no charge. He stated that it would certainly require the help of the ACSA
12 Attorney and bond counsel to ensure nothing is done to negatively impact
13 those covenants.

14 Mr. Bowling added that another issue with debt forgiveness is once
15 other customers find out about it, the issue mushrooms. Mr. Armstrong
16 replied that Mr. Bowling's concern makes sense. He stated however, that a
17 customer living at or below the poverty line will probably never be able to
18 pay their arrearages after two years of not having to do so, and the ACSA
19 will have to recognize this fact at some point. Mr. Lunsford added that he
20 feels Mr. Armstrong's point is legitimate and the ACSA respects the
21 challenges its customers have had to face. He added that the ACSA will do
22 everything that it is legally able to do, to assist customers as much as
23 possible.

24 Mr. Tolbert stated that because the ACSA has had a moratorium on
25 disconnections for two years, there will be customers who suddenly have
26 large arrearage amounts to pay off to avoid disconnection. He pointed out
27 that normally the arrearages would not be as large before the customer
28 was faced with disconnection. He stated that his concern is that there will
29 be customers out there whose arrearages will be a real financial burden.
30 Mr. Bowling stated that one way to handle a situation such as this would be
31 to enter into a judgement agreement and let it stay on record. He stated

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1 that the ACSA does not have to collect on the judgement, and it will fulfill
2 the bond obligations.

3 Mr. O'Connell suggested that the Board give the staff a few months
4 to begin contacting customers and getting a better sense of who will be
5 able to pay or enter a payment arrangement, and then give an update in
6 the fall. He mentioned that it will take a good amount of time to speak to all
7 the applicable customers and unravel their personal situation. Mr. Lunsford
8 added that there is some internal planning that needs to be done, but one
9 of the first steps is to get customers to start paying their current amounts.
10 He noted that those customers that have not paid in two years are not
11 paying their current amounts either. He stated that if the staff can begin
12 conversations with these customers and incentivize payment on their
13 current bill, they can then begin to address the arrears.

14 ***Mr. Parcels moved to approve the end of the moratorium for***
15 ***water disconnections related to non-payment, seconded by Dr.***
16 ***Palmer. The Chair asked for a roll-call vote: Mr. Armstrong, aye; Mr.***
17 ***Moore, aye; Dr. Palmer, aye; Mr. Parcels, aye; Mr. Tolbert, aye; Mr.***
18 ***Roberts, aye.***

19
20 8. ERP – New Munis Financial/ HR System – Power Point

21 Mr. O'Connell stated that Quin Lunsford, Director of Finance, would
22 lead this discussion. He stated that the completion of this project is a
23 moment of pride for ACSA staff. He noted that there has been a core team
24 of people working on this project and, ultimately, everyone in the
25 organization will have some level of involvement. He added that it has been
26 a great project and the staff has been very successful with going live.

27 Mr. Lunsford stated that Emily Roach, Human Resources and
28 Administration Manager, would also be presenting some of the information
29 on the presentation agenda. He stated that the new ERP system is live and
30 functioning very well. He stated that the goal today is to provide the Board
31 with a quick update on the project in terms of what has been done and

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1 what will be done in the future. He mentioned that he also wanted to take a
2 moment to recognize the considerable contributions made by several
3 people over the last few years, almost completely remotely. He stated he
4 and Mrs. Roach would speak briefly to the modules that have been
5 deployed, which are a significant enhancement to the ACSA's legacy
6 system. He added that the staff is also very excited about the modules that
7 they are currently working on and expect to deploy some of them soon.

8 Mr. Lunsford stated that in 2019, the ACSA was notified that its
9 legacy system would no longer be supported after the end of 2021. He
10 stated that this initiated the need for a quick analysis of current needs and
11 what options were out there for a new system. He stated that in January
12 2020, the ACSA consulted with the GFOA team specifically dedicated to
13 helping entities like the ACSA evaluate their ERPs and make the best
14 decision possible. He mentioned that the ACSA selected a Tyler
15 Technologies software called Munis, and the contract was signed in March
16 2021. He stated that the staff immediately began working with Tyler to
17 design, test, and deploy the new system. He noted that "go-live" was
18 January 1, 2022, during a time when a snowstorm and power outages
19 impacted many across the area. He stated, however, that the
20 implementation team did everything they could to ensure the "go-live" was
21 successful.

22 Mr. Lunsford stated that the ERP core team consisted of himself,
23 Deanna Davenport, Tonya Foster, Danielle Trent, Emily Roach, Jennifer
24 Bryant, and Theresa Whiting. He stated that there were times this past year
25 when two or three full days were dedicated to working with the consultants
26 on various modules, understanding the system and ensuring it met ACSA
27 needs, and to make sure that business operations continued to function
28 smoothly on January 1st. He mentioned that additionally, the core team did
29 work with other groups throughout the organization to ensure the electronic
30 workflows functioned properly and that individuals could interact with the

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1 system at a basic level. He noted that those testing groups will become
2 broader as some of the future modules are developed.

3 Mr. Lunsford stated that one of the modules that has been
4 successfully deployed is the Payroll/Human Resources module. He noted
5 that there were hundreds of components involved in running payroll
6 successfully on January 15th, many of which are Human Resources related.
7 He noted that Mrs. Roach and her team were critical in putting the bulk of
8 the information in the system for the accounting team to consume and
9 properly process. He mentioned that they are working well and have
10 allowed the staff to automate some of the approval processes. He stated
11 that the General Ledger module is up and running, and the financial
12 reporting is now able to be done from the new system. He added that the
13 budgeting module has been deployed as well, and the staff anticipates
14 having functionality in the upcoming budget process that was not available
15 in the legacy system. He stated that he would now turn the presentation
16 over to Mrs. Roach to discuss the upcoming HR and Administration
17 modules.

18 Mrs. Roach stated that the Human Resources team is looking
19 forward to the functionality that will be available with this new system. She
20 stated that one of the changes she feels will be most impactful is the
21 Employee Self Service (ESS) portal. She stated that employees will be able
22 to log into the portal and submit timesheets, view paystubs, access W-2s,
23 and eventually elect benefits during open enrollment. She mentioned that
24 there will also be a risk management module, as well as a module for
25 recruiting.

26 Mr. Lunsford stated that in terms of future modules for deployment
27 on the financial side, the new system has an integrated capital asset
28 module that will allow staff to track and make projections based on all the
29 capital assets the ACSA has invested in over the years. He stated that the
30 Project Accounting module has the potential to be an incredible tool for
31 both the Engineering department and the Finance department. He noted

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1 that if designed properly, it will allow all the project information that is
2 currently kept outside of the system to be integrated into the new system.
3 He added that this will allow that data to be use for different scenarios such
4 as budgeting or analysis.

5 Mr. Lunsford concluded that the new ERP provides the ACSA with
6 a stable, reliable platform that is used by hundreds of similar entities
7 throughout the country. He stated that the system gives the ACSA the
8 foundation to continue to develop and improve, ensuring that future needs
9 of all users are met.

10
11 9. Cybersecurity Assessment Report Update – Power Point

12 Mr. O'Connell stated that this item is an update to an earlier report.
13 He stated that, given the significance of what is going on in the IT world,
14 the staff wanted to assure the Board that the ACSA is doing everything it
15 can to protect its system.

16 Mrs. Walker stated that after the ransomware attacks on the
17 Colonial Pipeline and a few other water treatment facilities across the
18 United States, the ACSA contracted with Synigent Technologies to conduct
19 a thorough Security Assessment. She stated that Synigent based their
20 assessment on the Cybersecurity and Infrastructure Security Agency
21 (CSIA) standards, which the ACSA adopted along with the American Water
22 Works Association (AWWA) guidelines and the FIB security advisories.

23 Mrs. Walker stated that the assessment included 22 categories,
24 with a combined total of 102 security controls. She noted that for each
25 control, the ACSA was graded on whether the controls were in place,
26 partially in place, or not in place. She mentioned, for example, that one of
27 the categories was Asset Management, which included six controls the
28 ACSA was graded on.

29 Mrs. Walker stated that the initial assessment was performed in
30 June 2021, followed by a closeout assessment this month. She stated that
31 during the closeout assessment, the assessor reviewed all the work that

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1 had been completed, work that was in progress, as well as future goals and
2 timelines. She mentioned that the ACSA only had 32% of the 102 security
3 controls in place when the first assessment took place in 2021. She noted
4 that the staff is pleased that it has now implemented 67% of those controls.

5 Mrs. Walker stated that a few of the key changes that have been
6 implemented are policy developments, SCADA system upgrades,
7 increased monitoring, firewall changes, purchase of a learning
8 management system, and a third-party penetration test. She mentioned
9 that the penetration was a weeklong test and the ACSA scored very well.
10 She stated that the tester was unable to penetrate the system but did have
11 some recommendations. She stated that one of those recommendations
12 was to hire an Information Security Officer (ISO) and Systems Engineer.
13 She stated that the ACSA hired Solomon Wondimu, who comes to the job
14 with over 20 years' experience in cybersecurity. She noted that the ACSA
15 has lowered its incident threshold, as the IT team is now alerted to
16 everything not just big risks. She added that the IT department is also now
17 fully staffed.

18 Mrs. Walker stated that in terms of those controls that were partially
19 in place, the numbers from June 2021 to February 2022 do not look that
20 different but they make sense when compared to the increase in those
21 controls that are in place. She stated that multi-factor authentication is
22 being implemented across the organization as an extra measure to verify
23 users. She stated that the ACSA security system is currently being updated
24 and expanded, which was part of the Vulnerability Assessment as well.
25 She mentioned that the upgrade will take the existing infrastructure and
26 prepare it for the future, to include the Avon Street property once it is
27 complete. She noted that cameras are being added at the water storage
28 tanks and pump stations for better monitoring.

29 Mrs. Walker stated that the ACSA will be purchasing and
30 configuring a data management solution. She stated that all ACSA data will
31 be identified and classified to identify what is protected and what can be

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1 shared. She mentioned that there will also be a needs assessment
2 conducted to determine what staff needs to see what data. She stated that
3 this assessment will allow IT to lockdown access permissions and build
4 dashboards, improving security and business analytics. She mentioned
5 that the ACSA is in the midst of testing its Disaster Recovery Plan as well.
6 She noted that staff is creating Standard Operating Procedures (SOPs) for
7 testing, creating manuals, and building test infrastructure. She stated that
8 the ACSA will be purchasing and implementing additional monitoring
9 software, which will help see traffic beyond what is coming in and out of the
10 firewall, and the firewalls will be upgraded.

11 Mrs. Walker stated that the controls not in place have greatly
12 decreased since the initial assessment in June 2021, from 43% to 12%
13 currently. She stated that some of the items are not in place due to larger
14 budget restraints, such as a redundant server room. She stated that this
15 will be a part of the Avon Street project and will require hiring a project
16 manager. She stated that overall, the ACSA's cybersecurity is in a much
17 better place now than it was in June 2021. She stated that the Security
18 Assessment findings are 88% complete, and the Penetration Test findings
19 are 100% complete. She stated that to stay on goal, the IT team has
20 developed a multi-year Technology Plan that includes a timeline with the
21 responsible party, budget implications, and includes other projects as well.
22 She stated that the entire ACSA Lead Team has access to the timeline and
23 the IT staff updates it monthly.

24 Mrs. Walker concluded that cybersecurity is constantly changing.
25 She stated that the ACSA receives alerts from various organizations
26 including Homeland Security, Virginia State Police, and AWWA. She stated
27 that the ACSA has also recently began working with its insurance
28 company, which has a cybersecurity division, for additional safeguards and
29 tools.

30 Mr. Parcels stated that he thinks the Technology Plan is a good
31 step forward in terms of protecting the organization and keeping it present

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1 with technology. He stated that it would make sense to include the security
2 of the infrastructure and network when speaking about clean, safe water.
3 He stated that doing so would assure customers that the ACSA is not likely
4 to be penetrated or put at risk like, for example, the Colonial Pipeline. Mrs.
5 Walker concurred.

6
7 10. ACSA Operational Presentation – Easement Clearing

8 Mike Lynn, Operations Manager, stated over the last several years,
9 the ACSA Maintenance department has put greater emphasis on its
10 easement clearing program. He stated that the easements that are usually
11 difficult to access are divided up amongst the different crews. He noted that
12 Charles Thomas, Crew Leader I, would be making the presentation to the
13 Board today. He stated that he would also like to thank Calvin Underwood,
14 Roland Bega, and Tim Gathright for their help in the process.

15 Mr. Thomas stated that the first slide shows a farm tractor with a
16 bush hog attachment, which is one of the pieces of equipment used in
17 easement clearing. He stated that the ACSA also uses a skid steer with
18 brush cutter, chainsaws, and personal protective equipment.

19 Mr. Thomas stated that the next slide shows a picture of one of the
20 many ACSA assets that is in an isolated area. He stated that the picture
21 shows the importance of clearing and maintaining the easements. He
22 noted that sometimes there are emergency situations and the longer it
23 takes to access the asset, the more work and cleanup is involved. He
24 mentioned that some easements can be easily accessed and cleared by
25 using a bush hog or brush cutter, which create a nice clean look as shown
26 in the next two slides.

27 Mr. Thomas stated that other areas need a more hands-on
28 approach such as those with large diameter trees or other safety concerns.
29 He stated in areas like this, sometimes an arborist with specialized
30 equipment is needed to get the job done. He mentioned that the use of

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1 chain saws, weed eaters, and bush axes are also necessary for the
2 clearing process.

3 Mr. Thomas stated that during the easement clearing process, all
4 brush is put into the chipper to ensure that subdivision common areas and
5 private property is restored to its original condition. He noted that the
6 ACSA's chipper is capable of handling logs up to 12" in diameter. He
7 added that most of the easement clearing is done during the fall and winter
8 months. He stated that this lessens hazards such as poisonous plants,
9 bees, and snakes. He mentioned, however, that winter has its own set of
10 hazards such as ice, snow, and freezing temperatures.

11 Dr. Palmer asked if the staff ever gets complaints from property
12 owners adjacent to the easements because they do not want them cleared.
13 Mr. Thomas replied that customers do complain sometimes. He mentioned
14 that in those cases, the staff attempts to perform extra cleanup to make the
15 area look as good as possible. He noted that some subdivisions use the
16 trails that the ACSA creates for walking paths. Dr. Palmer stated that it
17 seems as if the easement clearing is generally appreciated. Mr. Thomas
18 replied yes. He stated that some customers are hesitant at first, but usually
19 very happy with the finished product. Mr. Bega added that when the staff is
20 performing easement clearing in a residential area, they try to
21 communicate with the property owners or Homeowner's Association (HOA)
22 beforehand.

23 Dr. Palmer asked how often the easement clearing is done. She
24 asked if plants are ever allowed to grow enough that people get used to the
25 new vegetation, or if the areas are kept clear. Mr. Thomas replied that most
26 of the time, the easement clearing is performed during down times. He
27 stated that because of this, the vegetation can grow quite high if it is not cut
28 all summer. Dr. Palmer asked if, in other words, it is done about once a
29 year. Mr. Thomas replied that some areas are done twice a year, but there
30 are some areas that are not because they are difficult to access.

31

Albemarle County Service Authority Board of Directors

1 11. AMI (Advanced Metering Infrastructure) Project Status Report -
2 Power Point

3 Mr. O'Connell stated that the ACSA is in the midst of beginning the
4 next phase of the project, and staff felt it was a good time to remind the
5 Board about the AMI project and give a quick update on the work that is
6 currently underway. He stated that Quin Lunsford, Director of Finance,
7 would be giving the Power Point presentation to the Board.

8 Mr. Lunsford stated that the staff has been providing a monthly
9 update in the consent agenda on the project. He stated that there has not
10 been a lot of work on the project in the past few months, but since Tuesday
11 of this week there have been installers in the field. He stated that he would
12 give an update on the project as a whole and briefly go over some of the
13 milestones. He added that he would also like Kenny Barrow, Meter
14 Operations Supervisor, to speak to some of his team's interactions with the
15 system and specific customers.

16 Mr. Lunsford stated that the second slide shows a graphic of how
17 AMI works. He stated, simply put, that the water meters in the ground
18 communicate with the collectors that are located throughout the county. He
19 stated that the data is collected through a backhaul system and then fed
20 into various software programs for consumption.

21 Mr. Lunsford stated that one of the project milestones is the
22 completion of the Feasibility Study in November 2018 to ensure this project
23 was possible. He noted that one of the complications of the AMI project in
24 our specific area is the National Radio Quiet Zone (NRQZ), which is an
25 area due east of Green Bank, WV that almost bisects the County of
26 Albemarle. He stated that the project requires some coordination to ensure
27 ACSA radio signals do not interfere with programs in the NRQZ.

28 Mr. Lunsford stated that the next step was to work with closely with
29 the ACSA consultant to develop a comprehensive RFP. He stated that the
30 Board authorized the ACSA's vendor selection in October 2019. He
31 mentioned that from November 2019 through March 2021, the ACSA had

Albemarle County Service Authority Board of Directors

1 propagation studies performed to analyze radio signal communication at an
2 incredible granular level. He stated that this was to ensure that ACSA
3 meters would be able to speak to the identified collector sites. He noted
4 that Phase I of the AMI deployment began in April 2021 and included the
5 installation of two collector sites, one at the Ashcroft Upper Tank and the
6 Avon Park Tank. He stated that a little over 500 meters were installed
7 during this phase, with system acceptance in May 2021. He stated that the
8 staff continued to vet that data and coordinate for the next phase of the
9 project. He stated that the staff anticipates antennas for the remaining 11
10 collector sites to be installed in March and April this year. He stated that
11 this will then lead into the third and final phase of the project which includes
12 installing another 20,000 meters or retrofitting current meters in the ground.

13 Mr. Barrow stated that there are currently 513 AMI meters that the
14 ACSA office is receiving readings from daily. He stated that the system is
15 working very well from a meter reading perspective. He mentioned that
16 every morning, he logs into the RNI which handles the communication from
17 the meter to the antenna. He stated that the Meter Data Management
18 System (MDMS) then takes the data from the RNI and matches it with the
19 customers accounts.

20 Mr. Barrow stated that during the snowstorm in January when there
21 were widespread power outages for some time, he was receiving
22 continuous flow alerts more than usual. He noted that a continuous flow
23 alert means that there has been nonstop water flowing through the meter
24 for a 24-hour period. He mentioned that the consumption reported varied
25 from 10 gallons every few hours to 50 gallons every hour, which was
26 unusual. He stated that every customer he spoke with said that they were
27 running their faucets to keep their pipes from freezing. He added that this
28 was one of the neat ways in which the system can be utilized.

29 Mr. Barrow stated that the Lewis and Clarke building at Darden
30 Towe Park typically uses very little water. He stated that he received an
31 alert that the facility was using about 10 gallons every 4 or 5 hours, which

Albemarle County Service Authority Board of Directors

1 is not a lot of water but unusual for this property. He stated that he made a
2 site visit and the meter indicated that water was being used. He mentioned
3 that upon speaking with some workers on site, they checked around and
4 found a faucet running in the men's bathroom as well as a leaking backflow
5 device. He added that even though it was not a lot of water use, AMI made
6 it possible to resolve the issue quickly.

7 Mr. Barrow stated that one more example of the benefits of AMI
8 involved a customer in the Avinity subdivision. He stated that a continuous
9 flow alert for this customer showed a usage of about 10 gallons every
10 several hours. He stated that upon making a site visit, he spoke with the
11 customer and performed some diagnostic work which revealed a faulty
12 valve in the customer's HVAC humidifier. He noted that he has interacted
13 with about 10% of the customers in the first phase, and they have all been
14 impressed with the new system and what it is able to do.

15 Mr. Barrow stated that the Sensus Analytics dashboard shows
16 active meters, as well as stale or almost stale meters. He mentioned that
17 the stale and/or almost stale meters have not communicated in a day or
18 two. He noted that these usually go away on their own, as sometimes they
19 go stale because a car has parked over it, or someone has blocked it
20 temporarily. He stated that once the obstruction is moved, the meter will
21 begin communicating again and will backfill all the data that was missing.

22 Mr. Lunsford stated that he cannot overstate how impactful this AMI
23 system will be for customers. He stated that he received an email from a
24 customer yesterday, as a testament to the service that is currently being
25 provided. He read the email in which the customer expressed their
26 gratitude for being notified about their high consumption. He stated that the
27 customer used 19,000 gallons in the past billing cycle due to a faulty
28 commode. He noted that with AMI, leaks will be identified quickly resulting
29 in a benefit for the ACSA and the customer.

30 Mr. Parcells asked if there is a connection between the online
31 payment site for customers and the AMI data. Mr. Lunsford replied yes and

Albemarle County Service Authority Board of Directors

1 no. He stated that there are systems out there that can combine the bill
2 payment and the Sensus Analytics customer-facing consumption portal. He
3 stated that during the Feasibility Study, it was recommended that the ACSA
4 get about a year's worth of data before pushing that portal out to
5 customers. He added that the staff anticipates rolling out that portal when
6 the time is right, and customers will be able to set up consumption alerts.

7 Mr. Parcels stated that he sees this being very useful during a
8 drought situation. Mr. Lunsford agreed. He stated that part of the auxiliary
9 meter program, changing from exclusion irrigation meters to dedicated
10 auxiliary meters, is to have the ability to monitor consumption during
11 drought restrictions and specifically address those customers. Mr. Parcels
12 asked if the hydrant meters will be monitored the same way. Mr. Lunsford
13 replied that the communication infrastructure is in place, but he is not sure
14 what the technology at the hydrant looks like.

15 Mr. Parcels stated that Mr. Barrows communication with 10% of
16 the customers in the first phase of AMI is superb, but he worries that the
17 staff will be able to keep that up with 20,000 meters installed. Mr. Barrow
18 replied that there are future business processes that the staff needs to
19 work through. He stated that the consultant, E-Source, will be working with
20 the staff to figure out how to manage the data and who will be responsible
21 for what. Mr. Lunsford added that the Sensus Analytics dashboard will be
22 available to a variety of people. He noted that there may be alerts that Mr.
23 Barrow and his team focus on, as well as alerts that other departments
24 may handle.

25 Mr. Lunsford stated that moving forward, Phase II will involve
26 replacing 334 large meters (1.5"-4") and retrofitting 323 of those large
27 meters. He stated that there will also be the replacement or retrofitting of
28 608 ¾"-1" meters in Scottsville and one route in Crozet. He noted that the
29 large meters account for 39% of the system's consumption, which will all
30 be in the AMI system with this phase.

Albemarle County Service Authority Board of Directors

1 Mr. Lunsford stated that in terms of next steps, there will be some
2 coordination with the NRQZ as the remaining 11 antennas are installed, to
3 ensure they do not interfere with their operations. He noted that the ACSA
4 staff is scheduled to film a short, informational film next week. He stated
5 that this film will be shared with customers through the website or other
6 means, showing them what deployment will look like and some of the
7 features they will have access to in the future. He mentioned that there are
8 19,500 meters left to either replace or retrofit. He stated that after those
9 meters are installed, design and development of the customer facing portal
10 will begin, with hopes to deploy it in the near future.

11 Mr. O'Connell asked Mr. Lunsford to speak to the global chip
12 shortages and the impact on the project schedule. Mr. Lunsford stated that
13 he had a good conversation with Sensus, the meter manufacturer,
14 yesterday regarding delays in the receipt of ordered goods. He stated that
15 the delays seem to be the result of several factors, one of those being the
16 switch to a different supplier. He mentioned that their key supplier changed
17 their method of production in early 2021, which required Sensus to procure
18 that product from another provider. He added that Sensus is working hard
19 to diversify their supply chain to prevent delays going forward. He stated
20 that they could not provide a timeline or date as to when production would
21 return to normal.

22
23 12. Items Not on the Agenda

24 Mr. O'Connell reminded the Board that the first steps in the budget
25 process begin in March with the CIP presentation, as well as the rate study.
26 He stated that his recommendation is to continue the virtual Board meeting
27 model for March. He stated that currently, the ACSA is operating under the
28 County ordinance for virtual meetings, and there is a discussion scheduled
29 for April about whether that ordinance will continue. He mentioned that Mrs.
30 Walker and her IT staff have been preparing for a hybrid meeting model in

Albemarle County Service Authority Board of Directors

1. the future. He stated that this would allow the Board to meet in person,
2. while the public would be able to join virtually.

3. Dr. Palmer asked what the legal requirements are for Board
4. members attending meetings in person. Mr. O'Connell replied that there
5. must be a quorum of the Board physically present to hold the meeting in
6. person. He stated that there are also some requirements about advanced
7. notification if Board members wish to join the meeting by phone.

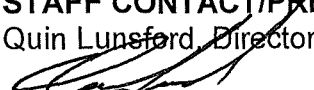
8.
9. 13. Adjourn

10. ***There being no further business, Dr. Palmer moved that the***
11. ***meeting be adjourned, seconded by Mr. Parcels. All members voted***
12. ***aye.***

13.
14.
15.
16. _____
17. Gary B. O'Connell, Secretary-Treasurer
18.
19.

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

AGENDA TITLE: Monthly Financial Reports STAFF CONTACT/PREPARER: Quin Lunsford, Director of Finance 	AGENDA DATE: March 17, 2022 ACTION: Informational ATTACHMENTS: Yes
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BACKGROUND: Water and sewer financial reports and check registers for the month of February are attached for your review.

DISCUSSION:

- Water consumption for the month of January increased 1.2% compared to December. Water consumption for the month of January 2022 compared to January 2021 increased 0.2%.
- RWSA's invoice of \$1,808,835 for the month of January was paid on February 10, 2022.
- Unearned water and sewer connection charges totaled \$2,296,913 at month end.
- System connection charges were above budgeted expectations with \$275,965 recognized in January. Total system connection charges for FY 2022 are less than those in FY 2021 by 12%.
- Water and Wastewater revenues for FY 2022 are above budgeted expectations by 10.2%. Please see the water/wastewater trend analysis included illustrating that when adjustment for expected variations in seasonal consumption, revenues are 8.5% higher than expectations.

BUDGET IMPACT: Informational only.

RECOMMENDATIONS: None

BOARD ACTION REQUESTED: None; informational item only.

ATTACHMENTS:

1. Statement of Net Position
2. Year-to-Date Budget to Actual Comparison/Commentary
3. Investment Summary
4. Capacity/System Development Reserves
5. Connection Charges/ERC Analysis
6. Monthly Water Consumption
7. Water and Sewer Report; Customer Class Report
8. Major Customer Analysis
9. Water/Wastewater Revenue Trend Analysis
10. Aged Receivables Analysis
11. Check Register

ALBEMARLE COUNTY SERVICE AUTHORITY

STATEMENT OF NET POSITION
February 28, 2022

ASSETS

Cash and cash equivalents	\$ 8,663,390
Accounts receivable	4,458,356
Investments	43,134,911
Capital assets: (net of accumulated depreciation)	174,578,291
Inventory	476,566
Prepays	46,805
Cash and cash equivalents, restricted	<u>460,422</u>
Total assets	<u>231,818,741</u>

DEFERRED OUTFLOWS OF RESOURCES

Combined deferred outflows of resources	<u>1,856,772</u>
---	------------------

LIABILITIES

Accounts payable	2,074,690
Accrued liabilities	493,740
Compensated absences	693,271
Net pension liability	3,659,743
Other post-employment benefits	1,448,953
Unearned connection fees	2,296,913
Long-term debt	<u>5,142,353</u>
Total liabilities	<u>15,809,663</u>

DEFERRED INFLOWS OF RESOURCES

Combined deferred inflows of resources	<u>584,136</u>
--	----------------

NET POSITION

	<u><u>217,281,714</u></u>
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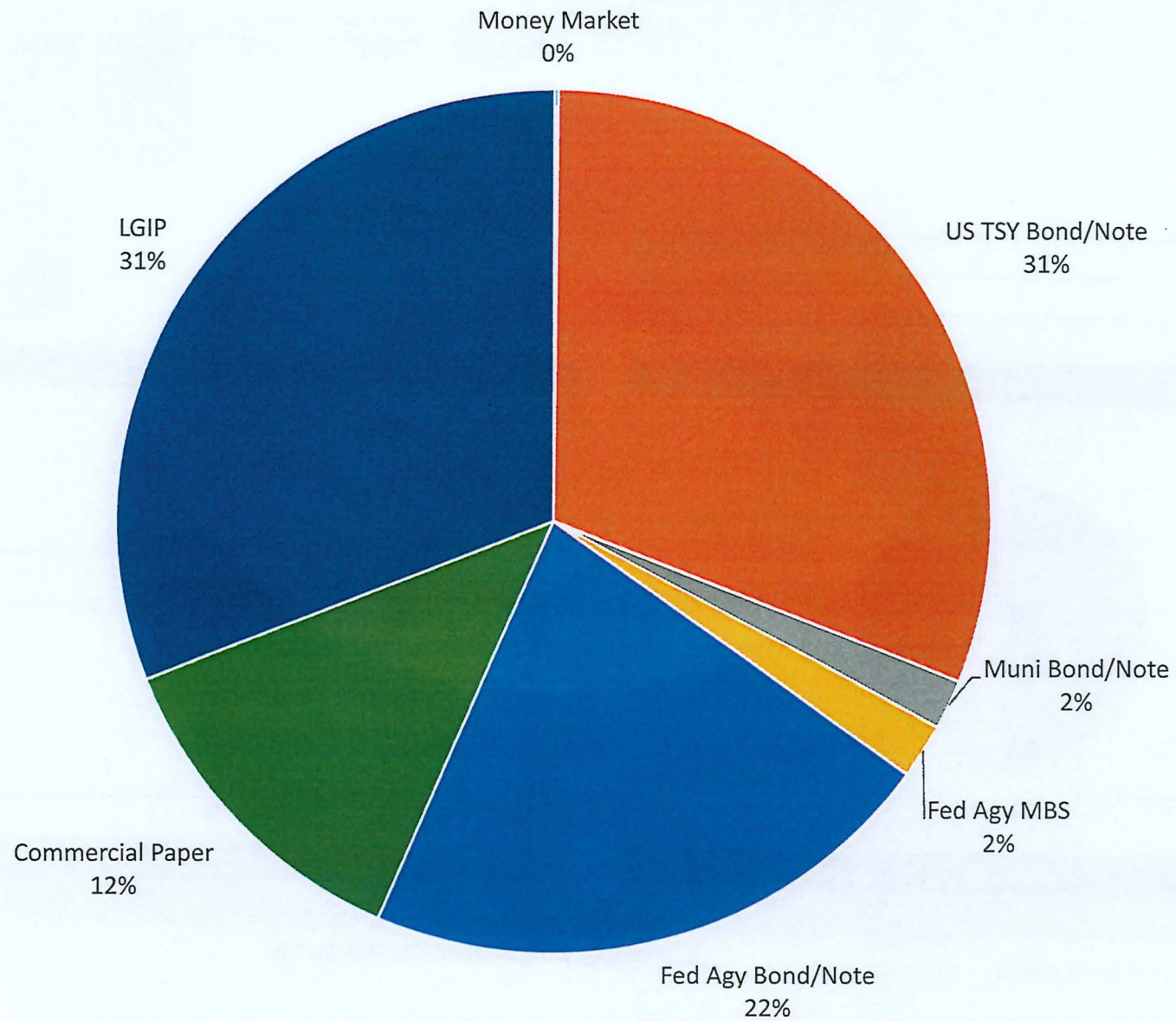
ALBEMARLE COUNTY SERVICE AUTHORITY
For the Six Months Ending February 28, 2022

	Budget FY 2022	Budget Year-to-Date 2022	February Actual Year-to-Date	Actual vs. Budget	Variance Percentage
Revenues					
Water Sales	16,543,400.	11,028,933.	12,125,214.	1,096,281.	9.94%
Sewer Service	14,034,800.	9,356,533.	10,341,675.	985,142.	10.53%
Total operating revenues	30,578,200.	20,385,467.	22,466,889.	2,081,422.	10.21% A
Operating Expenses					
Purchase of bulk water	(12,450,600.)	(8,300,400.)	(8,311,824.)	(11,424.)	0.14% B
Purchase of sewer treatment	(9,685,800.)	(6,457,200.)	(6,261,280.)	195,920.	(3.03%) B
Administration	(1,253,400.)	(835,600.)	(685,705.)	149,895.	(17.94%) C
Finance	(2,243,574.)	(1,495,716.)	(1,406,471.)	89,245.	(5.97%) C
Information Technology	(1,162,387.)	(774,925.)	(714,339.)	60,586.	(7.82%) C
Engineering	(2,107,300.)	(1,404,867.)	(1,267,096.)	137,771.	(9.81%) C
Maintenance	(4,018,540.)	(2,679,027.)	(2,114,113.)	564,914.	(21.09%) C
Total operating expenses	(32,921,601.)	(21,947,734.)	(20,760,828.)	1,186,906.	(5.41%)
Operating gain(loss)	(2,343,401.)	(1,562,267.)	1,706,061.	3,268,328.	(209.20%)
Nonoperating Revenues					
System connection charges	7,000,000.	4,666,667.	5,283,785.	617,118.	13.22% D
Investment/Interest Income	200,000.	133,333.	(296,801.)	(430,134.)	(322.60%) E
Rental income	16,000.	10,667.	9,663.	(1,004.)	(9.41%)
Miscellaneous revenues	455,000.	303,333.	472,490.	169,157.	55.77% F
Federal subsidy, Build America Bonds	87,000.	58,000.	0.	(58,000.)	(100.00%) G
Total nonoperating revenues (expenses)	7,758,000.	5,172,000.	5,469,137.	297,137.	5.75%
Nonoperating Expenses					
Miscellaneous expenses	(304,179.)	(202,786.)	(359,492.)	(156,706.)	77.28% H
Bond interest charges	(274,436.)	(182,957.)	(317,822.)	(134,865.)	73.71% I
Depreciation	0.	0.	(2,737,802.)	(2,737,802.)	0.00% J
Total nonoperating revenues (expenses)	(578,615.)	(385,743.)	(3,415,116.)	(3,029,373.)	785.33%
Capital contributions	0.	0.	1,560,925.	1,560,925.	0.00%
Change in Net Position	4,835,984.	3,223,989.	5,321,007.	2,097,018.	65.04%

**Albemarle County Service Authority
Actual-to-Budget Year to Date Commentary**

- A. Water and sewer revenues exceed budgeted amounts by 10.21%. Consumption through February (gallons) appears reasonable considering the ACSA's normal seasonal consumption pattern and resumption of more normal consumption from compared to periods of more restrictive shutdowns from COVID-19. Further information related to seasonal revenue expectations can be found later in the Board packet.
- B. Expenses related to purchases of bulk water and sewer treatment from the RWSA are lower than budgeted amounts by 1.25%. Monthly billings prepared by the RWSA allocate total water/wastewater flows to the ACSA/City based on the consumption of each for the quarter immediately preceding.
- C. Departmental operating budgets through the current month remain below budgeted expectations for the fiscal year.
- D. System connection charges are higher than the prorated budgeted amount. Connection charges are often difficult to project and can fluctuate from year to year. These charges are dependent upon new customers connecting to the system.
- E. Investment income(loss), which includes both interest income and adjustments to fair market value are recorded in these accounts. Investment earnings are below budgeted expectations.
- F. Miscellaneous revenues consist of multiple lines and include inspection fees, plan review, reconnections/initial bill fees, invoiced water usage, and gains associated with sales of capital assets retired from service
- G. The federal subsidy related to the 2010 debt issuance of BAB will not be earned in FY 22. These bonds were refunded in August 2021 yielding a net budgetary savings of \$1.2 million.
- H. The budgeted amount includes expected outlays for capital equipment and losses on disposal of capital assets. Equipment is capitalized when placed in service.
- I. Bond interest charges are recorded as incurred.
- J. Depreciation is not a budgeted line item accounting for the variance. Depreciation expense is considered during the annual budgeting process as this expense is utilized to calculate the required contribution to the 3r reserve.

Allocation of Investments by Type



Portfolio Summary and Statistics

For the Month Ending February 28, 2022

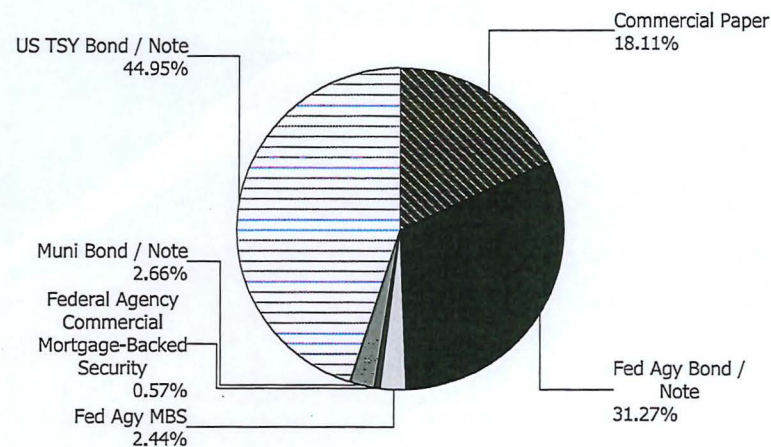
ACSA OPERATING FUNDS - 03100100

Account Summary

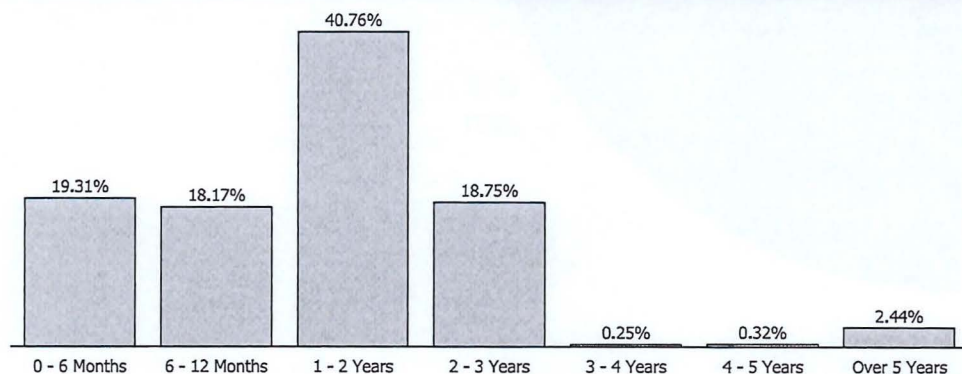
Description	Par Value	Market Value	Percent
U.S. Treasury Bond / Note	13,550,000.00	13,349,953.16	44.95
Municipal Bond / Note	800,000.00	789,566.00	2.66
Federal Agency Mortgage-Backed Security	712,403.54	723,217.18	2.44
Federal Agency Commercial Mortgage-Backed Security	175,048.17	169,702.73	0.57
Federal Agency Bond / Note	9,360,000.00	9,284,969.42	31.27
Commercial Paper	5,400,000.00	5,378,460.60	18.11
Managed Account Sub-Total	29,997,451.71	29,695,869.09	100.00%
Accrued Interest		33,883.07	
Total Portfolio	29,997,451.71	29,729,752.16	

Unsettled Trades **0.00** **0.00**

Sector Allocation



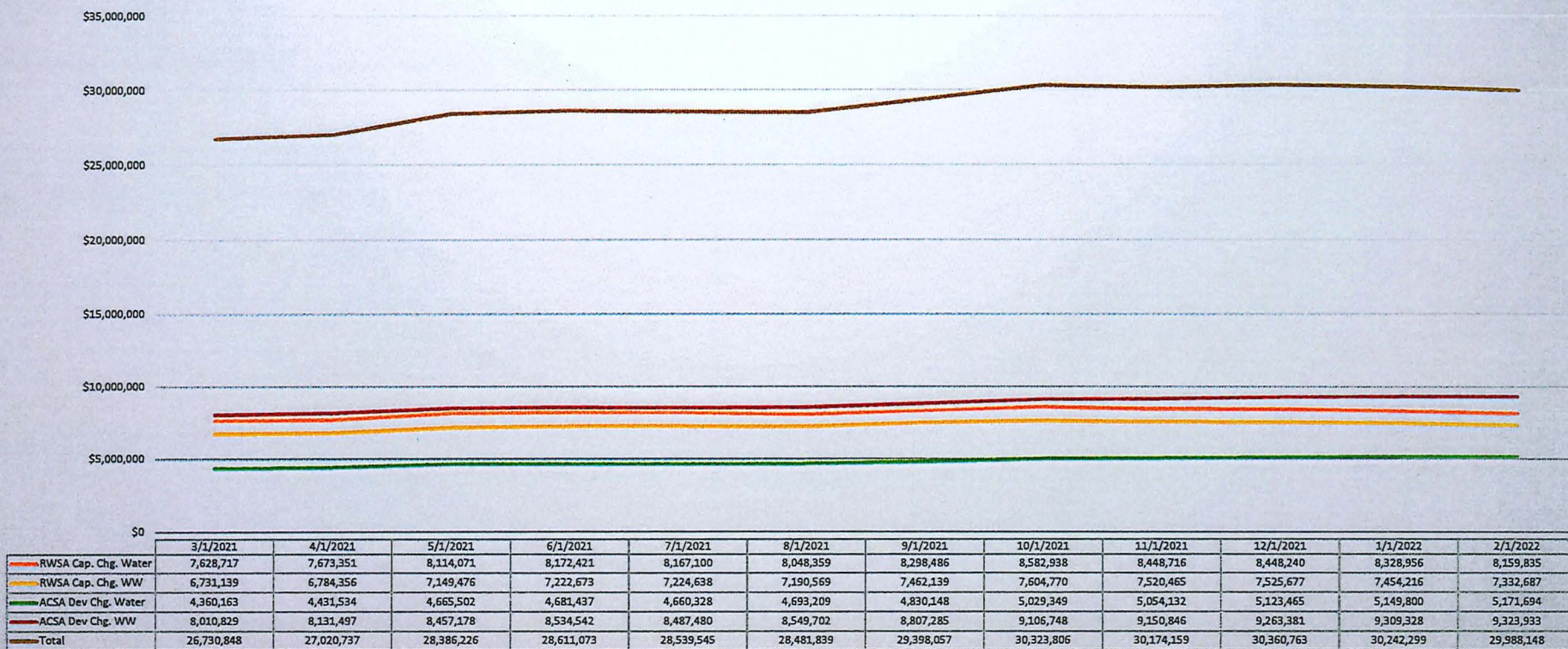
Maturity Distribution



Characteristics

Yield to Maturity at Cost	0.48%
Yield to Maturity at Market	1.21%
Weighted Average Days to Maturity	587

Capacity/System Development Reserves



Note: Additions to Capacity/System Development Reserves are from monthly connection charges, reductions to the reserves are from monthly growth related expenses/capital costs.

**Albemarle County Service Authority
Connection Fee Analysis
January 2022**

Area	January 2022 Monthly Connection Fees	January 2021 Monthly Connection Fees	\$ Change	% Change
Crozet	\$ 60,530	\$ 148,170	\$ (87,640)	-59%
Urban	215,435	511,690	(296,255)	-58%
Scottsville	-	-	-	-
Total Connection fees	\$ 275,965	\$ 659,860	\$ (383,895)	-58%
Through January				
Area	YTD FY 2022 Connection Fees	YTD FY 2021 Connection Fees	\$ Change	% Change
Crozet	\$ 787,910	\$ 1,721,175	\$ (933,265)	-54%
Urban	4,104,535	4,030,750	73,785	2%
Scottsville	-	-	-	-
Total Connection fees	\$ 4,892,445	\$ 5,751,925	\$ (859,480)	-15%
Area	January 2022 ERC's	January 2021 ERC's	Change	% Change
Crozet	5	11	(6)	-55%
Urban	17	38	(21)	-55%
Scottsville	-	-	-	-
Total ERC's	22	49	(27)	-55%
Through January				
Area	YTD FY 2022 ERC's	YTD FY 2021 ERC's	Change	% Change
Crozet	59	128	(69)	-54%
Urban	305	299	6	2%
Scottsville	-	-	-	-
Total ERC's - YTD	364	427	(63)	-15%

Note: This analysis shows, both in dollars and ERC's, connections by month and YTD for the period under review. As noted above, connection fees are comparable to the prior year. See the "Three Year Connection Fee Comparison" for further discussion related to this change.

**Albemarle County Service Authority
Three Year Connection Fee Comparison
January 2022**

Area	January 2022 ERC's	January 2021 ERC's	January 2020 ERC's
Crozet	5	11	17
Urban	17	38	74
Scottsville	-	-	-
Total ERC's	22	49	91

Through January			
Area	YTD 2022 ERC's	YTD 2021 ERC's	YTD 2020 ERC's
Crozet	59	128	111
Urban	305	299	405
Scottsville	-	-	1
Total ERC's - YTD	364	427	517

Note: The information above presents ERCs by month and YTD for the current and past two fiscal years. As noted in the YTD portion of the analysis, YTD ERCs in Fiscal Year 2022 appear reasonable considering continued development within the ACSA's service area.

Albemarle County Service Authority
Consumption Analysis
Fiscal Year 2022

	FY 2022 Consumption	FY 2021 Consumption		Monthly Precipitation (In.)	
				FY 2022	FY 2021
July	162,247,194	158,247,100	2.53%	2.30	3.94
August	183,549,927	160,498,300	14.36%	4.60	7.90
September	167,986,757	152,817,725	9.93%	5.46	4.90
October	159,438,005	146,675,175	8.70%	5.26	5.90
November	148,641,595	143,888,525	3.30%	1.01	4.84
December	140,551,064	129,490,677	8.54%	0.26	5.70
January	142,192,560	141,920,135	0.19%	4.04	2.37
February		119,808,532	-100.00%		4.51
March		128,124,393	-100.00%		2.13
April		131,020,458	-100.00%		3.24
May		145,813,573	-100.00%		0.81
June		161,128,651	-100.00%		2.80
	1,104,607,102	1,719,433,244		22.93	49.04
YTD	1,104,607,102	1,033,537,637	6.88%	22.93	35.55

Note: Consumption through January 2022 is 6.88% more than the same period in fiscal year 2021. Monthly precipitation figures have been included for comparison purposes. Trends in rainfall can sometimes correlate with trends in consumption however, depending on the intensity, days between rain events, or other factors, this may not always be the case.

Note: Precipitation data obtained from National Oceanic and Atmospheric Administration (NOAA):
<https://www.ncdc.noaa.gov/cdo-web/search>.

Albemarle County Service Authority

Serving • Conserving

Water and Sewer Report

(Volumes in Gallons)

January 2022

Billed by Area:

	Water	Sewer
Crozet	16,879,100	15,587,700
Scottsville	1,587,400	888,700
Urban	123,691,660	113,476,151
Red Hill	34,400	0
Total	142,192,560	129,952,551

Billing by Sewer Plant:

AWT	129,063,851
less Glenmore	(3,547,900)
Urban Total	125,515,951
Scottsville	888,700
Total	126,404,651

Number of Installed Meters:

Urban	19
Crozet	6
Scottsville	0
Total	25

Metered Consumption (billed by invoice):

Urban	286,600
Crozet	2,800
Scottsville	0
Total	289,400

Unmetered Consumption:

ACSA Fire Flow Consump.	Urban	14,386
ACSA Fire Flow Consump.	N Rivanna	2,688
Total		17,074

Unmetered Leak Consumption:

N/A	-
Total	0

Billed Consumption for Selected Customers

	Water	Sewer
*Virginia Land Holding	358,000	358,000
Southwood Mobile Homes	1,647,000	5,064,841
Turtle Creek Apts.	1,476,100	1,475,000
Barracks West Apartments	1,659,000	1,659,000
Monroe Health & Rehab.	975,000	975,000
Sunrise Senior "Colonnades"	986,700	978,300
ACRJ	1,248,440	1,212,440
Westminster Canterbury	1,190,390	1,190,390
SEMF Charleston	1,835,325	1,835,325
Martha Jefferson Hospital	1,310,093	1,087,093
Crozet Mobile Home Village	249,100	249,100
Fashion Square Mall	121,000	121,000
County of Albemarle	613,437	583,337
University of Virginia	1,546,760	1,456,100
Wegmans	359,000	359,000

* indicates Industrial Discharge Permit Holders

	Water	Sewer
Boar's Head Inn	497,500	497,500
Farmington Inc.	571,200	442,816
Westgate Apts.	1,389,000	1,389,000
Abbingdon Crossing	1,981,400	1,981,400
Four Seasons Apts	1,569,000	1,569,000
Ch'ville/Alb Airport	93,000	93,733
State Farm	53,680	52,680
Hyatt @ Stonefield	350,000	350,000
Doubletree	551,000	551,000
Arden Place Apts	548,100	548,100
Hilton Garden Inn	191,000	191,000
Ridgewood Homes	470,000	n/a
The Lodge @ Old Trail	233,000	233,000
Gov't-Defense Complex	396,000	396,000
Harris Teeter Stores	98,000	98,000

January 2022

WATER

Class Type	Number of Connections by Area			Total
	Urban	Crozet	Scottsville	
Single-Family Residential	15,492	3,637	196	19,325
Multi-Family Residential	539	43	3	585
Commercial (Offices)	203	12	5	220
Commercial (Other)	909	76	52	1,037
Industrial	36	9	4	49
Institutional	171	31	12	214
Total Water Accounts	17,350	3,808	272	21,430
Plus Multiple Units	12,524	748	89	13,361
Total Water Units	29,874	4,556	361	34,791

SEWER

Class Type	Number of Connections by Area			Total
	Urban	Crozet	Scottsville	
Single-Family Residential	13,185	3,357	158	16,700
Multi-Family Residential	508	41	4	553
Commercial (Offices)	187	12	5	204
Commercial (Other)	704	52	44	800
Industrial	15	5	1	21
Institutional	133	24	10	167
Total Sewer Accounts	14,732	3,491	222	18,445
Plus Multiple Units	12,107	745	56	12,908
Total Sewer Units	26,839	4,236	278	31,353

POPULATION SERVED

Population served is the total Single-Family and Multi-Family units using an occupancy of 2.5 residents per unit:

	Urban	Crozet	Scottsville	Total
Total Water Customers	70,040	10,963	713	81,715
Total Sewer Customers	63,230	10,255	535	74,020

Albemarle County Service Authority
Major Customer Analysis
January 2022 and December 2021

	January 2022		December 2021		Increase(Decrease)	Increase(Decrease)
	Water*	Sewer*	Water*	Sewer*	Water Consumption	Sewer Usage
Westgate Apts.	1,389,000	1,389,000	1,161,000	1,160,700	19.64%	19.67%
Old Salem Apts.	1,659,000	1,659,000	1,424,300	1,424,300	16.48%	16.48%
Abbingtion Crossing	1,981,400	1,981,400	1,723,000	1,723,000	15.00%	15.00%
SEMF Charleston	1,835,325	1,835,325	1,629,200	1,629,200	12.65%	12.65%
Turtle Creek Apts.	1,476,100	1,475,000	1,330,900	1,330,000	10.91%	10.90%
University of Virginia	1,546,760	1,456,100	1,479,470	1,400,900	4.55%	3.94%
Westminster Canterbury	1,190,390	1,190,390	1,199,110	1,139,110	-0.73%	4.50%
ACRJ	1,248,440	1,212,440	1,341,380	1,303,380	-6.93%	-6.98%
Four Seasons Apts.	1,569,000	1,569,000	1,693,000	1,693,000	-7.32%	-7.32%
Southwood Mobile Homes	1,647,000	5,064,841	1,807,000	2,716,306	-8.85%	86.46%
Martha Jefferson Hospital	1,310,093	1,087,093	1,440,670	1,134,170	-9.06%	-4.15%
County of Albemarle	613,437	583,337	1,117,742	995,542	-45.12%	-41.41%

Note: Only major customers of the ACSA have been analyzed above. For purposes of this analysis, major customers are those who, on average, consume over one million gallons per month. Variations can occur for a variety of reasons including but not limited to: conscious conservation efforts, expansion, weather, vacancies, etc.

* -- Consumption/usage in gallons.

Albemarle County Service Authority
Major Customer Analysis
January 2022 and January 2021

	January 2022		January 2021		Increase(Decrease)	Increase(Decrease)
	Water*	Sewer*	Water*	Sewer*	Water Consumption	Sewer Usage
County of Albemarle	613,437	583,337	325,900	296,600	88.23%	96.67%
University of Virginia	1,546,760	1,456,100	1,336,800	1,330,800	15.71%	9.42%
Westgate Apts.	1,389,000	1,389,000	1,309,000	1,309,000	6.11%	6.11%
Westminster Canterbury	1,190,390	1,190,390	1,141,000	1,141,000	4.33%	4.33%
Old Salem Apts.	1,659,000	1,659,000	1,680,700	1,680,700	-1.29%	-1.29%
Martha Jefferson Hospital	1,310,093	1,087,093	1,364,800	1,063,800	-4.01%	2.19%
Four Seasons Apts.	1,569,000	1,569,000	1,664,000	1,664,000	-5.71%	-5.71%
Turtle Creek Apts.	1,476,100	1,475,000	1,597,900	1,597,000	-7.62%	-7.64%
Southwood Mobile Homes	1,647,000	5,064,841	1,889,000	839,038	-12.81%	503.65%
SEMF Charleston	1,835,325	1,835,325	2,163,150	2,163,150	-15.15%	-15.15%
Abbingtion Crossing	1,981,400	1,981,400	2,369,400	2,369,400	-16.38%	-16.38%
ACRJ	1,248,440	1,212,440	1,924,000	1,916,000	-35.11%	-36.72%

Note: Only major customers of the ACSA have been analyzed above. For purposes of this analysis, major customers are those who, on average, consume over one million gallons per month. Variations can occur for a variety of reasons including but not limited to: conscious conservation efforts, expansion, weather, vacancies, etc.

* -- Consumption/usage in gallons.

Albemarle County Service Authority
Major Customer Analysis
Year-to-date Comparison: Current Year/Prior Year -- January

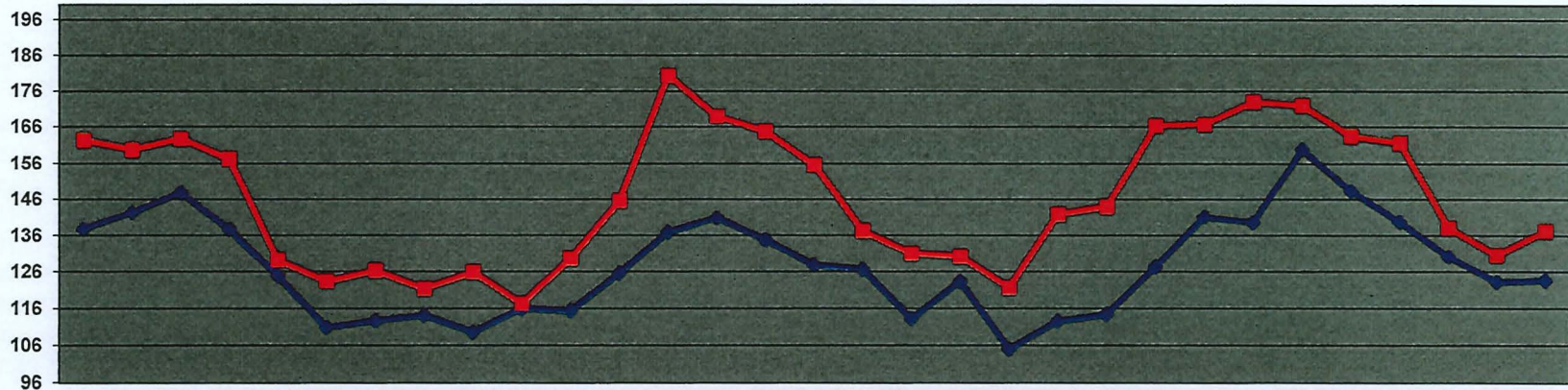
	YTD FY 2022		YTD FY 2021		Increase(Decrease)	Increase(Decrease)
	Water*	Sewer*	Water*	Sewer*	Water Consumption	Sewer Usage
County of Albemarle	10,019,063	7,716,963	6,965,200	4,857,700	43.84%	58.86%
Martha Jefferson Hospital	14,067,126	7,495,026	11,995,400	7,094,600	17.27%	5.64%
Westminster Canterbury	11,778,770	10,206,770	10,385,000	9,880,000	13.42%	3.31%
University of Virginia	17,182,180	16,800,593	15,331,000	14,801,100	12.07%	13.51%
Westgate Apts.	8,758,000	8,749,000	8,398,000	8,384,800	4.29%	4.34%
SEMF Charleston	15,159,175	15,159,175	14,673,625	14,673,625	3.31%	3.31%
Four Seasons Apts.	11,151,000	11,151,000	11,248,000	11,248,000	-0.86%	-0.86%
Abbingtion Crossing	12,520,600	12,520,600	13,333,800	13,333,800	-6.10%	-6.10%
ACRJ	10,711,630	9,674,630	11,503,000	10,710,000	-6.88%	-9.67%
Southwood Mobile Homes	13,324,000	27,426,391	14,339,000	16,775,457	-7.08%	63.49%
Old Salem Apts.	10,383,300	10,383,300	11,622,300	11,622,300	-10.66%	-10.66%
Turtle Creek Apts.	9,107,300	9,099,000	12,871,100	12,863,000	-29.24%	-29.26%

Note: Only major customers of the ACSA have been analyzed above. For purposes of this analysis, major customers are those who, on average, consume over one million gallons per month. Variations can occur for a variety of reasons including but not limited to: conscious conservation efforts, expansion, weather, vacancies, etc.

* -- Consumption/usage in gallons.

**FY 2020, 2021, and 2022 Urban Water Comparison
RWSA Flows & ACSA Customer Usage**

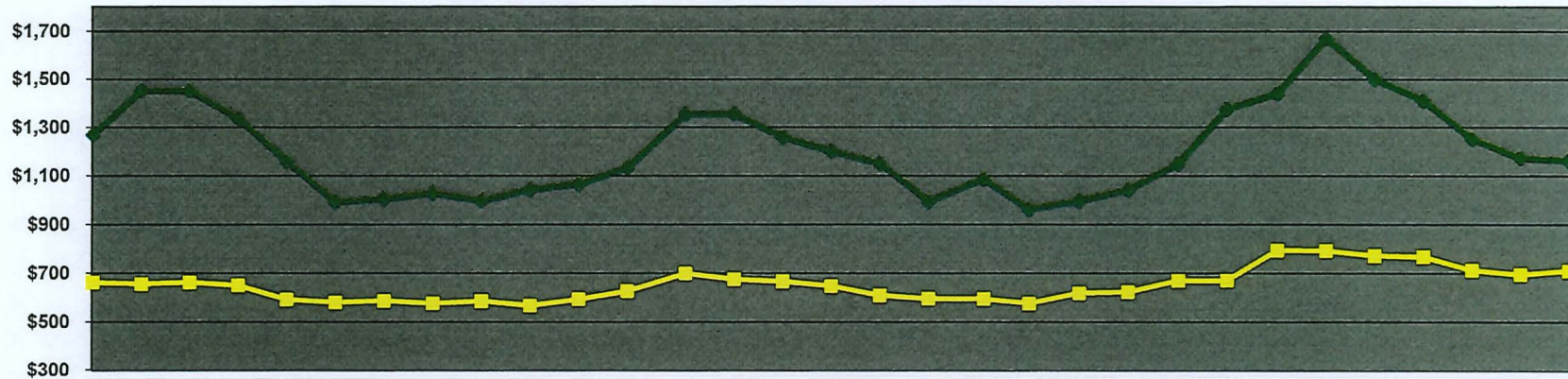
Flows & Usage (in Millions of Gallons)



	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
ACSA Usage	138	142	148	138	125	111	113	114	110	116	115	126	137	141	135	128	127	113	123	105	113	114	127	141	140	160	148	140	130	123	124
RWSA Flows	162	160	163	157	129	123	126	121	126	117	130	146	180	169	165	156	137	131	130	122	142	144	166	167	173	172	163	162	138	131	137
Variance	18%	12%	10%	14%	3%	11%	12%	6%	15%	1%	12%	16%	32%	20%	22%	22%	8%	16%	5%	16%	26%	26%	31%	18%	24%	8%	10%	15%	6%	6%	11%

**FY 2020, 2019, and 2022 Urban Water Comparison
RWSA Billed Water Charges & ACSA Billed Water Revenues**

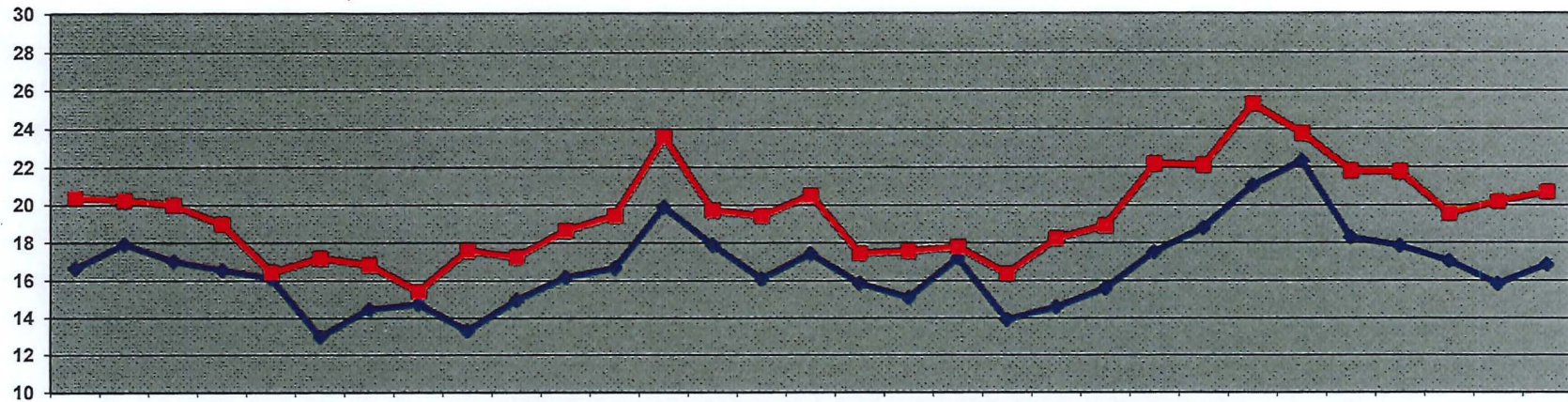
Charges and Revenues (in Thousands of Dollars)





	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
ACSA Revenue	\$1,27	\$1,45	\$1,45	\$1,34	\$1,16	\$994	\$1,00	\$1,03	\$999	\$1,04	\$1,06	\$1,13	\$1,35	\$1,35	\$1,25	\$1,20	\$1,15	\$995	\$1,08	\$962	\$997	\$1,04	\$1,15	\$1,37	\$1,43	\$1,67	\$1,50	\$1,41	\$1,25	\$1,17	\$1,16
RWSA Charges	\$661	\$656	\$662	\$651	\$592	\$580	\$586	\$576	\$585	\$567	\$593	\$626	\$699	\$675	\$666	\$647	\$609	\$596	\$594	\$576	\$378	\$419	\$480	\$704	\$795	\$793	\$772	\$768	\$713	\$695	\$711
Difference	\$610	\$799	\$791	\$689	\$569	\$414	\$422	\$454	\$414	\$476	\$473	\$508	\$656	\$680	\$592	\$554	\$542	\$399	\$492	\$386	\$378	\$419	\$480	\$704	\$645	\$877	\$728	\$642	\$539	\$479	\$453
Fiscal YTD Difference	\$0.61	\$1.41	\$2.20	\$2.89	\$3.46	\$3.87	\$4.29	\$4.75	\$5.16	\$5.64	\$6.11	\$6.62	\$0.66	\$0.68	\$0.59	\$0.55	\$0.54	\$0.40	\$0.49	\$0.39	\$0.38	\$0.42	\$0.48	\$0.70	\$0.64	\$0.88	\$0.73	\$0.64	\$0.54	\$0.48	\$0.45

Note: Fiscal YTD Difference (ONLY) in Millions of Dollars

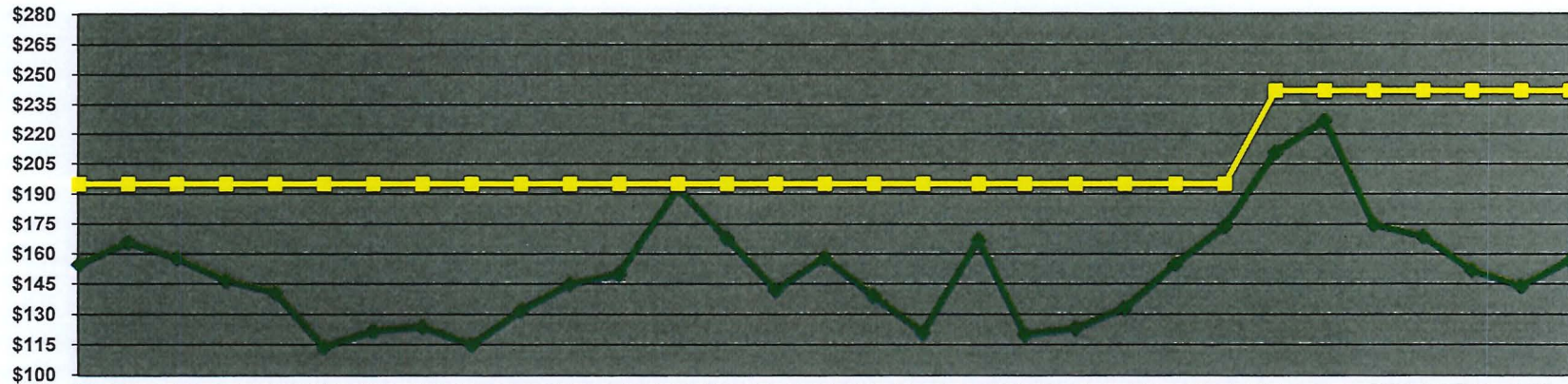
FY 2020, 2021, and 2022 Crozet Water Comparison RWSA Flows & ACSA Customer Usage

Flows & Usage (in Millions of Gallons)

	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
 ACSA Usage	17	18	17	17	16	13	15	15	13	15	16	17	20	18	16	17	16	15	17	14	15	16	18	19	21	22	18	18	17	16	17
 RWSA Flows	20	20	20	19	16	17	17	15	18	17	19	19	24	20	19	21	17	18	18	16	18	19	22	22	25	24	22	22	20	20	21
Variance	22%	13%	17%	14%	2%	32%	16%	4%	32%	15%	15%	17%	18%	10%	21%	18%	10%	16%	3%	17%	25%	21%	26%	18%	20%	6%	19%	22%	15%	27%	23%

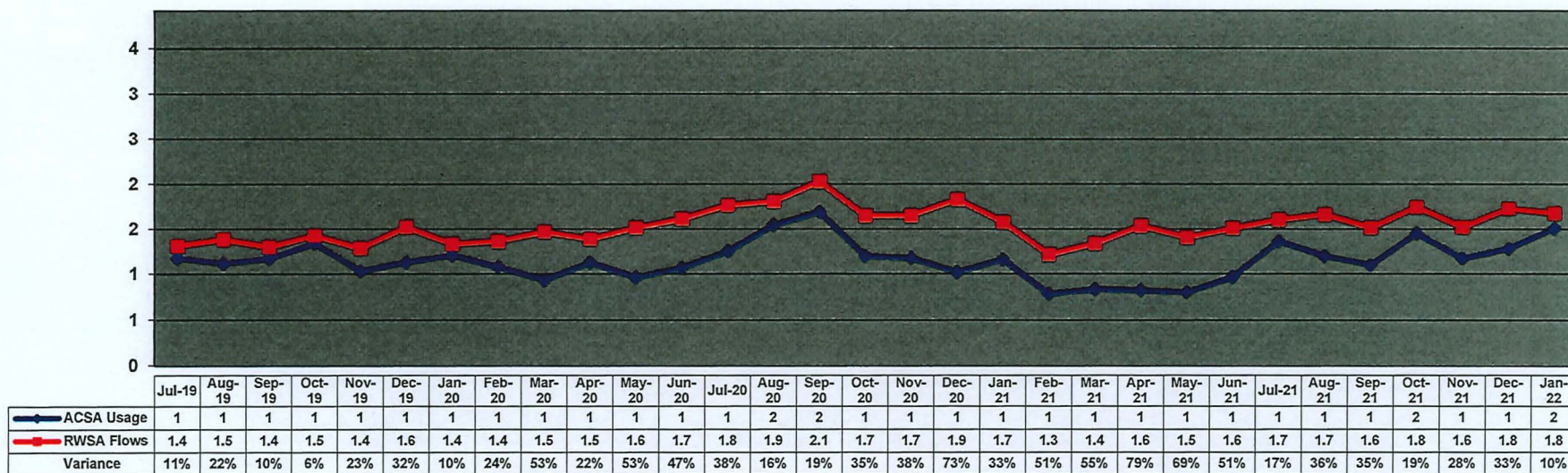
FY 2020, 2021, and 2022 Crozet Water Comparison
RWSA Billed Water Charges & ACSA Billed Water Revenues

Charges and Revenues (in Thousands of Dollars)

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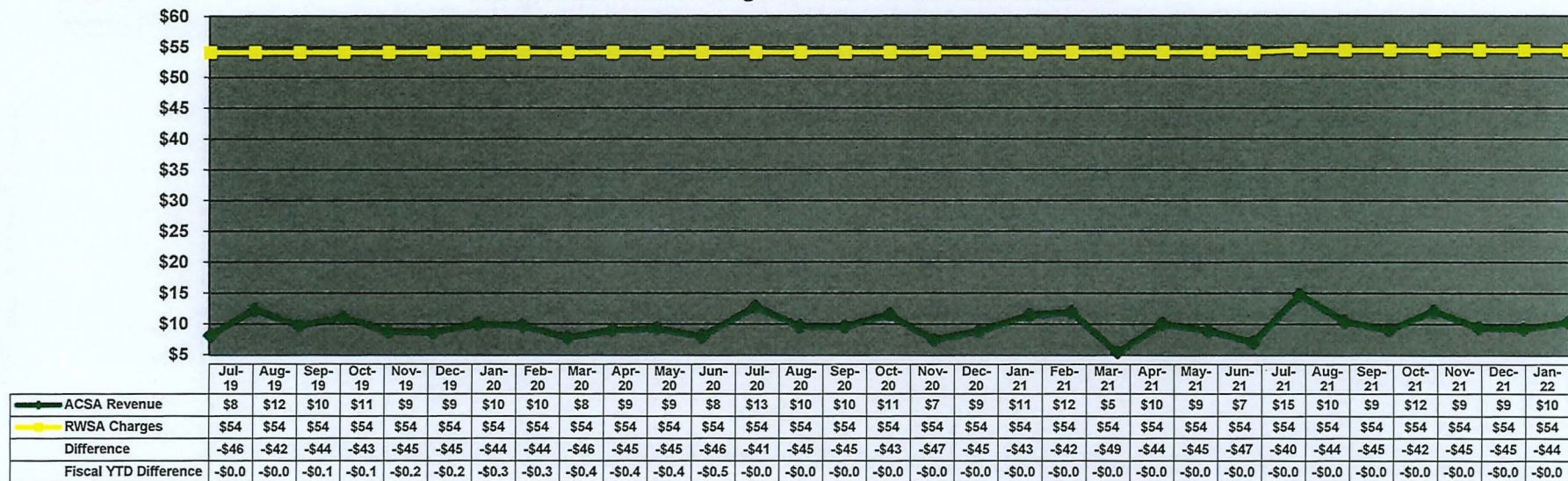
FY 2020, 2021, and 2022 Scottsville Water Comparison RWSA Flows & ACSA Customer Usage

Flows & Usage (in Millions of Gallons)



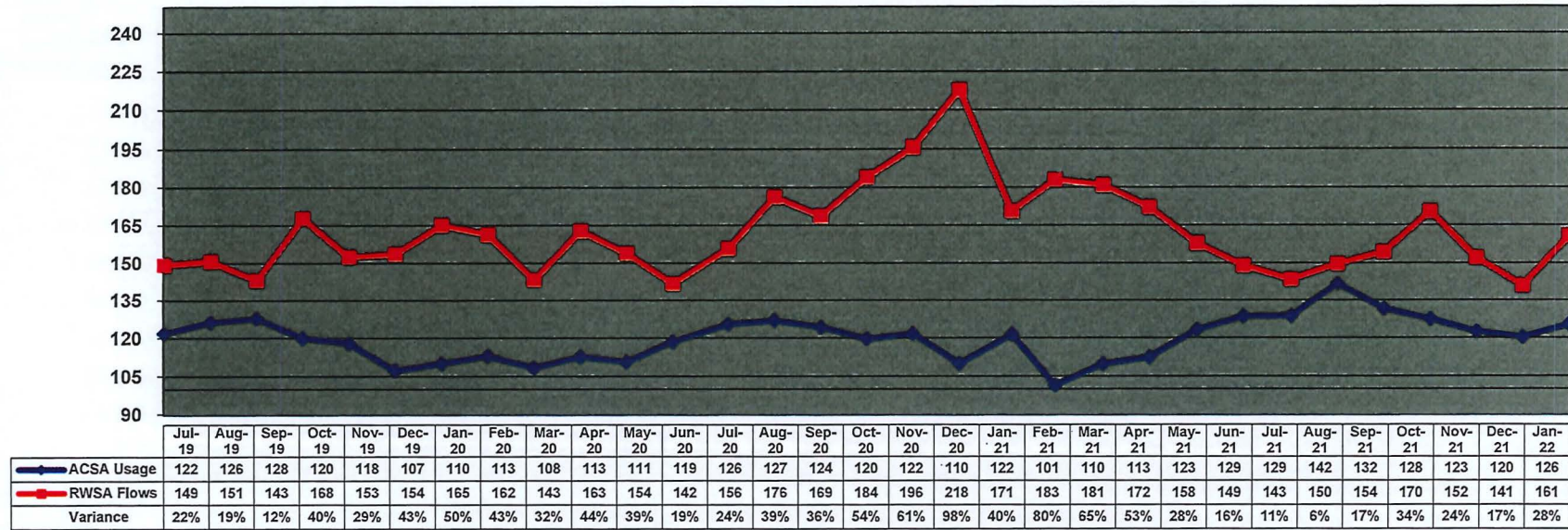
FY 2020, 2021, and 2022 Scottsville Water Comparison RWSA Billed Water Charges & ACSA Billed Water Revenues

Charges and Revenues (in Thousands of Dollars)



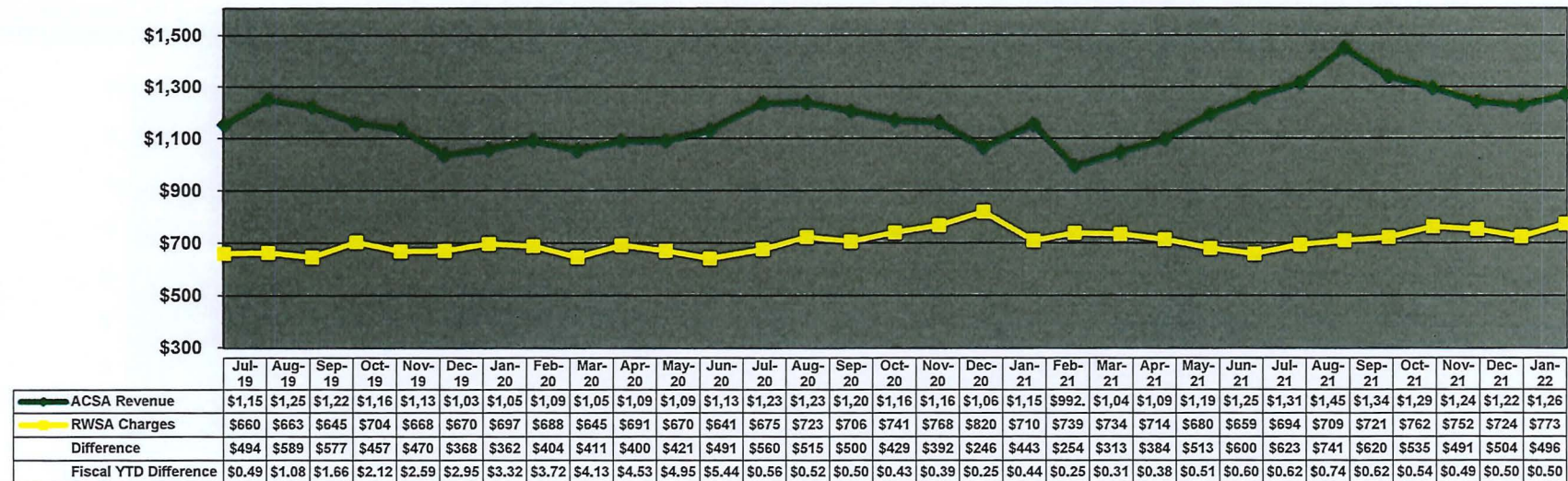
**FY 2020, 2021, and 2022 Urban (including Glenmore) & Crozet Sewer Comparison
ACSA Customer Usage & RWSA Flows**

Usage & Flows (in Millions of Gallons)



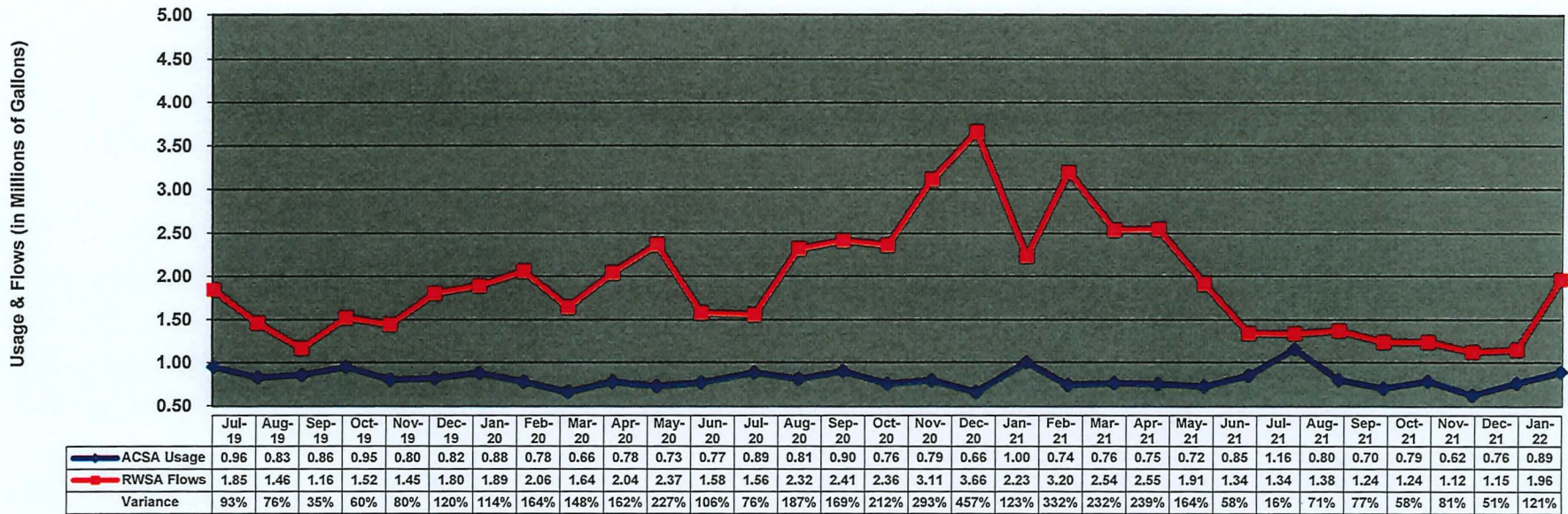
**FY 2020, 2021, and 2022 Urban (including Glenmore) & Crozet Sewer Comparison
ACSA Billed Sewer Usage & RWSA Billed Sewer Charges**

Charges & Revenues (in Thousands of Dollars)

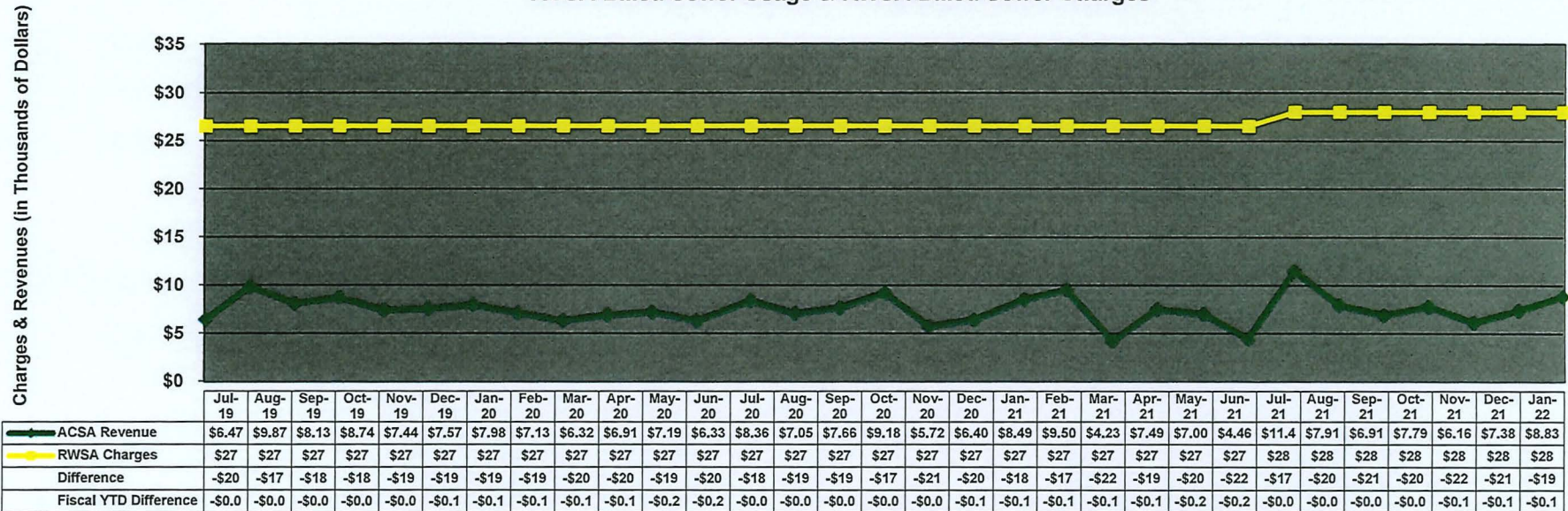


Note: Fiscal YTD Difference (ONLY) in Millions of Dollars

**FY 2020, 2021, and 2022 Scottsville Sewer Comparison
ACSA Customer Usage & RWSA Flows**



**FY 2020, 2021, and 2022 Scottsville Sewer Comparison
ACSA Billed Sewer Usage & RWSA Billed Sewer Charges**



Note: Fiscal YTD Difference (ONLY) in Millions of Dollars

Single-Family Residential Water Usage

(Including irrigation through exclusion, irrigation, and auxiliary meters)

	FY 2020											
	July	August	September	October	November	December	January	February	March	April	May	June
Level 1 (0 - 3,000 gallons)	42,713,300	43,137,333	43,334,400	43,096,780	42,936,430	42,119,430	42,703,630	42,241,370	41,816,500	44,763,900	44,866,800	45,270,400
Level 2 (3,001 - 6,000 gallons)	15,949,700	16,292,100	16,866,900	16,130,400	14,335,400	12,178,000	13,878,000	12,751,500	11,702,100	17,979,400	18,259,500	19,520,800
Level 3 (6,001 - 9,000 gallons)	4,810,200	5,067,100	5,227,300	5,376,600	3,511,800	2,062,800	2,654,300	2,244,300	1,845,500	4,227,900	4,419,500	5,469,300
Level 4 (over 9,000 gallons)	7,075,500	7,794,200	8,297,500	8,434,400	3,764,200	1,254,000	1,733,000	1,154,300	2,152,500	1,849,800	2,662,900	3,968,100
Total	70,548,700	72,290,733	73,726,100	73,038,180	64,547,830	57,614,230	60,968,930	58,391,470	57,516,600	68,821,000	70,208,700	74,228,600

	FY 2021											
	July	August	September	October	November	December	January	February	March	April	May	June
Level 1 (0 - 3,000 gallons)	45,910,300	45,665,700	45,167,300	44,787,100	45,134,400	44,331,500	45,900,400	43,314,333	43,786,600	44,618,100	45,900,923	46,255,313
Level 2 (3,001 - 6,000 gallons)	21,030,200	19,112,200	17,329,000	16,285,100	16,315,200	14,519,300	18,251,700	12,572,600	13,283,000	14,314,500	17,440,134	19,373,374
Level 3 (6,001 - 9,000 gallons)	7,266,400	5,921,900	4,575,900	4,441,300	3,890,700	2,817,300	4,255,500	2,201,100	2,371,500	2,609,300	4,280,004	6,283,886
Level 4 (over 9,000 gallons)	9,237,400	7,302,100	4,762,100	4,978,000	3,886,400	1,744,700	2,307,000	1,477,100	1,583,000	1,631,400	3,370,714	7,573,293
Total	83,444,300	78,001,900	71,834,300	70,491,500	69,226,700	63,412,800	70,714,600	59,565,133	61,024,100	63,173,300	70,991,775	79,485,866

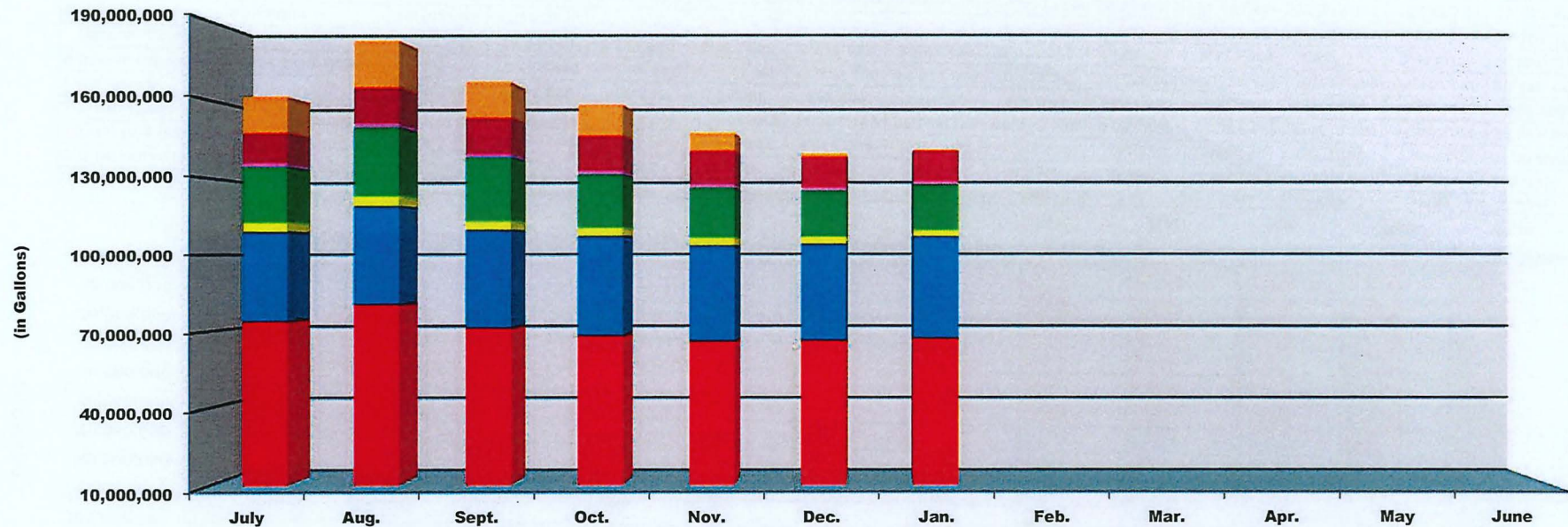
	FY 2022											
	July	August	September	October	November	December	January	February	March	April	May	June
Level 1 (0 - 3,000 gallons)	45,715,768	46,650,649	45,763,766	45,032,204	45,171,862	45,419,967	45,519,835					
Level 2 (3,001 - 6,000 gallons)	18,273,794	20,170,499	17,049,266	15,725,032	15,151,382	14,875,487	15,122,551					
Level 3 (6,001 - 9,000 gallons)	6,123,440	7,439,890	5,100,810	4,617,427	3,808,811	2,996,781	3,076,904					
Level 4 (over 9,000 gallons)	8,544,212	14,373,474	7,815,394	7,173,929	4,280,811	2,811,464	3,100,290					
Total	78,657,214	88,634,512	75,729,236	72,548,592	68,412,866	66,103,699	66,819,580	-	-	-	-	-

System-Wide Irrigation Water Usage

(All usage measured through exclusion, irrigation, and auxiliary meters)

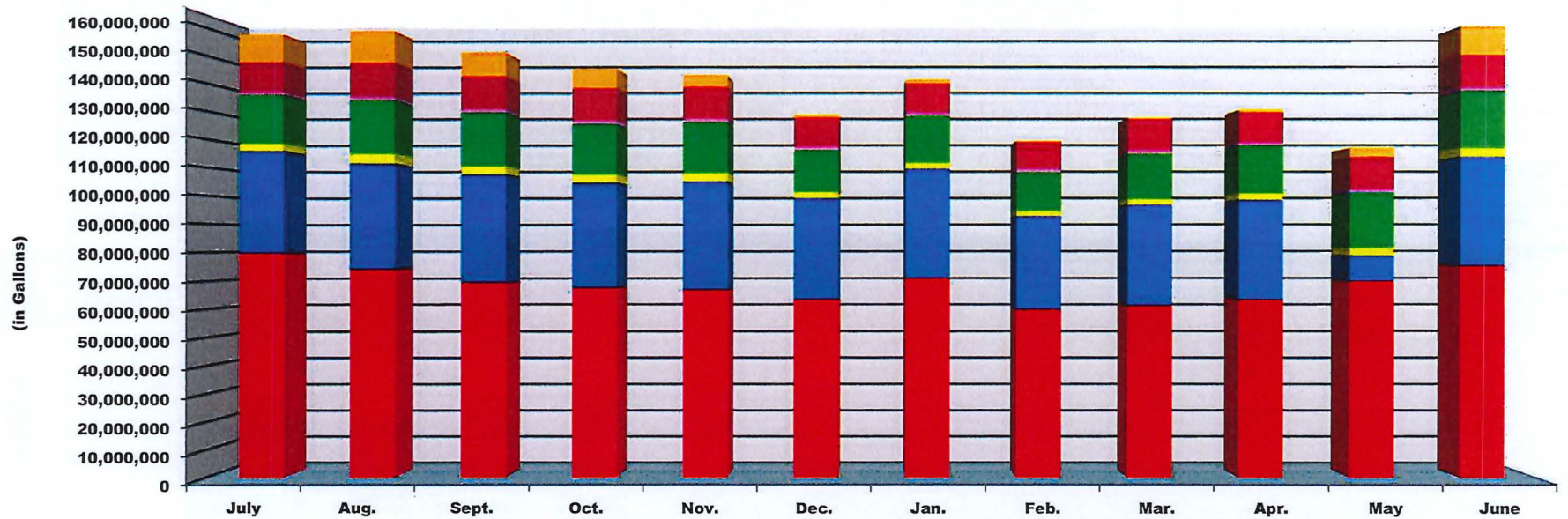
FY 2022	July	August	September	October	November	December	January	February	March	April	May	June
Level 1 (0 - 3,000 gallons)	227,735	245,814	228,478	203,450	155,121	17,400	3,524					
Level 2 (3,001 - 6,000 gallons)	962,522	1,040,603	904,153	849,482	602,101	69,638	14,390					
Level 3 (6,001 - 9,000 gallons)	1,134,487	1,351,889	1,085,629	1,060,900	690,400	56,305	11,043					
Level 4 (over 9,000 gallons)	11,756,763	15,108,350	11,413,176	9,936,698	5,645,695	1,263,435	441,698					
Total	14,081,507	17,746,655	13,631,436	12,050,529	7,093,317	1,406,778	470,655	-	-	-	-	-

Monthly Water Consumption Fiscal Year 2022

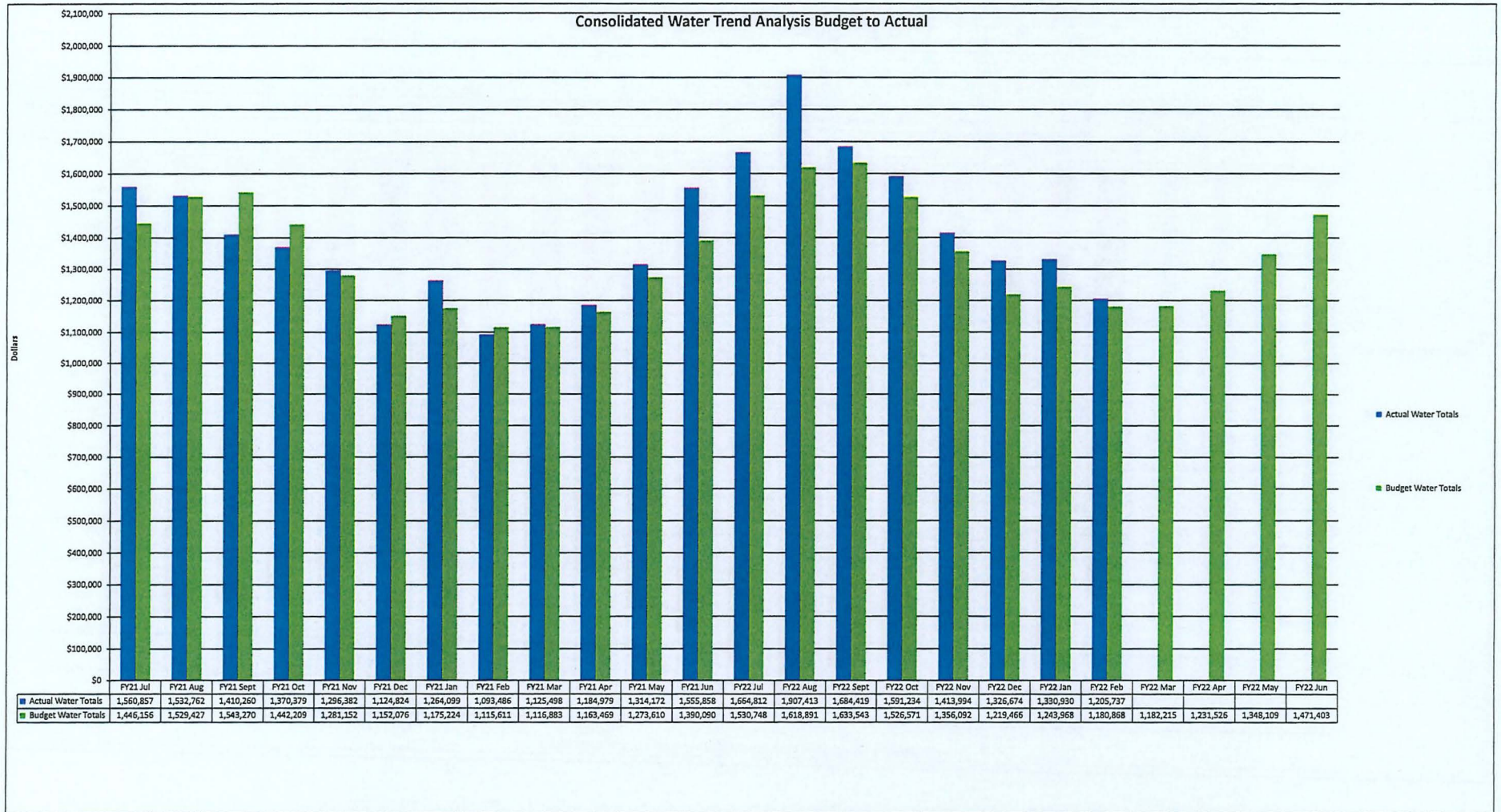


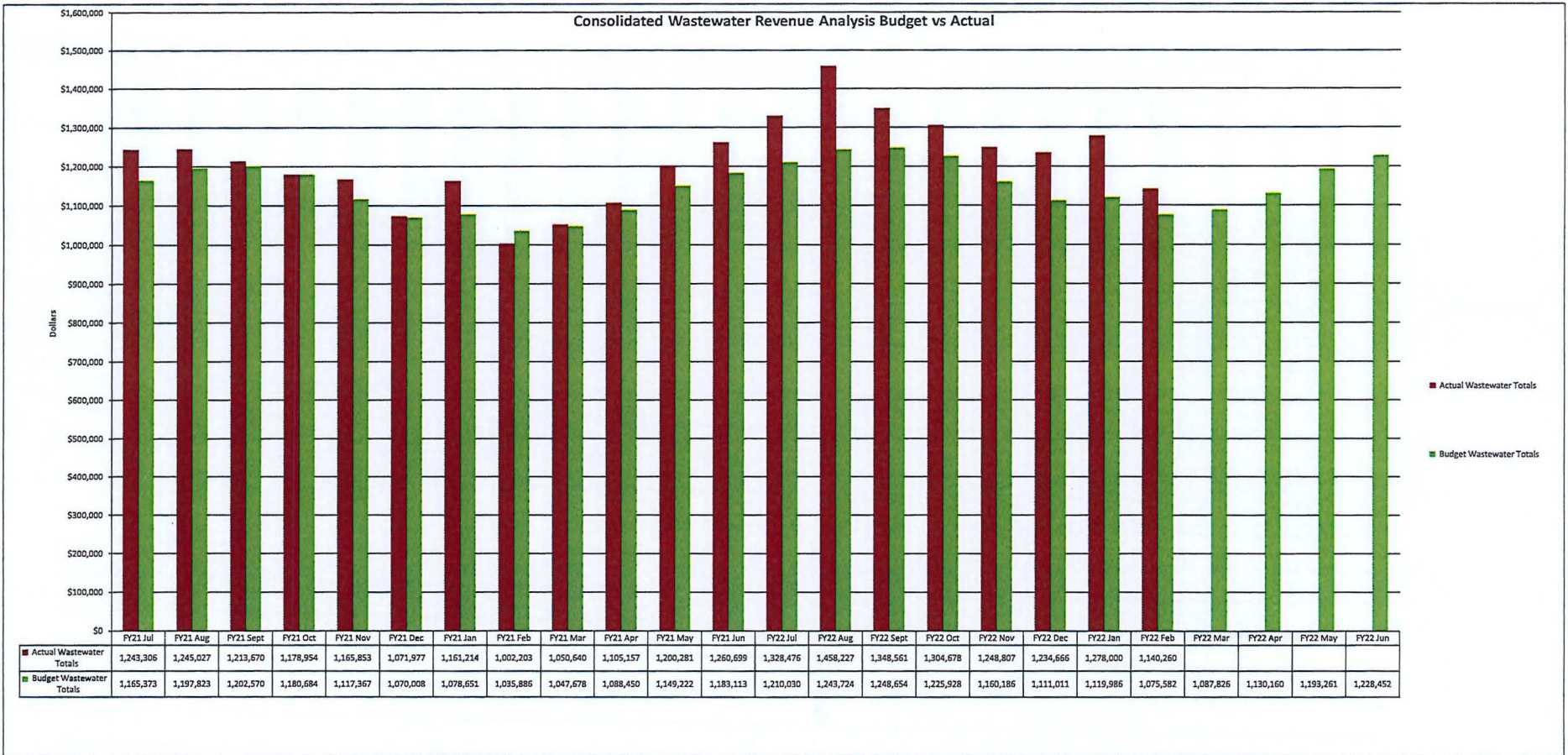
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
% Irrigation to total	8.73%	9.74%	8.19%	7.63%	4.82%	1.01%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Irrigation	14,081,507	17,746,655	13,631,436	12,050,529	7,093,317	1,406,778	470,655					
Institutional - Domestic Consumption	11,582,738	13,489,815	13,865,774	13,494,096	12,724,964	11,630,981	11,883,862					
Industrial	1,262,587	1,519,053	1,193,165	1,128,786	1,121,916	1,050,113	810,668					
Comm. (Other) - Domestic Consumption	21,372,075	26,208,337	24,479,570	20,510,511	19,291,182	17,778,992	17,574,070					
Offices - Domestic Consumption	3,879,956	4,069,097	3,591,164	3,441,196	3,335,735	3,025,301	2,634,609					
MFR - Domestic Consumption	35,402,612	38,868,005	38,709,217	39,341,545	37,682,580	38,067,253	40,137,903					
SFR - Domestic Consumption	73,692,893	80,350,479	71,047,224	67,925,415	65,790,587	65,994,951	66,908,674					

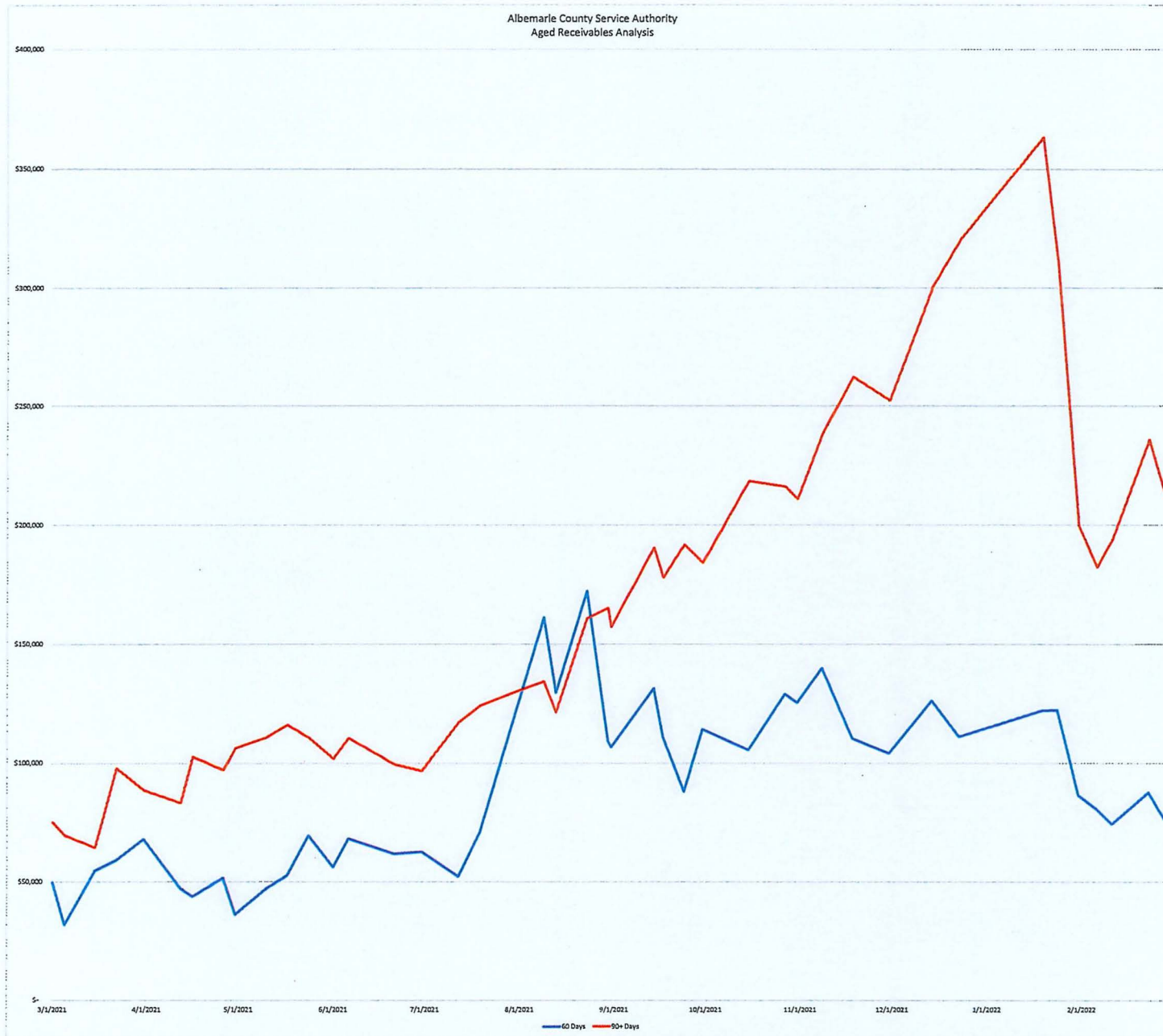
Monthly Water Consumption Fiscal Year 2021



	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
% Irrigation to total	6.43%	7.32%	5.75%	5.06%	2.94%	0.85%	0.99%	0.38%	0.35%	0.69%	2.81%	6.44%
Total Irrigation	10,119,091	11,616,375	8,666,494	7,348,137	4,183,034	1,083,884	1,388,900	448,272	442,048	894,200	3,277,869	10,315,679
Institutional - Domestic Consumption	10,568,409	12,140,425	11,678,506	11,592,763	11,532,166	10,326,116	10,458,000	9,512,728	11,284,152	10,850,000	11,623,430	11,941,286
Industrial	886,300	1,008,000	998,100	964,600	959,200	898,200	866,700	1,017,500	887,700	842,500	942,247	919,754
Comm. (Other) - Domestic Consumption	17,206,900	18,949,400	18,962,000	17,753,400	17,829,600	14,671,800	16,424,700	13,374,600	15,838,400	16,733,200	19,222,088	20,173,174
Offices - Domestic Consumption	2,911,400	3,649,600	3,121,500	3,109,800	3,273,900	2,403,400	2,476,900	2,068,300	2,213,000	2,563,700	2,911,328	3,450,136
MFR - Domestic Consumption	36,132,000	37,252,500	37,977,025	37,009,175	37,967,925	35,675,750	38,491,150	32,947,050	35,512,025	35,090,050	8,922,190	38,394,860
SFR - Domestic Consumption	79,627,400	74,038,200	69,379,800	67,387,100	66,738,600	63,181,700	70,731,000	59,544,933	61,021,500	63,113,371	69,645,238	75,023,673







Albemarle County Service Authority
February 2022 Check Registers

CHECK NUMBER	CHECK DATE	VENDOR NAME	AMOUNT	DESCRIPTION OF ITEMS OVER \$5,000
Wire	2/10/2022	Rivanna Water & Sewer Authority	1,808,834.83	Bulk Water/Sewer Treatment
62295	02/15/2022	Metra Industries	157,552.46	Hessian Hills WMRP Construction, January 22
62357	02/28/2022	Hall Automotive	52,474.60	2 - '21 Ford Rangers XL Crew Cab 4x4 (RAF)
62330	02/15/2022	Whitman, Requardt & Associates	25,954.04	Broadway Street WM Replacement
62325	02/15/2022	Virginia Department	19,250.00	Betterment Agreement - Ragged Mountain PH WM
62347	02/28/2022	Dewberry Engineers Inc	17,593.00	Barracks West WM Replacement Design thru 12/31/21
62319	02/15/2022	U S Postmaster	12,800.00	Standing PO for Bulk Mail FY 22
62368	02/28/2022	Paymentus	12,572.93	Monthly Charges - Credit/Debit Cards - Jan 22
62385	02/28/2022	Whitman, Requardt & Associates	11,858.28	Madison Office Park Pump Station
62297	02/15/2022	NewGen Strategies & Solutions	11,230.00	Rate Study FY 22 - New Gen thru 1/31/22
62278	02/15/2022	RCA Laboratory Services LLC dba	9,000.00	December 2021 Covid-19 Samples 60 x \$90
62409	02/28/2022	East Coast Utility Contractors, Ltd.	6,771.60	Sewer Pump Station Comminutors, 11/15-12/22/21
62324	02/15/2022	Verizon Wireless	6,440.38	Monthly cellular service
62312	02/15/2022	St John, Bowling, Lawrence & Quagliai	6,350.00	Legal Services January 22
62365	02/28/2022	Norfolk Southern Railway	6,000.00	License Agreement/Norfolk Southern - AMI
62269	02/15/2022	Dominion Energy Virginia	5,370.00	Monthly electrical charges
62344	02/28/2022	Core & Main LP	5,183.32	AMI Meters/MXUs
62352	02/28/2022	Evoqua Water Technologies LLC	4,943.20	
62370	02/28/2022	Quarles Petroleum Inc	4,648.59	
62323	02/15/2022	USABlueBook	4,130.77	
62303	02/15/2022	Quarles Petroleum Inc	4,081.82	
62257	02/15/2022	Bank of America	3,826.69	
62356	02/28/2022	Hach Company Inc	3,782.00	
62351	02/28/2022	Eds Floor Care Services LLC	3,703.33	
62379	02/28/2022	Tiger Fuel Company	3,623.19	
62329	02/15/2022	WaterPIO	3,500.00	
62353	02/28/2022	Ferguson Enterprises LLC #1300	3,251.00	
62381	02/28/2022	UniFirst Corporation	3,049.28	
62300	02/15/2022	PFM Asset Management LLC	2,977.21	
62262	02/15/2022	Core & Main LP	2,699.85	
62349	02/28/2022	Dominion Energy Virginia	2,628.46	
62378	02/28/2022	Tencarva Machinery Company Inc	2,493.67	
62366	02/28/2022	Office Depot Inc	2,423.08	
62272	02/15/2022	Evoqua Water Technologies LLC	2,338.00	
62252	02/15/2022	Albemarle Lock & Safe Company	2,100.00	
62248	02/03/2022	Reserve Account	2,000.00	
62310	02/15/2022	Stemmle Plumbing	2,000.00	
62354	02/28/2022	Fortiline Inc	1,800.00	
62250	02/15/2022	Advance Auto Parts	1,704.43	
62320	02/15/2022	UniFirst Corporation	1,608.21	
62311	02/15/2022	Servicemaster Cleaning Charlottesville	1,535.00	
62326	02/15/2022	Virginia Utility Protection Service	1,429.05	
62308	02/15/2022	Rivanna Water & Sewer Authority	1,412.00	
62317	02/15/2022	Tyler Technologies Inc	1,400.00	
62291	02/15/2022	Mailing Services of Virginia	1,341.00	
62371	02/28/2022	Rappahannock Electric Cooperative	1,261.22	
62265	02/15/2022	The Daily Progress	1,240.00	
62364	02/28/2022	Michael Baker International Inc	1,115.00	
62288	02/15/2022	Lawrence Equipment Inc	1,096.94	
62270	02/15/2022	Draper Aden Associates, Inc.	1,066.36	
62290	02/15/2022	Lowes Companies Inc	1,059.03	
62363	02/28/2022	Mailing Services of Virginia	910.20	
62276	02/15/2022	Flora Pettit PC	875.00	
62390	02/27/2022	Guardian	852.08	
62375	02/28/2022	S L Williamson Co Inc	841.60	
62400	02/27/2022	Guardian	826.68	

62309	02/15/2022	Roach, William H.	785.35
62393	02/27/2022	Minnesota Life Insurance Company	740.37
62403	02/27/2022	Minnesota Life Insurance Company	740.34
62382	02/28/2022	University Tire & Auto Center Inc	689.08
62289	02/15/2022	LB Technology Inc	687.50
62338	02/28/2022	Allison Partners	585.00
62342	02/28/2022	City of Charlottesville	575.53
62306	02/15/2022	Republic Services	555.18
62407	02/27/2022	VACORP	547.12
62266	02/15/2022	Data West Corporation	540.00
62267	02/15/2022	Timothy J. Johnson	532.00
62345	02/28/2022	Crown Communication LLC	515.00
62362	02/28/2022	Jim Price Chevrolet	487.45
62263	02/15/2022	County of Albemarle	448.00
62343	02/28/2022	Comcast	442.52
62315	02/15/2022	Traffic Safety Supplies, LLC	439.95
62332	02/16/2022	Treasurer of Virginia	430.90
62406	02/27/2022	Treasurer of Virginia	430.90
62281	02/15/2022	Herr, Douglas G.	430.50
62271	02/15/2022	Ennas Technology Systems Integrator	420.00
62277	02/15/2022	Fortiline Inc	414.43
62313	02/15/2022	The Supply Room Companies Inc	399.27
62298	02/15/2022	Office Depot Inc	392.91
62284	02/15/2022	James River Equipment LLC	387.96
62301	02/15/2022	Pitney Bowes, Inc.	382.46
62340	02/28/2022	Appalachian Power	374.35
62305	02/15/2022	Red Wing Business Advantage Account	363.99
62386	02/27/2022	ACAC	341.00
62396	02/27/2022	ACAC	335.00
62392	02/27/2022	Herbert Beskin Trustee	334.50
62402	02/27/2022	Herbert Beskin Trustee	334.50
62307	02/15/2022	Richmond Times-Dispatch	332.40
62341	02/28/2022	AutoZone Inc	329.85
62360	02/28/2022	James M. Cox Company, Inc.	315.00
62304	02/15/2022	Quarles Petroleum Incorporated	314.27
62318	02/15/2022	U S Bank	291.67
62373	02/28/2022	Ricoh USA Inc	275.00
62299	02/15/2022	Performance Signs LLC	242.97
62328	02/15/2022	VoiceLink Communications	234.71
62286	02/15/2022	Epitome Networks	218.75
62249	02/15/2022	Action Lock Safe & Security Co	209.60
62377	02/28/2022	The Supply Room Companies Inc	200.99
62273	02/15/2022	Anne Farrell	200.00
62372	02/28/2022	Red Wing Business Advantage Account	200.00
62322	02/15/2022	University Tire & Auto Center Inc	196.92
62296	02/15/2022	Miller's Supplies at Work	195.74
62253	02/15/2022	Shannon Jenkins	195.00
62335	02/28/2022	Advantage Office Systems	174.00
62259	02/15/2022	Central Battery Specialist	172.22
62358	02/28/2022	Hathaway	168.73
62394	02/27/2022	Piedmont Family YMCA	168.30
62404	02/27/2022	Piedmont Family YMCA	168.30
62275	02/15/2022	Fisher Auto Parts Inc	164.07
62327	02/15/2022	VLGMA	160.00
62283	02/15/2022	James River Communications Inc	159.00
62367	02/28/2022	Onset Computers	157.82
62333	02/16/2022	Virginia Department	150.00
62408	02/27/2022	Virginia Department	150.00
62410	02/27/2022	Flexible Benefit Administrators, Inc	148.25
62339	02/28/2022	American Pest	142.60
62255	02/15/2022	Aqua Air Laboratories Inc	135.00

62334	02/28/2022	Advance Auto Parts	121.78
62383	02/28/2022	UVA-WorkMed	120.00
62395	02/27/2022	Snap Fitness	119.88
62405	02/27/2022	Snap Fitness	119.88
62337	02/28/2022	Allied Concrete Company	115.14
62287	02/15/2022	John Deere Financial	101.24
62258	02/15/2022	Kenneth Buynak	100.00
62282	02/15/2022	Anne Hiss	100.00
62302	02/15/2022	Florence Pitts	100.00
62331	02/15/2022	Robert Zak	100.00
62380	02/28/2022	Timmons Group, Inc.	98.40
62314	02/15/2022	Tiger Fuel Company	95.00
62264	02/15/2022	Culpeper Auto Parts	94.02
62261	02/15/2022	City of Charlottesville	88.97
62359	02/28/2022	Hydraflo, Inc.	85.60
62361	02/28/2022	MyFleetCenter.com	80.63
62254	02/15/2022	API Service Center	80.00
62355	02/28/2022	Thomas and Lucy Goeke	75.00
62321	02/15/2022	United Rentals	74.00
62374	02/28/2022	Rivanna Solid Waste Authority	70.00
62268	02/15/2022	Document Destruction of Virginia, LLC	69.95
62336	02/28/2022	Albemarle Lock & Safe Company	65.85
62274	02/15/2022	Ferguson Enterprises LLC #1300	63.53
62251	02/15/2022	Aireco Supply Inc	56.26
62280	02/15/2022	Grainger	55.40
62376	02/28/2022	Specialty Fasteners of Charlottesville	54.98
62384	02/28/2022	W A Wells Excavating LLC	54.00
62369	02/28/2022	Quality Welding	47.89
62285	02/15/2022	MyFleetCenter.com	44.98
62293	02/15/2022	Martin Hardware Company	44.29
62294	02/15/2022	Mayer Electric Supply Company Inc	44.08
62256	02/15/2022	AutoZone Inc	43.41
62346	02/28/2022	Culpeper Auto Parts	41.48
62260	02/15/2022	Central Virginia Electric Cooperative	33.74
62391	02/27/2022	The Gym	32.50
62401	02/27/2022	The Gym	32.50
62279	02/15/2022	Gingerich Outdoor Power Specialist	30.44
62316	02/15/2022	Troy's Auto & Diesel LLC	20.00
62387	02/27/2022	Anytime Fitness	20.00
62388	02/27/2022	Anytime Fitness	20.00
62389	02/27/2022	Anytime Fitness - Zion VA	20.00
62397	02/27/2022	Anytime Fitness	20.00
62398	02/27/2022	Anytime Fitness	20.00
62399	02/27/2022	Anytime Fitness - Zion VA	20.00
62292	02/15/2022	Mansfield Oil Company	19.55
62348	02/28/2022	DexYP	6.59

ALBEMARLE COUNTY SERVICE AUTHORITY**AGENDA ITEM EXECUTIVE SUMMARY**

AGENDA TITLE: FY 2022 Capital Improvement Program (CIP)	AGENDA DATE: March 17, 2022
STAFF CONTACT(S)/PREPARER: Peter C. Gorham, P.E., Director of Engineering	CONSENT AGENDA: ACTION: ■ INFORMATION: ■ ATTACHMENTS: YES

BACKGROUND: Monthly CIP Memo including a status report on active CIP Projects, changes to the CIP Schedule, the revised CIP Schedule, and a list of Active Private Development Projects.

DISCUSSION:

- Questions about the status of active CIP Projects.
- Schedule changes for five projects.

BUDGET IMPACT: None.

RECOMMENDATIONS: None.

BOARD ACTION REQUESTED: Approval of the Consent Agenda.

ATTACHMENTS:

- Monthly CIP Report
- List of CIP schedule changes
- Revised CIP Schedule
- List of Active Private Development Projects

Albemarle County Service Authority (ACSA)
Capital Improvement Project Report
March 2022

a) Risk Assessment Improvements Phase 1 (Account Code 1621):

Consultant:	Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	95%
Contractor:	Undetermined
Construction Start:	2022
Completion:	2022
Total Budget:	\$1,476,050
Appropriated Funds:	\$518,898

Project Description - After the attacks of September 11, 2001 industry leaders were tasked by the federal government to prioritize requirements for the protection of the nation's critical infrastructure. The Water Sector, encompassing both water and wastewater, was one of the categories /identified that were expected to remain resilient and continue operating regardless of emergency events. As part of the on-going preparedness program for the ACSA to remain resilient a Vulnerability Assessment was completed in conjunction with our community partners. All our critical assets were analyzed for risks caused by both natural and human-made hazards, using the AWWA Standard J100: *Risk and Resilience Management of Water and Wastewater Systems*. The result was a report to establish mitigation measures to lower risks and increase resiliency. Some mitigation measures have already been completed with others phased over the next two to three fiscal years based upon priority.

3/8/2022: All work on the pedestrian gate mechanisms has been completed and the security camera has been installed. Dewberry is making final edits to the Contract Documents for the Priority 1 risk mitigation improvements.

b) Energy Audit (Account Code 1625):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Study
Percent Complete:	85%
Contractor:	Unknown
Construction Start:	N/A
Completion:	June 2022 (Study)
Total Budget:	\$300,000
Appropriated Funds:	\$296,000

Project Description - This project will consist of a comprehensive energy audit of the Operations Center and all pump stations. It will evaluate current energy consumption and the factors that drive it, as well as, an analysis of utility rate structures to identify potential cost savings. Surveys will be conducted of all systems, including operation and maintenance procedures to determine where energy conservation can be improved.

3/8/2022: All existing fleet data has been sent to Ramboll and they have created a spreadsheet tool to assist in the decision-making process for conversion of our fleet to electric vehicles (EVs). ACSA staff will also send confirmation of pump station static head values to Ramboll to assess potential energy conservation measures related to pump stations operations.

c) Avon Street Maintenance Yard (Account Code 1622):

Consultant:	Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	65%
Contractor:	Undetermined
Construction Start:	2023
Completion:	2024
Total Budget:	\$4,315,000
Appropriated Funds:	\$634,312

Project Description - As part of the Operations Center Expansion Study our consultant reviewed all properties owned by the ACSA that could be utilized as we grow. The Avon Street property has long been held as a future location to build additional facilities in a central location, as needed. The current Maintenance Yard at our Operations Center is becoming overcrowded with equipment and materials, causing us to locate some equipment and larger materials in the former ACSA Maintenance Yard at the Crozet Water Treatment Plant, which we lease from RWSA. This project will begin to develop the Avon Street property into a much larger vehicle and materials storage facility, including a training area for our equipment operators.

3/8/2022: The initial site plan has been approved by the County with conditions. Dewberry and ACSA staff will meet with County staff to clarify some of their comments before revising and submitting the final site plan, WPO plan, and VSMP.

d) HVAC System Upgrade (Account Code 1619):

Consultant:	Whitman, Requardt & Associates, Inc. (WRA)
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Project Status:	Construction
Percent Complete:	95%
Contractor:	eTEC Mechanical Corporation (eTEC)
Construction Start:	February 2019
Completion:	March 2022
Total Budget:	\$1,378,000
Appropriated Funds:	\$1,034,297

Project Description - During recent years it has become apparent that the HVAC system serving the Administration Building is in need of replacement. This evaluation will review the existing HVAC system and recommend solutions and alternatives. HVAC efficiency and life cycle cost analysis will be performed as part of the evaluation.

3/8/2022: The programming subcontractor working for eTEC is trying to resolve a conflict with the heating and cooling in certain parts of the Administration Building. All other issues revealed by the Functional Testing have been addressed.

e) Four-Story Backflow Prevention Device Retrofit (Account Code 1765):

Consultant:	ACSA/Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	75%
Contractor:	Undetermined
Construction Start:	2022
Completion:	2022
Total Budget:	\$348,000
Appropriated Funds:	\$353,000

Project Description - In late 2018 ACSA staff became aware of four-story residential structures being constructed without proper backflow prevention devices. Section 8 of the ACSA Rules and Regulations details the ACSA Backflow Prevention Program. This program is in accordance with 12VAC5-590-570 through 12VAC5-590-630 of the Virginia Waterworks Regulations. The Containment Policy in 12VAC5-590-610 outlines the requirement for a backflow prevention (BFP) device on the domestic water service line to high rise structures, defined as four (4) or more stories.

3/8/2022: Data acquisition has been completed for another two customers with several other customers actively working with ACSA staff to provide their plumbing information. The last five customers who have been unresponsive will be sent letters via FedEx in a final attempt to contact them. Dewberry is making final updates to the

bidding documents to reflect a work order approach in assigning tasks to the selected contractor. ACSA staff is planning to bid this project near the end of March 2022 and will make an educated guess on the required work at any residences for which we don't have plumbing data, based upon the other respondents.

f) Scottsville Phase 4 Water Main Replacement (Account Code 1758):

Consultant:	Whitman, Requardt & Associates, Inc. (WRA)
Project Status:	Design
Percent Complete:	50%
Contractor:	Undetermined
Construction Start:	2023
Completion:	2024
Total Budget:	\$4,369,900
Appropriated Funds:	\$346,000

Project Description - This project continues our systematic program to replace undersized and deteriorating asbestos-cement and cast iron water mains throughout our water systems. The design will begin in FY 2019 and carry over into FY 2020. Construction is not anticipated to occur until FY 2022 and FY 2023.

3/8/2022: ACSA and RWSA staff met at their Water Storage Tank to discuss potential rehabilitation of the cast iron water mains that run under the tank, during our replacement project. WRA has prepared a proposal for additional design services related to an increased number of test holes and geotechnical borings, plus preparation of easement plats. A Board authorization is proposed for this project.

g) Crozet Phase 4 Water Main Replacement (Account Code 1756):

Consultant:	Michael Baker International, Inc. (Baker)
Project Status:	Design
Percent Complete:	100%
Contractor:	Undetermined
Construction Start:	2023
Completion:	2023
Total Budget:	\$5,432,700
Appropriated Funds:	\$520,911

Project Description - Our Strategic Plan calls for the eventual replacement of all asbestos-cement and PVC (pre-1990) water mains in our system, as they are older and made of a weaker material than the current industry norm. This project continues our systematic program to replace the aging and undersized asbestos-cement and PVC water mains in the Crozet

Water System. This is the fourth of five phases that have been defined to carry out these improvements.

3/8/2022: ACSA staff have acquired one more easement bringing the total to 13 of 19 easements obtained. Some of the unresponsive customers will be sent letters via FedEx to see if we can make contact by that method.

h) Ragged Mountain Phase 1 Water Main Replacement (Account Code 1760):

Consultant:	Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	90%
Contractor:	Undetermined
Construction Start:	2022
Completion:	2023
Total Budget:	\$696,000
Appropriated Funds:	\$124,975

Project Description - This project will replace the oldest active water main remaining in our system, which was part of the water main that served customers out Reservoir Road. This cast iron pipe is over 90 years old and is severely tuberculated, which greatly reduces the flow capacity in this section.

3/8/2022: ACSA has entered into a contract with the Appraisal Group to perform the easement appraisal on the UVAF property. The Appraisal Group has conducted a field visit to the property with a representative of UVAF. VDOT will be advertising their Morey Creek bridge replacement project the week of March 7, 2022.

i) Jefferson Village Water Main Replacement (Account Code 1747):

Consultant:	Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	100%
Contractor:	Undetermined
Construction Start:	2022
Completion:	2022
Total Budget:	\$2,451,000
Appropriated Funds:	\$191,190

Project Description - This project addresses the goal in our Strategic Plan for the eventual replacement of all asbestos-cement water mains in our system. The existing water mains are approximately 49 years old and

have reached the end of their useful life. As a former well system that was connected to public water, many of the mains are also undersized.

3/8/2022: On February 23, 2022 the ACSA received four bids and Commonwealth Excavating, Inc. (Commonwealth) was the apparent low bidder. Commonwealth has successfully completed several projects for the ACSA. Dewberry has prepared a letter of recommendation of award and a bid tabulation. A Board authorization is proposed for this project.

j) Northfields Water Main Replacement (Account Code 1764):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Design
Percent Complete:	50%
Contractor:	Undetermined
Construction Start:	2023
Completion:	2027
Total Budget:	\$8,130,000
Appropriated Funds:	\$583,497

Project Description - This project addresses the goal in our Strategic Plan for the eventual replacement of all asbestos-cement water mains in our system. The existing water mains are approximately 54 years old and have reached the end of their useful life. As a former well system that was connected to public water, most of the mains are also undersized.

3/8/2022: Minor comments on the draft map of geotechnical bore locations have been returned to Ramboll. When the map is finalized ACSA staff will apply for a VDOT Land Use Permit (LUP) to complete these bores.

k) Hessian Hills Water Main Replacement (Account Code 1753):

Consultant:	Michael Baker International, Inc. (Baker)
Project Status:	Construction
Percent Complete:	87%
Contractor:	Metra Industries, Inc. (Metra)
Construction Start:	April 2021
Completion:	April 2022
Total Budget:	\$5,070,000
Appropriated Funds:	\$5,107,562

Project Description - The water mains in the Hessian Hills area are of a similar age and material as the water mains in the Barterbrook Phase 2 Project, plus they are in the same general area. By extension we are

assuming their condition is similar with respect to tuberculation and they are also undersized throughout most of the subdivision. This project follows our Strategic Plan goal to replace aging and undersized water mains throughout our system. It will also eliminate a small amount of PVC main installed in the early 1980's.

3/8/2022: All water main crossings of Barracks Road have been completed with only three individual water services left to be installed in the roadway. All water main crossings of Georgetown Road have been completed, leaving only the installation of an ARV before final connections to existing water mains can be made. Paving has been completed on all neighborhood streets except for a small portion of Inglewood Drive and Ricky Road. Several water main connections remain to be installed on Ricky Road. A date for mediation with Metra has been set for April 6, 2022 and an executive session is proposed for this Board Meeting.



I) Briarwood Water Main Replacement (Account Code 1766):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Design
Percent Complete:	25%
Contractor:	Undetermined
Construction Start:	2025

Completion:	2026
Total Budget:	\$2,650,000
Appropriated Funds:	\$255,338

Project Description - Our Strategic Plan calls for the eventual replacement of PVC (pre-1990) water mains in our system, as they are older and made of weaker material than the current industry norm. This project will replace the PVC water mains that have been in service since the early 1980's. The design phase has been initiated and will carry over into FY 2022. Construction is expected to take place in FY 2025 and FY 2026.

2/8/2022: Ramboll has prepared a proposal for the additional design work along Dickerson Road, as well as plat preparation for the whole project. A Board authorization is proposed for this project.

m) Barracks West Water Main Replacement (Account Code 1796):

Consultant:	Dewberry Engineers, Inc. (Dewberry)
Project Status:	Design
Percent Complete:	20%
Contractor:	Undetermined
Construction Start:	2024
Completion:	2025
Total Budget:	\$2,728,100
Appropriated Funds:	\$209,335

Project Description - This project will replace the undersized and aging cast iron and galvanized water mains that were installed in the late 1960's. These water mains are original to the Old Salem Apartments development, now called Barracks West. This project follows our Strategic Plan goal to replace aging and undersized water mains throughout our system and will provide for an opportunity to improve fire protection to these multi-family apartments.

2/8/2022: The title search of the Barrack West property is complete and it confirms the lack of a recorded water main easement. Per the Four Party Agreement the ACSA purchased these water mains from the City of Charlottesville in 1975. With the operation, maintenance, and repair of these mains by ACSA to provide water service for a time period greater than 10 years, it can be assumed the ACSA holds a prescriptive easement covering these water mains and appurtenances.

n) Broadway Street Water Main Replacement (Account Code 1768):

Consultant:	Whitman, Requardt & Associates, Inc.
Project Status:	Design
Percent Complete:	50%
Contractor:	Undetermined
Construction Start:	2023
Completion:	2023
Total Budget:	\$1,043,800
Appropriated Funds:	\$99,820

Project Description - This project will replace the ductile iron water main that was installed in the early 1970's and has been found to be in deteriorating condition based on recent excavations. With the redevelopment of the Woolen Mills Factory and Albemarle County's increased attention on economic revitalization of this corridor, replacement of this water main is crucial in transforming this area.

3/8/2022: Comments on the 50% design documents have been received from the City and RWSA concerning the connections to their utilities at the west end of Broadway Street, and these have been forwarded to WRA.

o) Raintree and Fieldbrook Water Main Replacement (Account Code 1771):

Consultant:	Michael Baker International, Inc. (Baker)
Project Status:	Design
Percent Complete:	0%
Contractor:	Undetermined
Construction Start:	2027
Completion:	2028
Total Budget:	\$5,947,300
Appropriated Funds:	\$290,887

Project Description - Our Strategic Plan calls for the eventual replacement of PVC (pre-1990) water mains in our system, as they are older and made of weaker material than the current industry norm. This project will replace the PVC water mains that have been in service since the 1980's and will eliminate pipe saddles at the water service connections that have been failing due to corrosion.

3/8/2022: The Kickoff Meeting with ACSA staff and Baker was held on March 3, 2022 to discuss details of design. Field surveying is expected to begin around mid-April 2022 with notifications being mailed to affected customers by the end of March 2022.

p) Pantops Drainage Basin Rehabilitation (Account Code 1824):

Consultant:	O'Brien & Gere Engineers, Inc. (OBG)
Project Status:	Construction
Percent Complete:	95%
Contractor:	Prism Contractors & Engineers, Inc. (Prism) & Linco, Inc. (Linco)
Construction Start:	March 2021
Completion:	May 2022
Total Budget:	\$400,700
Appropriated Funds:	\$515,056

Project Description - The wastewater flow metering in 2015 for the update of the RWSA sewer interceptor model has shown the Pantops Area is experiencing peak wet weather flows due to infiltration and inflow (I/I). This project will continue our efforts to maintain the integrity of our wastewater collection system by reducing I/I. The sanitary sewer evaluation survey (SSES) will include the ACSA collection system east of the South Fork Rivanna River and north of I-64, including the Peter Jefferson Place Pump Station. The sanitary sewer evaluation survey (SSES) will consist of manhole inspections, sewer flow monitoring, smoke testing, night flow isolation and measurement, flooded dye testing and CCTV of sewer mains.

2/8/2022: Work by Prism in the Pantops Drainage Basin has been delayed due to an equipment failure.

q) Hollymead Drainage Basin SSES (Account Code 1825):

Consultant:	O'Brien & Gere Engineers, Inc. (OBG)
Project Status:	Construction
Percent Complete:	24%
Contractor:	Prism Contractors & Engineers, Inc. (Prism) & Linco, Inc. (Linco)
Construction Start:	October 2021
Completion:	June 2022
Total Budget:	\$454,700
Appropriated Funds:	\$472,786

Project Description - ACSA staff has identified other large drainage basins to be evaluated for infiltration and inflow (I/I) to continue our efforts to maintain the integrity of our wastewater collection system. The study area includes the oldest portions of the Hollymead Subdivision, as well as, the offsite portion of the sewer main that serves the westernmost area of Forest Lakes South. The Forest Lakes Offsite Sewer will be the primary

collector for the upcoming extensive Brookhill development and the evaluation of this trunk main will provide an excellent baseline of pipe integrity in advance of the future construction activities around this sewer.

3/8/2022: Prism has completed rehabilitation on 42 of 174 manholes.

r) Airport Trunk Sewer Upgrade (Account Code 1828):

Consultant:	Michael Baker International, Inc. (Baker)
Project Status:	Design
Percent Complete:	90%
Contractor:	Undetermined
Construction Start:	2024
Completion:	2025
Total Budget:	\$5,793,800
Appropriated Funds:	\$363,467

Project Description - With the continued growth in the Hollymead Town Center area, the existing sewer collector serving the airport and the area west of Route 29 is in need of upgrading to handle full build-out. The existing sewer was originally sized to serve the light industrial zoning designated for that area at the time of construction. The increased density specified in the County Comprehensive Plan for the same drainage basin will exceed the capacity of the existing sewer. A study of the drainage basin was completed in 2016 with the recommendation the sewer main be increased in size by replacing it in place.

3/8/2022: The deeds of easement required from the County are scheduled for a public hearing and approval on May 18, 2022. Of the 24 anticipated easements required at least one offer letter has been sent to 16 property owners to date. ACSA staff will attend the Forest Lakes HOA Board meeting on March 23, 2022 to update them on the project.

s) Biscuit Run Sewer Replacement (Account Code 1830):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Design
Percent Complete:	90%
Contractor:	Linco, Inc. (Linco)
Construction Start:	2022
Completion:	2022
Total Budget:	\$479,600
Appropriated Funds:	\$84,916

Project Description - During a routine inspection the ACSA's Maintenance Department discovered an existing gravity main and manhole along an intermittent stream that drains into Biscuit Run had been exposed due to runoff. This project will replace the sewer segment that crosses the stream with ductile iron pipe and will reinforce the stream bank where the sewer manhole is exposed.

3/8/2022: The Commonwealth of Virginia has executed the Joint Permit Application (JPA) as an affected property owner and the JPA has been submitted to the Virginia Marine Resources Council (VMRC) for processing.

t) FY 2021 Miscellaneous Sewer Rehabilitation (Account Code 1904):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Construction
Percent Complete:	75%
Contractor:	Prism Contractors & Engineers, Inc. (Prism)
Construction Start:	October 2020
Completion:	April 2022
Total Budget:	\$200,000
Appropriated Funds:	\$200,000

Project Description - This project continues our annual “find and fix” program of sanitary sewer rehabilitation to reduce I&I in our system. The ACSA made the decision to split our miscellaneous rehabilitation Contract Documents into separate contracts: one for repair and replacement work, and the other for trenchless pipe rehabilitation plus internal manhole rehabilitation. This contract will be utilized to perform trenchless rehabilitation, including sewer lining, segmental lining, top hats, internal point repairs and manhole rehabilitation that doesn't require excavation work, to correct problems in our system found with systematic CCTV inspection by ACSA crews. It will also be used to complete rehabilitation recommendations generated from the SSES's of larger drainage basins.

12/7/2021: The relining of the sewer main at the Barracks Road and Georgetown Road intersection has been completed under Work Order No. 5, which only leaves the relining of a sewer main in Riverrun to finish this work order.

u) FY 2022 Miscellaneous Sewer Repair/Replacement (Account Code 1905):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Construction
Percent Complete:	0%

Contractor:	Linco, Inc. (Linco)
Construction Start:	December 2021
Completion:	October 2022
Total Budget:	\$200,000
Appropriated Funds:	\$200,000

Project Description - This project continues our annual “find and fix” program of sanitary sewer rehabilitation to reduce I&I in our system. The ACSA made the decision to split our miscellaneous rehabilitation Contract Documents into separate contracts: one for repair and replacement work, and the other for trenchless pipe rehabilitation plus internal manhole rehabilitation. This contract will be utilized to make point repairs and undertake pipe replacement, which requires excavation work, to correct problems in our system found with systematic CCTV inspection by ACSA crews. It will also be used to complete rehabilitation recommendations generated from the SSES’s of larger drainage basins.

1/12/2022: Linco had renewed their annual contract with some adjustments to unit pricing in accordance with the specifications.

v) FY 2022 Miscellaneous Sewer Rehabilitation (Account Code 1906):

Consultant:	OBG, A Ramboll Company (Ramboll)
Project Status:	Construction
Percent Complete:	Underway
Contractor:	Prism Contractors & Engineers, Inc. (Prism)
Construction Start:	October 2021
Completion:	October 2022
Total Budget:	\$200,000
Appropriated Funds:	\$200,000

Project Description - This project continues our annual “find and fix” program of sanitary sewer rehabilitation to reduce I&I in our system. The ACSA made the decision to split our miscellaneous rehabilitation Contract Documents into separate contracts: one for repair and replacement work, and the other for trenchless pipe rehabilitation plus internal manhole rehabilitation. This contract will be utilized to perform trenchless rehabilitation, including sewer lining, segmental lining, top hats, internal point repairs and manhole rehabilitation that doesn’t require excavation work, to correct problems in our system found with systematic CCTV inspection by ACSA crews. It will also be used to complete rehabilitation recommendations generated from the SSES’s of larger drainage basins.

3/8/2022: Work Order No. 2 has been issued to rehabilitate four manholes in separate locations (Con-Agra, Doubletree Hotel, Abington Place, Forest Lakes).

w) Oak Forest Pump Station Abandonment (Account Code 1807):

Consultant:	O'Brien & Gere Engineers, Inc. (OBG)
Project Status:	Construction
Percent Complete:	80%
Contractor:	Linco, Inc. (Linco)
Construction Start:	July 2020
Completion:	June 2022
Total Budget:	\$1,410,800
Appropriated Funds:	\$2,391,752

Project Description - This wastewater pump station was constructed 35 years ago by private development and the original equipment is wearing down. The building and wet well are also undersized and deteriorating. With the development of the Stonefield Area between Route 29 and Commonwealth Drive ACSA staff has identified a sewer main extension project that could eliminate this aging pump station and avoid an expensive upgrade.

3/8/2022: Due to continued settlement of manhole #5 Schnabel Engineering has determined a location upstream in line with the bore casing that has a solid subgrade. Manhole #5 has been reset in this location, which required the removal and relaying of approximately 140 feet of sewer main, plus the elimination of manhole #4. The sewer main has been extended to the Oak Forest Pump Station and the bypass of the station is scheduled to begin the week of March 7, 2022. This will allow the installation of the final two runs of sewer before starting the demolition of the pump station.



x) Bellair – Liberty Hills Sewer (Account Code 1829):

Consultant:	Michael Baker International, Inc. (Baker)
Project Status:	Design
Percent Complete:	0%
Contractor:	Undetermined
Construction Start:	2024
Completion:	2025
Total Budget:	\$2,049,715
Appropriated Funds:	\$380,295

Project Description - Over the past several years, there has been an uptick in residents of the Bellair Subdivision seeking to connect to public sanitary sewer service since most residents are currently served by private septic fields. In an effort to gauge community interest for such a project, ACSA staff mailed out a survey to the residents seeking feedback on their interest. Based on initial feedback received, a majority of the property owners are interested in connecting to public sewer if it was made available.

1/12/2022: The additional field surveying required to pick up more details of the existing conditions in parts of the subdivision is anticipated to be completed by mid-February 2022.

y) Madison Park Pump Station Upgrade (Account Code 1735):

Consultant:	Whitman, Requardt & Associates, Inc. (WRA)
Project Status:	Design
Percent Complete:	100%
Contractor:	Undetermined
Construction Start:	2022
Completion:	2022
Total Budget:	\$1,125,000
Appropriated Funds:	\$393,831

Project Description - This wastewater pump station was constructed 33 years ago by private development and the original equipment is wearing down. In addition the building is undersized creating difficulty in performing routine maintenance and making it impossible to install the control panels necessary to include this pump station in our new SCADA System. A study to evaluate the best option for upgrading this pump station will be performed, followed by design and construction.

3/8/2022: This project was advertised for construction on February 27, 2022 and the pre-bid meeting is scheduled for March 15, 2022. Bids will be opened on March 30, 2022.

z) Sewer Pump Station Comminutors (Account Code 1827):

Consultant:	Whitman, Requardt & Associates, Inc. (WRA)
Project Status:	Construction
Percent Complete:	0%
Contractor:	East Coast Utility Contractors, Ltd. (ECUC)
Construction Start:	2022
Completion:	2022
Total Budget:	\$731,300
Appropriated Funds:	\$616,193

Project Description - Three sewer pump stations: Glenmore, Georgetown Green, and Crozet have all been experiencing higher than normal amounts of solid debris that have been causing undue wear and tear on our pumps, reducing their effective life. They have also been subjected to clogging from the fibrous cloth wipes that are marketed as flushable but do not break down in the sanitary sewer collection system. Maintenance identified the need to install comminutors (aka grinders) in the wet wells or just upstream of them, to eliminate these solids that are adversely impacting our pumps.

3/8/2022: ECUC has provided submittals for bypass pumping, concrete wet well top, and access hatch for review by WRA. ECUC has also notified Miss Utility for excavations at pump stations to obtain field measurements for their work.

aa) Lewis Hill – West Leigh Water Connection (Account Code 1754):

Consultant:	ACSA Engineering Department
Project Status:	Design
Percent Complete:	95%
Contractor:	ACSA Maintenance Department
Construction Start:	2022
Completion:	2022
Total Budget:	\$80,900
Appropriated Funds:	\$7,125

Project Description - The existing PVC water main that serves as the primary connection between West Leigh Subdivision and Lewis Hill Subdivision is at risk for failure due to the encroachment of a nearby stream. The water main has been taken out of service to avoid a catastrophic failure and the resulting large volume of lost water. This

project re-establishes the connection from West Leigh by taking advantage of the recent water main replacement along Sheffield Road with an 8" diameter pipe.

2/8/2022: ACSA staff will plan to reach out to the HOA in March 2022 to renew the discussion for easement acquisition so that the design can be finalized.

bb) Huntington Village Water Connection (Account Code 1770):

Consultant:	ACSA Engineering Department
Project Status:	Design
Percent Complete:	30%
Contractor:	ACSA Maintenance Department
Construction Start:	2022
Completion:	2022
Total Budget:	\$60,700
Appropriated Funds:	\$3,533

Project Description - The existing water main that serves as the only feed into Huntington Village off Old Ivy Road is at risk of failure due to an existing rock retaining wall that was constructed overtop of the water main. This project provides a second water connection into Huntington Village which is comprised of approximately 135 residential customers. It is anticipated all the work will be coordinated in-house by Maintenance Department personnel.

3/8/2022: Due to limited space for the placement of a bore pit, ACSA staff is reaching out to VDOT to see if the water main connection across Old Ivy Road can be open cut in lieu of a bore and jack.

cc) Briarwood Pump Station Generator (Account Code 1767):

Consultant:	ACSA Engineering Department
Project Status:	Construction
Percent Complete:	50%
Contractor:	ACSA Maintenance Department
Construction Start:	October 2021
Completion:	April 2022
Total Budget:	\$54,100
Appropriated Funds:	\$54,100

Project Description - This wastewater pump station was constructed in 1995 by private development and didn't include a permanent generator. In an effort to reduce risk and increase resiliency at the station,

Maintenance identified the need to install a generator at this site to avoid deployment of one of our portable generators.

3/8/2022: All of the fence work has been completed. ACSA staff is preparing a Letter of Revision to the County to document the changes to the original site plan for the pump station.

dd) Exclusion Meters Replacement (Account Code 1759):

Consultant:	ACSA Engineering Department
Project Status:	Construction
Percent Complete:	20%
Contractor:	ACSA Maintenance Department
Construction Start:	September 2019
Completion:	2024
Total Budget:	\$1,237,500
Appropriated Funds:	\$247,500

Project Description - In the mid 1990's with the development of Glenmore, many new customers installed irrigation systems for their properties and wanted to have their sewer bills reduced by the amount of water that was diverted to irrigate their properties. Private meters were installed behind their ACSA meter to record this volume and it was "excluded" from the calculation of their sewer charges and these became known as exclusion meters. On January 1, 2006 the ACSA Rules and Regulations were modified to no longer allow exclusion meters and required that all future irrigation meters would be tapped separately off our water mains, to be owned and controlled by the ACSA. At that time the existing exclusion meters were grandfathered and allowed to stay in place unless the irrigation system was voluntarily abandoned. This project is a multi-year replacement program by our in-house CIP Crew to install dedicated, ACSA owned irrigation meters that will eliminate all remaining exclusion meters in our system.

3/8/2022: In Group Six, 11 of 18 exclusion meters have been replaced to date. There are currently 390 exclusion meters remaining in our system.

ee) Sewer Force Main Condition Assessment (Account Code 1826):

Consultant:	ACSA Engineering Department
Project Status:	Study
Percent Complete:	100%
Contractor:	Pure Technologies (Pure)
Construction Start:	N/A
Completion:	March 2020 (Study)

Total Budget: \$149,468
 Appropriated Funds: \$228,745

Project Description - This project will address the ACSA's Strategic Plan to complete condition assessments on all sanitary sewer force mains at pump stations within the ACSA wastewater system. This project will utilize SmartBall and transient pressure monitoring technology to determine any problem areas that require correction or further detailed investigation.

4/5/2021: ACSA staff are researching the possibility of shortening the Woodbrook Pump Station sewer force main to connect into a closer manhole, thereby eliminating a portion of the force main that requires replacement. A portion of this force main has developed a loss of wall thickness from exposure to a gas pocket, which could eventually lead to pipe failure.

ff) SCADA System Phase 3 (Account Code 1605):

Consultant: Whitman, Requardt & Associates, Inc. (WRA)
 Project Status: Design
 Percent Complete: 100%
 Contractor: Undetermined
 Construction Start: 2022
 Completion: 2022
 Total Budget: \$943,115
 Appropriated Funds: \$324,472

Project Description - The ACSA Utility System has over 40 critical assets that include water and wastewater pump stations, water storage tanks and master PRV stations. They are considered critical because malfunctions or failures at any of the assets could have a drastic effect on our utility system and our customers. These assets are currently monitored by site visits of assigned Maintenance personnel. This project will create a Supervisory Control and Data Acquisition (SCADA) System that will allow ACSA employees to remotely monitor the operations of these critical assets from the main office building. It will also allow personnel to change the operational settings of some pump stations from the main office building. Using alarms, we will be able to more quickly evaluate problems and prevent some failures before they happen. The project will be completed in three phases over a three year period.

3/8/2022: The final revisions to the 100% design documents have been approved. WRA is making minor adjustments to the Request for Proposal (RFP) to combine the pre-qualification of bidders and competitive negotiation into a single process. The RFP will be

advertised on March 20, 2022 with proposals to be received no later than 5 pm on April 22, 2022.

PCG/dmg
060806CIPMonthly030822

Albemarle County Service Authority (ACSA)

CIP Schedule Revisions

March 2021

1. The design phase of the Briarwood Water Main Replacement Project has been extended to June 2022.
2. The start of the design phase of the Raintree and Fieldbrook Water Main Replacement Project has been shifted to January 2022.
3. The construction phase of the Pantops Drainage Basin Rehabilitation Project has been extended to May 2022.
4. The construction phase of the FY 2021 Miscellaneous Sewer Rehabilitation Project has been extended to April 2022.
5. The construction phase of the Lewis Hill – West Leigh Water Connection Project has been extended to June 2022.

Capital Improvement Program							2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021		2021	2021	2021	2021	2021	2021	2022	2022	2022	2022	2022	2022
Proposed Project Schedule Worksheet: March 2022		Acct. #	Percent Growth	PM	2021 Forecast	2022 Forecast	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June		July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Risk Assessment Improvements		1621	0%	AM		117,000																									
ERP Transition		1611	0%	AM	500,000																										
Energy Audit		1625	0%	AM																											
Avon Street Maintenance Yard		1622	100%	AM	265,000	60,000																									
ACSA Facilities - Restrooms and Customer Service		1624	0%	AM	125,000																										
HVAC System Upgrade		1619	100%	AM																											
AMI Implementation		1620	15%	PG		5,000,000																									
Four-Story Backflow Prevention Assembly Retrofit		1765	0%	AM	348,000																										
Camelot Water Main Replacement		1737	0%	RN	328,000																										
Scottsville Phase 4 Water Main Replacement		1758	0%	AM	103,000																										
Crozet Phase 4 Water Main Replacement		1756	0%	JL																											
Ragged Mountain Phase 1 Water Main Replacement		1760	0%	JL																											
Jefferson Village Water Main Replacement		1747	0%	RN	1,646,650	262,300																									
Northfields Water Main Replacement		1764	0%	RN																											
Hessian Hills Water Main Replacement		1753	0%	JL	1,243,325	3,456,675																									
Briarwood Water Main Replacement		1766	0%	AM	220,000																										
Barracks West Water Main Replacement		1796	0%	JL		452,500																									
Broadway Street Water Main Replacement		1768	0%	RN	142,800																										
Raintree and Fieldbrook PVC Water Main Replacement		1771	0%	JL		432,300																									
Pantops Drainage Basin Rehabilitation		1824	0%	RN																											
Hollymead Drainage Basin Rehabilitation		1825	0%	RN																											
Airport Trunk Sewer Upgrade		1828	100%	JL	368,800																										
Biscuit Run Sewer Replacement		1830	0%	RN		206,000																									
FY 2021 Miscellaneous Sewer Repair/Replacement		1903	0%	JL	200,000																										
FY 2021 Miscellaneous Sewer Rehabilitation		1904	0%	JL	200,000																										
FY 2022 Miscellaneous Sewer Repair/Replacement		1905	0%	JL		200,000																									
FY 2022 Miscellaneous Sewer Rehabilitation		1906	0%	JL		200,000																									
Oak Forest Pump Station Abandonment		1807	0%	JL	535,800																										
Bellair - Liberty Hills Sewer		1829	100%	JL	313,200	80,515																									
Madison Office Park Pump Station Upgrade		1735	0%	JL	371,625	123,875																									
Sewer Pump Station Comminutors		1827	0%	RN		291,300																									
Lewis Hill - West Leigh Water Connection		1754	0%	RN																											
Parkview Drive Water Connection			0%																												
Huntington Village Water Connection		1770	0%	RN	60,700																										
Briarwood Pump Station Generator		1767	0%	AM	40,000																										
Exclusion Meters Replacement		1759	0%	JL	247,500																										
Pipe Saddles Replacement		1763	0%		50,000																										
SCADA System Phase 3		1605	100%	AM		186,800																									
Developer Participation			100%		100,000	100,000																									

In house construction

Engineering

Construction

Albemarle County Service Authority (ACSA)
Active Private Development Projects
March 2022

- a. Airport Road Sheetz (Rio): Water main extension to serve a Sheetz, located at the corner of Airport Road and Route 29.
- b. Albemarle Business Campus – Block 5 (Scottsville): Water and sewer main extension to serve a storage facility and retail spaces between Old Lynchburg Road and Wahoo Way.
- c. Ashcroft Phase 2 Sections 6 & 7 (Rivanna): Water main extension to serve 14 residences. The project is located at the upper end of Summit Ridge Trail.
- d. Avon Park Phase 2 (Scottsville): Water and sewer main extension to serve 28 residential units. This project is located along the southern end of Hathaway Street.
- e. Beaver Creek – Medical Office Building (Jack Jouett): Water main extension to serve the proposed medical office building to be located on the 2246 and 2248 Ivy Road parcel.
- f. Berkmar Drive Apartments (Rio): Water and sewer main extensions to serve 10 apartment buildings, totaling 261 units. The project is located along Berkmar Drive, south of the Forest Springs Mobile Home Park.
- g. Boys and Girls Club – Drivers Ed Site (Jack Jouett): Water main extension to serve a new Boys and Girls Club. The project is located south east of Jack Jouett Middle School.
- h. Brookhill Blocks 9-11 (Rivanna): Water and sewer main extension to serve 85 single family homes in the Brookhill subdivision, located east of Stella Lane between Ashwood Boulevard and Archer Avenue.
- i. Farmington Country Club – Phase 1 (Jack Jouett): Water main extension to provide fire protection to the future Farmington Country Club expansion. An existing cottage will be replaced with 3 new cottages, totaling 12 units. This project is located at the intersection of Farmington Drive and Tennis Road.
- j. Flow Automotive – 1300 Richmond Road (Rivanna): Water main extension to provide water service and fire protection to a new/renovated car dealership. This project is located along Richmond Road, across from People Place.
- k. **Galaxie Farm Subdivision (Scottsville)**: **Water and sewer main extension to serve 65 residential units. This project is located along Scottsville Road, south of Mountain View Elementary.**
- l. Georgetown Hydraulic (Jack Jouett): Water main extension to serve a commercial office building at the intersection of Georgetown Road and Hydraulic Road.

- m. Hollymead Town Center Hotel (Rio): Water main extension and sewer relocation to serve an 81 room hotel near the intersection of Seminole Trail and Timberwood Blvd.
- n. Ivy Road Sidewalk Project (Jack Jouett): Replacement of 1,000 LF of water main to facilitate the installation of a sidewalk and associated storm water infrastructure. This project is located along Ivy Road, between Still fired Lane and Colonnade Drive.
- o. Jarmans Gap Development (White Hall): Water and sewer main extensions to serve 5 residential units, located along the southern side of Jarmans Gap Road west of Millstream Drive.
- p. MJH Presidio Apartments (Rivanna): Water and sewer main extensions to serve 250 multi-family residential units along Peter Jefferson Parkway across from the Martha Jefferson Hospital.
- q. Polo Grounds Road Improvements – Phase 2 (Rivanna): Water main extension along sections of Polo Grounds Road to serve eastern blocks of the Brookhill Subdivision. This project is located east of Route 29, along Polo Grounds Road.
- r. Proffit Road Townhomes South (Rivanna): Water and sewer main extension to serve 31 town home units. This project is located along Proffit Road, south of Martha Jefferson Outpatient Care Center.
- s. **Rivanna Station – Nicholson Building Addition (Rivanna): Water main extension to serve an expansion of the Nicholson Building and a parking garage at NGIC, located east Route 29 and south of Boulders Road.**
- t. Rivanna Village Phase 2 (Scottsville): Water and sewer main extensions to serve 178 residential units. This project is located east of the Glenmore Ground Storage Tank and Rivanna Village Phase 1.
- u. **Southwood Phase 1 – Blocks 9-11 (Scottsville): Water and sewer main extensions to serve 70 single family units and 16 condominium units. This project is located west of Horizon Road and south of Hickory Street.**
- v. Southwood Redevelopment - Village 1 (Scottsville): Water and sewer main extensions to serve 49 residential units and future commercial blocks. This project is located east of Old Lynchburg Road and south of I-64.
- w. Spring Hill Village (Scottsville): Water and sewer main extensions to serve 100 residential units. This project is located between Avon Street Extended and Route 20 South, across from Avon Park.
- x. **Stonefield Block D1 (Jack Jouett): Water main extension to serve a 220 unit apartment building at the intersection of Inglewood Drive and Bond Street.**

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

<p>AGENDA TITLE: FY 2022 CIP Authorizations</p> <p>STAFF CONTACT(S)/PREPARER: Peter C. Gorham, P.E., Director of Engineering</p>	<p>AGENDA DATE: March 17, 2022</p> <p>ACTION: <input type="checkbox"/> INFORMATION: <input type="checkbox"/></p> <p>CONSENT AGENDA:</p> <p>ACTION: <input checked="" type="checkbox"/> INFORMATION: <input type="checkbox"/></p> <p>ATTACHMENTS: (YES)</p>
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BACKGROUND: Authorization for three CIP Projects, two of which have been included in the CIP Rate Model Budget. The first authorization is for funding to cover additional Design Phase Services for the Scottsville Phase 4 Water Main Replacement Project, as well as deed of easement preparation. The second authorization is for the award and funding of the construction of the Jefferson Village Water Main Replacement Project. The third authorization is for funding to cover Design Phase Services and Bid Phase Services for the Annual Water Main Replacement Project.

DISCUSSION:

- ❖ Continues our Strategic Plan goal to replace all undersized and aging asbestos-cement and cast-iron water mains within our utility system.
- ❖ Allows ACSA staff to have more flexibility in scheduling the replacement of lesser footages of water mains in the current bidding climate.
- ❖ Continues our Strategic Plan goal to eliminate all undersized and deteriorating water mains in our utility system.

BUDGET IMPACT: The additional design cost for the Scottsville Phase 4 Water Main Replacement Project will be within the amount budgeted in the CIP Rate Model. The cost of the Jefferson Village Water Main Replacement Project is approximately \$839,000 less than anticipated in the CIP Rate Model. The cost of Design Phase Services for the new Annual Water Main Replacement Project will be offset by savings on other CIP projects.

RECOMMENDATIONS: Authorize funding for these projects to keep our CIP Project Schedule moving forward and improving our utility system.

BOARD ACTION REQUESTED: Approve the Consent Agenda.

ATTACHMENTS:

- ❖ Detailed memo of the proposed CIP authorizations.

ALBEMARLE COUNTY SERVICE AUTHORITY**AGENDA ITEM EXECUTIVE SUMMARY**

- ❖ Proposal prepared by Whitman, Requardt & Associates, LLP for additional Design Phase Services on the Scottsville Phase 4 Water Main Replacement Project.
- ❖ Recommendation of award prepared by Dewberry Engineers, Inc. for the Jefferson Village Water Main Replacement Project.
- ❖ Bid Tabulation prepared by Dewberry Engineers, Inc. for the Jefferson Village Water Main Replacement Project.
- ❖ Proposal prepared by Whitman, Requardt & Associates, LLP for Design Phase Services on the Annual Water Main Replacement Project.



MEMORANDUM

To: Board of Directors
From: Peter C. Gorham, P.E., Director of Engineering
Date: March 7, 2021
Re: FY 2022 CIP Authorizations
cc: James M. Bowling, IV

The following projects require Board authorization:

- A. Scottsville Phase 4 Water Main Replacement Project:** During the design of the Scottsville Phase 4 Water Main Replacement Project, ACSA staff identified the need for additional design services, due to an increase in the number of geotechnical borings and test holes. ACSA staff requested a proposal from Whitman, Requardt & Associates (WRA) for the additional design services, as well as requested the price for the final number of plats required for this project. Attached is a letter from WRA, dated March 1, 2022, with their fee proposal for providing these additional services and plats. The ACSA staff has reviewed this proposal and finds it satisfactory. The estimated cost for additional design services and twenty-four (24) plats is \$148,610. The ACSA has also determined the estimated cost for deed of easement preparation. The estimated cost for deed of easement preparation is \$4,800.

Board Action

We request the Board of Directors appropriate \$153,410 from the FY 2022 3R Fund for additional design services, plat preparation, and deed of easement preparation for the Scottsville Phase 4 Water Main Replacement Project.

- B. Jefferson Village Water Main Replacement Project:** On February 23, 2022, the ACSA accepted bids for the Jefferson Village Water Main Replacement Project. Four (4) contractors submitted bids on the project and the apparent low bidder was Commonwealth Excavating, Inc. with a bid of \$1,423,150. The Engineer's Estimate was \$2,262,300. Attached is a letter and bid tabulation, dated March 9, 2022, from Dewberry Engineers, Inc. recommending award of the contract to Commonwealth Excavating, Inc. for their bid of \$1,423,150. The ACSA staff concurs with Dewberry's recommendation.

Board Action

We request the Board of Directors appropriate \$1,423,150 from the FY 2022 3R Fund for the construction of the Jefferson Village Water Main Replacement Project.

- C. **Annual Water System Replacement Contract:** Within the past year, ACSA staff identified the need to develop a set of bid documents that could be utilized for the construction of small water main replacement projects in a more efficient and timely manner on an as-needed basis. Whitman, Requardt & Associates (WRA) has worked closely with the City of Charlottesville on a similar type of annual contract with great success. Attached is a letter dated March 1, 2022, from WRA with their proposed fee to prepare the necessary contract documents and assist with the bid phase for the Annual Water System Replacement Contract. The total estimated fee to complete the design and bid phase for the Annual Water System Replacement Contract is \$26,648. The ACSA staff has reviewed this proposal and finds it satisfactory. This is a new CIP project to be added to our budget.

Board Action

We request the Board of Directors appropriate \$26,648 from the FY 2022 3R Fund for design and bid phase services for the Annual Water System Replacement Contract.

PCG/pcg

Attachments

010101CIPAuthorizations030722



March 1, 2022

Mr. Alexander Morrison, P.E.
Senior Civil Engineer
Albemarle County Service Authority
168 Spotnap Road
Charlottesville, Va. 22911

Re: Scottsville Phase 4 – Water Main Replacement Project – Design Phase Services Amendment 2

Dear Mr. Morrison:

Whitman Requardt and Associates (WRA) is pleased to provide this engineering services amendment to the Albemarle County Service Authority (ACSA) for the above-referenced project. This amendment summarizes the additions to the project scope to support the project's asbestos cement (AC) and cast iron (CI) water main replacement requirements as outlined in the original authorization (dated March 8, 2019) and Amendment 1 (dated May 4, 2020).

The design amendment and fee estimate are based on the following, revised tasks and assumptions summarized for each appropriate scope item of the project. The scope categories below are from the original authorization and Amendment 1 for the project. The scope items identified in the original authorization and Amendment 1 remain in effect unless modified by this amendment. The amendment fee estimate is included as Attachment C.

1. PRELIMINARY ENGINEERING AND SURVEY

A. Project Management

For this amendment, WRA requests additional project management time be considered for the extended design phase of the project. The project management time is required due to the duration of the design phase as well as the coordination required with RWSA, project reviews, and reviewing agencies during the remainder of the design phase. As an example, continued coordination with RWSA will be required throughout the remainder of the design phase. In addition, correspondence with the Virginia Department of Health (VDH) to confirm possible impacts to existing septic drainfield and supply wells for private properties along James River Road will be conducted under this task. For this amendment, WRA proposes 2 hours/week for a duration of 5 months (20 weeks).

B. Surveying and Mapping

The proposed geotechnical boring locations were previously staked in July 2021 for field review by WRA, the ACSA, and the RWSA. Some of the boring locations were adjusted due to proximity to existing utilities and other physical features. The boring locations will likely need to be re-established prior to performing the geotechnical field work.

WRA will utilize Lincoln Surveying (LS) to restake the geotechnical boring locations. LS will restake or remark the boring locations as required prior to the start of the field work. WRA will coordinate this work with LS and Froehling & Robertson (F&R) so that the Miss Utility tickets can be properly submitted and executed without delaying the start of the geotechnical field work.

The fee for this task includes the re-establishment of the boring locations and project coordination with LS.

2. 50% DESIGN DOCUMENT DEVELOPMENT

A. Geotechnical Investigations

The original authorization and Amendment 1 contained a total of twenty-seven (27) rock probe borings along the water main alignments for the project. WRA has maintained project review and coordination with F&R. F&R's revised proposal for the geotechnical investigation is included in Attachment A. The additional fee requested for the geotechnical investigation includes the following:

- F&R's subcontract fee includes the necessary field reviews to confirm additional mobilizations, clearing needs, and use of additional equipment. The boring locations on private properties that require additional clearing for access have been provided to the ACSA for final coordination with the property owners.
- The subcontract fee estimate from F&R includes updated unit pricing and rates from those reflected in the original authorization and Amendment 1.
- Two (2) Standard Penetration Test (SPT) borings and laboratory testing will be conducted at the proposed boring locations at the Valley Street/Warren Street intersection. The SPT borings are needed at this intersection in order to evaluate and to confirm a trenchless crossing of Valley Street, if required. A trenchless crossing of Valley Street may be required if VDOT does not allow an open cut crossing.
- The subcontract fee includes laboratory testing for select soil samples to confirm the suitability of soils for reuse along the project alignments. The laboratory testing includes the following:
 - Atterberg Limits – up to 10 tests
 - Washed Sieve Analysis – up to 10 tests
 - Natural Moisture Content – up to 10 tests
- A maximum of two (2) rock cores will be collected and tested for unconfined compressive strength.
- The subcontract fee estimate for the additional geotechnical investigation includes necessary maintenance of traffic measures and the required Land Use Permit through VDOT to perform the borings. F&R will obtain the Land Use Permit, as required.
- Based on field reviews and continued coordination with F&R, a maximum of six (6) days and separate mobilizations are estimated to complete the geotechnical investigation. The additional days and mobilizations are the result of performing the borings in the roadways initially while incrementally performing the borings on private properties as permissions are finalized.
- A WRA geotechnical inspector will be onsite to monitor all field work. The inspector will coordinate the sample and data collection with the F&R drilling crew. An 8-hour day is anticipated for each typical workday. Travel time and mileage to/from Scottsville has been included in the direct expenses and is based on the following:
 - Estimated mileage per day = 175 miles for 6 days @ 0.58/mile = \$610
 - Travel time per day = 2 hours each day = 10 hours total time per day.
- The finished boring logs and laboratory data will be provided to the ACSA and included in the project manual if desired.
- F&R will prepare a summary/letter report that summarizes the conditions encountered during the investigation and geotechnical recommendations for the project.

The requested additional fee for the geotechnical investigation shown in Attachment C accounts for the remaining subconsultant fees outlined in the original authorization and Amendment 1.

3. 90% DESIGN DOCUMENT DEVELOPMENT

A. Easement Plats

The original authorization and Amendment 1 included a unit price of \$1,575 for easement plats, but neither document included an estimated total for the required easement plats. The fee for this task includes the following:

- Based on the current design plans, the total number of easement plats anticipated for the project is twenty-four (24).
- The cost per plat remains \$1,575 as previously provided in the original authorization and Amendment 1. WRA has confirmed the unit price for each plat as previously provided by LS remains valid.
- The fees associated with easement plat development include electronic file transfer/coordination with LS and QA/QC review of all draft plats with the design plans and associated easement linework prior to transmittal to the ACSA and RWSA.
- The easement plats will be prepared by LS and provided to RWSA and the ACSA as needed.
- Costs for extensive revisions to easement plats required for the project are not included.

B. Test Holes

The original authorization and Amendment 1 include a total of thirteen (13) estimated test holes, with no costs for permitting and traffic control measures to perform the test hole work. Following the completion of the current, 50% design plans, an estimated thirty-eight (38) test holes were identified and presented to the ACSA for review and concurrence. Following additional review and coordination with the ACSA, a total of nine (9) test holes were eliminated.

WRA coordinated the test hole tasks in the original authorization and Amendment 1 with Accumark, Inc. (ACC). WRA conducted follow up coordination with ACC to review the final test hole quantities and locations. The additional fee for this amendment includes the following:

- Updated unit pricing provided by ACC for test holes, mobilization, maintenance of traffic requirements, and permitting. The revised proposal from ACC is included in Attachment B.
- The cost per test hole is estimated at \$1,982 each, based on the total cost outlined in Attachment B and a 5% markup. The unit cost includes all required mobilization, setup, permitting and traffic control measures as needed and as outlined in Attachment B.
- The additional fee for this task includes electronic file transfer/coordination with ACC and QA/QC review of completed test hole logs and data. The coordination efforts also include the transfer of the required survey controls established by LS along the project corridors.

The total fee for the test hole tasks shown in Attachment C accounts for the remaining subconsultant fees outlined in the original authorization and Amendment 1.

ASSUMPTIONS

In addition to the items noted above, the following assumptions have been made in the development of this amendment:

1. Property owner notifications or coordination for the performance of geotechnical borings or test holes will be provided by the ACSA.
2. The costs to re-establish survey controls along the project corridors, if needed, are not included.
3. Except as noted above, traffic control or Maintenance of Traffic (MOT) Plans are not anticipated or proposed for design plan approval. Additional fees will apply if MOT plans are required for design plan approval.

4. Stormwater management BMPs including quantity or quality measures are not included or anticipated for design plan approval.
5. Replacement of existing water mains under the existing Scottsville Tank and associated tank repairs are not included or proposed.
6. Design or operational modifications at RWSA's Scottsville Water Treatment Plant are not included.
7. Costs for extensive revisions to easement plats required for the project are not included.
8. Land acquisition services are not included.
9. Bid phase and construction phase services are not included.

SCHEDULE

WRA can proceed with the additional tasks outlined in this amendment upon authorization. Based on recent communications with F&R and ACC and their respective backlogs, the following schedule is anticipated:

- Test Holes – beginning mid-March, with anticipated completion by early April
- Geotechnical Field Work – beginning in early April. Borings within existing roadways will be performed initially while permissions are obtained from private property owners by the ACSA.

The current, target 90% design submittal date to the ACSA is April 10. Based on the anticipated schedule for the field work, the 90% design submittal will not include the data obtained by the geotechnical investigation or the test holes. Water main design adjustments will be completed following the receipt of all test hole data.


WRA will work with the ACSA and the RWSA to confirm a revised, comprehensive design and submittal schedule for the remainder of the design phase as needed.

FEE ESTIMATE

Based on the required work to complete the tasks above and the assumptions presented in this amendment, WRA estimates the total additional engineering fee to be \$148,610 as summarized in Attachment C. The fee estimate includes the current hourly rates previously provided to the ACSA.

WRA trusts that this amendment and fee estimate address the additional and all remaining project requirements. We look forward to continuing our work with you to complete a successful design phase for the project. Thank you for your cooperation in this matter.

Very truly yours,
Whitman, Requardt & Associates, LLP


Charles Luck, P.E.
Vice President

cc: Pete Gorham – ACSA
File 46480-025

Scottsville Phase 4 - Water Main Replacement Project - Design Phase Services Amendment 2
Albemarle County Service Authority

TASK	LABOR CLASSIFICATIONS (HOURS WITH HOURLY RATES)					TOTAL (HRS)	DIRECT EXPENSES (\$)	COST PER TASK (with 2.55 mult.) (\$)
	Project Manager	Sr. Proj. Engineer	Design Engineer	Senior Designer	CADD Technician			
	HRS @ \$80.00	HRS @ \$70.00	HRS @ \$55.00	HRS @ \$50.00	HRS @ \$45.00			
PRELIMINARY ENGINEERING & SURVEY								
Project Management - 2 hrs/week for 20 weeks	40.00					40.00	\$0.00	\$8,160.00
Survey and Mapping (total subconsultant services for Lincoln Surveying) ¹			6.00		10.00	16.00	\$6,090.00	\$8,079.00
SUB-TOTAL HOURS	40.00	0.00	6.00	0.00	10.00	56.00		
SUB-TOTAL DOLLARS	\$3,200.00	\$0.00	\$330.00	\$0.00	\$450.00	\$3,980.00	\$6,090.00	\$16,239.00
50% DESIGN DOCUMENT DEVELOPMENT								
Geotechnical Investigation (subconsultant service) ²	5.00	8.00		65.00	15.00	93.00	\$40,236.32	\$52,693.07
Additional WRA Expenses (travel, mileage)							\$610.00	\$610.00
						Remaining Fee in Original Authorization		(\$7,000.00)
						Remaining Fee From Amendment 1		(\$4,500.00)
						Requested Additional Geotechnical Investigation Fee for this Amendment		\$41,803.07
SUB-TOTAL HOURS	5.00	8.00	0.00	65.00	15.00	93.00		
SUB-TOTAL DOLLARS	\$400.00	\$560.00	\$0.00	\$3,250.00	\$675.00	\$4,885.00	\$40,846.32	\$41,803.07
90% DESIGN DOCUMENT DEVELOPMENT								
Easement Plats (24 plats estimated, subconsultant service) ³	8.00	12.00		25.00		45.00	\$37,800.00	\$44,761.50
Test Holes (29 total, subconsultant service) ⁴	8.00		12.00	15.00		35.00	\$57,482.25	\$62,709.75
						Remaining Fee in Original Authorization		(\$10,400.00)
						Remaining Fee From Amendment 1		(\$6,500.00)
						Requested Additional Test Hole Fee for this Amendment		\$45,809.75
SUB-TOTAL HOURS	16.00	12.00	12.00	40.00	0.00	80.00		
SUB-TOTAL DOLLARS	\$1,280.00	\$840.00	\$660.00	\$2,000.00	\$0.00	\$4,780.00	\$95,282.25	\$90,571.25

TOTAL HOURS	229.00		
TOTAL DOLLARS	\$13,645.00	\$142,218.57	\$148,613.32
TOTAL DOLLARS WITH 2.55 MULTIPLIER	\$34,794.75		
TOTAL EXPENSES (EXCLUDING SUBCONSULTANT SERVICES)	\$610.00		
TOTAL SUBCONSULTANT SERVICES WITH 5% MARKUP (SEE FOOTNOTES BELOW)	\$141,608.57		
TOTAL ESTIMATED FEE	\$177,013.32		
REMAINING FEE FROM ORIGINAL AUTHORIZATION	(\$17,400.00)		
REMAINING FEE FROM AMENDMENT 1	(\$11,000.00)		
TOTAL REQUESTED FEE	\$148,613.32		
TOTAL FEE (ROUNDED)	\$148,610.00		

- Footnotes:
1. Direct expense is subconsultant cost with 5% markup.
 2. Direct expense is subconsultant cost with 5% markup.
 3. Easement Plat Price of \$1,575 each included in totals shown. Direct expense includes 5% subconsultant markup.
 4. Test Holes price of \$1,982 each included in totals shown. Unit price for test holes includes mobilization, setup, permitting, traffic control and 5% markup.



Dewberry Engineers Inc. | 804.290.7957
4805 Lake Brook Drive, Suite 200 | 804.290.7928 fax
Glen Allen, VA 23060 | www.dewberry.com

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March 9, 2022

Mr. Richard Nelson
Civil Engineer
Albemarle County Service Authority
168 Spotnap Road
Charlottesville, Virginia 22911

**RE: Jefferson Village Water Main Replacement Project
Bid Evaluation and Recommendation**

Dear Mr. Nelson:

Dewberry has reviewed the bids received on February 23, 2022 for the above referenced project. Our review indicates that the lowest, responsive and responsible bidder is:

**Commonwealth Excavating, Inc.
P.O. Box 897 / 40 Sutton Road
Verona, Virginia 24482**

Total Bid Amount: \$1,423,150.00

Given the variance in bid amounts between the low bidder and 2nd lowest bidder, ACSA contacted Ira Biggs with Commonwealth Excavating after the opening of bids. While the discrepancy in pricing was unexpected, Mr. Biggs expressed interest in beginning work quickly and there was no indication of an error in the bid. Dewberry's review of the bid also confirmed an accurate tabulation of the unit prices for the calculation of the total bid amount shown above.

Based upon our review, we recommend that a contract be awarded to Commonwealth Excavating, Inc. for the Total Bid Amount shown above.

Enclosed is a breakdown of the four (4) bids received for this project. Should you have any questions or require additional information, please feel free to contact me at (804) 205-3351 or by email at hcampbell@dewberry.com.

Sincerely,

Dewberry Engineers Inc.

Heather A. Campbell, P.E.
Contract Manager

Enclosures

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**Albemarle County Service Authority
Jefferson Village Water Main Replacement Project
Bid Tabulation**

Bid Date: February 23, 2022

Item No.	Description	Quantity	Unit	Commonwealth Excavating, Inc. #2705-035555A		Kelvic Construction Co. Inc. #2705-083518A		Linco, Inc. #2705-095966A		Atkins Excavating, Inc. #2705-020707A	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	Mobilization (shall not exceed 3% of total bid)	1	LS	\$ 40,785.00	\$ 40,785.00	\$ 90,458.43	\$ 90,458.43	\$ 85,000.00	\$ 85,000.00	\$ 102,340.00	\$ 102,340.00
2	Furnish, Install, Excavate and Backfill 8-inch Ductile Iron Water Line	4788	LF	\$ 112.00	\$ 536,256.00	\$ 252.91	\$ 1,210,933.08	\$ 274.00	\$ 1,311,912.00	\$ 375.00	\$ 1,795,500.00
3	Furnish and Install 8-inch Gate Valve	10	EA	\$ 2,300.00	\$ 23,000.00	\$ 1,885.27	\$ 18,852.70	\$ 3,300.00	\$ 33,000.00	\$ 2,500.00	\$ 25,000.00
4	Furnish and Install 8"x8" Tapping Sleeve and Valve	3	EA	\$ 5,200.00	\$ 15,600.00	\$ 14,659.49	\$ 43,978.47	\$ 4,000.00	\$ 12,000.00	\$ 5,000.00	\$ 15,000.00
5	Furnish, Install, Excavate and Backfill 6-inch Ductile Iron Water Line	592	LF	\$ 74.00	\$ 43,808.00	\$ 235.14	\$ 139,202.88	\$ 259.00	\$ 153,328.00	\$ 320.00	\$ 189,440.00
6	Furnish and Install 6-inch Gate Valve	12	EA	\$ 1,800.00	\$ 21,600.00	\$ 1,502.50	\$ 18,030.00	\$ 2,600.00	\$ 31,200.00	\$ 2,000.00	\$ 24,000.00
7	Furnish, Install, Excavate and Backfill 4-inch Ductile Iron Water Line	892	LF	\$ 79.00	\$ 70,468.00	\$ 231.90	\$ 206,854.80	\$ 264.00	\$ 235,488.00	\$ 325.00	\$ 289,900.00
8	Furnish and Install 4-inch Gate Valve	4	EA	\$ 1,475.00	\$ 5,900.00	\$ 1,205.04	\$ 4,820.16	\$ 2,500.00	\$ 10,000.00	\$ 1,700.00	\$ 6,800.00
9	Furnish and Install Fire Hydrant Assembly	12	EA	\$ 5,800.00	\$ 69,600.00	\$ 6,292.92	\$ 75,515.04	\$ 4,500.00	\$ 54,000.00	\$ 4,000.00	\$ 48,000.00
10	Remove and Dispose of Existing Fire Hydrant Complete	9	EA	\$ 300.00	\$ 2,700.00	\$ 627.04	\$ 5,643.36	\$ 2,200.00	\$ 19,800.00	\$ 1,000.00	\$ 9,000.00
11	Furnish and Install Blow-Off Assembly	4	EA	\$ 2,100.00	\$ 8,400.00	\$ 3,171.27	\$ 12,685.08	\$ 5,000.00	\$ 20,000.00	\$ 3,000.00	\$ 12,000.00
12	Furnish and Install 1-inch Copper Piping	2,315	LF	\$ 29.00	\$ 67,135.00	\$ 202.24	\$ 468,185.60	\$ 66.00	\$ 152,790.00	\$ 130.00	\$ 300,950.00
13	Relocate Meter Box and Yoke, and Water Meter	89	EA	\$ 1,300.00	\$ 115,700.00	\$ 2,248.94	\$ 200,155.66	\$ 3,700.00	\$ 329,300.00	\$ 1,500.00	\$ 133,500.00
14	Pavement Milling	10330	SY	\$ 5.50	\$ 56,815.00	\$ 4.17	\$ 43,076.10	\$ 5.00	\$ 51,650.00	\$ 6.00	\$ 61,980.00
15	SM-9.5A Asphalt Surface Course, including overlay	1135	TONS	\$ 129.00	\$ 146,415.00	\$ 58.99	\$ 66,953.65	\$ 130.00	\$ 147,550.00	\$ 125.00	\$ 141,875.00
16	BM-25 Asphalt Base Course	1250	TONS	\$ 139.00	\$ 173,750.00	\$ 58.99	\$ 73,737.50	\$ 315.00	\$ 393,750.00	\$ 250.00	\$ 312,500.00
17	Repair Gravel Driveway	164	SF	\$ 12.00	\$ 1,968.00	\$ 19.70	\$ 3,230.80	\$ 9.00	\$ 1,476.00	\$ 30.00	\$ 4,920.00
18	Miscellaneous Concrete	10	CY	\$ 350.00	\$ 3,500.00	\$ 586.94	\$ 5,869.40	\$ 120.00	\$ 1,200.00	\$ 500.00	\$ 5,000.00
19	Remove Unsuitable Material and Backfill with Select Fill Aggregate	200	CY	\$ 47.00	\$ 9,400.00	\$ 128.67	\$ 25,734.00	\$ 40.00	\$ 8,000.00	\$ 75.00	\$ 15,000.00
20	Remove Unsuitable Material and Backfill with Select Fill Earth	200	CY	\$ 18.00	\$ 3,600.00	\$ 208.84	\$ 41,768.00	\$ 25.00	\$ 5,000.00	\$ 30.00	\$ 6,000.00
21	Replace Manhole Frame and Cover	15	EA	\$ 450.00	\$ 6,750.00	\$ 1,403.72	\$ 21,055.80	\$ 2,500.00	\$ 37,500.00	\$ 1,000.00	\$ 15,000.00
Total Bid =				\$ 1,423,150.00		Total Bid = \$ 2,776,740.51		Total Bid = \$ 3,093,944.00		Total Bid = \$ 3,513,705.00	

Bid Package Checklist

No.	Bidder (lowest bid to highest)	Bid Form	Bid Bond	Receipt of Addenda
1	Commonwealth Excavating, Inc.	✓	✓	✓
2	Kelvic Construction Company Inc.	✓	✓	✓
3	Linco, Inc.	✓	✓	✓
4	Atkins Excavating, Inc.	✓	✓	✓



March 1, 2022

Mr. Jeremy Lynn, PE
Senior Civil Engineer
Albemarle County Service Authority
168 Spotnap Road
Charlottesville, Va. 22911

Re: Annual Water System and Water Meter Replacement Contract Development and Bid Phase Services

Dear Mr. Lynn:

Whitman Requardt & Associates, LLP (WRA) is pleased to provide our proposal for the development of a contract manual and to provide bid phase services for an Annual Water System and Water Meter Replacement Contract to be issued by the Albemarle County Service Authority (ACSA). The proposal has been developed in accordance with all requirements in WRA's annual contract for engineering services with the ACSA.

The proposal includes engineering services required to complete a contract manual and to solicit contractor bids for award of an annual contract with the ACSA. The annual contract will involve water main and/or water meter replacement projects within the ACSA's system, as directed by the ACSA. In addition, the proposal includes services to assist the ACSA during bidding and award of the annual contract.

Under this proposal, WRA will perform the tasks outlined in the following Scope of Services.

SCOPE OF SERVICES

1. Project Initiation and Coordination Meeting

WRA will conduct an initiation meeting with the ACSA to discuss the framework of the annual contract and to confirm the proposed contract duration and requirements in accordance with the ACSA's upcoming water main and/or water meter replacement projects. The anticipated schedule for the annual contract will also be confirmed. WRA requests the following information as part of the project initiation meeting:

- a. The ACSA's intended list of replacement projects to be issued under the annual contract.
- b. Specific requirements or forms as required by Procurement for the annual contract.
- c. The ACSA's standard and updated documents as outlined under Task 2.

WRA will issue minutes and action items from the meeting.

2. Contract Manual Development

WRA will prepare a draft contract manual for the annual contract which will include the ACSA's most current version of the following sections and documents:

- a. Advertisement for Bid
- b. Instructions to Bidders and General Terms
- c. Standard Form of Bidder's Qualification Statement
- d. Standard Form of Contractor's Financial Statement
- e. Receipt of Addenda
- f. Standard Form of Agreement Between Owner and Contractor on the Basis of a Stipulated Price
- g. Performance Bond
- h. Construction Payment Bond
- i. Certificate of Insurance

- j. Notice of Award
- k. Notice to Proceed
- l. Standard General Conditions
- m. Supplemental Terms and Conditions
- n. Escrow Agreement
- o. Addenda
- p. Standard Details and Drawings
- q. Pre-bid Question Form
- r. Bid Form sample or template
- s. Updated Water System Standards/Specifications

In collaboration with the ACSA, WRA will develop the following documents to be included in the draft contract manual:

- a. Scope of Services for typical replacement projects under the annual contract.
- b. Prioritized list of anticipated Individual Task Orders (ITOs) or replacement projects planned to be assigned or completed under the annual contract.
- c. Breakdown of unit price and contract items used for the contract period.
- d. Technical specification sections to govern the annual contract work. The technical specification sections will be developed and based on the ACSA's current construction standards and approved material list.

A draft contract manual will be provided to the ACSA for review and comment. The draft contract manual will be submitted in pdf format to the ACSA.

3. Contract Manual Review and Final Document

WRA will hold a review workshop with the ACSA to discuss the ACSA's review comments and revisions to the draft contract manual. WRA will incorporate the ACSA's review comments and prepare the final contract manual for submittal to the ACSA. The final contract manual will be issued in pdf format.

Prior to the bid phase of the project, WRA will establish a file sharing site to allow the contract manual to be downloaded or viewed by prospective bidders if desired.

BID PHASE SERVICES

Bid phase services for the annual contract will include the following tasks:

- 1. Attend and conduct one (1) pre-bid meeting and assist the ACSA in presenting an overview of the annual contract requirements. WRA will prepare minutes for the pre-bid meeting for issuance in Addendum 1.
- 2. Provide clarifications to technical questions.
- 3. Prepare two (2) addenda, as required.
- 4. Evaluate and tabulate the bids and make recommendation of award to the ACSA.

ASSUMPTIONS

The following assumptions have been used to develop the scope and estimated fee:

- 1. The scope of work does not include design services for any of the anticipated replacement projects or ITO's.
- 2. A full evaluation of the replacement water main projects based on age, material, maintenance histories, etc. to establish the prioritized list of projects for the annual contract is not included.
- 3. Specification sections for alternate products not included on the ACSA's approved materials list or alternate water main or service materials are not proposed or included.
- 4. A single contract manual is anticipated for all replacement work under the annual contract.
- 5. The ACSA will provide a list of anticipated replacement projects.
- 6. Development of mapping for the anticipated projects is not required or included.



7. Hardcopy printing of the contract manual are not proposed or included.
8. Meetings are anticipated to be conducted through MS Teams or similar virtual platform.
9. Construction phase and supplemental inspection services are not proposed or included.

SCHEDULE

WRA proposes the following schedule to complete the contract manual:

- Draft Contract Manual Submittal – 5 weeks after notice to proceed.
- Final Contract Manual – 2 weeks after receipt of all ACSA comments on the draft contract manual.

Time limits proposed by the schedule, except for reasonable cause, will not be exceeded by WRA without authorization by the ACSA.

COMPENSATION

Attachment A contains the fee summary for the project. The estimated, not-to-exceed fee is based on hourly rates in Attachment A and is summarized as follows:

Task	Estimated Fee
Project Initiation and Coordination Meeting	\$1,122
Contract Manual Development	\$12,113
Contract Manual Review and Final Document	\$ 4,896
Bid Phase Services	\$ 8,517
Total Estimated Fee	\$26,648

WRA trusts that this proposal and fee summary addresses the scope items needed to assist the ACSA in the development of a contract manual for an annual water main and meter replacement contract.

Please let us know if you wish to meet and discuss the proposal in greater detail or if you have any questions or concerns. Thank you for your continued cooperation and support on this important project.

Very truly yours,

Whitman, Requardt and Associates, LLP



Charles Luck, PE
Vice President

Enclosures

cc: File 00RIB – ACSA



PROJECT NAME: Annual Water System and Water Meter Replacement Contract Development and Bid Phase Services								REVISION		DATE 3/1/2022 BY CEL			
MANHOUR ESTIMATE AND PROPOSAL													
CLIENT: ALBEMARLE COUNTY SERVICE AUTHORITY		Project Manager	Civil Associate / Project Engineer	Civil Engineer	Civil Designer / CADD	WRA TOTAL HOURS	WRA TOTAL PAYROLL	WRA EXPENSES		Subcontractor hours	Subcontractor Payroll	Subcontractor Expenses	Line Item Totals
PROJECT DESCRIPTION: Annual Water System and Water Meter Replacement Contract Development and Bid Phase Services													
								T, R, E				T, R, E	
Labor Cost Rates		\$80	\$70	\$55	\$45			S, or L	(See Legend)			(See Legend)	
	SCOPE OF SERVICES												
1	Project Initiation and Coordination Meeting	2	4			6	\$1,122						\$1,122
2	Contract Manual Development	25	25	10	10	70	\$12,113						\$12,113
3	Contract Manual Review and Final Document	8	12	8		28	\$4,896						\$4,896
												SUBTOTAL	\$18,131
	BID PHASE SERVICES												
1	Attend and conduct one (1) pre-bid meeting	8		8		16	\$2,754						\$2,754
2, 3	Provide clarifications to technical questions, prepare two (2) addenda, as required.	2	4	6		28	\$4,284						\$4,284
4	Evaluation of bids, prepare recommendation of award		2	8		10	\$1,479						\$1,479
												SUBTOTAL	\$8,517
SUBTOTALS =		45	47	40	10	158	\$26,648	\$0		Subcontractor Total		\$0	\$26,648
SUB-TOTAL DOLLARS =		\$9,180	\$8,390	\$5,610	\$1,148	\$26,648					Profit on Sub		5.0%
			97	Civil	\$15,147					WRA Total		\$26,648	
										TOTAL		\$26,648	

TOTAL ESTIMATED FEE: \$26,648

		Project Manager	Civil Associate / Project Engineer	Civil Engineer	Civil Designer / CADD
Bare Labor Cost rates for year		\$80.00	\$70.00	\$55.00	\$45.00
Contract Rates - LOADED LABOR AT A FACTOR OF: 2.55		\$204.00	\$178.50	\$140.25	\$114.75

WRA EXPENSES
T = Travel
R = Reproduction
E = Equipment
S = Subcontractor
L = Laboratory



Whitman, Requardt & Associates, LLP
Engineers • Architects • Environmental Planners
Est. 1915

AGENDA ITEM EXECUTIVE SUMMARY

CONSENT AGENDA

AGENDA TITLE: Maintaining a State of Readiness.	AGENDA DATE: March 17, 2022
STAFF CONTACT(S)/PREPARER: Mike Lynn, Operations Manager	ACTION: Informational
	ATTACHMENTS: No

BACKGROUND: Discussion of emergency water provisions.

DISCUSSION: On April 14, 2004, the Virginia General Assembly enacted House Bill 1198 which requires the Virginia Department of Health to promulgate requirements and criteria for water utilities to develop emergency plans regarding provision of clean pure water for extended power outages lasting several days.

Back in 2003, we had a weather event that disrupted electrical power to several of our water pump stations. At that time very few of our water pump stations had backup generators and put us in a position that we needed address the issue.

The ability to provide potable water is critical to maintaining public health and preventing disease in our community. Our first steps were to purchase three 125Kw portable generators and to install manual transfer switches at our water and sewer pump stations.

Our second step was to have stationary generators installed at all new pump station projects. Additionally, money appropriated through our CIP Program retro fitted generators and transferred switches at our current stations. This allowed us to not rely on having to move the portable generators to each pump station to keep water storage tanks full.

We were comfortable with having permanent generators at all but the Scottsville and Northfields water pump stations. Having the three portable generators we felt we could handle any power loss issues. We usually keep one of our portable generators at the Scottsville station and can quickly move one of the other generators to Northfields if needed.

In 2014 we decided to add another level of redundancy in our emergency response planning. We had a couple of incidents where the pump station itself had tree damage through the roofs and the potential for water pump failure. We purchased a potable water pump and began requiring pump station bypass connections on all pump station projects. Our maintenance crews installed the required connections.

While we are required to provide water, we do not have to provide the usual quantity, pressure and location without interruption. On several occasions we have hand delivered cases of bottled water to individual homes on a small scale. Should the occasion arise, we can contact Walmart, Food Lion or Target and order tractor trailer sized loads to set up drive through water distribution sites as necessary.


We have recently provided written Emergency Management Plans for Extended Power Outages for Scottsville, Crozet and the Urban Area as required to the Office of Drinking Water.

BOARD ACTION REQUESTED: None

ATTACHMENTS: No

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

<p>AGENDA TITLE: Rivanna Water & Sewer Authority (RWSA) Monthly Update</p> <p>STAFF CONTACT(S)/PREPARER: Gary O'Connell, Executive Director </p>	<p>AGENDA DATE: March 17, 2022</p> <p>CONSENT AGENDA: Informational</p> <p>ATTACHMENTS: Yes</p>
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BACKGROUND: This report continues the monthly updates on the Rivanna Water & Sewer Authority (RWSA) projects and Board meetings. Below are some updates on RWSA major projects and issues, including updates from the February 22nd RWSA Board Meeting and other communications.

RWSA Board Meeting and other Updates and Approvals at the February 22nd Board Meeting:

- CIP Program - \$205 million over five years for 41 projects. See attached summary of the proposal. Funding to support will be included in the ACSA proposed Budget.
- Buck Mountain Property – Approval of the sale of 14 acres of excess property, that is part of the original Buck Mountain Reservoir Property that has not been feasible to develop for water supply purposes. See attached report on the proposal.
- Scottsville Wastewater Plant Liner Replacement – Relining project of current earthen lagoons. Project description in attached report.
- Water Treatment Corrosion Inhibitor – RWSA successfully completed a 22-month conversion process to utilize an orthophosphate product at our water treatment plants. The new corrosion inhibitor product will continue to prevent metals/lead/copper from pipes and plumbing fixtures from leaching into our drinking water. While our prior corrosion inhibitor product provided excellent results, the new product optimizes and updates this treatment technology. No customer concerns were received during the transition.
- FY 2023 Operating Budget – We completed a review of the proposed FY 2023 Operating Budget totaling \$41.8 million with the Board's RWSA Budget Subcommittee (City and ACSA) last week. The proposed budget will be presented to the RWSA Board in March. The budget proposes a 9.5% wholesale rate increase to the ACSA. The RWSA Rate proposal is being included in the proposed ACSA Budget which will be presented to the Board at the April meeting. The ACSA "retail" rate will be different than RWSA's.
- South Rivanna to Ragged Mountain Reservoir Water Pipe – Easements and agreements (VDOT) have been obtained from all parties along the route except from one private owner near Barracks Road and from the UVA Foundation for two properties. Preparation of engineering plans and specifications continue for a 0.25-mile section of this 36" raw water pipe from Birdwood to Old Garth Road to be constructed in 2022-2023.

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

- Central Water Line Project – RWSA will present information about this project to the Fry's Spring Neighborhood Association in March. Other neighborhoods along the proposed route will be getting similar presentations.

RWSA Major Capital Project Updates:

- **South Rivanna and Observatory Water Treatment Plant Renovations**

Design Engineer:	Short Elliot Hendrickson, Inc. (SEH)
Construction Contractor:	English Construction Company
Construction Start:	May 2020
Percent Completion:	50%
Completion Date:	May 2023
Base Construction Contract:	\$37,223,349.89
Approved Capital Budget:	\$43,000,000

Current Status:

Work continues on the South Rivanna Water Treatment Plant with completion of the Alum and Fluoride Chemical Storage Building, the Administration Building, and replacement of a clarifier drive. Two new filters have been completed and are in their 30-day demonstration period. Work at the Observatory Water Treatment Plant includes the foundation associated with the new Chemical Storage Building, installation of backwash pumps, expansion of the existing Filter Building and sedimentation basin improvements.

History:

The Observatory project will consider the design and costs for upgrading the plant systems to achieve a consistent 7 MGD plant capacity, as well as consider the costs involved with upgrading the plant to 10 or 12 MGD capacity. Much of the Observatory Water Treatment Plant is original to the 1953 construction.

At the South Rivanna Water Treatment Plant significant needs were identified and assembled into a single project. The projects include: expansion of the coagulant storage facilities; installation of additional filters to meet firm capacity needs; the addition of a second variable frequency drive at the Raw Water Pump Station; the relocation of the electrical gear from a sub-terrain location at the Sludge Pumping Station; a new Administration building onsite for additional office, lab, control room and storage space; improvements to storm sewers to accept allowable WTP discharges; and the construction of a new metal building to cover the existing liquid lime feed piping and tanks. The scope of this project will not increase plant treatment capacity, which is at 12 MGD.

- **Crozet Flow Equalization Tank**

Design Engineer:	Schnabel Engineering
Construction Start:	September 2020
Percent Complete:	86%

AGENDA ITEM EXECUTIVE SUMMARY

Expected Completion Date:	June 2022
Base Contract	\$4,478,216.31
Total Capital Project Budget:	\$5,400,000

Current Status:

Final construction of the tank continues with only completion of the tank done, a second round of leak testing, and painting remaining. The new pumps are set on bases but the new motors and variable speed drives are not yet complete. SCADA and control work is in progress.

History:

A 2016 update to the 2006 wastewater model was completed which evaluated the I&I (Infiltration and Inflow) reduction goals previously established and future capital project needs. Based on the results of that study, it was determined that the Crozet Interceptor system and namely the existing Crozet Pump Stations (1 through 4) have adequate capacity to handle the 2015 peak wet weather flow from the Crozet service area during a two-year storm. However, as the projected growth in the Crozet 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.

A flow equalization tank is under construction which 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.

- **Airport Road Water Pump Station and Piping**

Contractor:	Anderson Construction
Bidding:	
Construction Start:	December 2021
Percent Complete:	5%
Completion Date:	December 2023
Base Contract:	\$8,520,312.50
Budget:	\$10,000,000

Current Status:

The contractor continues to submit shop drawings. There is currently a 5-7 month lead time for ductile iron pipe, fittings, and some pump station materials, so contractor mobilization to the site may not be until April/May 2022.

History:

The Route 29 Pipeline and Pump Station Master Plan was developed in 2007 and originally envisioned as a multi-faceted project that reliably connected the North and

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

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.

- **Ragged Mountain Reservoir to Observatory Water Treatment Plant Raw Water Line and Raw Water Pump Station**

Design Engineer:	Michael Baker International (Baker)
Project Start:	August 2018
Project Status:	Design (9%) and Easement Acquisition in Progress
Construction Start:	2025
Completion:	2028
Current Project Estimate:	\$29,375,000

Current Status:

Preparation of engineering plans and specifications is underway. Topographic survey work to the west of the proposed pump station is nearing completion, with further survey efforts to the east of the site soon to commence. A hydraulic evaluation of the future South Fork Rivanna Reservoir (SRR) to Ragged Mountain Reservoir (RMR) transfer system is also underway, which will further inform design of the RMR Pump Station and associated yard piping. Easement negotiations with one private owner, UVA, and the UVA Foundation continue.

History:

Raw water is currently transferred from the Ragged Mountain Reservoir (RMR) to the Observatory Water Treatment Plant by way of two 18-inch cast iron raw water lines, which have been in service for more than 110 and 70 years, respectively. The proposed water line will be able to reliably transfer water to the expanded Observatory Plant, which, upon construction, will have the capacity to treat 10 million gallons per day (mgd). The new single water line is expected to be constructed of 36-inch ductile iron and will be approximately 14,000 feet in length.

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

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

- **South Rivanna Reservoir to Ragged Mountain Reservoir Raw Water Line- Birdwood to Old Garth Road**

Design Engineer:	Kimley-Horn
Project Start:	June 2021
Project Status:	90% Design
Construction Start:	Summer 2022
Completion:	2023
Current Project Estimate:	\$1,980,000

Current Status:

Preparation of engineering plans and specifications is substantially complete for a 0.25-mile section of the 36" raw water pipe from Birdwood to Old Garth Road. One remaining easement is under negotiation with the UVA Foundation for this phase of the project. Design documents have been submitted to local regulatory authorities for review.

History:

This project is the continuation of the SRR to RMR 36" raw water pipeline built on the Birdwood Golf Course. Design efforts were authorized in June 2021 with construction anticipated in summer 2022.

- **Beaver Creek Dam and Pump Station and Piping Improvements**

Design Engineer:	Schnabel Engineering (Dam)
Design Engineer:	Hazen and Sawyer (Pump Station)
Project Start:	February 2018
Project Status:	73% NRCS Planning Process
Construction Start:	2024
Completion:	2026
Budget:	\$30,870,000

Current Status:

RWSA staff is moving forward with development of a Joint Permit Application and supporting documents for submission to DEQ in early 2022. Remaining NRCS requirements, including review and approval of the planning study, are scheduled for completion by October 2022. An application for design and construction funding from NRCS will be submitted in early 2022.

History:

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

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

high hazard. This change in hazard classification requires that the capacity of the spillway be increased, and the dam be replaced. This CIP project includes investigation, preliminary design, public outreach, permitting, easement acquisition, final design, and construction of the anticipated modifications. Work for this project includes a new relocated raw water pump station and intake. A federal grant totaling \$341,000 was secured from the National Rural Conservation Service (NRCS) to cover the costs of an Environmental Assessment for the dam modifications. Staff will continue to pursue federal funding in the later phases of the project to cover a portion (70%) of final design and construction costs.

- **South Fork Rivanna River Crossing**

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2020
Project Status:	35% Design
Construction Start:	January 2023
Completion:	April 2024
Budget:	\$5,850,000

Current Status:

Baker has recommended a water line route that will cross the river parallel to the west side of the Berkmar Bridge and follow Rio Mills Road until it intersects the new 24" water line in Route 29.

History:

RWSA has previously identified through master planning that a 24-inch water main will be needed from the South Rivanna Water Treatment Plant (SRWTP) to Hollymead Town Center to meet future water demands. Two segments of this water main were constructed as part of the VDOT Rt. 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.

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

Design Engineer:	Michael Baker International (Baker)
Project Start:	October 2017
Project Status:	Easement Acquisition Underway
Completion Date:	2022
Total Capital Project Budget:	\$2,295,000

AGENDA ITEM EXECUTIVE SUMMARY

Current Status:

Progress continues in RWSA efforts to acquire 8 miles of easements and agreements (with VDOT) for this 36" water line. Discussions continue on remaining easements with the UVA Foundation and one final private property owner.

History:

The approved 50-year Community Water Supply Plan includes the future construction of a raw water line from the South Fork Rivanna Reservoir to the Ragged Mountain Reservoir. This water line will replace the existing Upper Sugar Hollow Pipeline along an alternative alignment to increase raw water transfer capacity in the Urban Water System. 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.

- **Urban Finished Water Infrastructure Master Plan**

Design Engineer:	Michael Baker International (Baker)
Project Start:	November 2018
Project Status:	99% complete
Completion:	February 2022
Total Capital Project Budget:	\$253,000

Current Status:

A final draft of the Master Plan will be submitted to stakeholders this month for review.

History:

As identified in the 2017 RWSA Strategic Plan, the Authority has a goal to plan, deliver and maintain dependable infrastructure in a financially responsible manner. RWSA 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, RWSA staff has identified a need to develop a current and ongoing finished water master plan.

- **Upper Schenks Branch Interceptor, Phase II**

Design Engineer:	Frazier Engineering, P.A.
Project Start:	July 2021
Project Status:	Design
Construction Start:	TBD
Completion:	TBD
Current Project Estimate:	\$4,725,000

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

Current Status

A revised draft alignment of the sewer line being installed within easements and out of the roadway have been completed and are being shared with the City of Charlottesville and Albemarle County for review.

- **SRR to RMR Pipeline – Pretreatment Pilot Study**

Design Engineer:	SEH
Project Start:	August 2020
Project Status:	100% (Phase 1) 50% (Phase 2)
Completion:	July 2022
Budget:	\$22,969 (Phase 1) \$98,629 (Phase 2)

Current Status:

Phase 1, analysis of existing water quality and seasonal weather data, has been completed. SEH and staff have finalized the memo for this portion of the study. Phase 2 of the study is underway and includes detailed reservoir water quality modeling performed by DiNatale Water Consultants. RWSA coordinated internally and generated a list of scenarios for DiNatale to run in a excel-based desktop model, which is currently underway. Once these runs have been completed and the technical memo has been finalized, work on a more detailed reservoir model will likely commence, which will help better represent the future conditions at Ragged Mountain Reservoir based upon the known characteristics of the proposed transfer system.

History:

As part of the SRR to RMR Pipeline project, the impact of sending raw water from the SRR to RMR has been previously studied 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.

The study is anticipated to be completed in four phases: 1. Analysis and Correlation of Existing Water Quality and Seasonal Weather Data; 2. Enhanced Water Quality Sampling; 3. Pretreatment Piloting; 4. Level Setting for the Final Pretreatment Solution. Phase 1 commenced in January 2021 and was completed in July 2021. Phase 2 began in June 2021.

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

- **Central Water Line Project – Routing Study**

Design Engineer:	Michael Baker International (Baker)
Project Start:	July 2021
Project Status:	5% Design
Construction Start:	2024
Completion:	2029
Budget:	\$31,000,000

Current Status:

Survey and utility designation work has begun and will continue along the proposed 5-mile alignment through May 2022. A drone survey of the proposed CWL alignment has been posted on RWSA's web page. RWSA and City staff will attend the virtual Fry's Spring Neighborhood Association meeting on March 9th to present information on this project.

History:

Route alignment determination, hydraulic modeling, and preliminary design were underway in 2017. Due to the complicated nature of RWSA finished water systems, it was decided at the August 2018 Board meeting that a more comprehensive approach was warranted, and that RWSA should complete an Urban Finished Water Master Infrastructure Plan prior to moving forward with final design and construction of a Central Water Line. The hydraulic connectivity in the Urban System is less than desired, creating operational challenges and reduced system flexibility and redundancy. In 1987, the City and ACSA developed the Southern Loop Agreement which laid out two key phases (with the first being built at the time). The 1987 Agreement and planning efforts were a starting point for this current project. Recent efforts and modeling for the Urban Finished Water Infrastructure Master Plan have determined that a central water line corridor through the City is the best option to hydraulically connect the Observatory Water Treatment Plant to the Urban service area.

- **Security Enhancements**

Construction Contractor:	Security 101
Construction Start:	March 2020
Percent Complete:	98% (WA 2 & 3) 35% (WA 4)
Based Construction Contract + Change Orders to Date = Current Value:	\$718,428.00 (WA1) + \$91,130.32 (WA2) +\$128,166.69 (WA3) + \$189,698.95 (WA4) = \$1,127,423.96 (total)
Completion:	December (WA 2 & 3) February 2022 (WA 4)
Budget:	\$2,810,000

ALBEMARLE COUNTY SERVICE AUTHORITY**AGENDA ITEM EXECUTIVE SUMMARY**Current Status:

Access control system installation has been completed on all exterior doors at MCAWRRF, as well as all WTP motorized gates. The Card Access System is in use at the Administration, Engineering, and Maintenance Buildings at MCAWRRF, as well as at various process buildings across the site and at the WTP gates. The only task that remains is some door and lock hardware improvements under WA #2, which will enhance the functionality of the card access system. Card access installation at the Crozet and Scottsville WTP exterior doors under WA #3 is substantially complete. Finally, WA #4 includes security conduit at the South Rivanna and Observatory WTPs that was not included in the Improvements Project. This work began on November 2, 2021, with the majority of the work at South Rivanna WTP now complete, except for the Filter Building, which is currently ongoing heavy construction work as part of the Improvements Project. Security 101's subcontractor is transitioning to Observatory, where they'll finish the necessary work at that site, prior to completing work in the South Rivanna Filter Building.

History:

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 treatment plants, 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.



MEMORANDUM

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

FROM: BILL MAWYER, EXECUTIVE DIRECTOR

**SUBJECT: INTRODUCTION OF THE FY 2023 – 2027
CAPITAL IMPROVEMENT PLAN**

DATE: FEBRUARY 22, 2022

We are pleased to present the proposed FY 2023 – 2027 Capital Improvement Plan (CIP) totaling 41 projects and \$205.1 M for your consideration. We continue to strategically plan for the water supply, drinking water, and wastewater treatment facilities required to meet the requirements of Federal and State regulations, as well as the quantity, quality, and reliability expectations of the public drinking water and wastewater customers in our community. Projects to achieve these objectives in a financially responsible manner have been included in this proposed CIP.

During this five-year period, the CIP will significantly strengthen our drinking water systems with expenditures of \$122.5 M for essential projects including:

- Renovations and Upgrades to our largest Water Treatment Plants (S. Rivanna and Observatory)
- Additional Granular Activated Carbon Water Filtering Facilities at the Observatory Water Treatment Plant
- Replacement of Raw Water Piping and Pumping Stations from Ragged Mountain Reservoir to the Observatory Water Treatment Plant
- An Additional Water Pumping Station and Piping located near Airport Road
- Modifications to the Beaver Creek Reservoir Dam, Pump Station and Piping
- A Major Urban Area Water Distribution Pipe, the Central Water Line

We will also complete significant improvements to our wastewater treatment and piping facilities to ensure regulatory compliance and environmental protection. The proposed CIP includes about \$45 M for essential wastewater projects including:

- Replacement of Major Electrical Systems at Moores Creek
- Renovations and Repairs to Wastewater Facilities (Moores Creek, Scottsville, Glenmore, and Crozet Pump Stations and Piping)
- Repairs and Replacement of Wastewater Piping and Manholes (Lower Morey Creek, Powell Creek, Moores Creek, Upper Rivanna Interceptors)

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

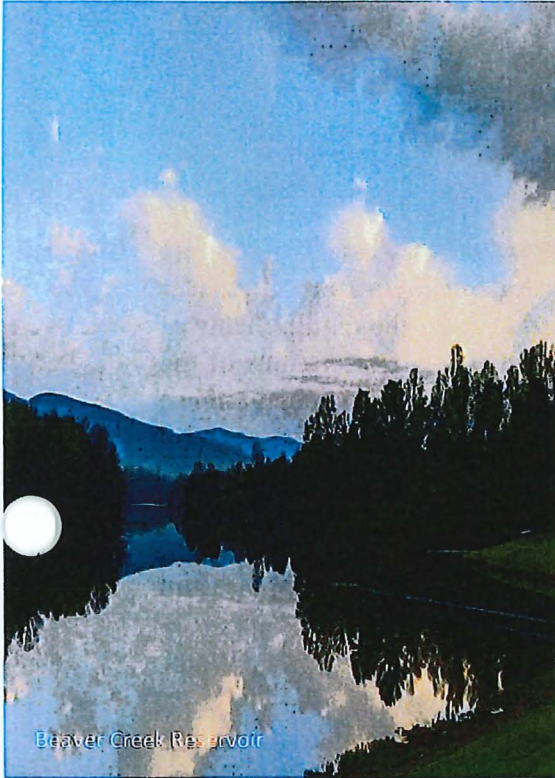
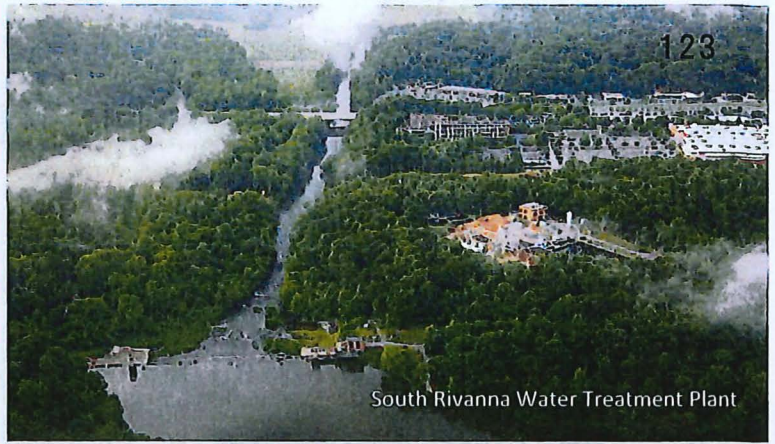
Board Action Requested:

The FY 23 – 27 CIP totaling \$205.1 M is provided for review by the Board of Directors.

Capital Improvement Plan

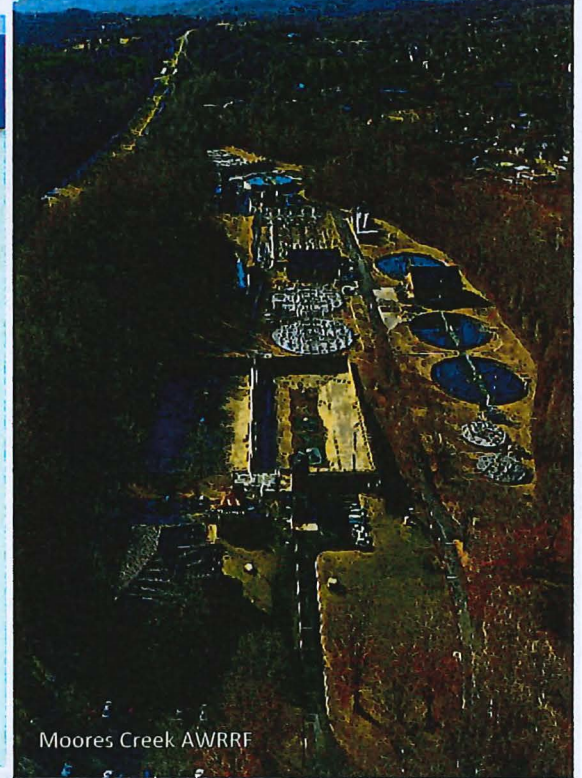
Fiscal Years 2023-2027

Draft February 2022



OUR MISSION

Our professional team of knowledgeable and engaged personnel serve the Charlottesville, Albemarle, and UVA community by providing high quality water and wastewater treatment services in a financially and environmentally responsible manner.



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

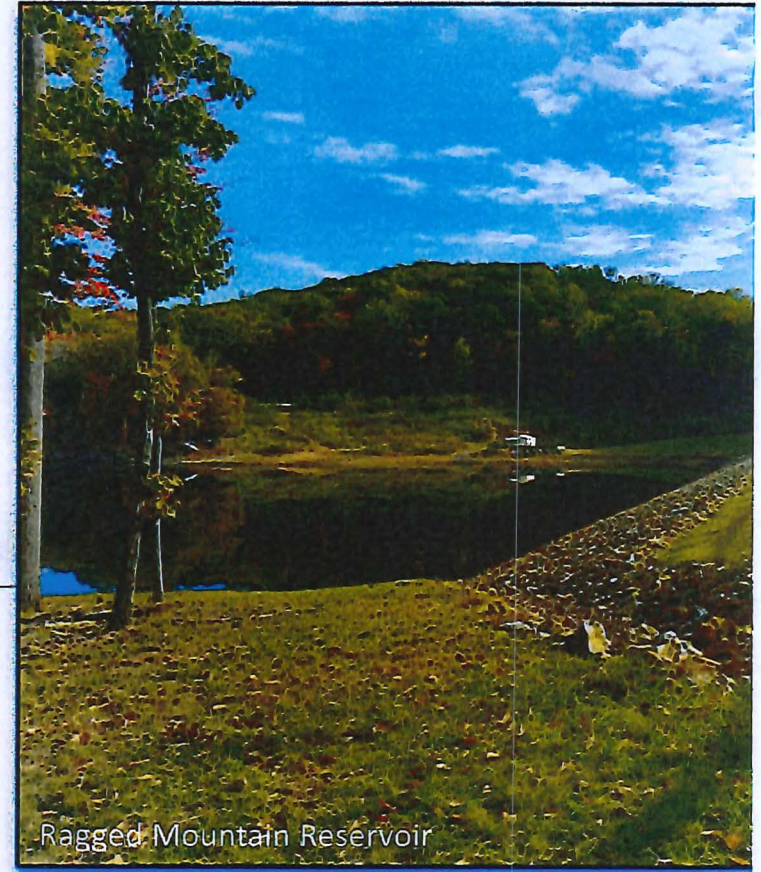


Proposed Capital Improvement Program FY 2023-2027

FOR THE BOARD OF DIRECTORS

BY BILL MAWYER, EXECUTIVE DIRECTOR

FEBRUARY 22, 2022



Strategic Plan Goal

“Infrastructure and Master Planning”

- “To plan, deliver, and maintain dependable infrastructure financially responsible manner.”

FY 23 – 27

Capital Improvement Program

41 Projects, \$205.1 M

Water

Urban: \$122.5 M

Non-Urban & Shared W & WW:

Use of Cash Reserves:

New CIP Debt Anticipated:

Wastewater

Urban: \$44.4 M

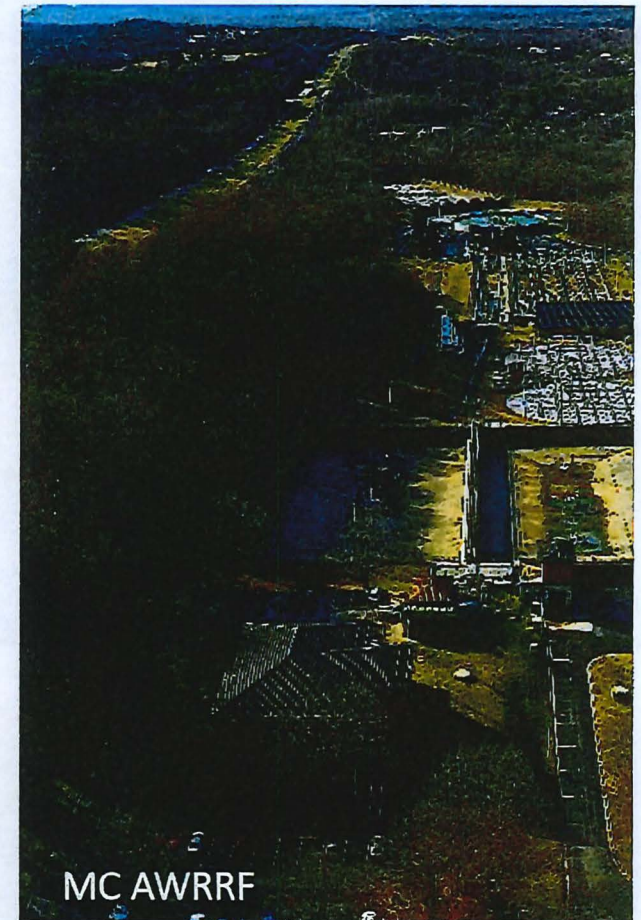
\$38.2 M

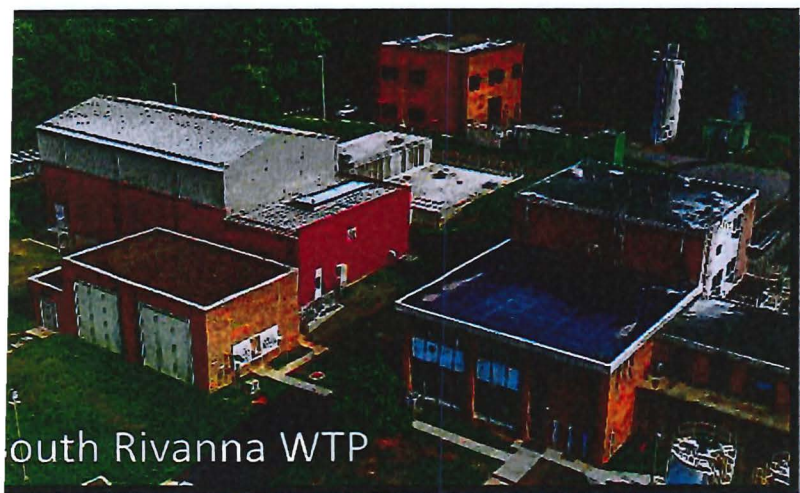
\$ 10 M

\$ 123 M

Capital Assets: Facilities and Equipm \$390 M

5 Water Supply Reservoirs	3.3 billion gallons
6 Water Treatment Plants	
◦ 3 Urban	21.7 = 24 MGD by 2023
◦ 3 Non-Urban	2.25 MGD
4 Wastewater Treatment Plants	
◦ 1 Urban	15 MGD
◦ 3 Non-Urban	0.588 MGD
7 Wastewater Pump Stations	
11 Water Pump Stations	
◦ 7 Raw Water	
◦ 4 Finished Water	
Water Distribution Pipe	68 miles
Valves	117
Wastewater Collection Pipe	44 miles
Manholes	717
Stormwater Impoundment	Lickinghole Creek Basin

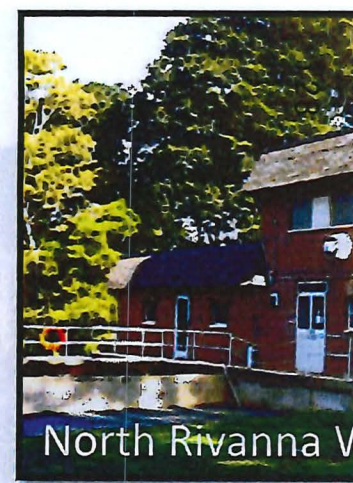




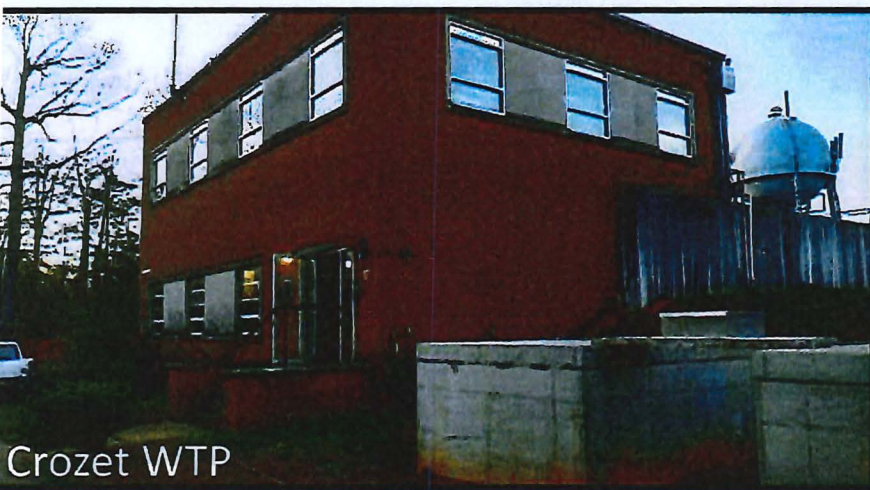
South Rivanna WTP



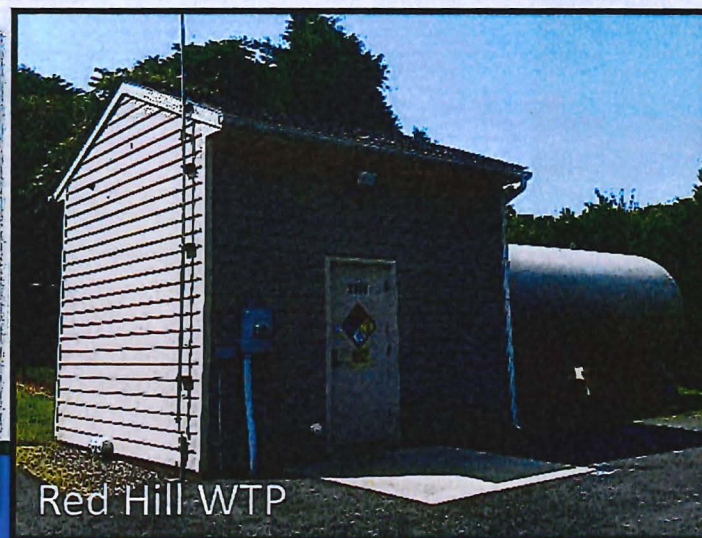
Observatory WTP



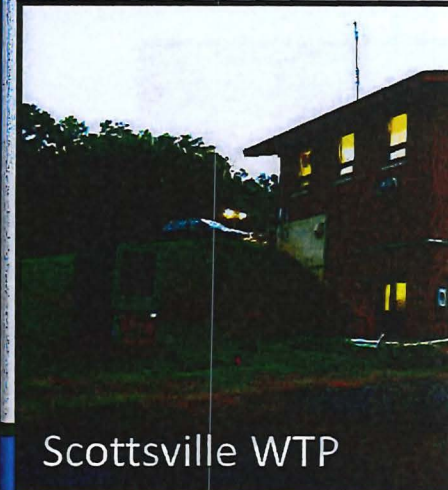
North Rivanna WTP



Crozet WTP



Red Hill WTP



Scottsville WTP

6 Water Treatment Plants



Moors Creek AWRRF



Scottsville WWTP



Glenmore WWTP

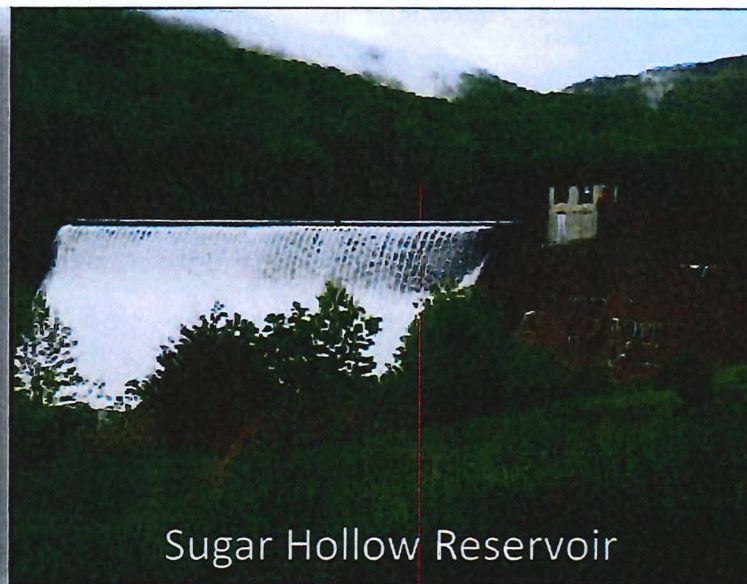


Stone Robinson

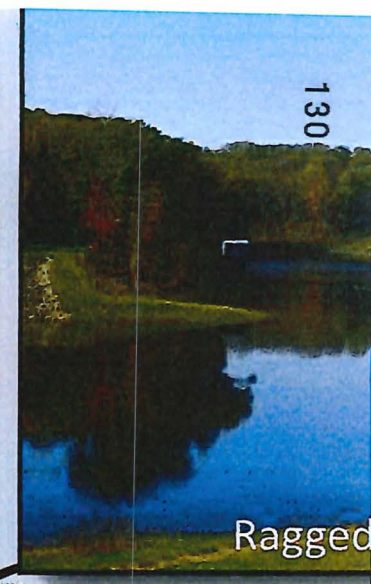
4 Wastewater Treatment Plants



South Fork Rivanna Reservoir



Sugar Hollow Reservoir



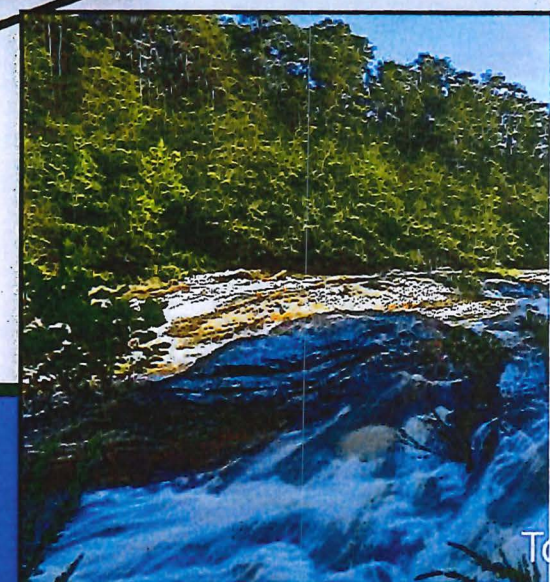
Ragged Mountain Reservoir



Beaver Creek Reservoir

Urban
Area

3.3 Billion Gallons



Toledo Reservoir

5 Water Supply Reservoirs

FY 23 – 27
Projects: 41
\$205.1 M

In comparison with

FY 22 - 26
Projects: 55
\$172 M

Changes to the 5-Yr CIP from last year : *\$33.1 M increase*

- | | | |
|----|--|--------------|
| 1. | FY 27 costs transitioned into the FY 23-27 CIP | + \$17.5 M |
| 2. | Budgets for existing projects increased | + \$33.4 M |
| a. | Central Water Line | \$15 M |
| b. | Airport Rd. WPS and Piping | \$2 M |
| c. | RMR to OB WTP WL and Pumping | \$5 M |
| d. | Emmett St WL Betterments | \$3 M |
| e. | Beaver Creek Dam Modifications | \$5 M |
| f. | S. F. Rivanna River Crossing | \$2 M |
| 3. | 1 new project was added | + \$1.5 M |
| 4. | 10 projects were completed or closed | < \$19.3 M > |
| a. | Sugar Hollow Dam Gate | \$2 M |
| b. | Crozet WTP Expansion | \$8 M |

Goal: *Our charge increases to the ACSA and City to be consistent with the forecast in FY 22 – 26 CIP, despite cost increases from extreme inflation*³²

To Meet Goal: *Deferred 24 projects, in part or in whole, beyond FY 27*

Projects moved out of the initial draft FY 23 – 27 CIP

8 existing projects

1. WW Interceptor and Manhole Repair (Phs 2)	FY 26-27 to 28-31	(-\$985k)
2. Avon, Pantops, and Observatory Tank Rehabilitation	FY 26-28 to 28-30	(-\$1.045M)
3. 2 nd N. Riv. River Crossing and Pipe Replacement	FY 24-27 to 28-31	(-\$445k)
4. Buck's Elbow Tank and Waterball Painting	FY 25-27 to 28-30	(-\$730k)
5. Scottsville Tank Rehabilitation	FY 26-27 to 28-29	(-\$85k)
6. Scottsville WTP Upgrade	FY 26-29 to 28-31	(-\$300k)
7. Albemarle – Berkley WWPS Replacement	FY 25-27 to 28-30	(-\$452k)
8. SR WTP Plates, PAC, Floc Improvements	FY 26-29 to 30-33	(-\$1.9M)

16 new projects

1. SRR – RMR WL, Westover Section	FY 23-25 to 28-30	(-\$3.5M)
2. RMR, Hypolimnetic Oxygen System	FY 27-30 to 28-31	(-\$480k)
3. Urban, Addn'l GAC Facilities	FY 27-30 to 35-38	(-\$585k)

Projects moved out of the initial draft FY 23-27 CIP *continued*

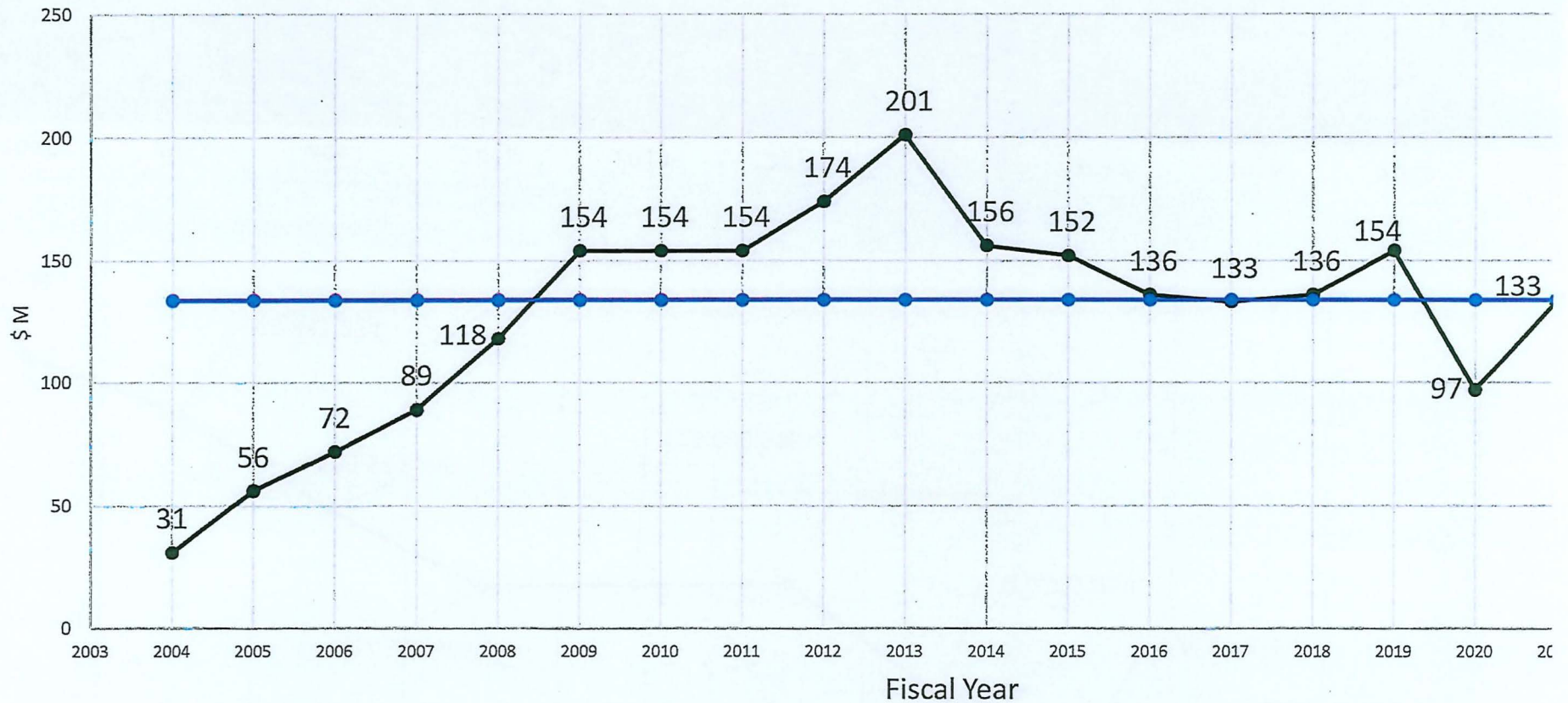
4. GAC Buildings Dehumidification	FY 24-26 to 27-29	(-\$2.4M)
5. SR WTP Sewer Connections	FY 27-28 to 33-34	(-\$120k)
6. CZ WTP GAC Dehumidification	FY 24-25 to 28-29	(-\$600k)
7. CZ WTP, Addn'l GAC Facilities	FY 27-30 to 35-38	(-\$240k)
8. Mint Springs WPS Demolition	FY 26-27 to 33-34	(-\$765k)
9. RH/SVL WTPs, Addn'l GAC Facilities	FY 27-30 to 35-38	(-\$10k)
10. SVL WTP GAC Dehumidification	FY 24-25 to 28-29	(-\$600k)
11. MC Elect Actuators for Clarifier Gates	FY 23-24 to 28-29	(-\$400k)
12. MC North Septage Improvements	FY 23-24 to 28-29	(-\$175k)
13. SVL WTP Lagoon Outfall Rehab	FY 24-25 to 27-28	(-\$270k)
14. SVL WTP Polymer Feed Addition	FY 23-24 to 28-29	(-\$240k)
15. Glenmore WW Polymer Feed Addition	FY 23-24 to 28-29	(-\$275k)
16. MC Asbestos Remediation	FY 23-24 to 28-29	(-\$735k)
Total 24 projects		<u>\$17,337,000.</u>

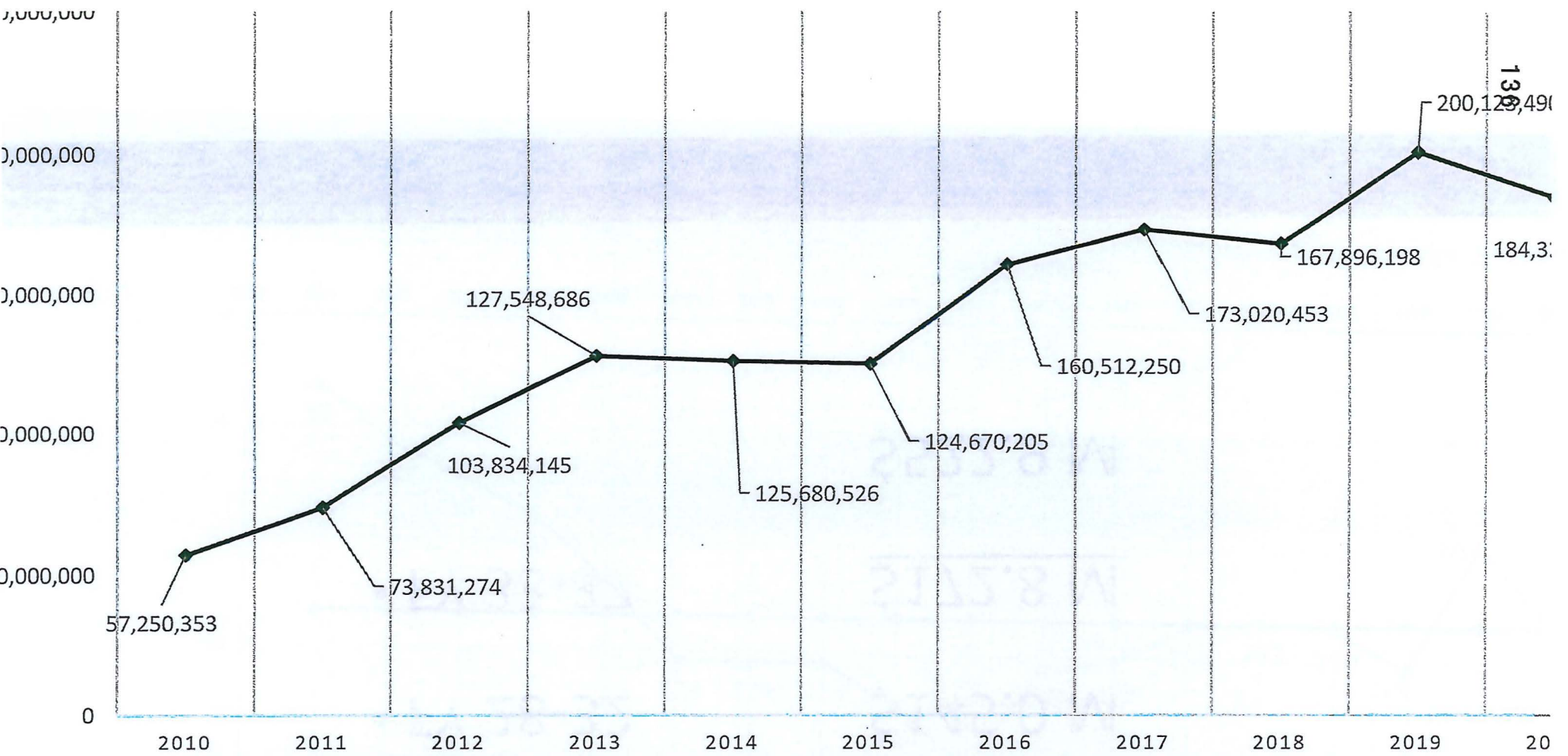
FY 23 – 27 Charge Increases

• RWSA Increases (%):		FY	23	24	25	26
• City			6.8	7.2	7.4	7.4
~goal: FY 22			7.5	7.2	7.3	6.9
• ACSA			9.5	8.1	8.7	9.2
~goal: FY 22			8.7	8.8	8.9	8.3
• Combined			<u>8.4</u>	<u>7.8</u>	<u>8.1</u>	<u>8.4</u>
• ACSA w/ NRCS grant for BCR			8.3	7.1	7.8	8.5

- *Includes estimated increases in Operating expenses*

RWSA CIP 20-Year History





Outstanding Debt

15 Year CIP Planning

- FY 23-27 \$205.1 M
 - FY 28-32 \$145.0 M
 - FY 33-37 \$172.8 M
- \$522.9 M

Major Programs and Projects

- **Upgrade Water Treatment Plants: \$43 M**

- South Rivanna
- Observatory

- **Reliability / Redundancy : \$82 M**

- Airport Road Water Pump Station and Piping
- RMR to OB WTP Piping and Pumping
- Central Water Line
- MC 5kv Electrical System Upgrade
- SR River Crossing
- Scottsville WWTP Emergency Generator

- **Operations and Maintenance / Safety: \$18 M**

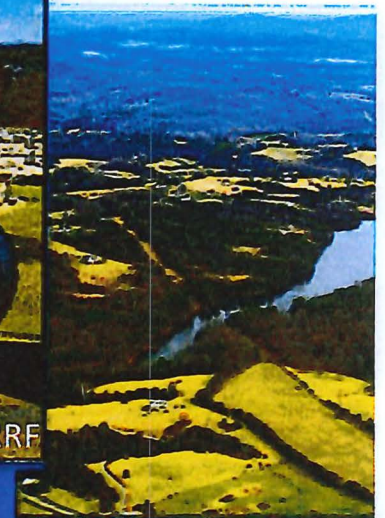
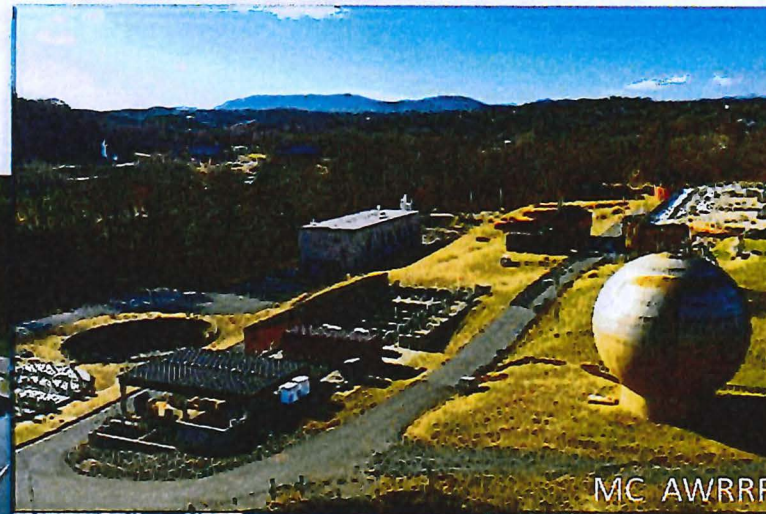
- Security Enhancements
- WW Piping and MH Repairs
- MC Cogeneration / Sphere Repairs
- MC Digester Repairs
- MC Maintenance, Blower, Pumping Building Repairs
- MC Concrete Repairs, Basins and Holding Ponds
- MC Gravity Thickener Repairs

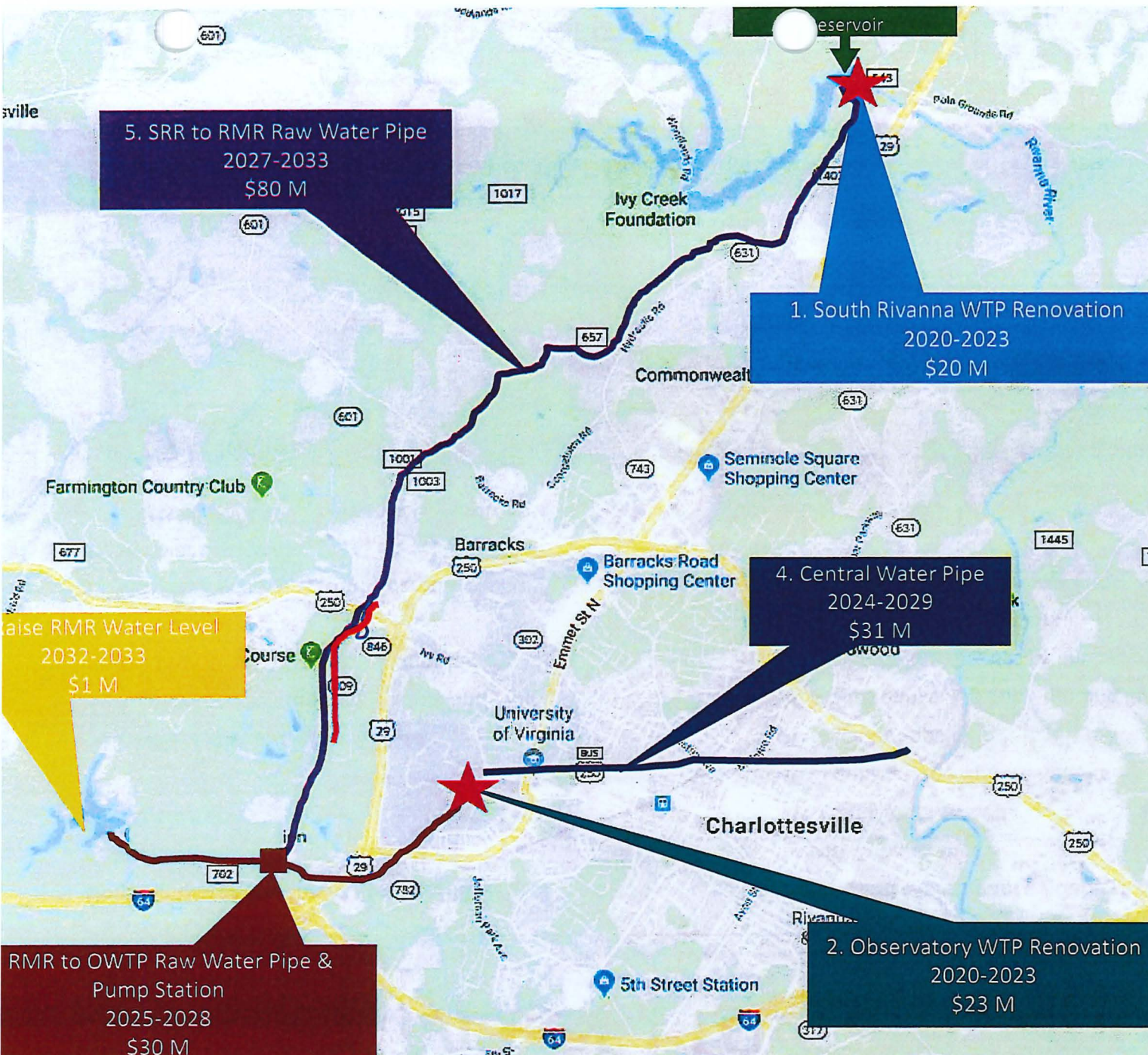
- **Regulatory:**

- Beaver C
- Piping
- Crozet Fl

- **Capacity: \$**

- Upper Sc
- Admin Bt
- SRR to R





1. SR WTP Renovation
2020-2023

2. OB WTP Renovation
2020-2023

3. RMR to OB WTP Raw
Pipe & Pump Station
2025-2028

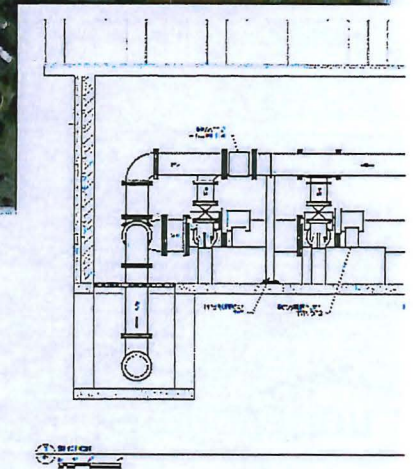
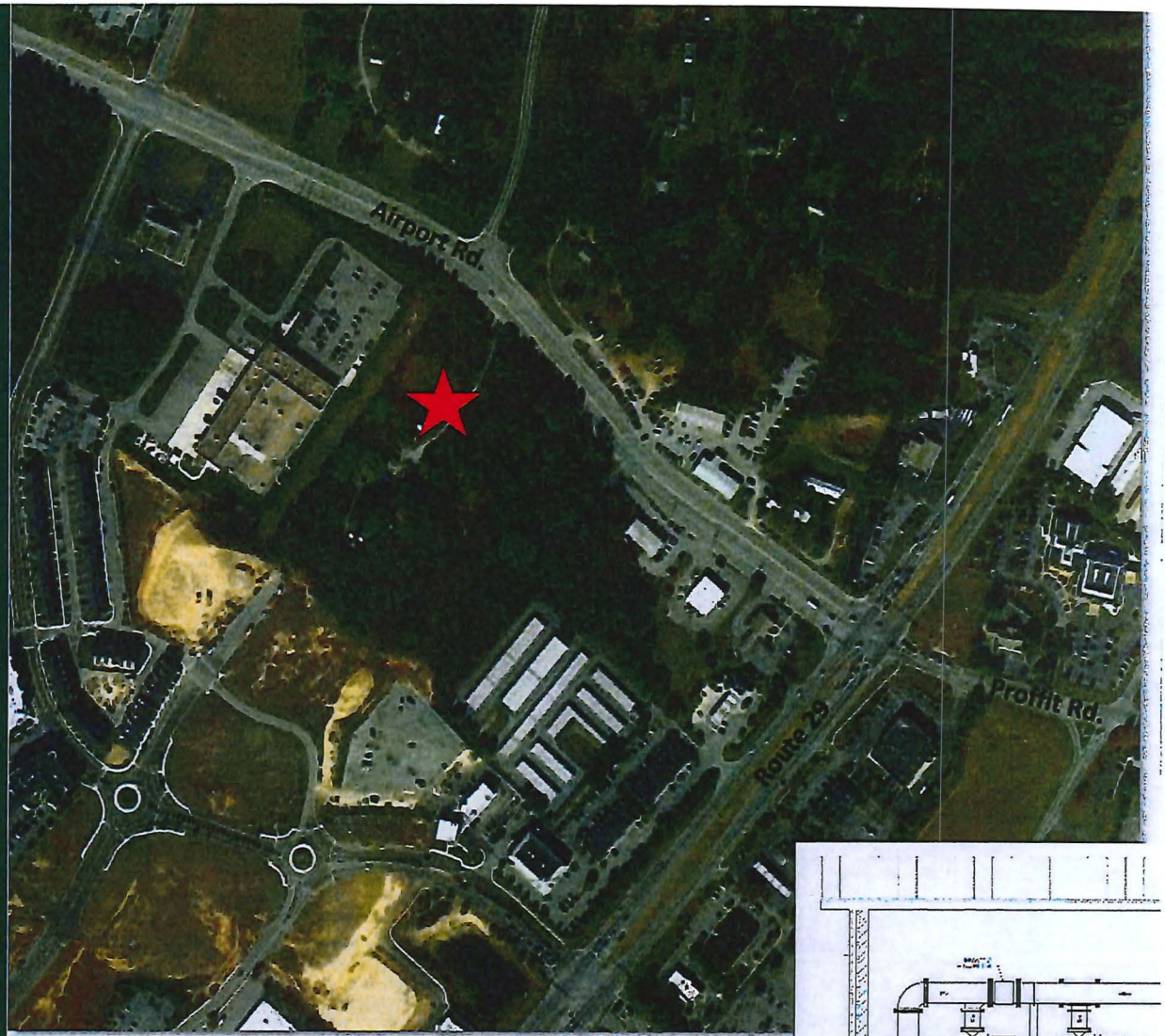
4. Central Water Line
2024-2029

5. SRR to RMR Raw Wa
2027-2033

6. Raise RMR Water Le
2032-2033

Airport Road Water Pump Station and Piping

- Reliably connect Piney Mtn area and tank with Urban Water System
- Will support future Airport pressure zone
- Completion: 2022 - 2023
- Budget: \$10 M

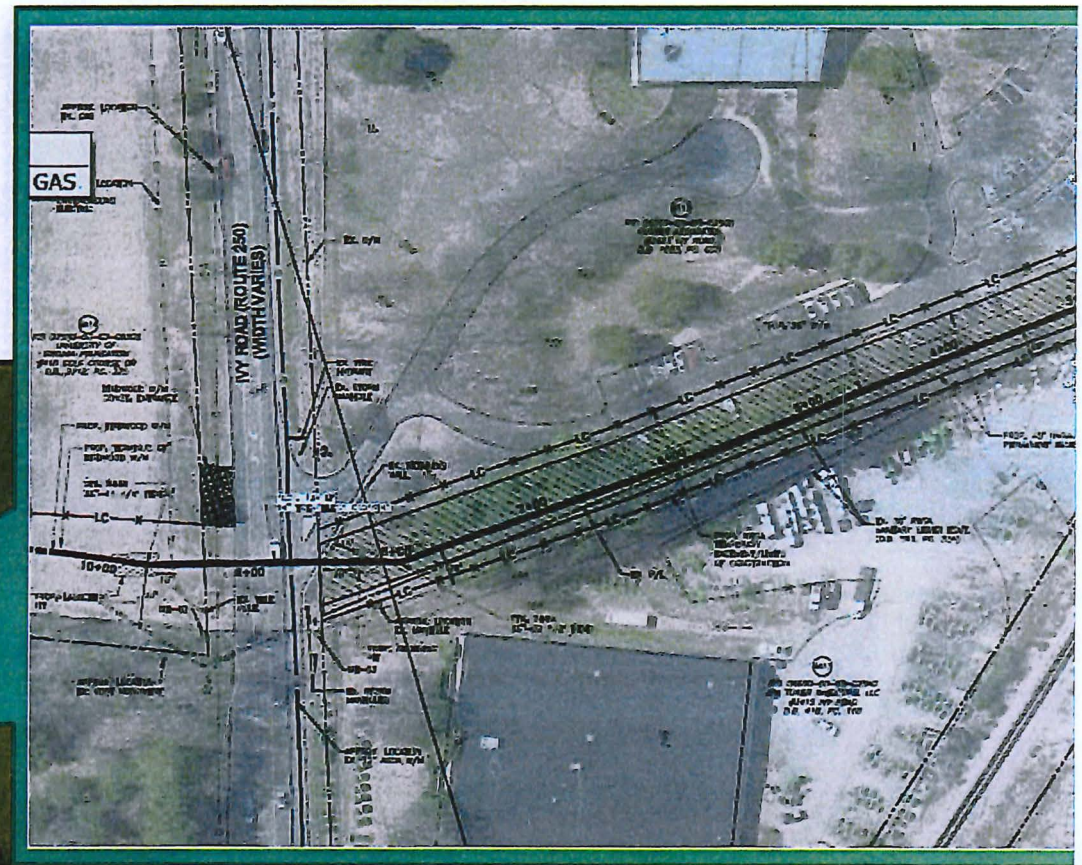


MC 5kv Electrical System Upgrade

- Replace major electrical cables and equipment installed in the 1980's which have reached the end of their service lives
- Completion: 2022 – 2024
- Budget: \$5.1 M



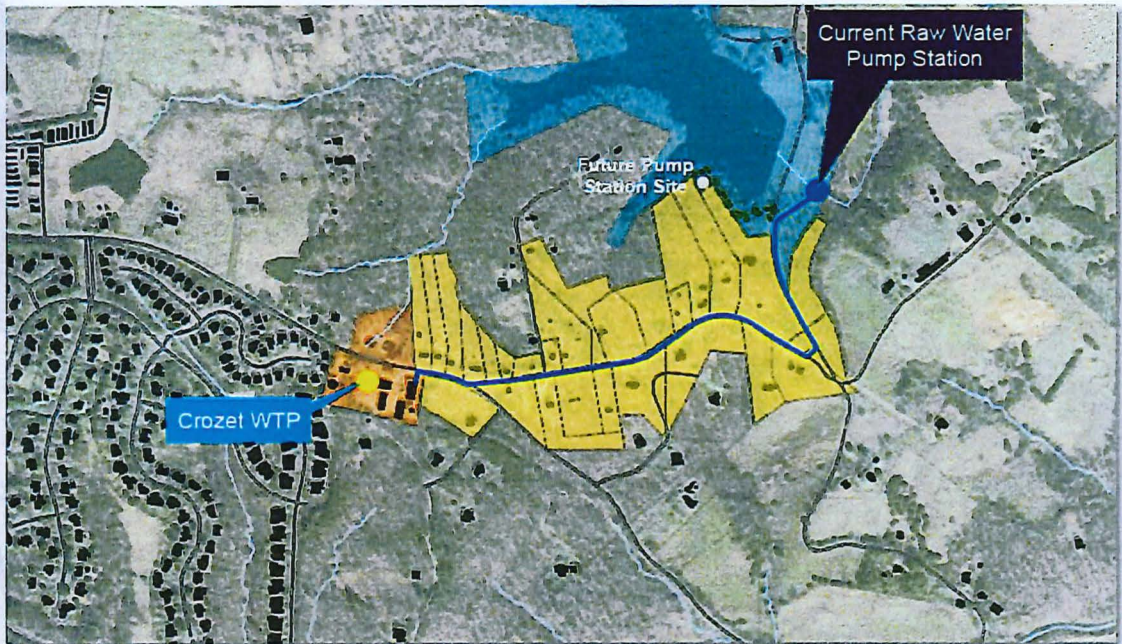
Birdwood to Old Garth Rd. 36" RWL



- Section of SRR – RMR raw water pipe private development and avoid costs
- Completion: 2022 – 2023 Budget

Beaver Creek Dam, Pump Station & Piping Modifications

- Replace spillway to meet VDCR Dam Safety standards
- Replace the raw water pump station, intake, and pipe to the Crozet WTP
- Completion: 2024 – 2026
- Budget: \$32 M
- Requesting Federal Funding (up to 65%)



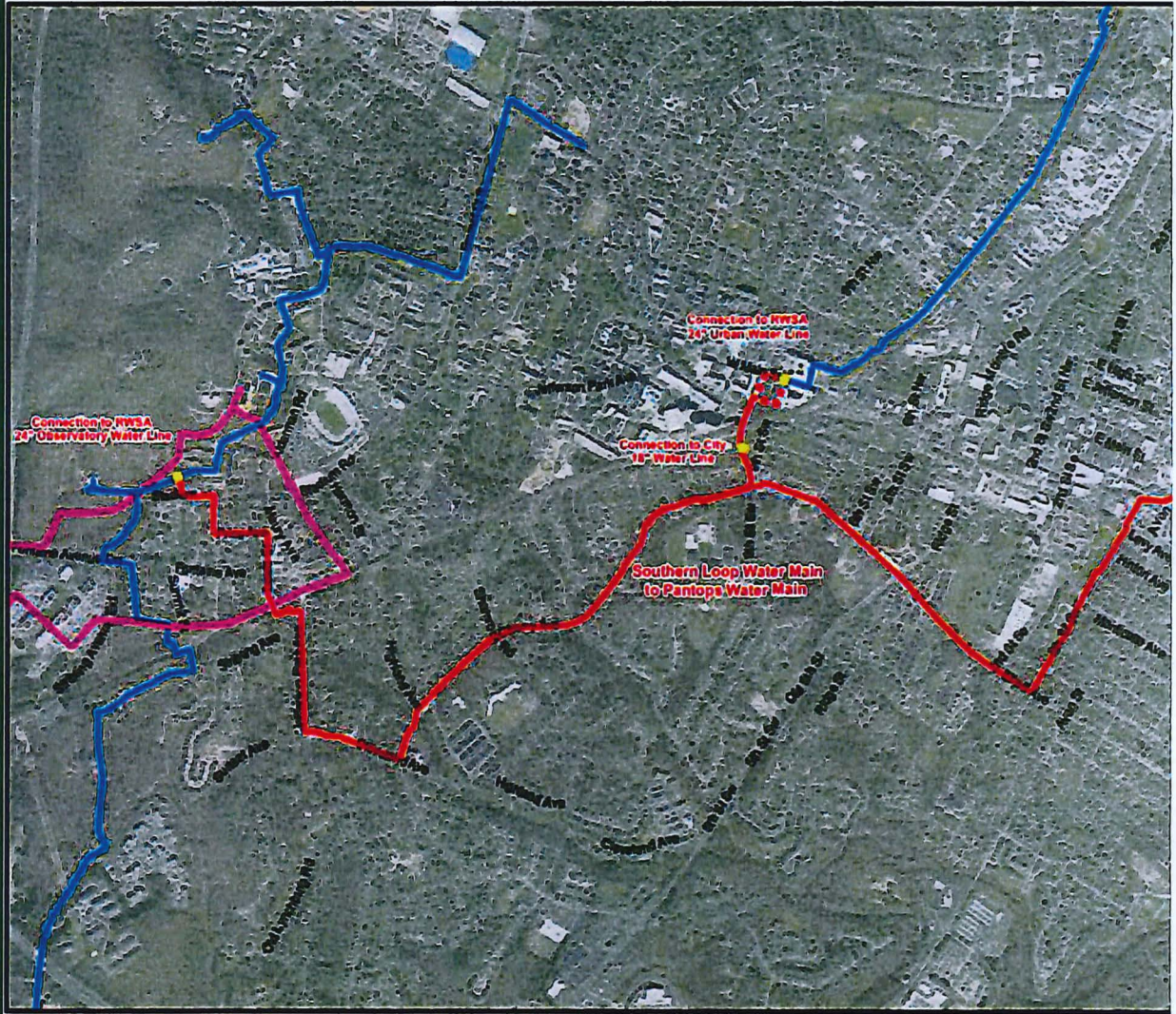
South Rivanna River Crossing

- 2nd pipe to be installed beneath the river to improve reliability and resiliency in the northern area of the Urban Water System
- Completion: 2024 – 2025
- Budget: \$6 M



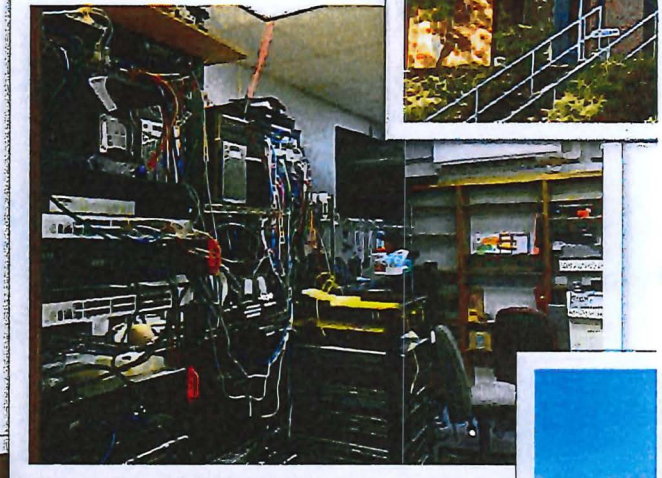
Central Water Line

- Will more efficiently convey drinking water, improve redundancy, and strengthen the Urban Drinking Water System for the benefit of both the City and the ACSA
- Completion: 2024-2029
- Budget: \$31 M



Renovation & Addition Administration Building

- 1st major renovation since constructed in early 1980s
- Addition will provide office, meeting and educational outreach spaces, and replace 15-year-old “temporary” Engineering trailers
- Modernize information technology & laboratory spaces
- 12,300 sf renovation; 14,700 sf addition
- Completion: 2025 – 2026
- Budget: \$8.5 M



Summary

FY 23 – 27 CIP

➤ 41 Projects, \$205.1 M

- Water

- Urban: \$122.5 M
- Non-Urban & Shared W & WW: \$38.2 M

- Wastewater

- Urban: \$44.4 M

- Use of Cash Reserves: \$10 M

- New Debt: \$123 M

RWSA Charge Increases (%):	FY	23	24	25	26	27
• City		6.8	7.2	7.4	7.4	8.3
• <u>ACSA</u>		9.5	8.1	8.7	9.2	9.9
◦ Combined		8.4	7.8	8.1	8.4	9.2
◦ ACSA w/ NRCS grant		8.3	7.1	7.8	8.5	9.3



695 Moores Creek Lane | Charlottesville, Virginia 22902-9016

149

434.977.2970

434.293.8858

www.rivanna.org

MEMORANDUM

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

FROM: ANDREA BOWLES, WATER RESOURCES MANAGER

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: BUCK MOUNTAIN PROPERTY MANAGEMENT UPDATE

DATE: FEBRUARY 22, 2022

This memo and presentation are to provide an update and recommendations on management strategies for the Authority's Buck Mountain property located in the Free Union area of Albemarle County. The 1,314-acre property was originally purchased in the 1980s for construction of a water supply reservoir. However, due to environmental restrictions imposed when an endangered species was located on the property, the James spinymussel, a regulatory permit could not be obtained. A significant portion of the property, about 600 acres, was placed in restrictive-use deeds in 2014 to create vegetated stream buffers and mitigate the environmental impacts from construction of the expanded Ragged Mountain reservoir and dam.

At the April 2019 Board meeting, a former property owner, Dr. Harry Wellons, requested the Board to consider selling him the Buck Mountain property RWSA acquired from him by condemnation in the 1980's. As a follow-up to this request, staff provided a presentation on the Buck Mountain property at the June 2019 Board meeting. During the June meeting, the Board requested staff to prepare a Buck Mountain Master Plan to optimize use of the property. A local planning consultant, Land Planning & Design Associates, was hired to complete the Master Plan. The Master Plan was completed and presented to the Board in August 2020. The Board concurred with a staff recommendation to develop a more detailed Property Management Plan. Our presentation this month will provide an update to the Board on the recommendations from that planning effort.

The primary recommendations to be reviewed include:

1. Offering the "Elliot" house on a 2.2 acre lot from TMP 29-35H for sale to the public.
As we have reported to the Board over the last two years, this house is a documented historical resource (>50 years old), but is not designated as historically significant, and is in major disrepair. Several neighbors have requested the house be preserved, as noted by the attached letter. Another neighbor has expressed an interest in restoring the house. The Virginia Department of Historic Resources also supports restoration of the house, as noted by the attached letter. After a recent discussion with VDHR, that office supports our recommendation to offer the property for sale, preferably to someone who would restore the house. Since house restoration and maintenance are not part of our mission or management plan, we view this strategy to offer the property for sale as the best opportunity for the house to be restored. Any funds from a sale will be used for other

Buck Mtn property expenses (invasive species removal from the restricted stream buffers; fencing, road and bridge maintenance).

2. Consider the sale of about 14 acres from TMP 29-36A to an adjacent neighbor.
The neighbor has requested a boundary adjustment to provide a buffer for his property, and will maintain the additional 14 acres in an environmentally supportive manner.
3. Consider a 2-year lease for TMP 29-33C, 29-33F, 29-36A, 29-35D (about 106 wooded acres) for passive enjoyment activities.
4. Renew 2-year property leases at market value.
If existing leasees do not want to renew, the parcels will be offered for lease to the public or to adjacent neighbors if access to the property is an impediment.
5. Review plans for the pond and dam.
6. Review plans for the bridge, private road, and deed-restricted stream buffers.

We should note that the sale of any RWSA property will require approval of our Bond Trustees and may require a public hearing.

Board Action Requested:

Authorize the Executive Director and staff to proceed with the legal, financial and procurement processes required to:

1. Offer a 2.2 acre parcel from TMP 29-35H and all improvements including the “Elliot” house for sale to the public.
2. Offer about 14 acres from TMP 29-36A for sale to an adjacent neighbor.
3. Offer a 2-year lease for TMP 29-33C, 29-33F, 29-36A, 29-35D (about 106 wooded acres) to the public for passive enjoyment activities.
4. Renew 2-year property leases at new market rates with existing lessees. Offer any lease which is not renewed to the public, or to an adjacent neighbor if access to the property is an impediment.

Attachments:

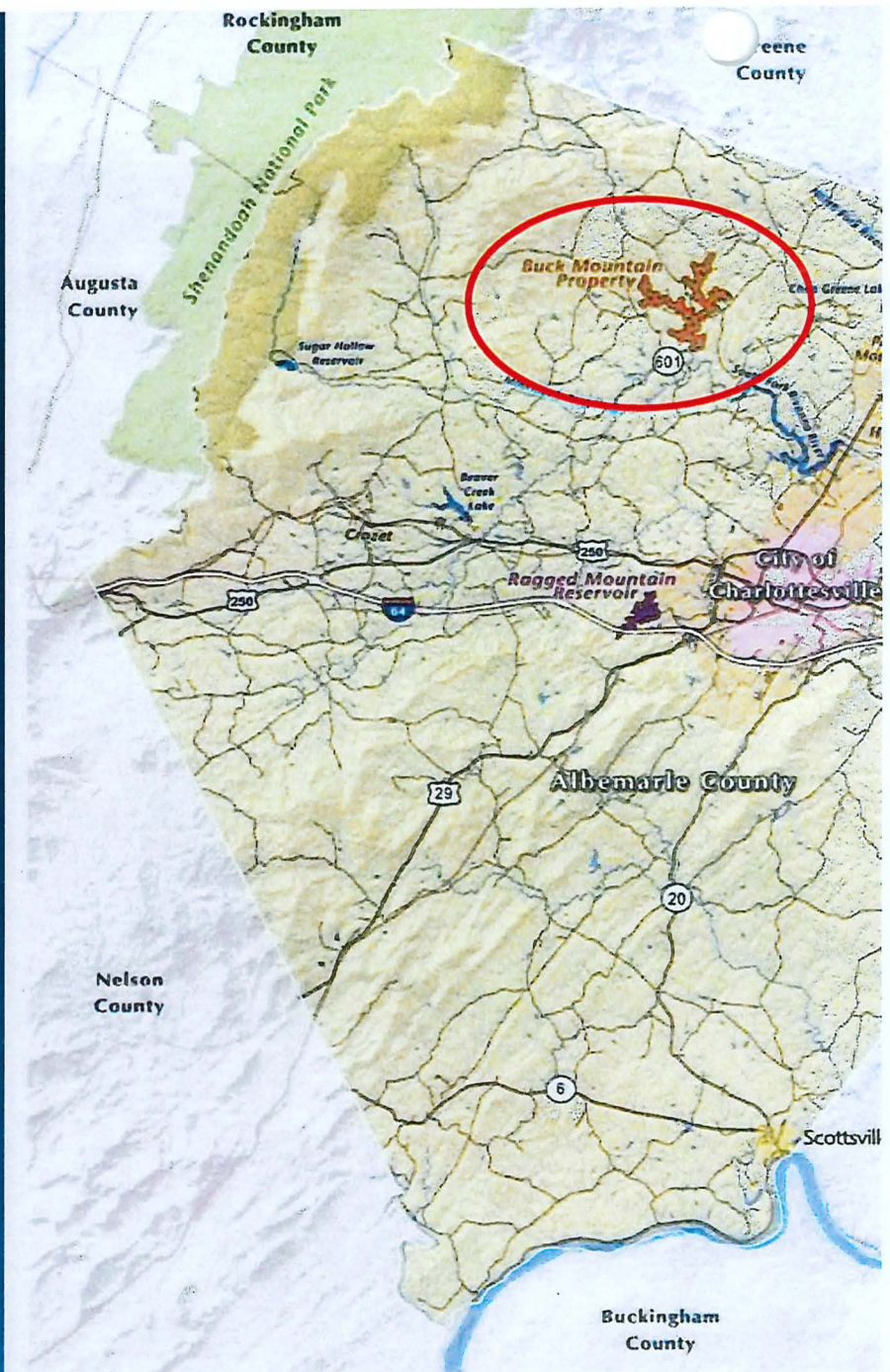
1. Letter dated January 10, 2022 from Dr. Bateman and 8 neighbors of the Buck Mtn. property
2. Letter dated January 13, 2022 from the Virginia Department of Historic Resources

Buck Mountain Property Management Update

Presented by:

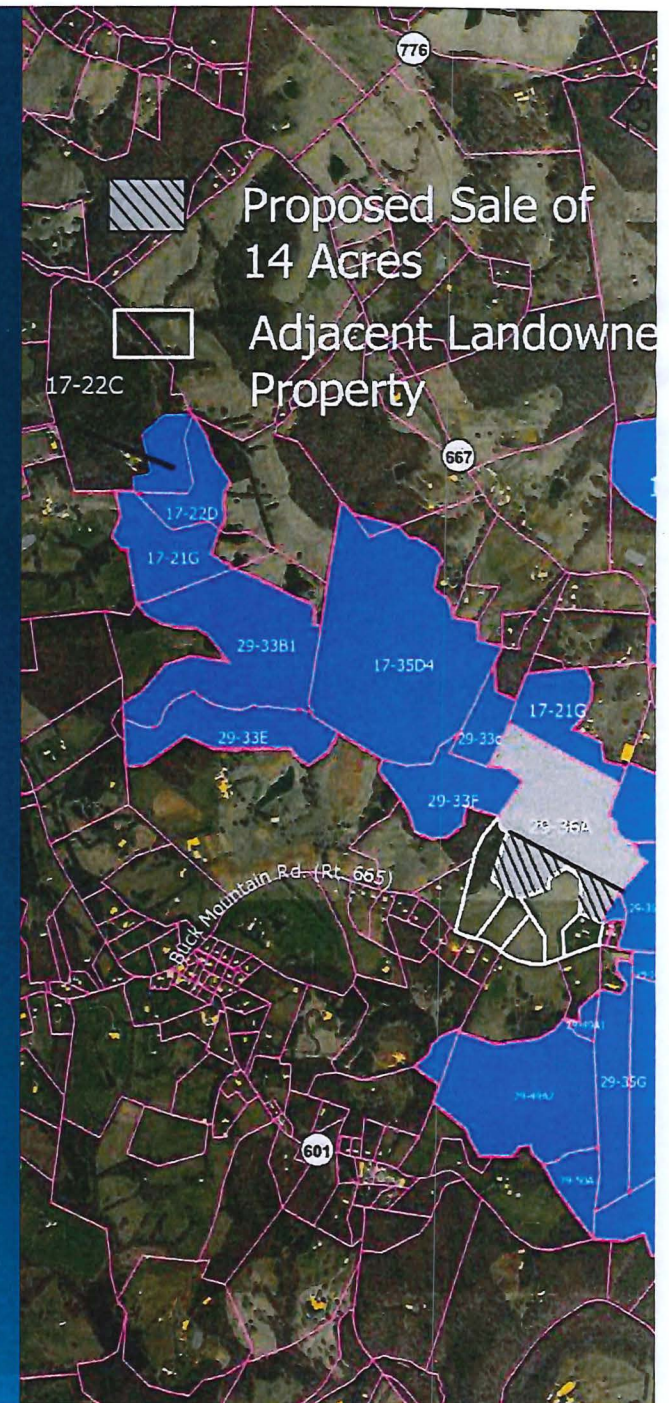
Andrea Bowles, Water Resources Manager

February 22, 2022



Proposed Sale of 14 Acres

- Adjacent property owner to TMP 29-36A has requested a boundary adjustment and purchase of approx. 14 acres adjoining currently owned parcels
- Stated purpose is to provide a buffer to current parcels and conserve the 14 acres
- Funds would support Buck Mountain property maintenance expenses



**MEMORANDUM**

TO: RIVANNA WATER & SEWER AUTHORITY
BOARD OF DIRECTORS

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

REVIEWED BY: BILL MAWYER, EXECUTIVE DIRECTOR

SUBJECT: AWARD CONSTRUCTION CONTRACT AND AMEND CAPITAL
IMPROVEMENT PLAN – SCOTTSVILLE WTP LAGOON
LINERS REPLACEMENT – HAREN CONSTRUCTION
COMPANY

DATE: FEBRUARY 22, 2022

This request is to authorize the Executive Director to award a construction contract to Haren Construction Company for \$448,000 to complete the Scottsville WTP Lagoon Liners Replacement Project, and any change orders up to 10% of the original contract amount, and to amend the Capital Improvement Plan for Fiscal Years 2022 - 2026 to include a budget increase of \$225,000, bringing the total budget for the project to \$540,000.

Background

The Scottsville Water Treatment Plant (WTP) has two lined lagoons that receive filter backwash water, filter-to-waste water, and flow from the sedimentation basin sludge collectors. The lagoons are regulated under the Virginia DEQ VPDES permit program. The earthen lagoons are original to the plant and were lined at the request of DEQ in 2007 to prevent water exfiltration out of the lagoons.

Recently, the synthetic lagoon liners have shown signs of degradation from ultraviolet sunlight. As such, a liner replacement project was added to the FY 22-26 CIP to begin in FY 23 and be completed in FY 24. Unfortunately, in early June 2021, the liner in one of the lagoons failed during a high flow event. DEQ has been notified and the lagoon taken out of service, leaving the plant with only one remaining lagoon. A Request for Bids to replace both liners was issued on January 4, 2022, and a pre-bid conference was held on January 11, 2022. Construction bids were opened on February 1, 2022. Two bids were received for the project ranging from \$448,000 to \$530,706.60, with the low bid received from Haren Construction Company.

Our design engineer, Wiley|Wilson, has reviewed the bid received from Haren Construction Company, and finds that the proposal meets the project specifications, and has verified that the bid and attached documents are both responsive and responsible. Therefore, we are recommending award to Haren Construction Company as the apparent low bidder for a contract price of \$448,000.

The current Capital Improvement Plan budget for this project is \$315,000. This project budget was based on costs associated with installation of a new liner in the lagoon at the Crozet WTP in 2019. The price of labor and materials has greatly increased over the past 3 years, especially so during the pandemic. Based on the current status of the industry and the bid prices received, Wiley|Wilson and staff believe the pricing provided is in accordance with the current market value for the work. Incorporating Haren's bid value of \$448,000 represents an increase to the CIP Budget of \$225,000.

Board Action Requested:

Authorize the Executive Director to award a construction contract to Haren Construction Company for a total value of \$448,000 for the Scottsville WTP Lagoon Liners Replacement Project, and any change orders up to 10% of the original contract amount. Amend the Capital Improvement Plan for Fiscal Years 2022 - 2026 to include a budget increase of \$225,000, bringing the total budget for the project to \$540,000.

ACSA Board Future Policy Issues Agendas 2021-2022

Regular 3rd Thursday Monthly Meetings	April '22	May '22	June '22	July '22	Aug. '22	Sept. '22	Oct. '22	Nov. '22	Dec. '22	Pending Issues
	April 21st	May 19th	June 16th	July 21st	August 18th	September 15th	October 20th	November 17th	December 15th	Water Supply Plan Project Status Reports Water Treatment Plants RWSA CIP Central Water Line Northern Water System Agreement
	Recognitions	Recognitions	Recognitions	Recognitions	Recognitions	Recognitions	Recognitions	Recognitions	Recognitions	
	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	Monthly Financial and CIP Reports	
	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Capital Project Authorizations	Annual Water Quality Reports (May)
	Proposed Fiscal Year 2022-23 Capital Improvements Program (CIP) Presentation	National Drinking Water Week	Public Hearing on Budget, Rates and CIP	Strategic Plan Update	Operational Presentation-ARC GIS; Satellite Imaging; Drone Use	Resolution-Imagine a Day Without Water	Operational Presentation	Operational Presentation	Operational Presentation	Board Organizational Meeting each January
										Annual Report - January
	Public Hearing on Proposed FY '23 Capital Improvements Program (CIP)	FY '23 Budget and Rates Workshop	Adoption of Budget, Rates, CIP and Rules and Regulations Amendments	City Works-Online Customer Request (Demo)	Year-End Appropriations	Report on status of customer accounts in arrears	Strategic Plan Process 2023-2025- Customer Survey	Annual Financial Report	Budget Guidelines and Schedule for FY '24 Budget	Water Audit and Energy Audit
	Proposed FY '23 Budget and Rates Overview Presentation	Compensation Study	Amendment to the Personnel Management Plan (salary schedule and edits)	Service Recognitions for Kenny Barrow and Jay Thomas	Service Recognition for Pete Gorham				Annual Investment Report	Strategic Plan 2020-2022 Updates January and July New Strategic Plan Process 2023-2025
	Resolution Scheduling Budget and Rates Public Hearing for June 16, 2022		Service Recognitions for Mike Lynn and Mark Clinedinst							Annual Water Conservation Report - January
	GFOA Distinguished Budget Award (Recognition)									National Drinking Water Week-May Imagine a Day Without Water - September
										AMI Updates - Customer Portal Video
										Federal/State Water Quality Regulations
										Emergency Preparedness - Regional Exercise
										Annual Investments Report December
										Operational Presentations
										Security Assessment - Final Update; IT Report
										ACSA Customer Communications
										Avon Satellite Operation Center
										Training and Biz Library
										Federal Infrastructure Grant Funds
								Executive Director Mid-Year Performance Review		Data Management and Management Dashboards

AGENDA ITEM EXECUTIVE SUMMARY

AGENDA TITLE: CMMS Update Report	AGENDA DATE: March 17, 2022
STAFF CONTACT(S)/PREPARER: April Walker, Acting Manager of I.T. Justin Ray, GIS Coordinator	ACTION: Informational ATTACHMENTS: No

BACKGROUND: This report provides monthly updates on the status of the Computerized Maintenance Management System (CMMS) project.

Project Description: The Computerized Maintenance Management System (CMMS) has been a strategic goal since 2014. The need for this ACSA-wide software solution was identified due to a lack of centralized work order management and Geographic Information System (GIS) integration. The software solution will allow for the creation of work orders, a customer web portal, service requests, inventory management, asset inspections, and asset management.

3/17/22: The majority of the Cityworks project has gone live and is in use across the ACSA. The customer facing portal is being tuned with the goal to go live in March.

BOARD ACTION REQUESTED: None

ALBEMARLE COUNTY SERVICE AUTHORITY**AGENDA ITEM EXECUTIVE SUMMARY**

AGENDA TITLE: Advanced Metering Infrastructure (AMI) Monthly Update	AGENDA DATE: March 17, 2022
STAFF CONTACT/PREPARER: Quin Lunsford, Director of Finance	ACTION: Informational
	ATTACHMENTS: No

BACKGROUND: The ACSA Board authorized staff at its October 2019 meeting to execute agreements related to the AMI project. Monthly status updates are provided below:

DISCUSSION: Authority staff continues to work closely with the selected vendor (Core & Main/Sensus) and the project management consultant (Esource). Notable accomplishments since the last update include:

- Phase II – 664 of 1,265-meter change-outs/retrofits have been completed as of March 7, 2022. These 664 upgraded meters were installed in the Scottsville area and parts of Crozet.
- The remaining 601 meters are larger meters disbursed throughout the ACSA's service area. These meters range in size from 1.5" - 4" and serve our largest customers.
- Currently 6 "Ally" meters have been installed. In addition to transmitting consumption information like the other meters, these meters record and transmit additional information related to pressure/pressure changes and water temperature. Locations of interest throughout the ACSA's service area have been identified by the engineering department and we expect this information to assist with early identification of major issues and/or operational information that may be beneficial in managing the overall system.
- Supply chain disruptions continue to impact meter manufacturers and significant improvement in delivery of outstanding meters isn't expected until at least October of 2022.

BUDGET IMPACT: Informational only.

RECOMMENDATIONS: None

BOARD ACTION REQUESTED: None; informational item only.

ATTACHMENTS: None

AGENDA ITEM EXECUTIVE SUMMARY

AGENDA TITLE: Proposed FY 2023 Capital Improvement Program (CIP) STAFF CONTACT(S)/PREPARER: Peter C. Gorham, P.E., Director of Engineering	AGENDA DATE: March 17, 2022 ACTION: ■ INFORMATION: ■ ATTACHMENTS: YES
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BACKGROUND: The Engineering Department has prepared the proposed FY 2023 Capital Improvement Program (CIP) Budget consisting of 32 projects, eight of which are non-utility projects. The water projects primarily address infrastructure replacement and upgrades. The wastewater projects address infrastructure rehabilitation and replacement, pump station upgrades, and extension of public sewer to existing subdivisions. The eight non-utility projects address operational improvements, such as: mitigation of risk to increase resiliency of critical water and wastewater assets; GIS and CMMS consulting services for IT system improvements; recommendations from the IT Security Assessment; analysis of a new Billing System; increased energy conservation throughout all our operations; and development of a satellite Maintenance Yard.

DISCUSSION:

- Projects that are anticipated to span fiscal years show previous fiscal year budget amounts in parentheses to reflect the project budget to date, not just the contribution to the FY 2023 Rate Model.
- Risk Assessment Improvements doesn't contribute to the FY 2023 Rate Model because funding for Priorities 1 and 2 were previously incorporated into the Rate Model in earlier years. These Priorities are anticipated to be implemented in FY 2023.
- New projects from the IT Department have funds budgeted in the FY 2023 Rate Model, including Data Management and Dashboarding, ESRI Utility Network Implementation, Cityworks Operational Insights Implementation, and the Security System Upgrade.
- Billing System Analysis and Replacement funding is included in the FY 2023 Rate Model to include consulting services to assist with a review of current business processes and develop a roadmap towards replacement of the ACSA's current billing system.
- Energy Audit funding is included in the FY 2023 Rate Model to begin implementation of recommendations from the audit. Future funds are expected based on additional audit recommendations.
- Avon Street Maintenance Yard is the largest contributing project in the FY 2023 Rate Model, accounting for a total of \$3,750,000 split equally between water and wastewater. Construction of the building and facility are anticipated in FY 2024.

ALBEMARLE COUNTY SERVICE AUTHORITY**AGENDA ITEM EXECUTIVE SUMMARY**

- Advanced Metering Infrastructure (AMI) Implementation doesn't contribute to the FY 2023 Rate Model because deployment funding was previously incorporated in earlier fiscal years. Additional funding is anticipated in FY 2024 to complete full deployment.
- Four-Story Residential Backflow Prevention Device Retrofit Project doesn't contribute to the FY 2023 Rate Model because the construction funding was previously incorporated into the Rate Model in FY 2021. Construction is anticipated to begin in FY 2023.
- Additional design funds for the Scottsville Phase 4 Water Main Replacement Project are included in the FY 2023 Rate Model. Construction is not anticipated to begin until FY 2025.
- The Jefferson Village Water Main Replacement Project doesn't contribute to the FY 2023 Rate Model because construction funds have already been incorporated into the Rate Model in FY 2021 and FY 2022.
- The Northfields Water Main Replacement Project doesn't contribute to the FY 2023 Rate Model because the design budget amount was already incorporated into the Rate Model in FY 2020. Construction is not anticipated to begin until FY 2025.
- The Briarwood Water Main Replacement Project doesn't contribute to the FY 2023 Rate Model because the design budget amount was already incorporated into the Rate Model in FY 2021. Construction is not anticipated to begin until FY 2025.
- The Barracks West Water Main Replacement Project doesn't contribute to the FY 2023 Rate Model because the design budget amount was already incorporated into the Rate Model in FY 2022. Construction is not anticipated to begin until FY 2025.
- The Raintree and Fieldbrook PVC Water Main Replacement Project doesn't contribute to the FY 2023 Rate Model because the design budget amount was already incorporated into the Rate Model in FY 2022. Construction is not anticipated to begin until FY 2027.
- SCADA Phase 3 Implementation doesn't contribute to the FY 2023 Rate Model because the construction funds have already incorporated into previous FY Rate Models. Construction is anticipated to occur in FY 2023.
- Additional design and easement compensation funds for the Airport Trunk Sewer Upgrade Project are included in the FY 2023 Rate Model. Construction is not anticipated to begin until FY 2026.
- The Bellair – Liberty Hills Sewer Project doesn't contribute to the FY 2023 Rate Model because the design budget amount was already incorporated into the Rate Model in FY's 2021 and 2022. Construction is not anticipated to begin until FY 2025.
- The Huntington Village Water Connection Project doesn't contribute to the FY 2023 Rate Model because the construction budget amount was already

AGENDA ITEM EXECUTIVE SUMMARY

incorporated into the Rate Model in FY 2021. Construction is anticipated in FY 2023.

- The Exclusion Meter Replacement and Pipe Saddles Replacements don't contribute to the FY 2023 Rate Model because construction funding was previously incorporated into the Rate Model in previous fiscal years. Construction is anticipated to continue in FY 2023.
- Construction funds for the following water main replacement projects are included in the FY 2023 Rate Model: Ragged Mountain Phase 1, Crozet Phase 4, and Broadway Street.
- Construction funds for wastewater projects in the FY 2023 Rate Model are included for Miscellaneous Sewer Rehabilitation, Madison Office Park Pump Station Upgrade, Sewer Pump Station Comminutors and Biscuit Run Sewer Replacement.
- Two new utility projects are included in the FY 2023 Rate Model: Townwood Water Main Replacement Project, Northfields Phase 5 Sewer Project.
- Water expenditures (59%); Sewer expenditures (41%).
- Water main replacement (57%) of water expenditures; sewer upgrades and rehabilitation (35%) of sewer expenditures.
- Existing projects (93%); New projects (7%).
- Questions about proposed CIP Projects.

BUDGET IMPACT: The FY 2023 CIP Budget will be used to establish user rates and connection fees.

RECOMMENDATIONS: Authorize ACSA staff to proceed with a public hearing on the FY 2023 CIP Budget.

BOARD ACTION REQUESTED: Authorize the advertisement for a public hearing to address the FY 2023 CIP at the April Board meeting on April 21, 2022.

ATTACHMENTS:

- Detailed memo summarizing the proposed FY 2023 CIP Projects and their anticipated required funding.
- Proposed FY 2023 CIP Project maps.



MEMORANDUM

To: Board of Directors
From: Peter C. Gorham, P.E., Director of Engineering
Date: March 17, 2022
Re: FY 2023 Capital Improvement Program (CIP)
cc: James M. Bowling, IV

Projects included in the Albemarle County Service Authority's (ACSA) 10-year Capital Improvement Program (CIP) from FY 2023 to FY 2032 will appear in the Proposed FY 2023 Budget document. The estimates developed for these projects have been entered into *Schedule 6: Capital Improvement Projects* of the Rate Model. The following is a summary of the estimated project costs to be undertaken in FY 2023:

Water Projects:	\$ 4,851,550
Wastewater Projects:	\$ 3,306,500
Total:	\$ 8,158,050

Overall, approximately 45% of the funds to be expended this fiscal year are anticipated to go towards the Avon Street Maintenance Yard Project. On the water side, approximately 57% of these funds will be used to replace aging and undersized pipelines. On the wastewater side, over 35% of the funds will address upgrades or rehabilitation of the existing collection system to reduce infiltration and inflow (I/I). Of the total \$8,158,050 budgeted, existing projects account for \$7,615,050, while new projects are estimated at \$543,000.

The new projects include several programs identified by the IT and Finance Departments, as well as a water main replacement and an extension of public sewer into an existing neighborhood. The Maintenance Department will continue to construct some of the CIP Projects. A summary of the proposed CIP projects with their anticipated required funding in FY 2023 follows:

Risk Assessment Improvements: As part of the on-going preparedness program for the ACSA to remain resilient, a Vulnerability Assessment was completed in conjunction with our community partners. All our critical assets were analyzed for risks caused by both natural and human-made hazards, using the AWWA Standard J100: *Risk and Resilience Management of Water and Wastewater Systems*. The result was a report to establish mitigation measures to lower risks and increase resiliency. Some mitigation measures such as industrial strength

locks, perimeter security lighting, and access control signage have been completed. Design of Priority 1 improvements is nearing completion and construction is anticipated in the upcoming fiscal year with the funds previously budgeted. Priority 2 will follow with funds already budgeted. There will be additional funds required in FY 2024 and FY 2027 to cover design and construction of Priorities 3 and 4. **FY 2023 Budget - \$0 (FY 2019, FY 2020, and FY 2022 Budgets - \$641,950)**

Data Management and Dashboarding (New): This project satisfies one of the recommendations from the IT Security Assessment conducted in June 2021. The first phase includes consulting services to assist staff with data gathering and classification along with a detailed needs analysis of what data staff members need to have access to for their various job responsibilities. Following this data collection phase, our consultant will design and build the appropriate dashboards. These dashboards will display relevant data in a graphical format for staff members while restricting their permissions to the raw data on the server. Additionally, dashboards will provide a way for staff to utilize business intelligence and analytics to further manipulate the data for their job duties. The amount budgeted will cover consulting services during the data gathering and needs analysis phase in FY 2023 with additional funding for dashboard development anticipated in FY 2024. These funds are divided equally between water and wastewater projects. **FY 2023 Budget - \$20,000**

Billing System Analysis and Replacement (New): This project consists of consulting services to assist with a review of current business processes and technology as well as development of a roadmap moving forward. These services will also include Request for Proposals (RFP) development, review of proposals, and contract negotiations. The consultant will assist in the procurement process and subsequently during development to ensure a stable transition for our customers and ACSA staff. The work will also include integrating with other systems, specifically the Advanced Metering Infrastructure and Enterprise Resource Planning Systems. The amount budgeted is for funding to complete the assessment, develop/analyze the RFP, and contract negotiations with additional funds anticipated in FY 2024. These funds are divided equally between water and wastewater projects. **FY 2023 Budget - \$50,000**

ESRI Utility Network Implementation (New): This project consists of consulting services to develop a plan and fully implement the Utility Network in the ACSA's ArcGIS Enterprise environment. The consultant will assess the state of the ACSA's GIS and recommend changes needed for successful implementation of the Utility Network and assist with this conversion. Once these changes are complete, the consultant will migrate the existing GIS database to the Utility Network, train staff on use of the technology, and provide post go-live support. The amount budgeted in FY 2023 will cover consulting services. Additional funding for full deployment is anticipated in FY 2024. These funds are divided equally between water and wastewater projects. **FY 2023 Budget - \$30,000**

Cityworks Operational Insights Implementation (New): This project consists of consulting services to develop a plan and implement Operational Insights within the ACSA's Cityworks environment. The consultant will assess the readiness of asset management at the ACSA and determine what changes are necessary to enable the implementation of the software, as well as assist in those changes. The consultant will provide industry best practices on asset management related to Cityworks. The consultant will implement Operational Insights, train staff on the use of this technology, and provide post go-live support. The amount budgeted will cover consulting services along with full implementation and deployment of the system in FY 2023. These funds are divided equally between water and wastewater projects. **FY 2023 Budget - \$45,000**

Energy Audit: A comprehensive energy audit of the Operations Center and all pump stations was recently completed that evaluated current energy consumption and analyzed utility rate structures to identify potential cost savings. Surveys were conducted on all systems, including operation and maintenance procedures to determine where energy conservation could be improved. The amount budgeted will begin implementation of several recommendations from the audit, including the continued efforts in transitioning to LED lighting and replacement of the existing hot water heater at the Operations Center. Additional funding is anticipated in FY 2024 to begin installation of Vehicle Charging Stations at the Operations Center. These funds are divided equally between water and wastewater projects. **FY 2023 Budget - \$40,000 (FY 2020 Budget - \$300,000)**

Avon Street Maintenance Yard: As part of the Operations Center Expansion Study our consultant reviewed all properties owned by the ACSA that could be utilized as we continue to grow. The Avon Street property has long been held as a future location to build additional facilities in a central location, as needed. The current Maintenance Yard at our Operations Center is becoming overcrowded with equipment and materials, causing us to locate some equipment and larger materials in the former ACSA Maintenance Yard at the Crozet Water Treatment Plant, which we lease from RWSA. This project will begin to develop the Avon Street property into a much larger vehicle and materials storage facility, including a training area for our equipment operators. The amount budgeted is to cover clearing and grading, stormwater and utilities, and site work of this site in FY 2023. These funds are divided equally between water and wastewater projects. Additional funding will be required for construction of the building and fuel facility, which is anticipated in FY 2024. **FY 2023 Budget - \$3,750,000 (FY 2020, FY 2021, and FY 2022 Budgets - \$640,000)**

ACSA Facilities – Security System Upgrade (New): This project addresses recommendations outlined in the Vulnerability Assessment as well as the Security Assessment and consists of installation, configuration, and programming of a new security system. Our current network video recorders (NVRs) will be upgraded to prevent cybersecurity vulnerabilities and to be compatible with newer infrastructure in preparation of the upcoming Avon Street Maintenance Yard Project. The second phase of this project will allow for the purchase, installation, and configuration of security cameras at our pump stations and water storage tanks. The amount budgeted is for implementation of these upgrades in FY

2023. These funds are divided proportionally between water and wastewater projects. **FY 2023 Budget - \$158,000**

Advanced Metering Infrastructure (AMI) Implementation: This project addresses a goal in our Strategic Plan to convert our existing metering system to an AMI System. We have completed the RFP, evaluation of potential vendors and entered a contract with Core & Main/Sensus. Two collectors (antennas) and associated hardware have been installed along with the first phase of deployment totaling approximately 500 meters. The second phase of deployment began in February 2022 and includes system-wide large meter installations along with all meters in Scottsville and one of the routes in Crozet. Full deployment is anticipated later this calendar year as meters are available. The amount previously budgeted will cover a large portion of full deployment with additional funds anticipated in FY 2024. These funds are divided equally between water and wastewater projects. **FY 2023 - \$0 (FY 2018, FY 2020 and FY 2022 Budgets-\$7,700,000)**

Four-Story Residential Backflow Prevention Device Retrofit: In late 2018 ACSA staff became aware of four-story residential structures being constructed without proper backflow prevention devices. Section 8 of the ACSA Rules and Regulations details the ACSA's Backflow Prevention Program. This program is in accordance with 12VAC5-590-570 through 12VAC5-590-630 of the Virginia Waterworks Regulations. The Containment Policy in 12VAC5-590-610 outlines the requirement for a backflow prevention (BFP) device on the domestic water service line to high rise structures, defined as four (4) or more stories. Data acquisition and design of bid documents is nearly complete and retrofit activities are expected to begin in FY 2023 with funds previously budgeted. **FY 2023 Budget - \$0 (FY 2021 Budget - \$348,000)**

Scottsville Phase 4 Water Main Replacement: This project continues our systematic program to replace undersized and deteriorating asbestos-cement and cast-iron water mains throughout our water systems. The amount budgeted will allow for continued design efforts along with geotechnical investigations and plat preparation in FY 2023. Construction is not anticipated to occur until FY 2025 and beyond with additional funds required. **FY 2023 Budget - \$100,000 (FY 2018 and FY 2020 Budgets - \$404,900)**

Ragged Mountain Phase 1 Water Main Replacement: This project will replace the oldest active water main remaining in our system, which was part of the water main that served customers along Reservoir Road. This cast iron pipe is over 90 years old and is severely tuberculated, which greatly reduces the flow capacity in this section. Design of this project is nearly complete, and construction is anticipated immediately following completion of VDOT's Morey Creek Bridge Replacement Project which is currently out for advertisement. The amount budgeted will allow construction to begin later in FY 2023 and will carry over into FY 2024 with additional funds required. **FY 2023 Budget - \$417,000 (FY 2020 Budget - \$117,400)**

Crozet Phase 4 Water Main Replacement: Our Strategic Plan calls for the eventual replacement of all asbestos-cement, galvanized and PVC (pre-1990) water mains in our system, as they are older and made of a weaker material than the current industry norm. This project continues our systematic program to replace the aging and undersized asbestos-cement and PVC water mains in the Crozet Water System. This is the fourth of five phases in Crozet that have been defined to carry out these water distribution system improvements. The design is complete and easement acquisition is currently underway with funds previously appropriated. Construction of this project will be coordinated with VDOT's Lick-hole Creek Bridge Replacement Project along Crozet Avenue. Based on VDOT's current schedule, construction of the water main replacement project is anticipated to begin in late in FY 2023 with additional funding required in future years to complete this project. **FY 2023 Budget - \$1,412,050 (FY 2019 and FY 2020 Budgets - \$535,300)**

Jefferson Village Water Main Replacement: This project addresses the goal in our Strategic Plan for the eventual replacement of all asbestos-cement water mains in our system. The existing water mains are more than 50 years old and have reached the end of their useful life. As a former well system that was later connected to public water, many of the mains are also undersized. Bids were recently opened, and construction is anticipated to begin Spring 2022 with funds previously budgeted. **FY 2023 Budget - \$0 (FY 2018, FY 2020, FY 2021, and FY 2022 Budgets - \$2,451,000)**

Northfields Water Main Replacement: This project addresses the goal in our Strategic Plan for the eventual replacement of all asbestos-cement water mains in our system. The existing water mains were installed in the 1960's and have reached the end of their useful life. As a former well system that was later connected to public water, most of the mains are also undersized. The project is currently under design with funds previously budgeted. It is anticipated that construction could be separated into phases with construction starting on the first phase beginning in FY 2025. Additional funding will be required based on phasing and construction schedule. **FY 2022 Budget - \$0 (FY 2020 Budget - \$530,000)**

Briarwood Water Main Replacement: Our Strategic Plan calls for the eventual replacement of PVC (pre-1990) water mains in our system, as they are older and made of weaker material than the current industry norm. This project will replace the PVC water mains that have been in service since the early 1980's. The design phase is currently underway with funds previously appropriated. Construction is expected to take place in FY 2025 and FY 2026 with additional funding budgeted in those years. **FY 2023 Budget - \$0 (FY 2021 Budget - \$220,000)**

Barracks West Water Main Replacement: This project will replace the undersized and aging cast iron and galvanized water mains that were installed in the late 1960's. These water mains are original to the Old Salem Apartments development, now called Barracks West. This project follows our Strategic Plan goal to replace aging and undersized water mains throughout our system and will provide for an opportunity to improve fire protection to these multi-family apartments.

The design phase is currently underway with funds previously appropriated. Construction of this project is anticipated in FY 2025 and FY 2026 with additional funding required. **FY 2023 Budget - \$0 (FY 2022 Budget - \$452,500)**

Townwood Water Main Replacement (New): Our Strategic Plan calls for the eventual replacement of PVC (pre-1990) water mains in our system, as they are older and made of weaker material than the current industry norm. This project will replace the PVC water mains that have been in service since the early 1980's and have recently experienced several breaks causing water service disruptions. The amount budgeted will allow design to begin later in FY 2023 and will carry over into FY 2024 with additional funds required. **FY 2023 Budget - \$170,000**

Broadway Street Water Main Replacement: This project will replace the cast iron water main that was installed in the early 1970's and has been found to be in deteriorating condition based on recent excavations. With the redevelopment of the Woolen Mills Factory and Albemarle County's increased attention on economic revitalization of this corridor, replacement of this water main is crucial in transforming this area. Design is nearing completion with funds previously appropriated. The amount budgeted will make it feasible for construction to take place in FY 2023. **FY 2023 Budget - \$650,000 (FY 2021 Budget - \$142,800)**

Raintree and Fieldbrook PVC Water Main Replacement: Our Strategic Plan calls for the eventual replacement of PVC (pre-1990) water mains in our system, as they are older and made of weaker material than the current industry norm. This project will replace the PVC water mains that have been in service since the 1980's. The design phase is currently underway and will carry over into FY 2024 with funds previously appropriated. Construction is expected to take place in FY 2027 and FY 2028 with additional funding budgeted in those years. **FY 2023 Budget - \$0 (FY 2022 Budget - \$432,300)**

SCADA Phase 3 Implementation: The ACSA Utility System has over 40 critical assets that include water and wastewater pump stations, water storage tanks and master PRV stations. This project continues implementation of the ACSA's Supervisory Control and Data Acquisition (SCADA) System that allows ACSA employees to remotely monitor the operations of these critical assets. Using alarms, we can more quickly troubleshoot problems and prevent some failures from occurring. Phases 1 and 2 are complete and in operation. The design of Phase 3 is complete, and construction is expected to be completed in FY 2023 with funds previously appropriated. **FY 2023 Budget - \$0 (FY 2010-2022 Budgets - \$2,740,800)**

Airport Trunk Sewer Upgrade: With the continued growth in the Hollymead Town Center area, the existing sewer collector serving the airport and the area west of Route 29 needs upgrading to handle full build-out. The existing sewer was originally sized to serve the light industrial zoning designated for that area at the time of construction. The increased density specified in the County Comprehensive Plan for the same drainage basin will exceed the capacity of the existing sewer. Design is ongoing and easement acquisition is underway with funds previously budgeted. The amount budgeted will allow for the completion of design

and cover easement compensations required for the project. It is anticipated that construction will begin in FY 2026, with additional funding required. **FY 2023 Budget - \$115,000 (FY 2021 Budget - \$368,800)**

Northfields Phase 5 Sewer (New): During the design of the Northfields Water Main Replacement Project, ACSA staff identified several sections of sanitary sewer that could be installed along the roadway in coordination with the water main replacement work. These efforts will provide sanitary sewer service to existing neighborhood properties currently served by private septic fields. The amount budgeted will cover design of these improvements and construction will coincide with the water main replacement project efforts anticipated in FY 2025 with additional funds required. **FY 2023 Budget - \$70,000**

Miscellaneous Sewer Rehabilitation: This project continues our “find and fix” program of sanitary sewer rehabilitation to reduce I&I in our system during the fiscal year. This work will utilize publicly bid miscellaneous sewer rehabilitation contracts that are renewable on an annual basis up to four times after the initial year long contract. It will be used to make repairs and rehabilitate problems in our system found with systematic CCTV inspection by ACSA crews and the sub-contractor. **FY 2023 Budget - \$400,000**

Bellair – Liberty Hills Sewer: Over the past several years, there has been an uptick in residents of the Bellair Subdivision seeking to connect to public sanitary sewer service since most residents are currently served by private septic fields. Based on results from a community survey, a majority of the property owners are interested in connecting to public sewer if it was made available. Design is underway with funds previously appropriated. It is anticipated that construction will take place in FY 2025 and FY 2026, with additional funding required in those years. **FY 2023 Budget - \$0 (FY 2021 and FY 2022 Budgets - \$393,715)**

Madison Office Park Pump Station Upgrade: This wastewater pump station was constructed in the early 1980’s by private development and the original equipment is wearing down. In addition, the building is undersized, creating difficulty in performing routine maintenance, and making it impossible to install the control panels necessary to include this pump station in our SCADA System. Design is complete and construction is anticipated in FY 2023. The amount budgeted combined with funds previously appropriated should cover construction costs anticipated for this project. **FY 2023 Budget - \$425,000 (FY 2015, FY 2017, FY 2018, FY 2020, FY 2021, and FY 2022 Budgets - \$1,125,000)**

Huntington Village Water Connection: The existing water main that serves as the only feed into Huntington Village off Old Ivy Road is at risk of failure due to an existing rock retaining wall that was constructed overtop of the water main. This project provides a second water connection into Huntington Village which is comprised of approximately 135 residential customers. Design is currently underway, and construction is expected to be completed in FY 2023 with funds previously budgeted. **FY 2023 Budget - \$0 (FY 2021 Budget - \$60,700)**

Sewer Pump Station Comminutors: Three wastewater pump stations (Glenmore, Georgetown Green, and Crozet) have all been experiencing higher than normal amounts of solid debris that is causing undue wear and tear on our pumps, reducing their effective life. They have also been subjected to clogging from the fibrous cloth wipes that are marketed as flushable but do not break down in the sanitary sewer collection system. Maintenance identified the need to install comminutors (aka grinders) in the wet wells or just upstream of them, to eliminate these solids that are adversely impacting our pumps. Construction of this project is underway with funds previously appropriated. **FY 2023 Budget - \$0 (FY 2019, FY 2020 and FY 2022 Budgets - \$731,300)**

Biscuit Run Sewer Replacement: The ACSA's Maintenance Department recently discovered an existing gravity main and manhole along an intermittent stream that drains into Biscuit Run had been exposed due to runoff. This project will replace the sewer segment that crosses the stream with ductile iron pipe and will reinforce the stream bank where the sewer manhole is exposed. Design of this replacement work is complete, and construction is anticipated in FY 2023. The amount budgeted combined with funds previously budgeted is to cover the construction costs anticipated for this project. **FY 2023 Budget - \$206,000 (FY 2022 Budget - \$206,000)**

Exclusion Meters Replacement: In the mid 1990's with the development of Glenmore, many new customers installed irrigation systems for their properties and wanted to have their sewer bills reduced by the amount of water that was diverted for irrigation purposes. Private meters were installed behind their ACSA domestic meter to record this volume and it was "excluded" from the calculation of their sewer charges and these became known as exclusion meters. On January 1, 2006 the ACSA Rules and Regulations were modified to disallow exclusion meters and required all future irrigation meters be tapped separately off our water mains, to be owned and controlled by the ACSA. This project is a multi-year replacement program by our in-house CIP Crew to install dedicated, ACSA-owned irrigation meters that will eliminate all remaining exclusion meters in our system. Work will continue with funds previously budgeted. Additional funding is anticipated in future years to complete this project. **FY 2023 Budget - \$0 (FY 2020 and FY 2021 Budgets - \$527,500)**

Pipe Saddles Replacement: The ACSA Maintenance Department has discovered in recent years that pipe saddles used to make water service line connections to PVC water mains have been failing. Either the galvanized steel straps or the cast iron saddle bodies are deteriorating. This project is a multi-year replacement program to be undertaken with our in-house CIP Crew. Work will be performed with funds previously budgeted. Additional funding is anticipated in future years to complete this project. **FY 2023 Budget - \$0 (FY 2020 and FY 2021 Budgets - \$100,000)**

Developer Participation: Each year funds are set aside to participate in over-sizing utilities constructed to serve new development. The Rate Model includes \$100,000 divided equally between water and wastewater projects as a contingency to ensure the new pipes are sized to meet the ACSA's long-range needs.
FY 2023 Budget - \$100,000

We propose to schedule a Public Hearing to present the FY 2023 CIP at the April meeting of the ACSA Board of Directors.

Board Action

We request that the Board of Directors authorize the advertisement for a Public Hearing to address the FY 2023 CIP at 9:00 a.m. on Thursday, April 21, 2022.

PCG/dmg

060806FY2023CIPMemo031722

ACSA AVON SITE

137 AVON STREET EXT
ALBANY COUNTY, VA

SCALE

KEY PLAN

SCALE



REV.	DATE	BY	Description
1	08/28/20	KAP	REVISIONS
2		KAP	
3		KAP	
4		KAP	
5		KAP	
6		KAP	
7		KAP	
8		KAP	
9		KAP	
10		KAP	

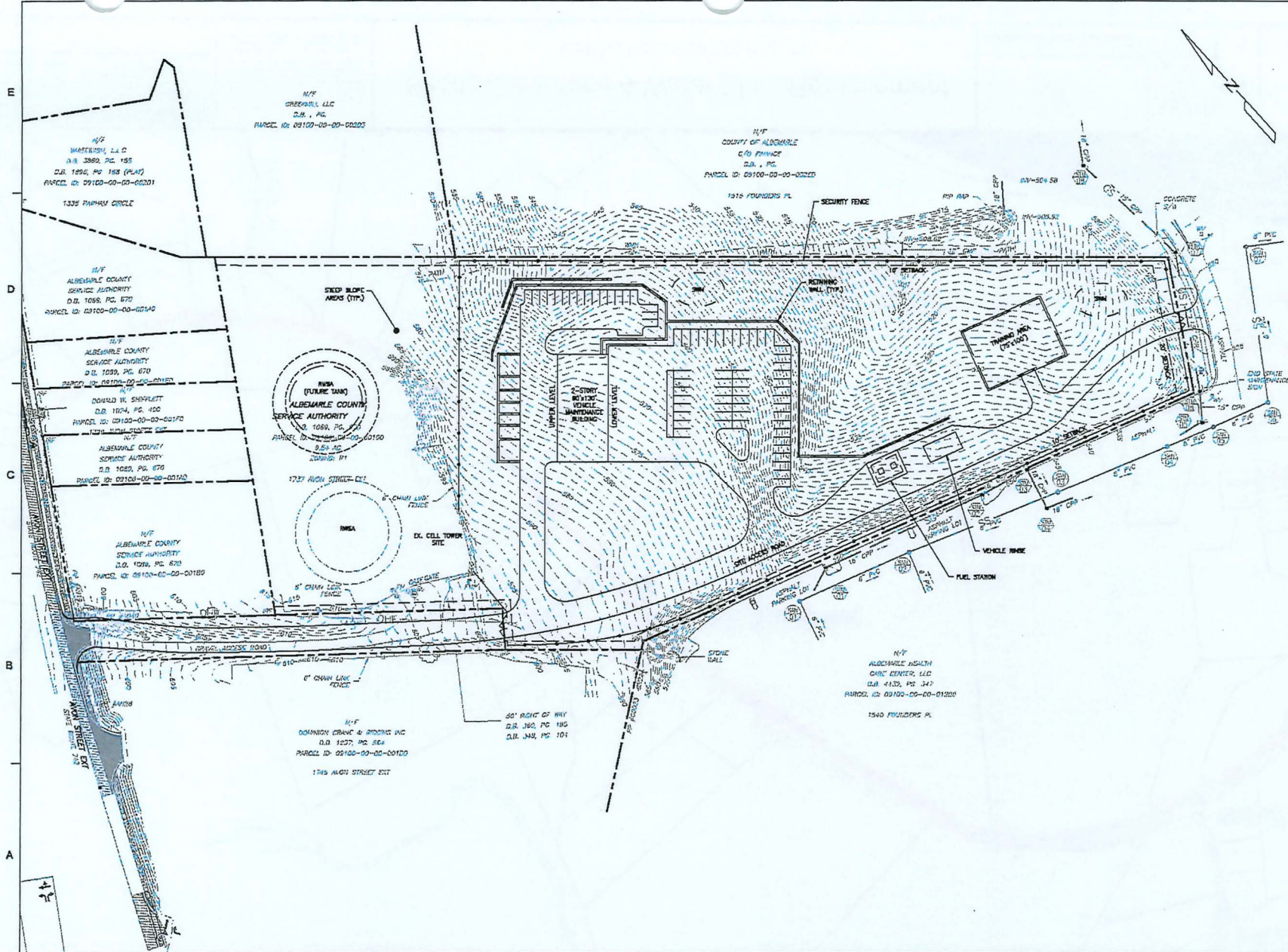
TITLE

OVERALL
SITE PLAN

PROJECT NO. 50119298

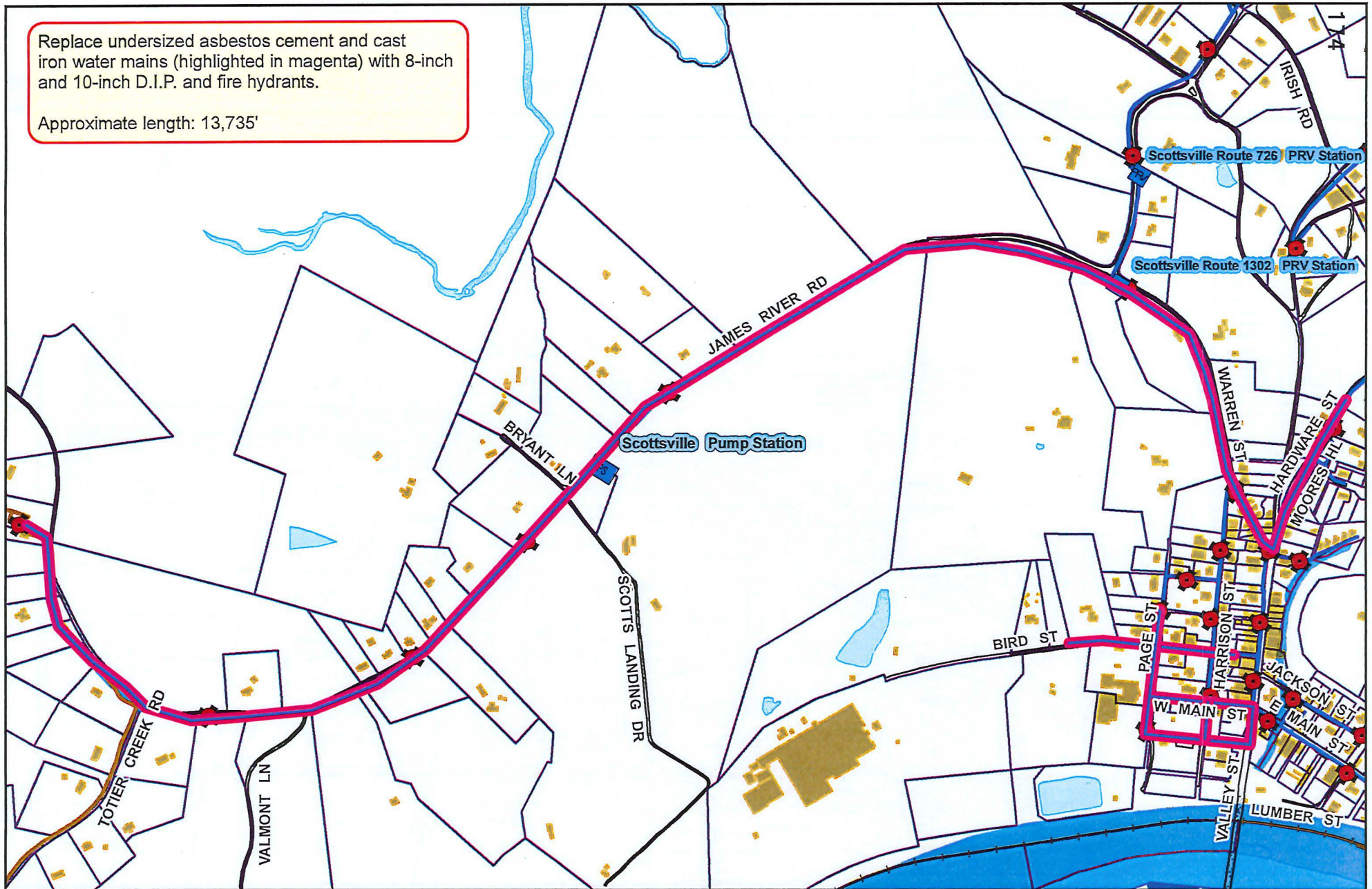
1

SHEET NO.



Replace undersized asbestos cement and cast iron water mains (highlighted in magenta) with 8-inch and 10-inch D.I.P. and fire hydrants.

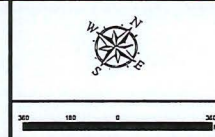
Approximate length: 13,735'



**Albemarle County
Service Authority**
Serving & Conserving
188 Spotswood Road Charlottesville, VA 22911 (434) 977-4811

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Utilities, structures, lot lines, and all appurtenances indicated on this map are intended for general layout and reference location only. This printout is not intended for any other use than for preliminary planning and general location purposes. The utilities shown on this map are believed to be accurate, however, recent utility improvements and/or system changes may have been updated in our mapping since the time of this printout. Contact ACSA directly for specific utility locations. Aerial Imagery © 2002 Commonwealth of Virginia. Parcel Information Property of County of Albemarle.

Scottsville Phase 4 Water Main Replacement Capital Improvement Project



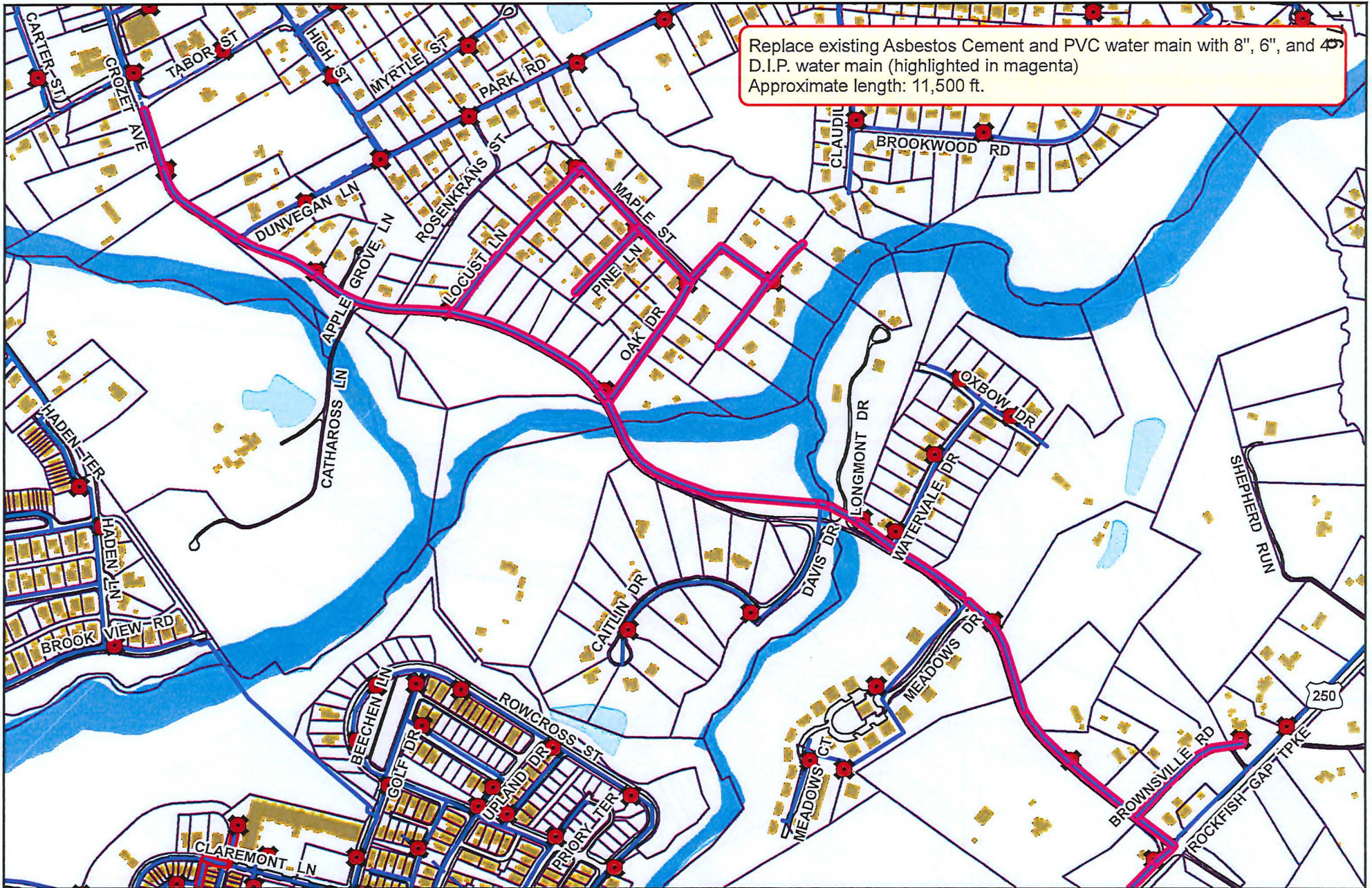
Legend
— ACSA Waterline
— Proposed Waterlines

Replace existing 10" Cast Iron water main with 8" DIP-PRV for connection to Buckingham Circle

Approximate length: 1,200 ft.

Proposed PRV Station

Water Main to be Abandoned
(Highlighted in Yellow)

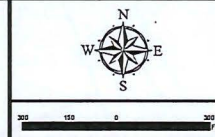


Crozet Phase 4 Water Main Replacement
Project - Map 1
Capital Improvement Project

Albemarle County
Service Authority

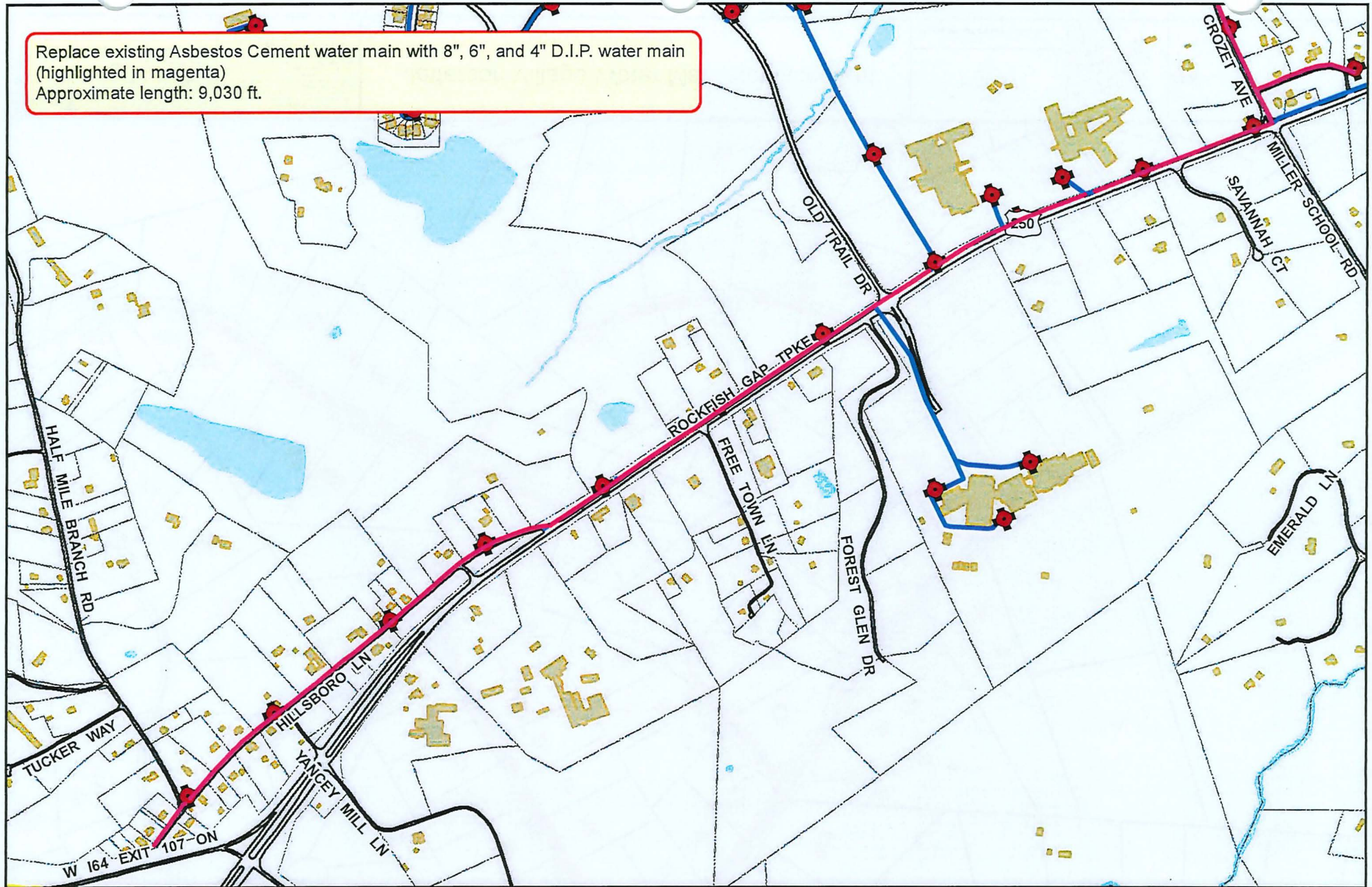
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Legend
Proposed Waterline

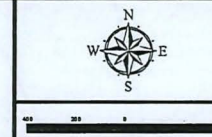
Replace existing Asbestos Cement water main with 8", 6", and 4" D.I.P. water main
(highlighted in magenta)
Approximate length: 9,030 ft.



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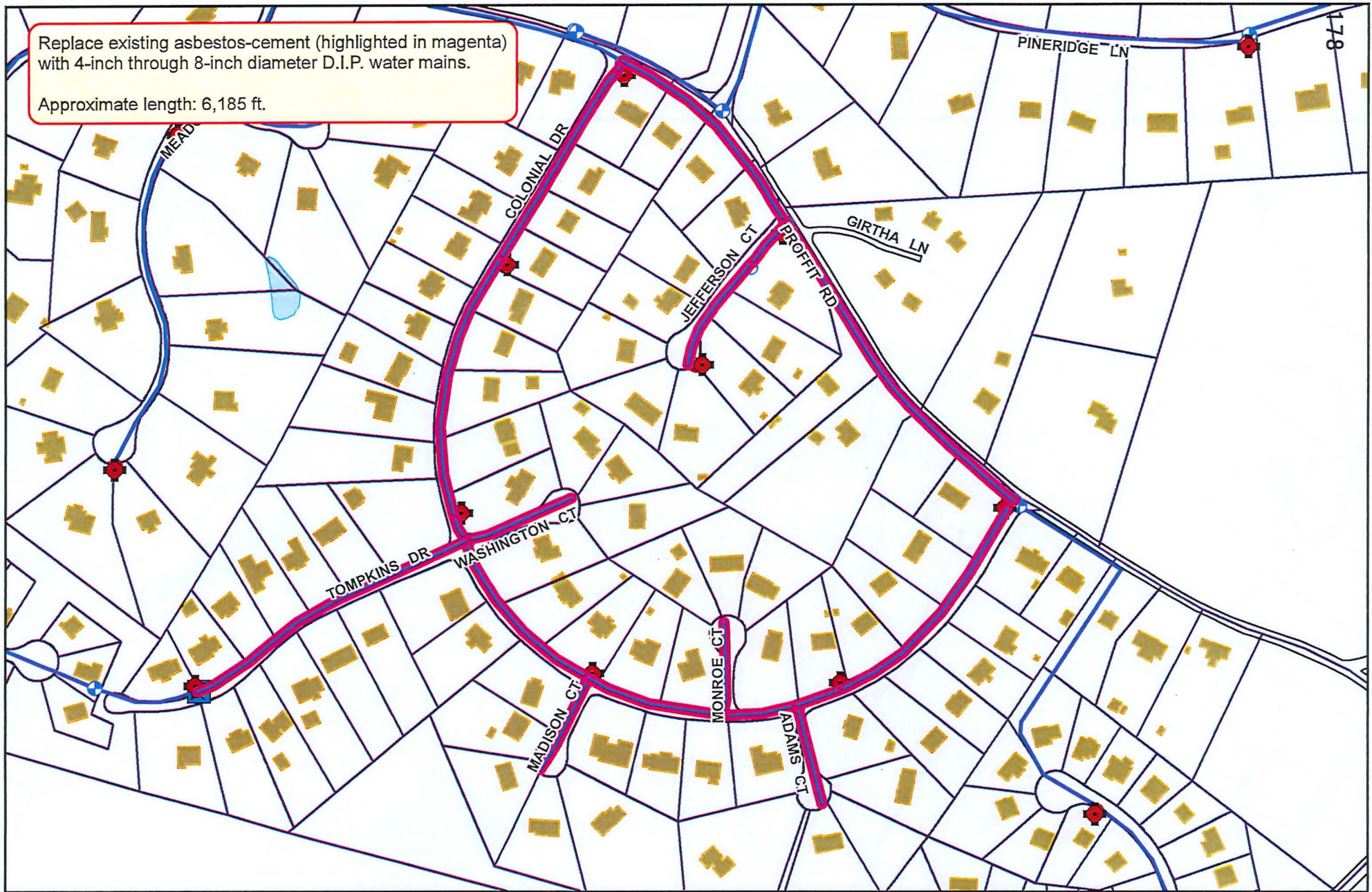
Crozet Phase 4 Water Main Replacement Project - Map 2 Capital Improvement Project



Legend
 Proposed Waterline
 ACSA Waterline
 Hydrant

Replace existing asbestos-cement (highlighted in magenta)
with 4-inch through 8-inch diameter D.I.P. water mains.

Approximate length: 6,185 ft.

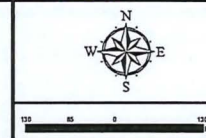


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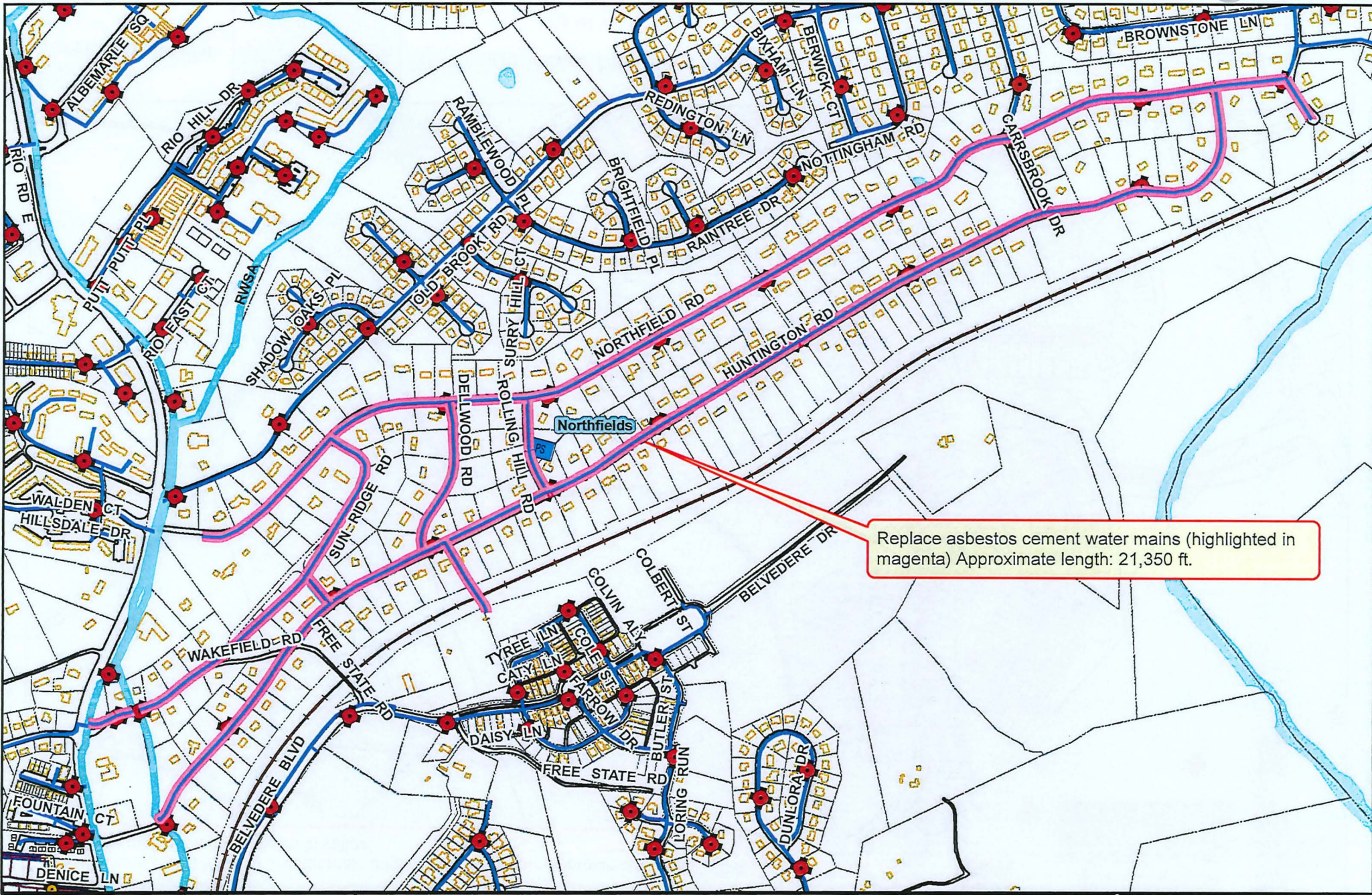
Jefferson Village Water Main Replacement

Capital Improvement Project



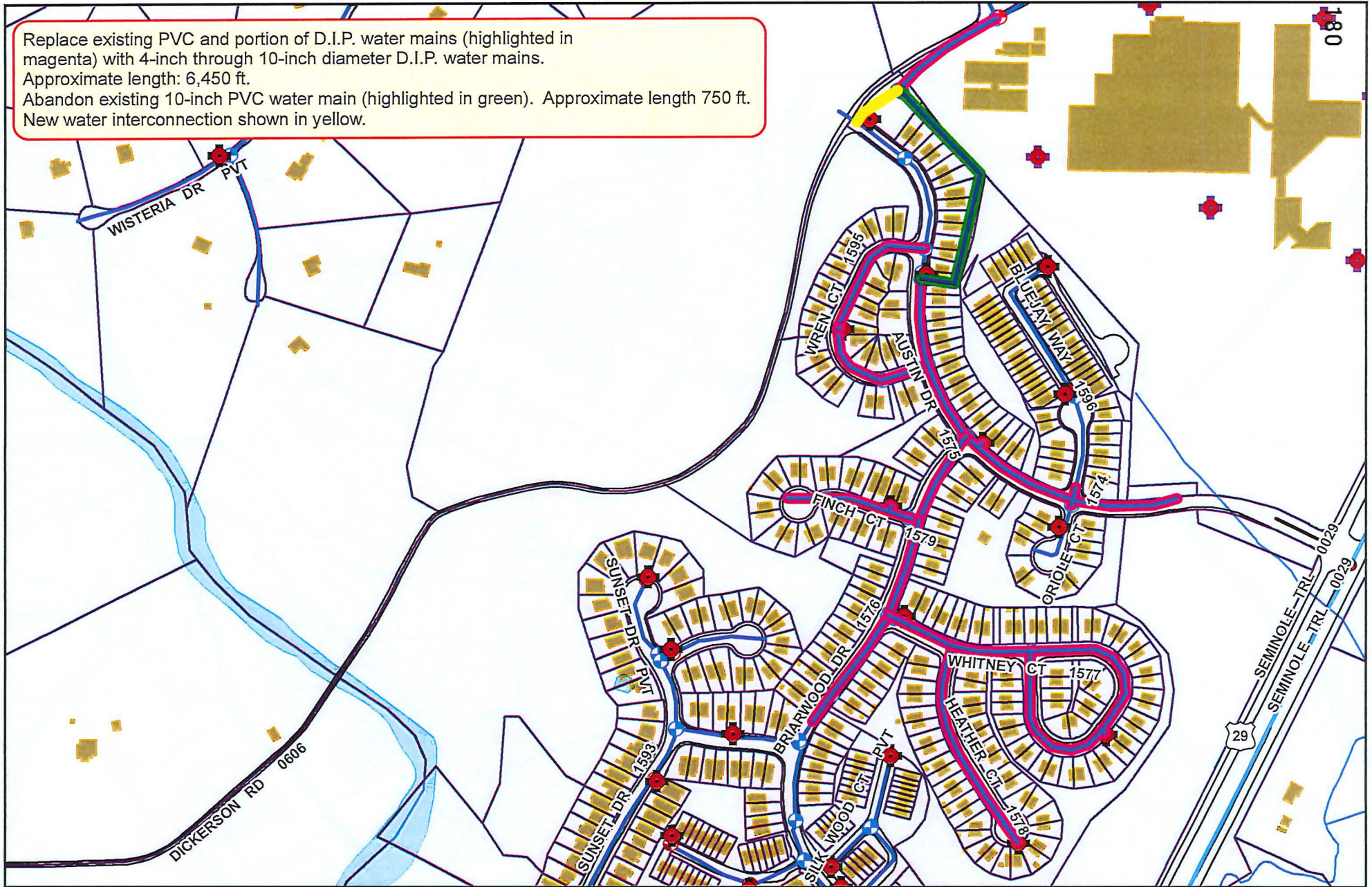
Legend

Prop. Waterline



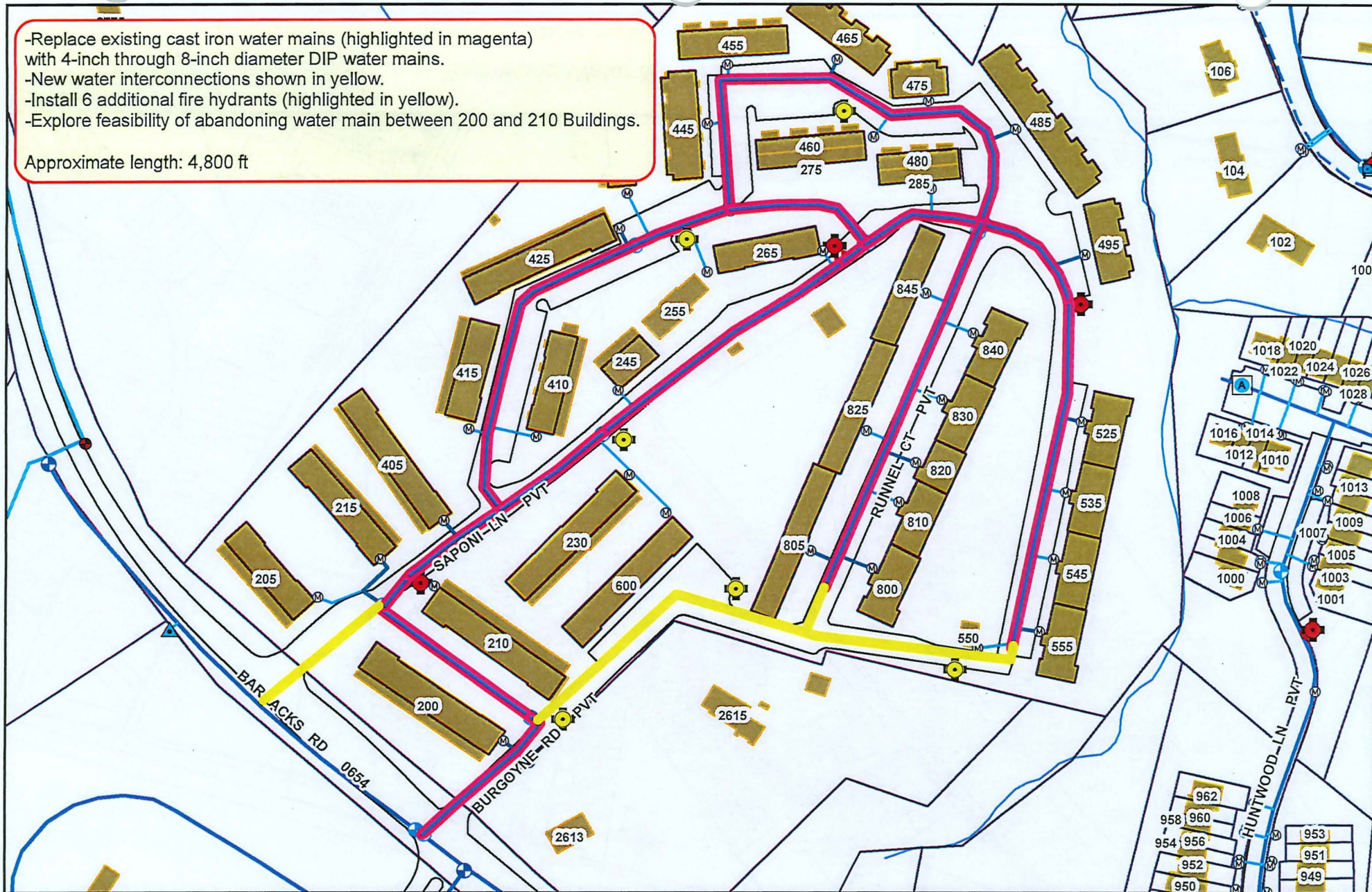
Replace asbestos cement water mains (highlighted in magenta) Approximate length: 21,350 ft.

Replace existing PVC and portion of D.I.P. water mains (highlighted in magenta) with 4-inch through 10-inch diameter D.I.P. water mains.
Approximate length: 6,450 ft.
Abandon existing 10-inch PVC water main (highlighted in green). Approximate length 750 ft.
New water interconnection shown in yellow.

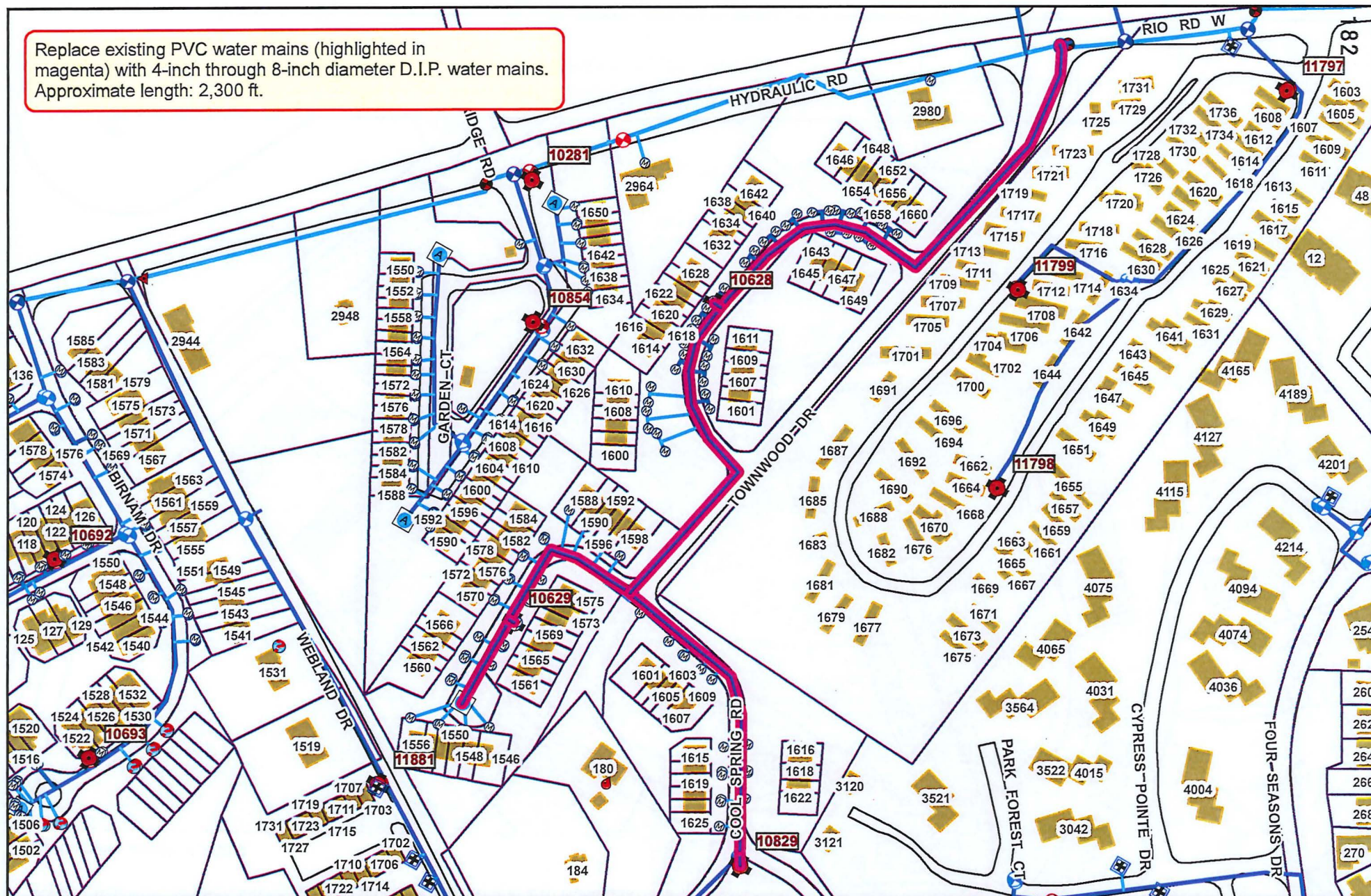


- Replace existing cast iron water mains (highlighted in magenta) with 4-inch through 8-inch diameter DIP water mains.
- New water interconnections shown in yellow.
- Install 6 additional fire hydrants (highlighted in yellow).
- Explore feasibility of abandoning water main between 200 and 210 Buildings.

Approximate length: 4,800 ft



Replace existing PVC water mains (highlighted in magenta) with 4-inch through 8-inch diameter D.I.P. water mains.
Approximate length: 2,300 ft.



Albemarle County
Service Authority

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Contact ACSA directly for specific utility locations.
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Townwood Water Main Replacement

Capital Improvement Project



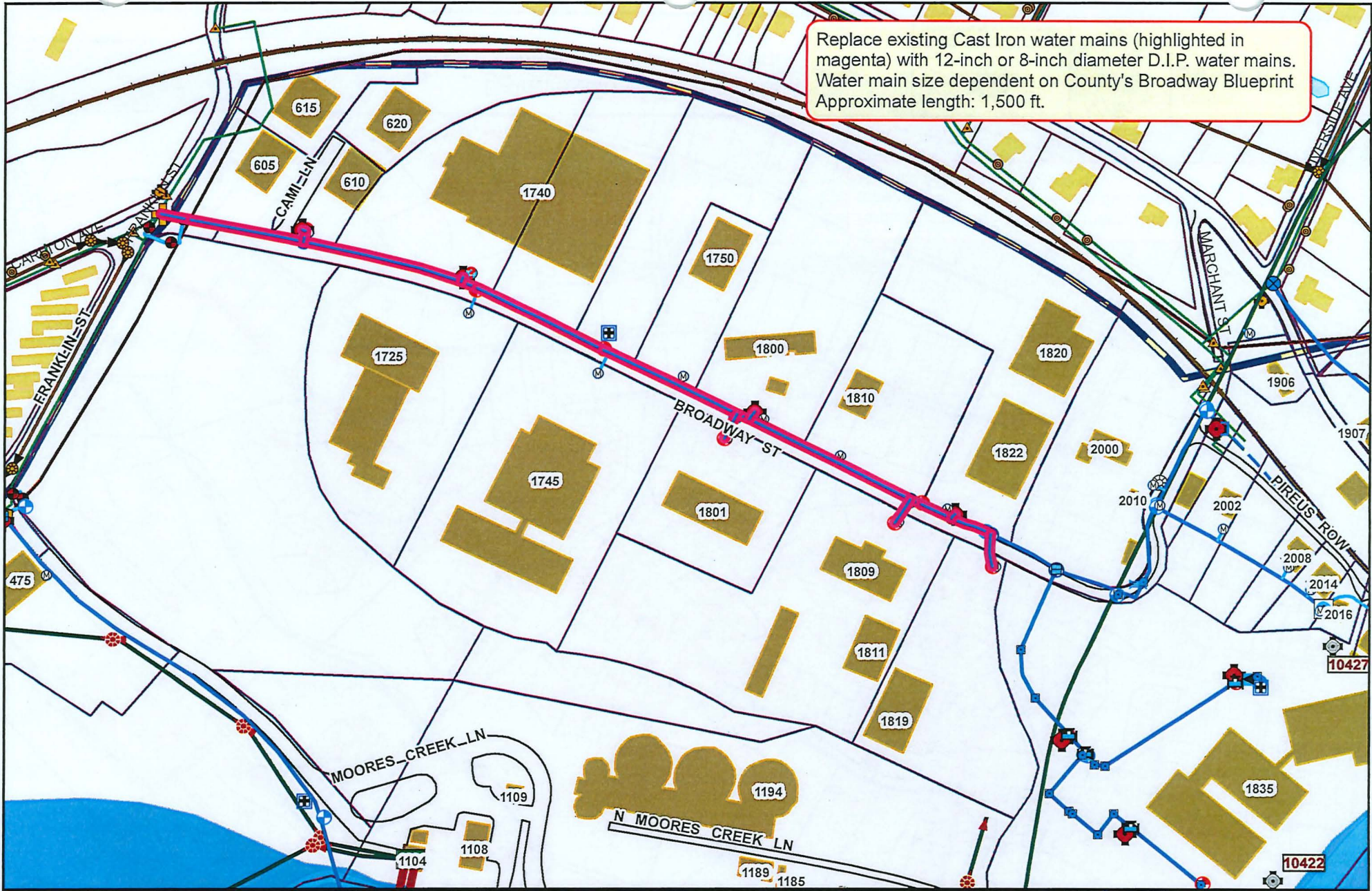
0 50 100 Feet



Legend

— Replace Existing PVC

Replace existing Cast Iron water mains (highlighted in magenta) with 12-inch or 8-inch diameter D.I.P. water mains. Water main size dependent on County's Broadway Blueprint. Approximate length: 1,500 ft.



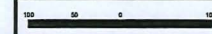
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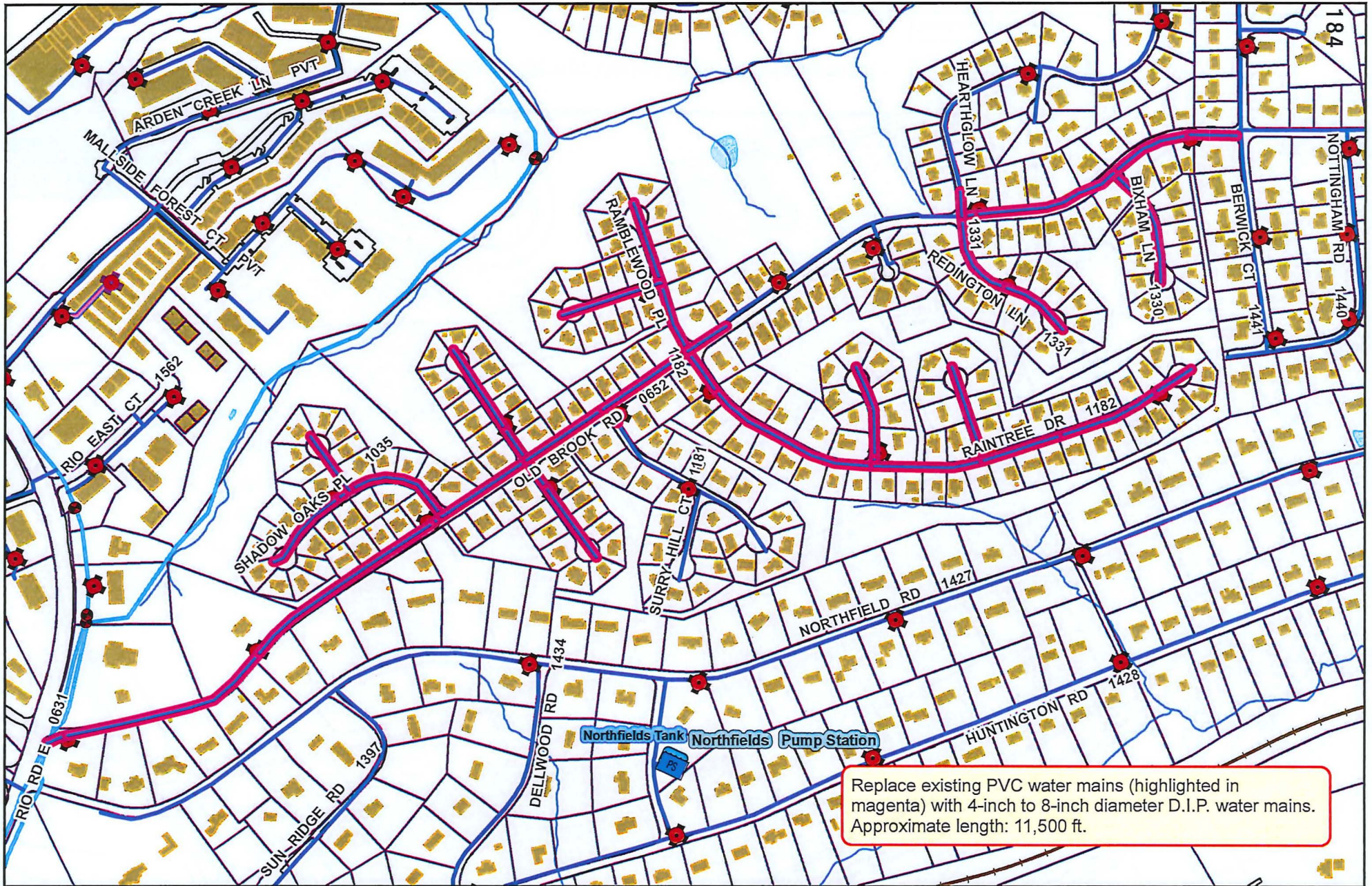
Broadway Street Water Main Replacement

Capital Improvement Project



Legend

Prop. Waterline

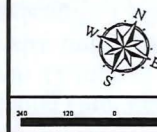


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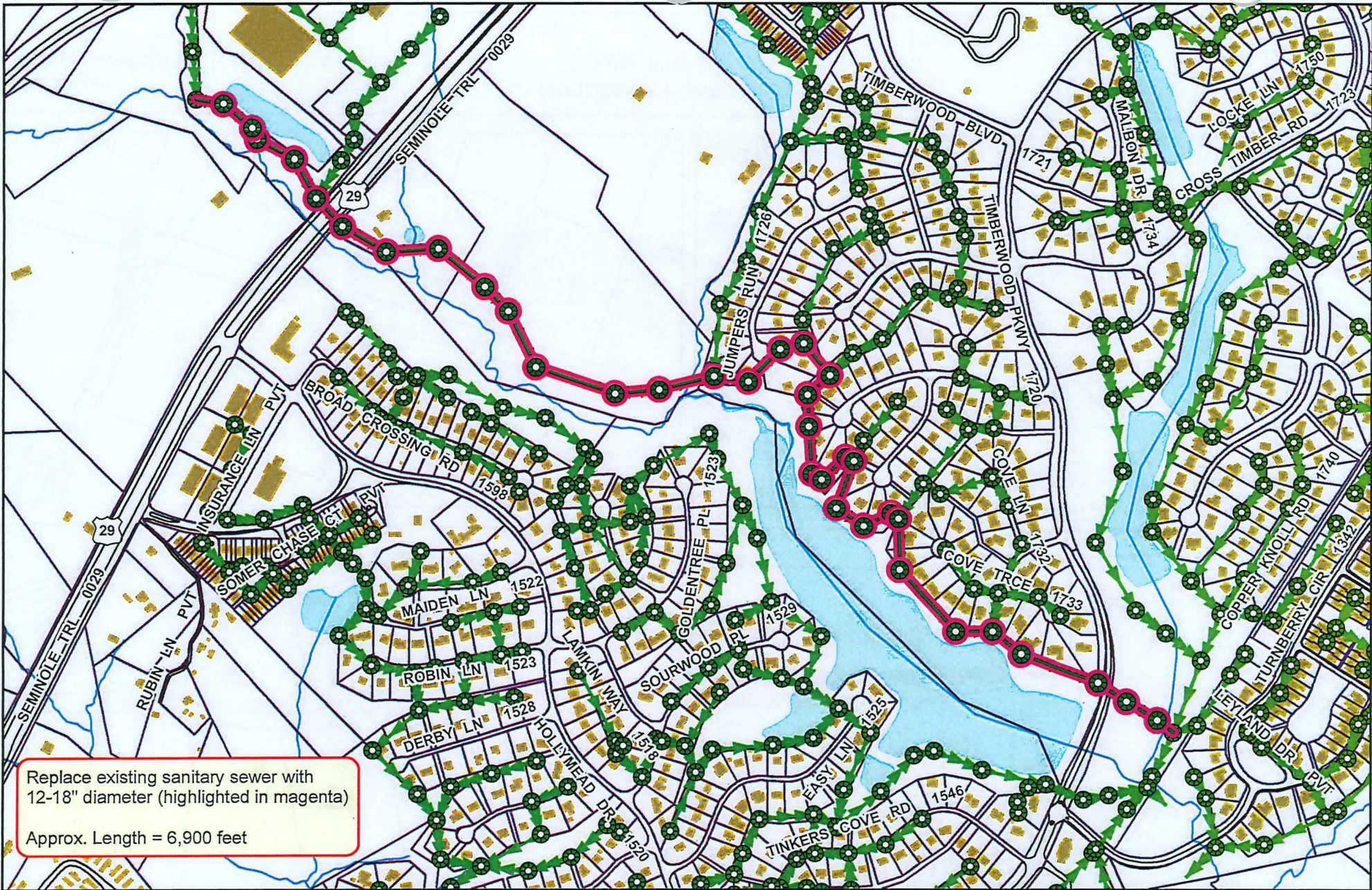
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Raintee and Fieldbrook PVC Water Main Replacement Capital Improvement Project



Legend

Prop. Waterline



Albemarle County
Service Authority

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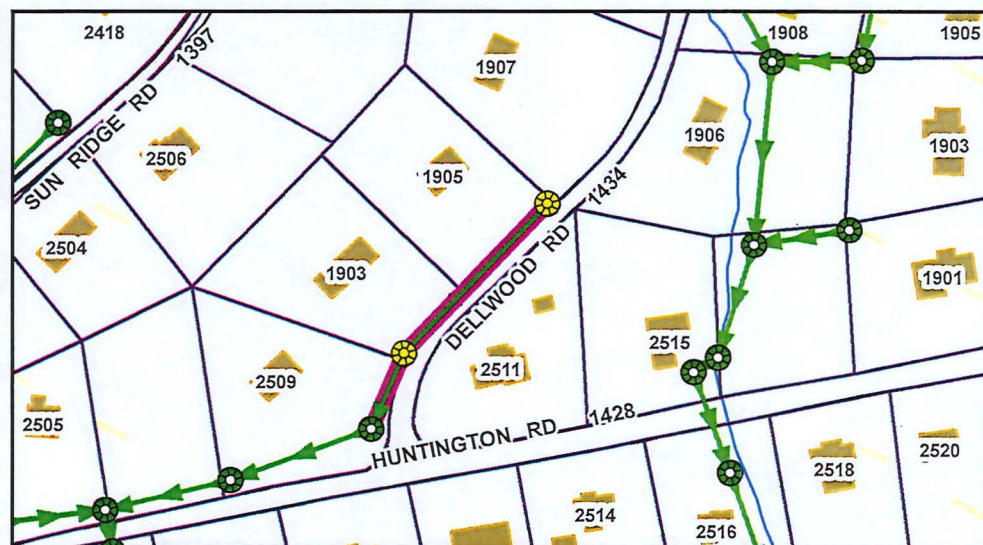
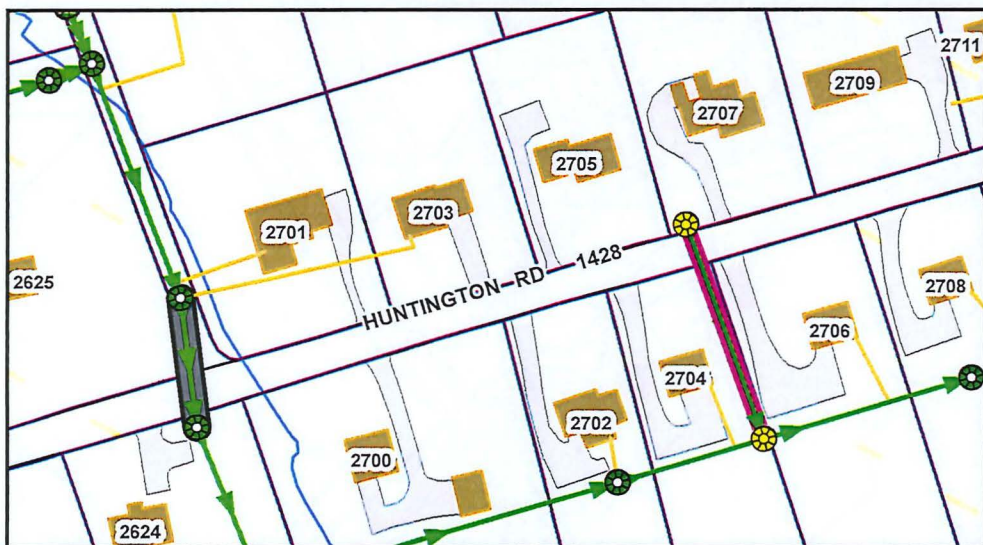
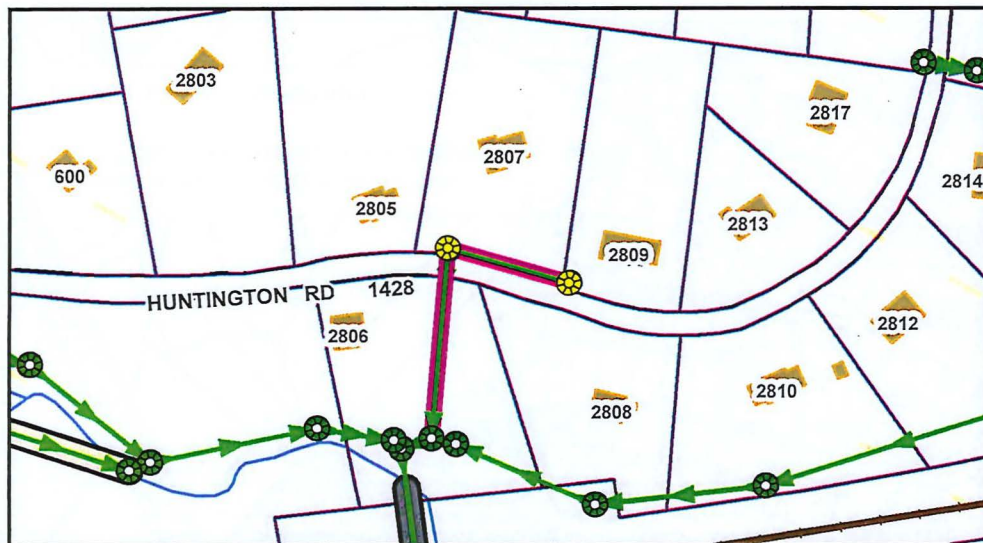
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Airport Trunk Sewer Upgrade

Capital Improvement Project

Prop. MH
 Prop. Sewer

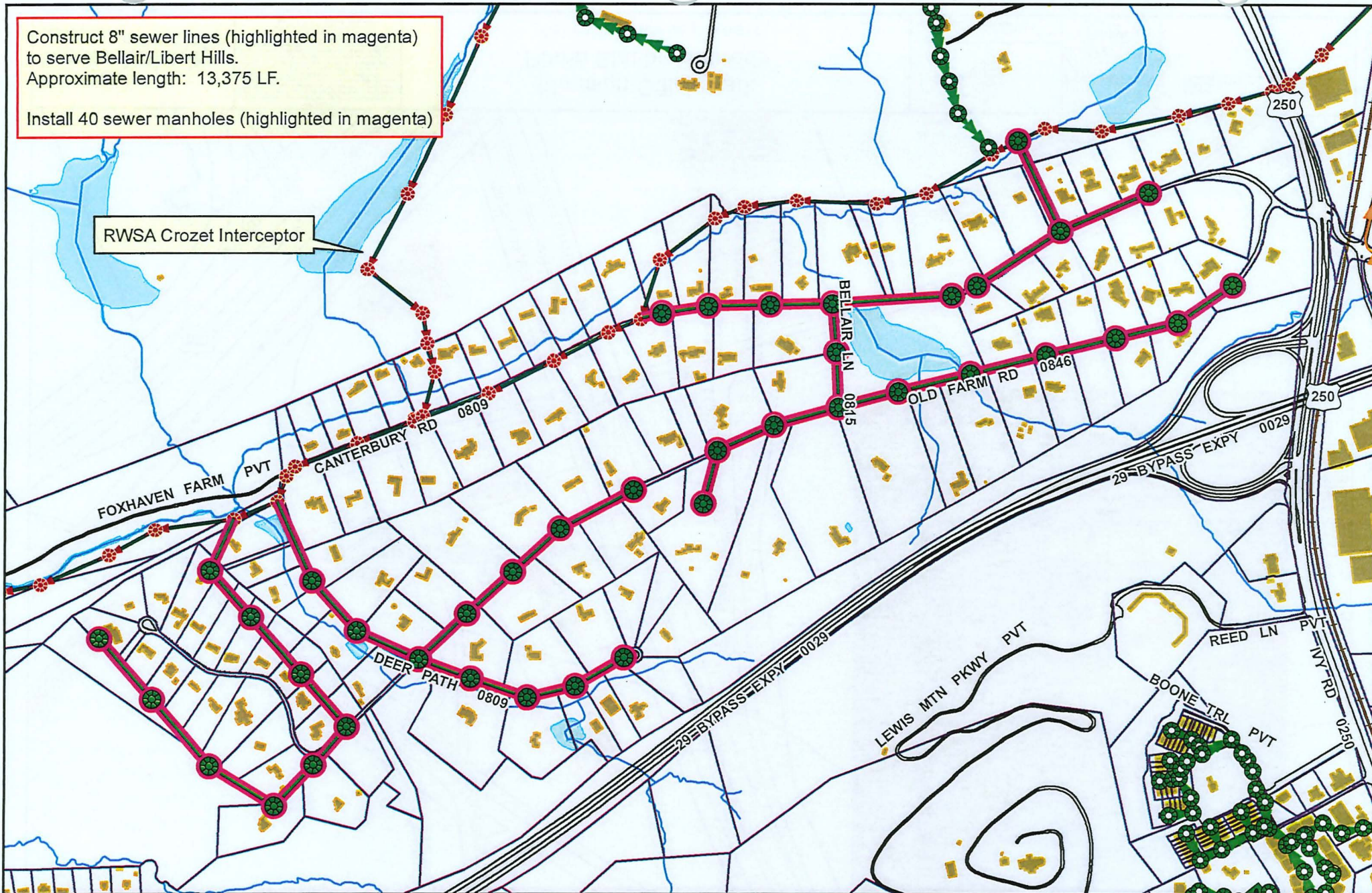
Install approximately 1,500 linear feet of sewer main.
Sewer service stubouts to be provided to 18 lots.



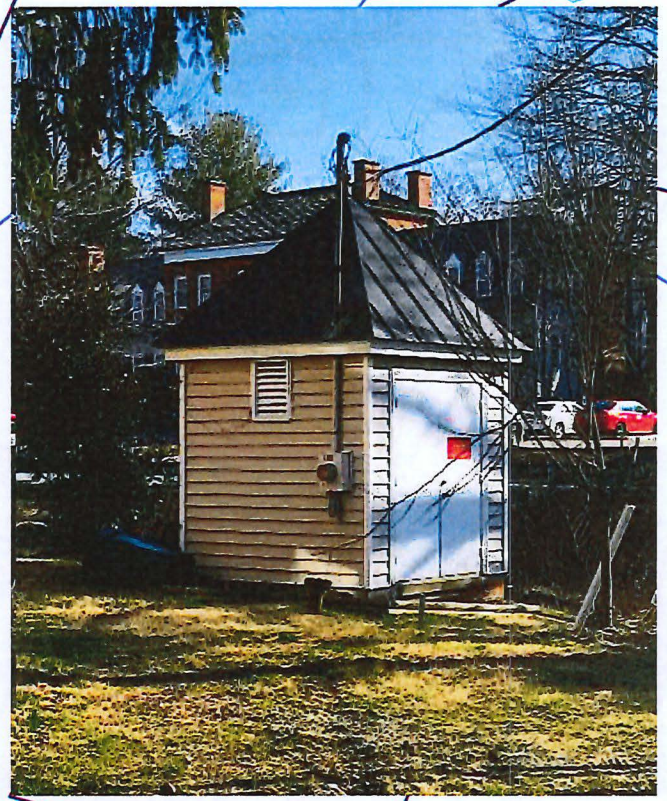
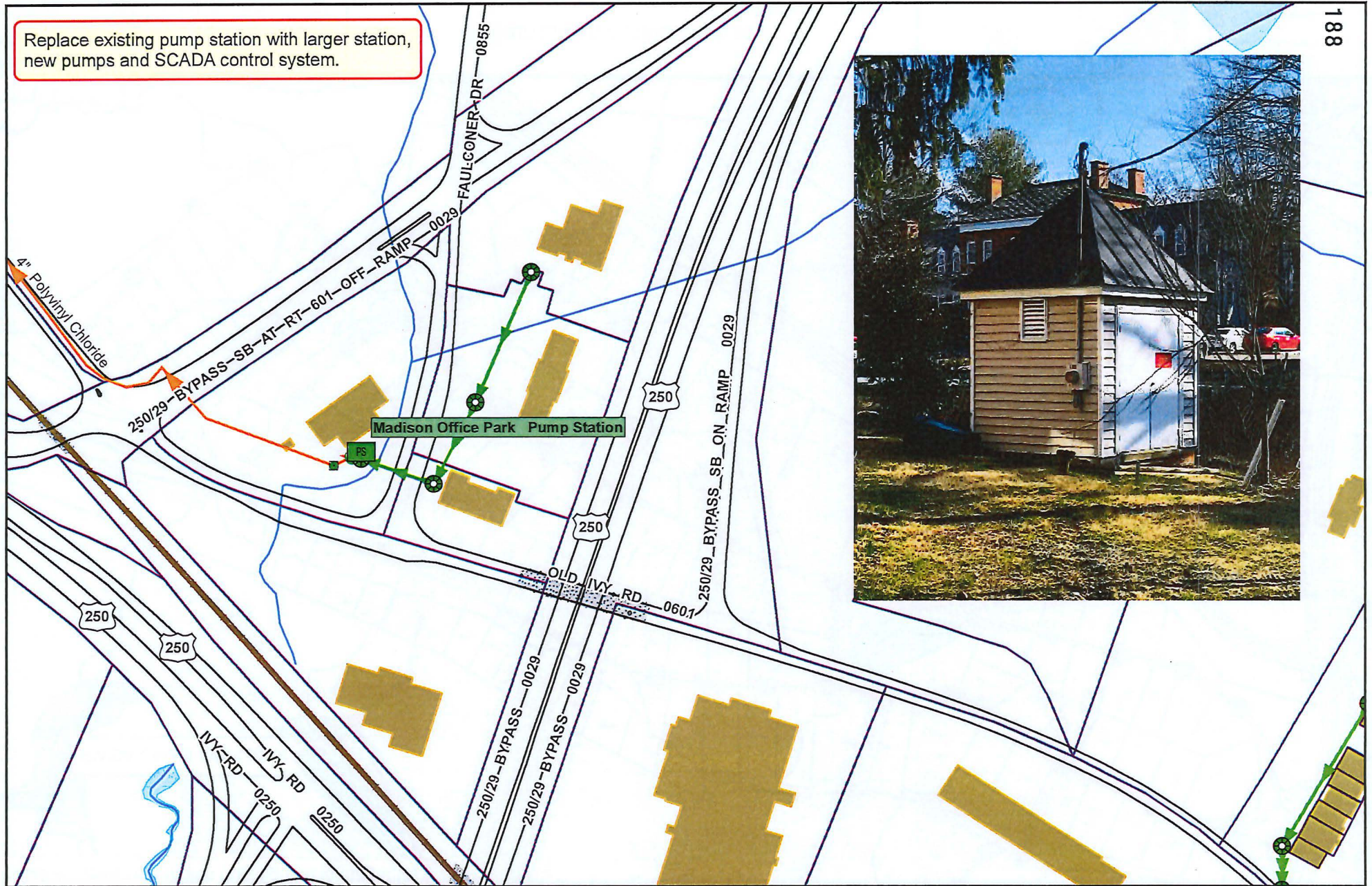
Construct 8" sewer lines (highlighted in magenta)
to serve Bellair/Libert Hills.
Approximate length: 13,375 LF.

Install 40 sewer manholes (highlighted in magenta)

RWSA Crozet Interceptor



Replace existing pump station with larger station, new pumps and SCADA control system.





**Albemarle County
Service Authority**
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Madison Office Park Pump Station Upgrade

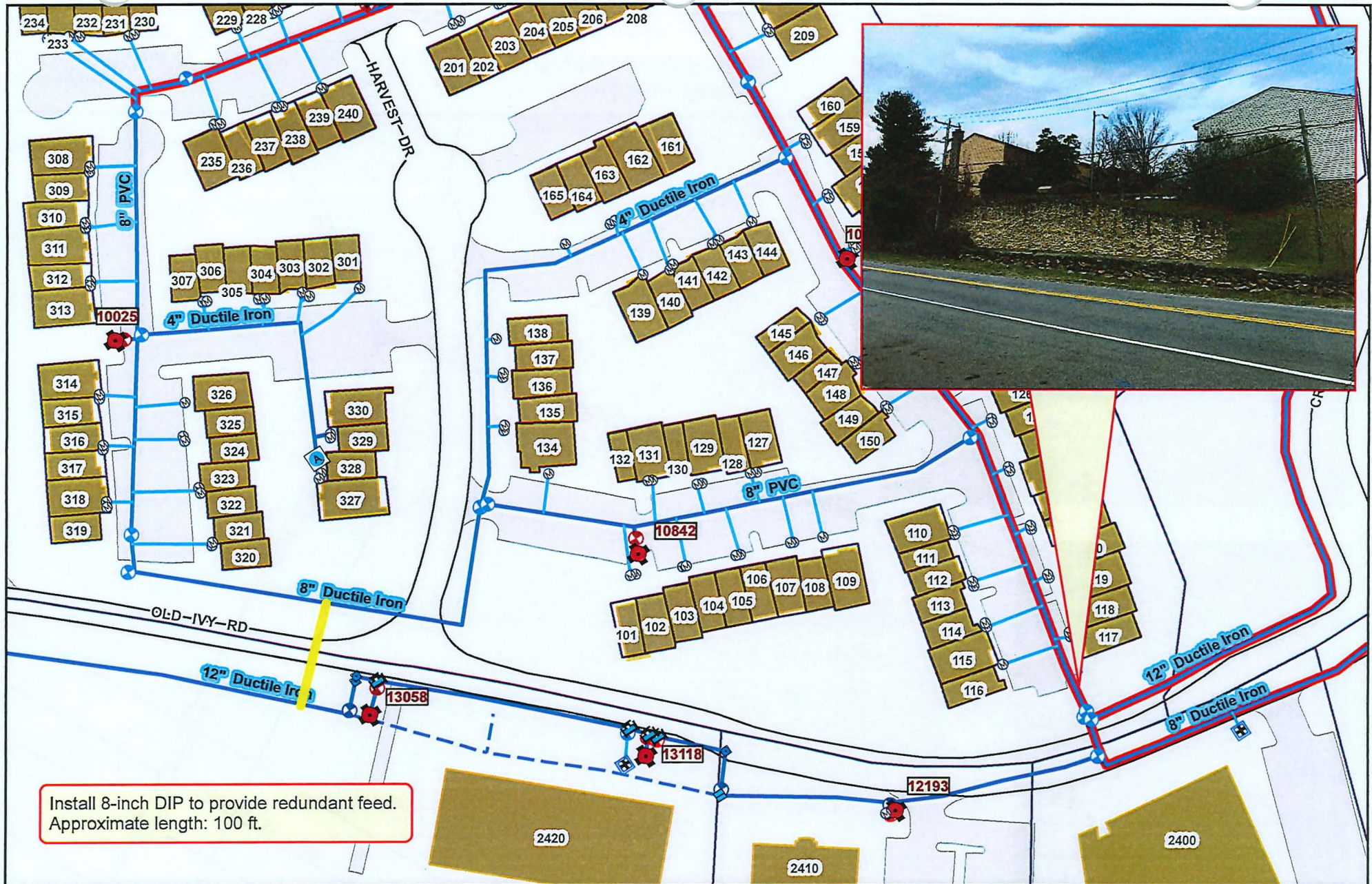
Capital Improvement Project



0 30 60 90 120 Feet



 Pump Station



Install 8-inch DIP to provide redundant feed.
Approximate length: 100 ft.

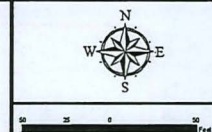


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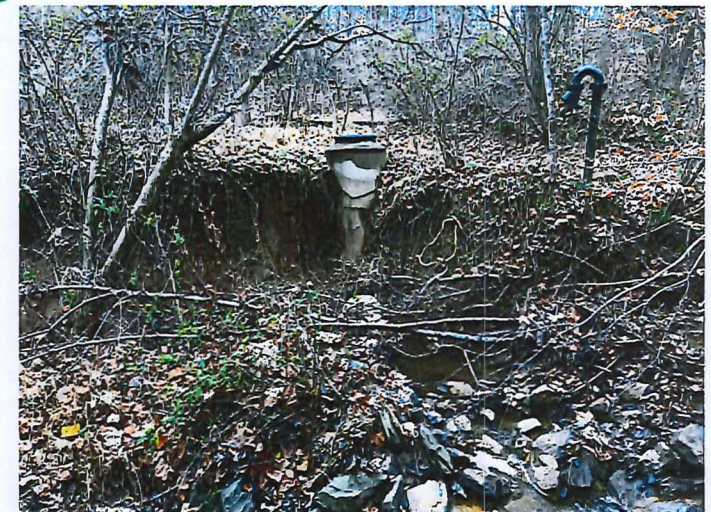
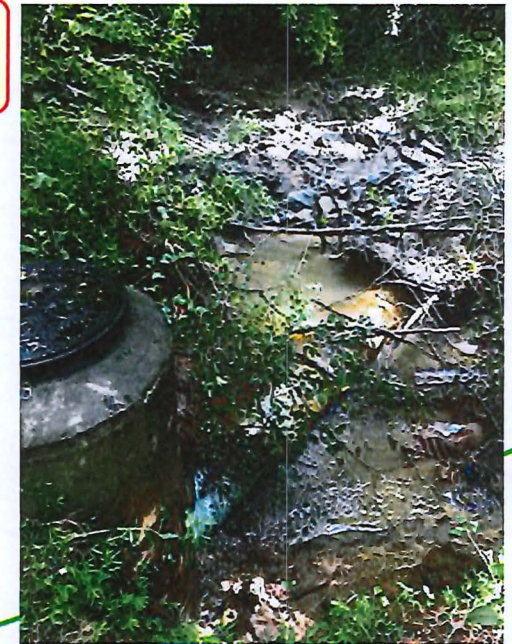
Huntington Village Water Connection

Capital Improvement Project



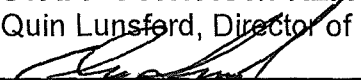
Legend
Proposed Water Main

- Replace approximately 60-feet of exposed 24-inch PVC sewer main (highlighted in magenta) with 24-inch DIP sewer main.
- Install new manhole approximately 60-feet downstream of existing manhole (highlighted in yellow).
- Stabilize existing stream bank and rebury new DIP sewer main.



ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

AGENDA TITLE: Rate Study Presentation (NewGen Strategies & Solutions) STAFF CONTACT/PREPARER: Quin Lunsford, Director of Finance 	AGENDA DATE: March 17, 2022 ACTION: Informational ATTACHMENTS: Yes
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BACKGROUND: In accordance with the ACSA's Financial Management Policies, rate studies are to be formally performed at a minimum of once every five years. The last such study was conducted in 2018, which followed studies in 2014, 2009, 2004, and 1999. The study was advertised and procured through the ACSA's formal procurement process earlier this year and ACSA staff collaborated with NewGen Strategies & Solutions (NewGen).

DISCUSSION: Earlier this year, Mr. Michael Maker (NewGen) presented preliminary findings and an overview of the rate study process to the Board. The presentation scheduled today includes updated information related to the costs of purchased water/wastewater treatment from the Rivanna Water and Sewer Authority and other capital/operating projections for future fiscal years.

The Study comprehensively reviewed current rate structures and charges and provides a financial model which will be used in conjunction with the budget/rate recommendation process for the next budget proposal. The information presented today will be used as the basis for budget and rate proposals for Board consideration. ACSA staff will incorporate recommendations from NewGen's study and update for changes in expectations that have occurred since completion of the study.

As part of the formal budget process, we will present to the Board in April an overview of the budget and proposed rates. This meeting will be followed by a budget and rate workshop in May and presented for Board adoption in June.

BUDGET IMPACT: Informational only.

RECOMMENDATIONS: None

BOARD ACTION REQUESTED: None; informational item only.

ATTACHMENTS: NewGen Strategies & Solutions Project Approach



March 17, 2022 | Albemarle County Service Authority | Water and Sewer Rate Analysis

Board Presentation: Rate Study Recommendations



Mike Maker
Deputy Director,
Water/Wastewater Practice

NewGen
Strategies & Solutions

Guiding Principles and Objective

- The water and sewer enterprise fund should be financially self-supporting
- The utility should maintain reserves to provide for contingencies and unplanned expenses
- Water and sewer rates should be kept as low as possible *over time*

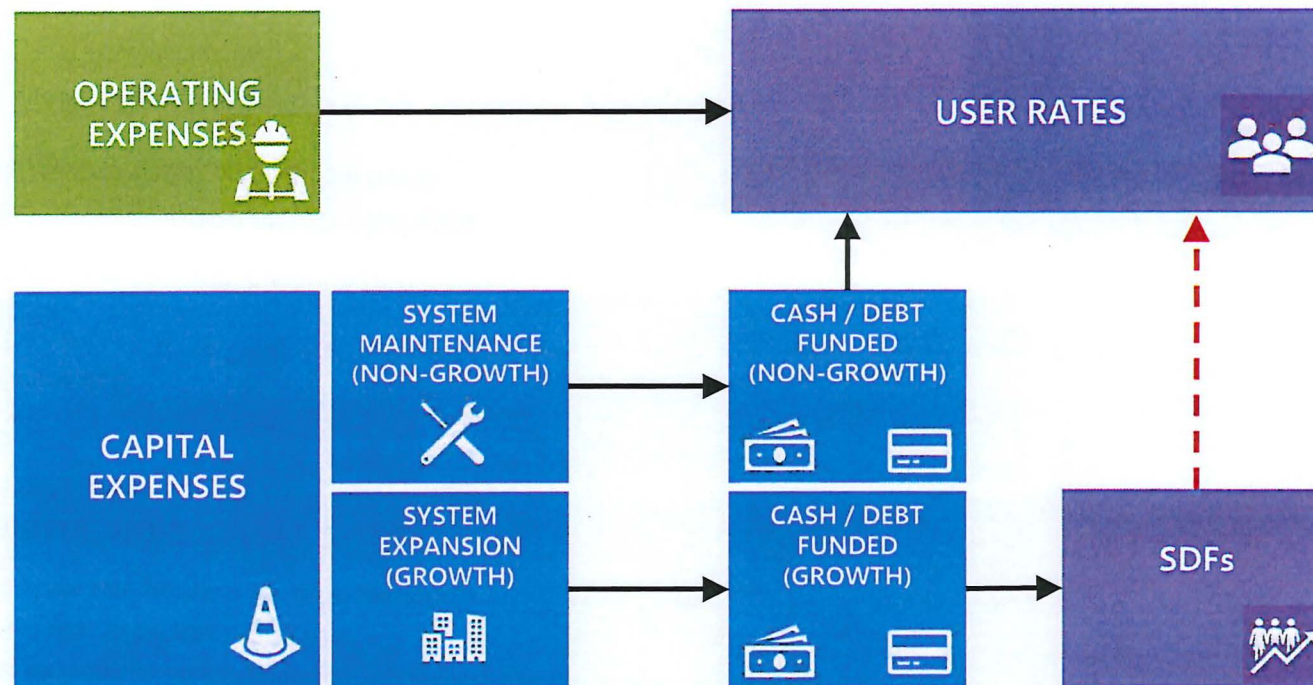
Objective: Ensure rates are stable through sound financial management and system maintenance

- ✓ Review water and sewer funds to maintain financial stability
- ✓ Prepare long-term financial plan that includes capital investments required for a sustainable system

Factors Affecting Charges and Rates

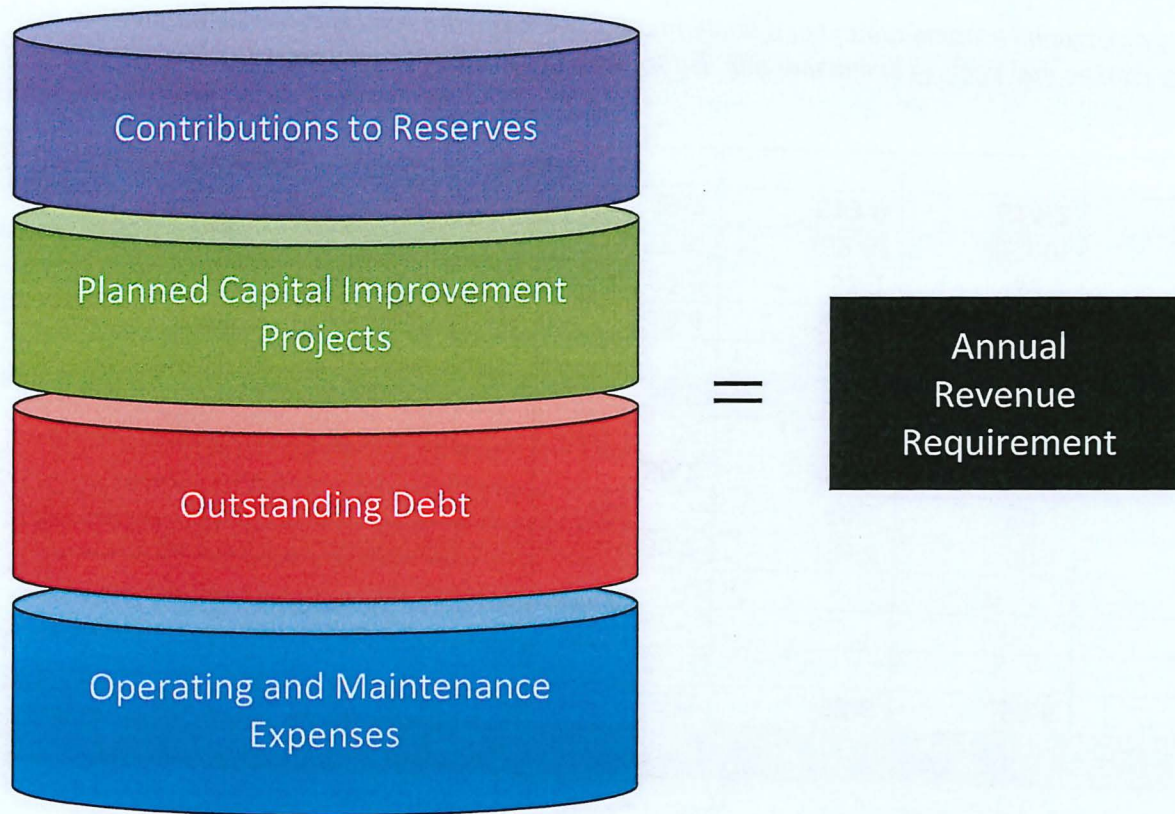
- Operating and maintenance expense changes
 - purchase of water/sewage treatment expenses based on estimates from RWSA (per year increases average ~8% for water and ~7% for sewer)
 - 13% increase in labor expenses in FY 2023
 - 0 to 2.5% escalation rate per year for other expenses
- Capital improvement plans
 - investment in the distribution and collection systems
- Debt service
 - existing and future debt
- Customer changes
 - 2.5% increase per year based on historical trend
- Water usage and sewage generation changes
 - 1.0% increase per year based on historical trend
- Miscellaneous revenue changes
 - no growth
- Reserve targets
 - minimum utility fund balance of 90 days (25%) of operating expenses
 - minimum 3R reserve balance equal to 2% (50-year useful life) of system value

Relationship between User Rates and System Development Fees



If system development fees are set at less than cost or anticipated growth does not occur, existing customers will have to make up the difference via higher user rates.

Revenue Requirement



Water System Development/RWSA Capacity Fee Cash Flow

(in millions)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
System Development Fee/RWSA Capacity Fee Revenue^{1,2}	\$2.9	\$3.6	\$3.6	\$3.6	\$3.6
Expenses					
Existing Debt Service	-	-	-	-	-
Cash Funded Projects	\$0.2	\$0.4	\$0.1	\$0.1	\$0.1
New Debt Service	-	\$0.1	\$0.3	\$0.3	\$0.3
Total Expenses	\$0.2	\$0.5	\$0.3	\$0.4	\$0.3
Surplus / (Shortfall)	\$2.7	\$3.1	\$3.2	\$3.2	\$3.2
Beginning Cash Balance	\$13.4	\$13.7	\$13.9	\$14.2	\$14.2
Surplus / (Shortfall)	\$2.7	\$3.1	\$3.2	\$3.2	\$3.2
Less Funding of RWSA Debt Service ³	(\$2.5)	(\$2.8)	(\$3.0)	(\$3.2)	(\$3.5)
Ending SDF Cash Balance	\$13.7	\$13.9	\$14.2	\$14.2	\$13.9
Shortfall to be made up by Water Rates	-	-	-	-	-

¹assumes no change in current fees

²revenue in FY 2023 based on ~440 ERCs (equivalent residential connections), and revenue in FY 2024 and beyond based on 538 ERCs

³assumes 50% funding of annual RWSA debt service expenses, while maintaining a minimum balance equal to 50% of average RWSA debt service

Sewer System Development/RWSA Capacity Fee Cash Flow

(in millions)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
System Development Fee/RWSA Capacity Fee Revenue^{1,2}	\$3.0	\$3.6	\$3.6	\$3.6	\$3.6
Expenses					
Existing Debt Service	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5
Cash Funded Projects	\$2.5	\$2.7	\$1.6	\$3.2	\$4.1
New Debt Service	-	-	-	-	-
Total Expenses	\$3.0	\$3.3	\$2.1	\$3.7	\$4.6
Surplus / (Shortfall)	\$0.0	\$0.3	\$1.5	(\$0.2)	(\$1.0)
Beginning Cash Balance	\$16.7	\$15.0	\$13.5	\$13.2	\$11.1
Surplus / (Shortfall)	\$0.0	\$0.3	\$1.5	(\$0.2)	(\$1.0)
Less Funding of RWSA Debt Service ³	(\$1.7)	(\$1.8)	(\$1.8)	(\$1.9)	(\$2.0)
Ending SDF Cash Balance	\$15.0	\$13.5	\$13.2	\$11.1	\$8.1
Shortfall to be made up by Sewer Rates	-	-	-	-	-

¹assumes no change in current fees

²revenue in FY 2023 based on ~440 ERCs (equivalent residential connections), and revenue in FY 2024 and beyond based on 524 ERCs

³assumes 40% funding of annual RWSA debt service expenses, while maintaining a minimum balance equal to 40% of average RWSA debt service

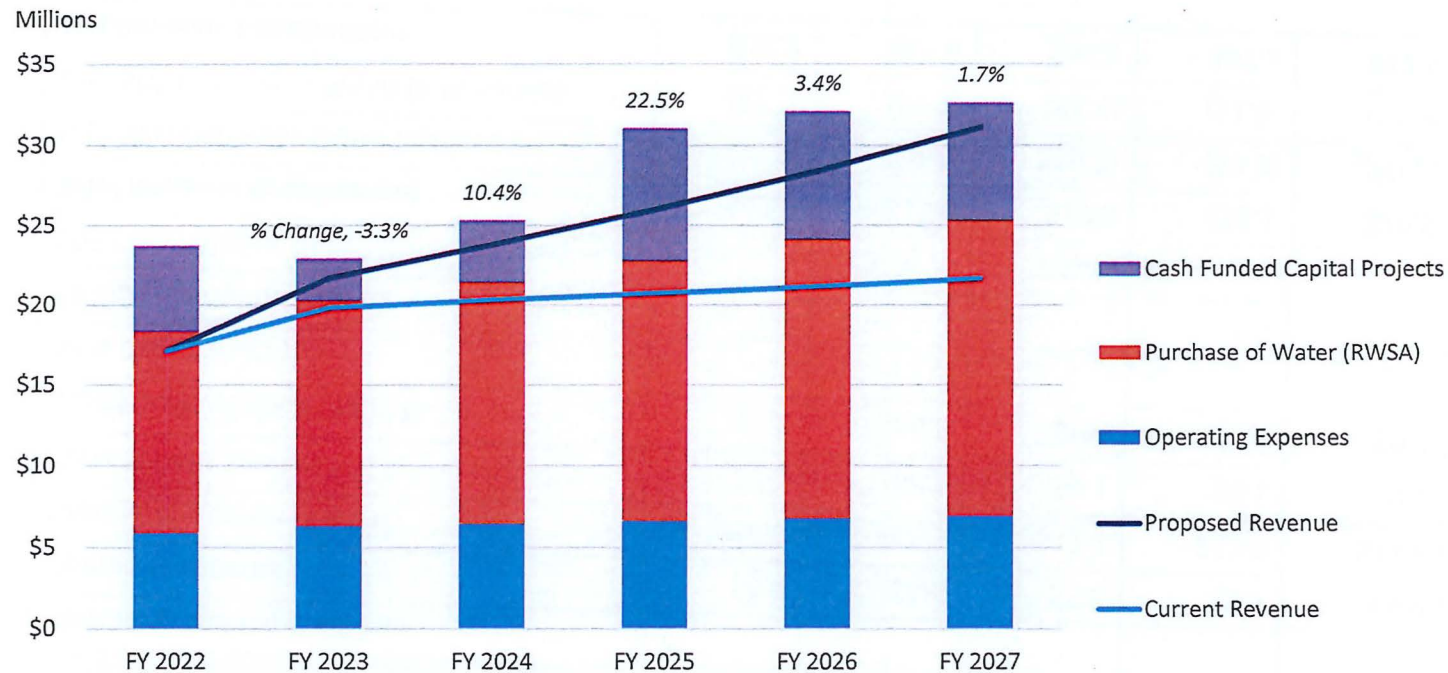
Revenue Requirements - Water

(in millions)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Operating and Capital Costs					
Operating Expenses	\$6.3	\$6.5	\$6.6	\$6.8	\$6.9
Purchase of Water (RWSA)	\$13.9	\$14.9	\$16.2	\$17.3	\$18.4
Current Debt Service	-	-	-	-	-
Cash Funded Capital Projects	\$2.7	\$3.9	\$8.2	\$8.0	\$7.3
New Debt Service	-	-	-	-	-
3R Reserve Contribution	-	-	-	-	-
SDF Cash Balance Shortfall	-	-	-	-	-
Total Revenue Requirement	\$22.9	\$25.3	\$31.0	\$32.1	\$32.6
Less Miscellaneous Other Revenues	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)	(\$0.5)
Less SDF Funding of RWSA Debt Service	(\$2.5)	(\$2.8)	(\$3.0)	(\$3.2)	(\$3.5)
Net Revenue Requirement	\$19.9	\$22.0	\$27.5	\$28.4	\$28.6

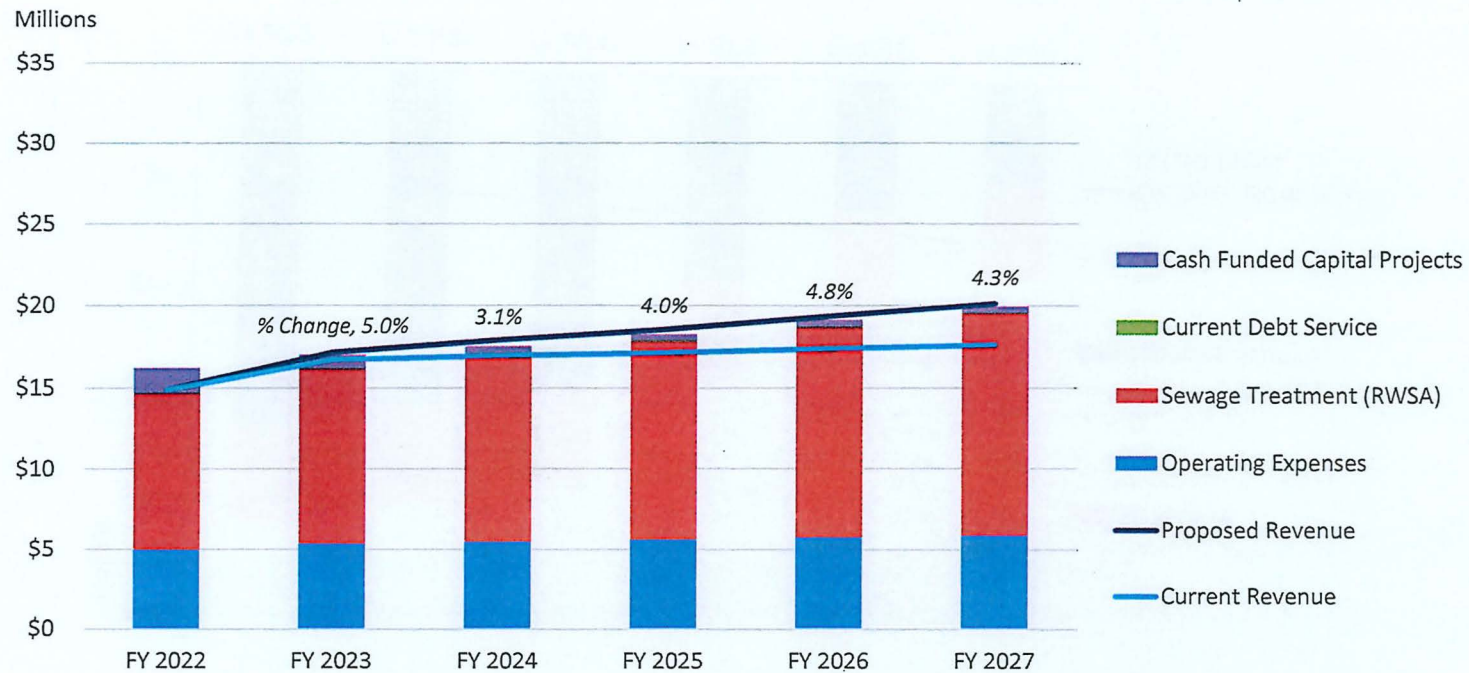
Revenue Requirements - Sewer

(in millions)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Operating and Capital Costs					
Operating Expenses	\$5.4	\$5.5	\$5.6	\$5.7	\$5.9
Sewage Treatment (RWSA)	\$10.8	\$11.5	\$12.2	\$12.9	\$13.6
Current Debt Service	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1
Cash Funded Capital Projects	\$0.8	\$0.5	\$0.4	\$0.4	\$0.4
New Debt Service	-	-	-	-	-
3R Reserve Contribution	-	-	-	-	-
SDF Cash Balance Shortfall	-	-	-	-	-
Total Revenue Requirement	\$17.0	\$17.6	\$18.3	\$19.1	\$20.0
Less Miscellaneous Other Revenues	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)	(\$0.2)
Less SDF Funding of RWSA Debt Service	(\$1.7)	(\$1.8)	(\$1.8)	(\$1.9)	(\$2.0)
Net Revenue Requirement	\$15.2	\$15.6	\$16.3	\$17.1	\$17.8

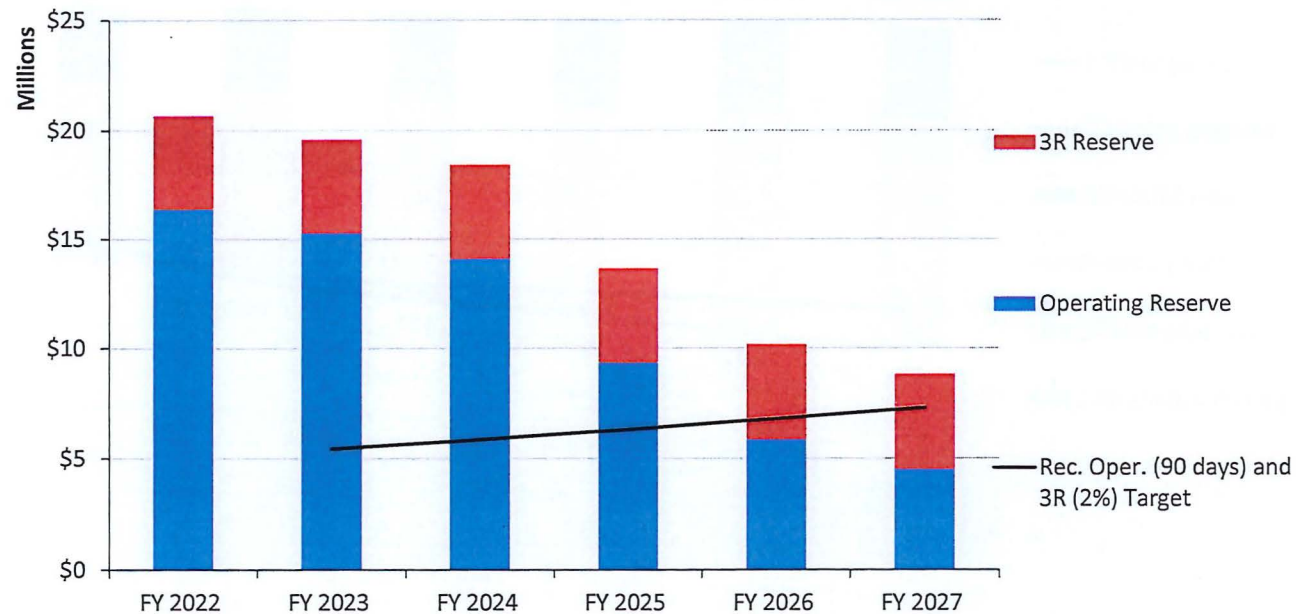
Revenue Requirements vs. Current and Proposed Revenue - Water



Revenue Requirements vs. Current and Proposed Revenue - Sewer



Combined Fund Balances – Water and Sewer



The black line represents combined target equal to utility fund balance of 90 days (25%) of operating expenses and 3R reserve balance equal to 2% (50-year useful life) of system value

Current Charges and Fees (July 1, 2021)

Water Charges

Monthly Service Charge (by meter size)

3/4	\$9.00
1	\$17.28
1 1/2	\$31.13
2	\$47.72
3	\$92.02
4	\$141.83
6	\$272.03

Volume Charge (per 1,000 gallons)

Single-Family Residential

Level 1	0 - 3,000 gallons	\$4.70
Level 2	3,001 - 6,000 gallons	\$9.43
Level 3	6,001 - 9,000 gallons	\$14.13
Level 4	over 9,000 gallons	\$18.86

Multi-Family/Non-Residential

All Usage	\$9.09
-----------	--------

Sewer Charges

Volume Charge (per 1,000 gallons)

All Usage	\$9.94
-----------	--------

ACSA System Development Fees

	Water	Sewer
Per ERC	\$1,890	\$2,970

RWSA Capacity Fees

	Water	Sewer
Per ERC	\$4,760	\$3,850

Notes

- Service Charges and Volume Charges represent a 5% increase over those implemented the prior year
- ERC = Equivalent Residential Connection (270 gallons per day)
- ACSA System Development Fees and RWSA Capacity Fees are one-time fees and have not been increased for several years

Monthly Family Service Authority

Water and Sewer Rates

Water and Sewer Rates - Fiscal Year 2022 Proposed

The proposed monthly water and sewer rate increase is driven by the following factors:

- The cost of purchased water from the RWSA is expected to increase 12.2% or \$1.93 million.
- ACSA departmental budget increase of 6.1%.
- Capital Improvement Program of \$11.2 million.

ACSA Water and Sewer Monthly User Rates

Service Charge	FY 2021	FY 2022
Volume Charge - Single Family Residential (per 1,000 gallons)	\$ 8.57	\$ 9.69
Level 1 (0-3,000 gallons)	\$ 4.43	\$ 4.70
Level 2 (3,001-6,000 gallons)	\$ 8.83	\$ 9.43
Level 3 (6,001-9,000 gallons)	\$13.45	\$14.13
Level 4 (over 9,000 gallons)	\$17.68	\$18.86
Multi-Family Non-Residential	\$ 8.66	\$ 9.69
Sewer (All Users (per 1,000 gallons))	\$ 9.47	\$ 9.94

Based on usage noted below, customers will not see an increase in their monthly bill.

Sample Monthly Combined (Water and Sewer) Bill

Combined Water and Sewer Meter Size	Monthly Usage (gallons)	Current Bill	Proposed FY 2022 Bill	Monthly \$ Change
Single Family				
Normal User	5/8	1,200	\$ 25.31	\$ 25.57
Small User	5/8	2,500	\$ 43.45	\$ 45.65
Medium	5/8	3,400	\$ 57.63	\$ 60.67
Large User	5/8	6,200	\$ 110.25	\$ 115.04
Excavator User	5/8	7,700	\$ 144.75	\$ 151.95
Multi-Family/Non-Residential				
Small Family	1	33,700	\$ 627.44	\$ 658.59
Com (Offices)	1	6,300	\$ 130.00	\$ 137.17
Com (Other)	5/8	4,700	\$ 83.70	\$ 86.44
Industrial	1 1/2	10,500	\$ 328.00	\$ 345.13
Institutional	5/2	17,000	\$ 244.20	\$ 255.29

Recommended Water and Sewer Rates

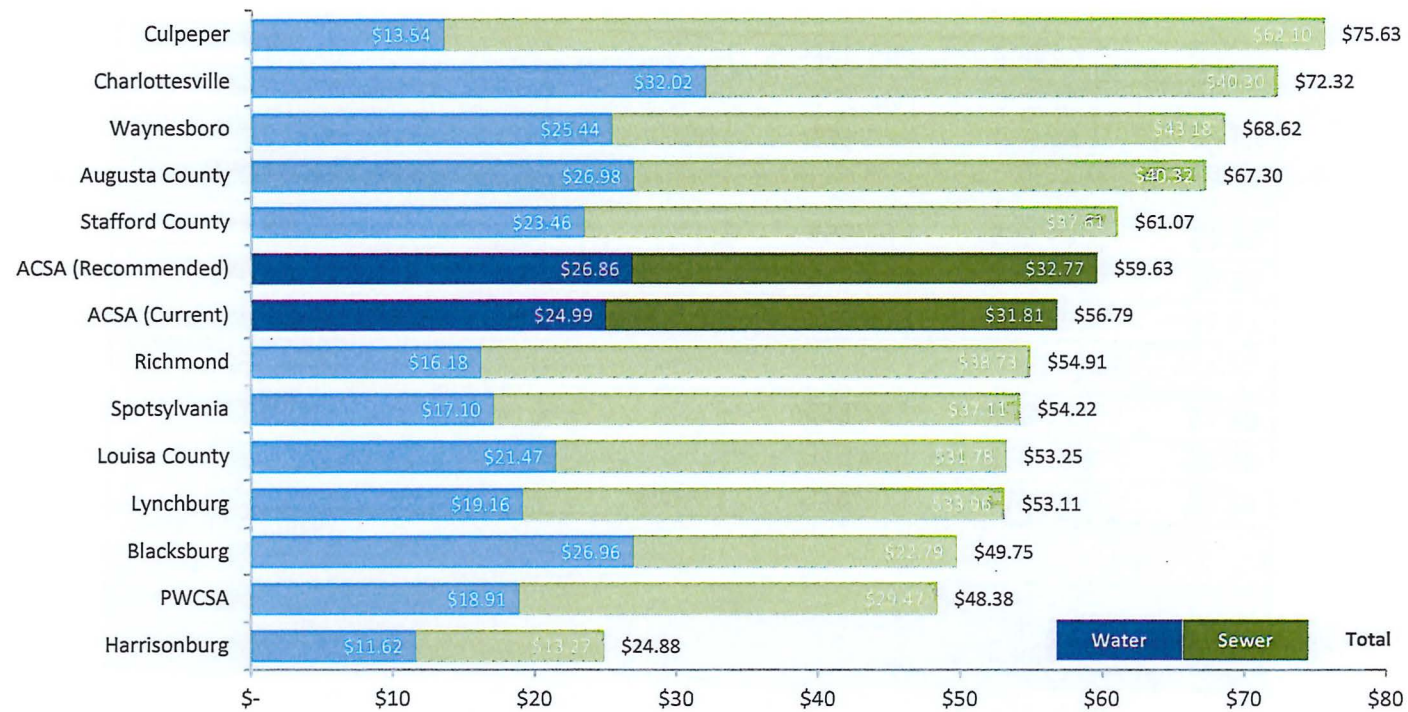
	Current	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Water Monthly Service Charge						
3/4	\$9.00	\$9.45	\$9.92	\$10.42	\$10.94	\$11.49
1	\$22.50	\$23.63	\$24.80	\$26.05	\$27.35	\$28.73
1 1/2	\$45.00	\$47.25	\$49.60	\$52.10	\$54.70	\$57.45
2	\$72.00	\$75.60	\$79.36	\$83.36	\$87.52	\$91.92
3	\$144.00	\$151.20	\$158.72	\$166.72	\$175.04	\$183.84
4	\$225.00	\$236.25	\$248.00	\$260.50	\$273.50	\$287.25
6	\$450.00	\$472.50	\$496.00	\$521.00	\$547.00	\$574.50
Water Volume Charges (per 1,000 gallons)						
Tier 1 (0 - 3,000 gallons)	\$4.70	\$5.12	\$5.58	\$6.08	\$6.63	\$7.23
Tier 2 (3,001 - 6,000 gallons)	\$9.43	\$10.24	\$11.16	\$12.16	\$13.26	\$14.46
Tier 3 (6,001 - 9,000 gallons)	\$14.13	\$15.36	\$16.74	\$18.24	\$19.89	\$21.69
Tier 4 (Over 9,000 gallons)	\$18.86	\$20.48	\$22.32	\$24.32	\$26.52	\$28.92
Non-Single Family Res.	\$9.09	\$10.24	\$11.16	\$12.16	\$13.26	\$14.46
Sewer Volume Charge (per 1,000 gallons)						
All Usage	\$9.94	\$10.24	\$10.55	\$10.87	\$11.20	\$11.54

FY 2023 Monthly Bill Impact

User (Percentile)	Monthly Usage (gallons)	Current Bill	FY 2023 Bill	FY 2023 Bill Increase
Small User (25th)				
Water Bill	2,000	\$18.40	\$19.69	\$1.29
Sewer Bill		\$19.88	\$20.48	\$0.60
Combined Bill		\$38.28	\$40.17	\$1.89
Median User (50th)				
Water Bill	3,200	\$24.99	\$26.86	\$1.87
Sewer Bill		\$31.81	\$32.77	\$0.96
Combined Bill		\$56.79	\$59.63	\$2.83
Large User (75th)				
Water Bill	4,700	\$39.13	\$42.22	\$3.09
Sewer Bill		\$46.72	\$48.13	\$1.41
Combined Bill		\$85.85	\$90.35	\$4.50

Single-Family Residential customers with 3/4 inch meters

FY 2023 Combined Monthly Bill Comparison



smallest meter size and 3,200 gallons of usage (median for ACSA customers)

ACSA System Development Fees

- Offset the capital costs of backbone capacity in the water and sewer system – mains, interceptors, major pumping stations and treatment facilities
- Availability fee calculation based on either historic cost of capacity, future cost of capacity or weighted average of both
- Current Fees:
 - Water: \$1,890 per ERC (equivalent residential connection)
 - Sewer: \$2,970 per ERC
- Recommendation: Maintain current fees

Rivanna Capacity Fees

- Offsets the capital costs of backbone capacity in Rivanna's water and sewer system for which ACSA is responsible
- Capacity fee calculation based on either historic cost of capacity, future cost of capacity or weighted average of both
- Current Fees:
 - Water: \$4,760 per ERC
 - Sewer: \$3,850 per ERC
- Recommendation: Maintain current fees

Recommendations

- Adopt the recommended water and sewer rates for FY 2023
- Review rates and charges on an annual basis and revise as needed
- Consider a full cost of service study for all rates and charges every five years
- Maintain current system development fees and capacity fees



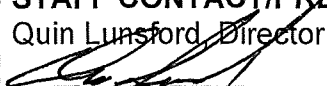
QUESTIONS?

NEWGEN STRATEGIES AND SOLUTIONS, LLC
911-A COMMERCE ROAD
ANNAPOLIS, MD 21401

MIKE MAKER, DEPUTY DIRECTOR,
WATER/WASTEWATER PRACTICE
443-951-0355
MMAKER@NEWGENSTRATEGIES.NET

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

AGENDA TITLE: ACSA Investment Policy Revisions STAFF CONTACT/PREPARER: Quin Lunsford, Director of Finance 	AGENDA DATE: March 17, 2022 ACTION: Yes ATTACHMENTS: Yes
--	---

BACKGROUND: The Board authorized the Authority to execute a contract with PFM Asset Management LLC for Investment Management Services June 2019 to assist with investment program/policy development, strategy, performance benchmarking, competitive purchasing, continual portfolio monitoring, and investment reporting. Mr. Nelson Bush and Ms. Leslie Weaber from PFM Asset Management (PFMAM) provided a portfolio update and revisions to the ACSA's investment policy for Board consideration at the December 16, 2021, board meeting.

DISCUSSION: The current ACSA Investment Policy lists three objectives:

1. All investments shall be in compliance with the Code of Virginia Sections §2.2-4400 et seq. and §2.2-4500 et seq.
2. The cash management and investment activities of the Authority shall be conducted in a manner which is consistent with prevailing prudent business practices which may be applied by other public organizations of similar size and financial resources.
3. The primary objectives of the Director of Finance's investment activities, in priority order, are safety, liquidity, and yield.

A component of services provided by PFMAM includes regular evaluation of the ACSA's Investment Policy and recommendations based on changes in State Code and/or enhancements to the ACSA portfolio to ensure the three objectives listed above are met.

Attached is the ACSA's current Investment Policy with recommendations for consideration. These recommendations are summarized below:

- Update rating requirement for Commercial Paper to follow the modification of Virginia Code Section 2.2-4500 et seq. to expand the list of NRSRO's ratings that qualify certain credit securities.
- Increase sector limits for Federal Agency/GSE and Municipal Obligations to help further diversify the portfolio by allowing a higher sector allocation while still being in line with the issuer limits and credit rating requirements.
- Expand governmental sector to permit investments in Supnationals to help further diversify the overall portfolio and potentially enhance yield.
- Expand to additional high quality investment sectors to permit investment in corporate notes and negotiable certificates of deposit to enhance the overall diversification and potential yield of the overall portfolio by taking on additional credit risk.

ALBEMARLE COUNTY SERVICE AUTHORITY

AGENDA ITEM EXECUTIVE SUMMARY

Additionally, the Board requested additional information related to "Socially Responsible Investing" (SRI) and "Environmental, Social, and Governance" (ESG) investing programs the ACSA should consider. Mr. Bush and Ms. Weaber will provide an overview of what a formal SRI/ESG program would look like, but it is important to note that the ACSA's current investment policy and investments permitted in Virginia Code ensure our current investments would be considered socially responsible. The requested revisions, specifically those related to Corporate Notes, provide an opportunity for the Board to consider SRI/ESG policies to ensure future ACSA investments mirror investing values of the Board.

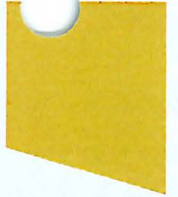
If the Board were to approve the recommended revisions to the investment policy, the ACSA's portfolio would be permitted to invest in highly rated corporate notes allowable by Virginia Code and that PFMAM has evaluated to ensure they meet the three aforementioned objectives. PFMAM will discuss in detail, but these investments could be from the following sectors: Retail Technology (Apple, Microsoft), Pharmaceuticals (Johnson & Johnson, Colgate), Automobile Manufacturers (General Motors, Toyota, Honda), Financial Institutions (Berkshire Hathaway), and the Energy Sector (Exxon, Chevron). If the Board would like to institute SRI/ESG policies to limit or restrict in certain sectors, these policies can be added to investment policy.

BUDGET IMPACT: None.

RECOMMENDATIONS: Approve revisions to the ACSA's Investment Policy

BOARD ACTION REQUESTED: Approve revisions to the ACSA's Investment Policy.

ATTACHMENTS: PFMAM PowerPoint Presentation; ACSA Investment Policy Recommendations



Albemarle County Service Authority

Investment Policy Revisions

March 17, 2022

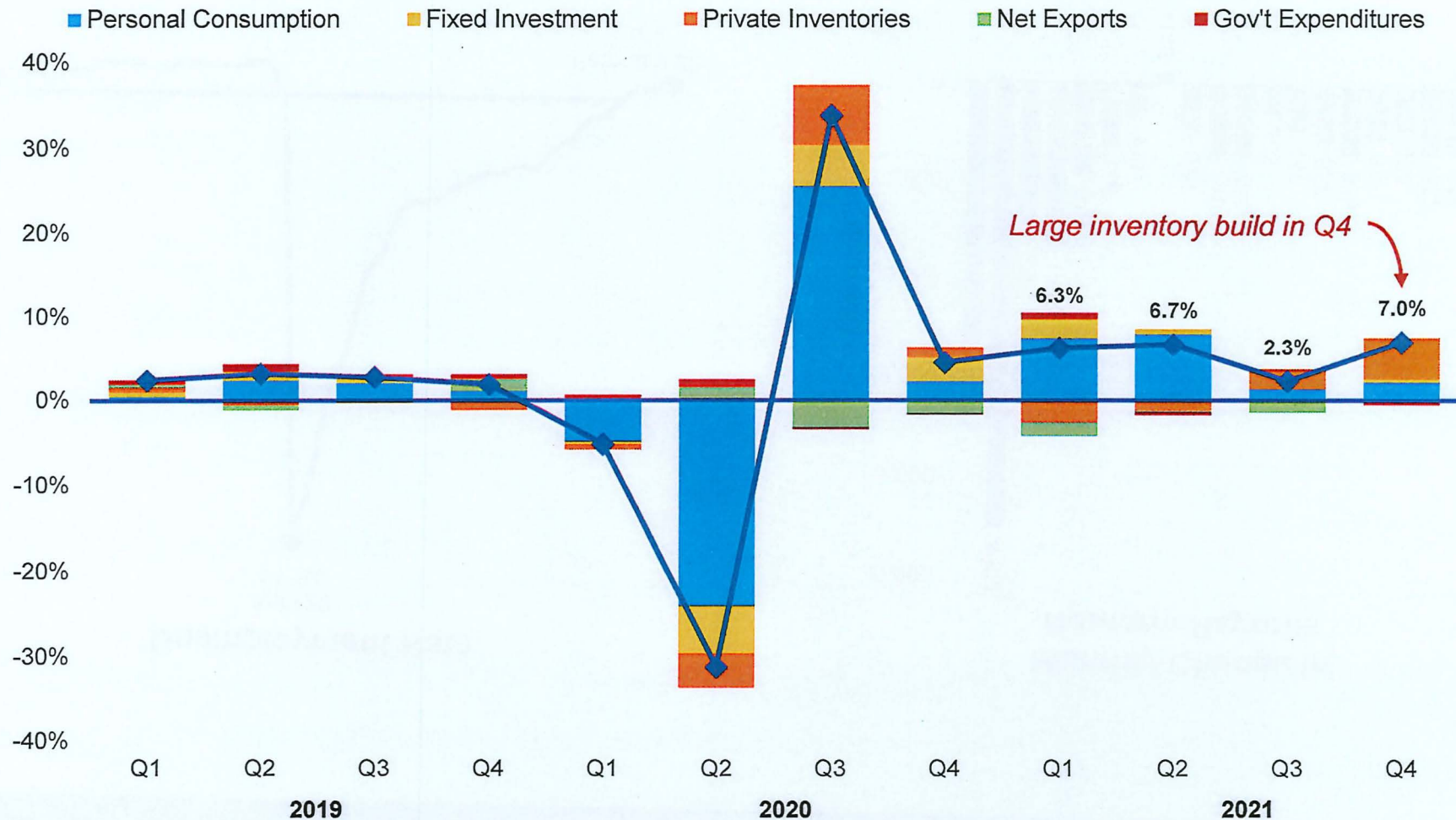
PFM Asset Management LLC

NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE

Market Update

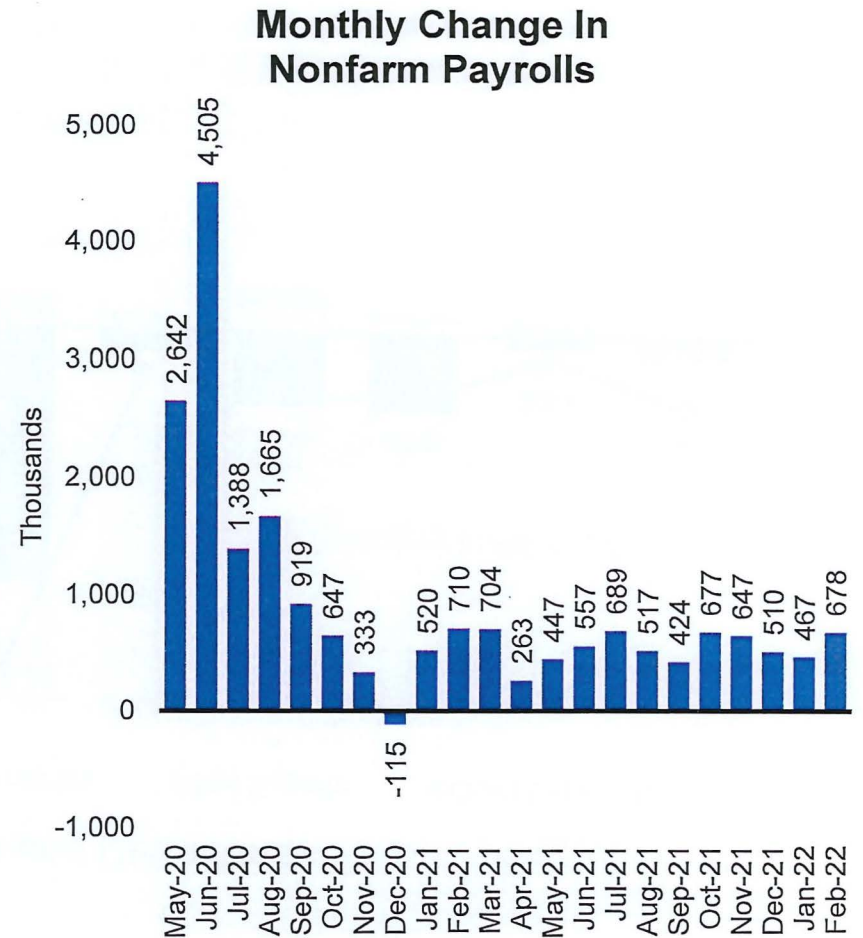
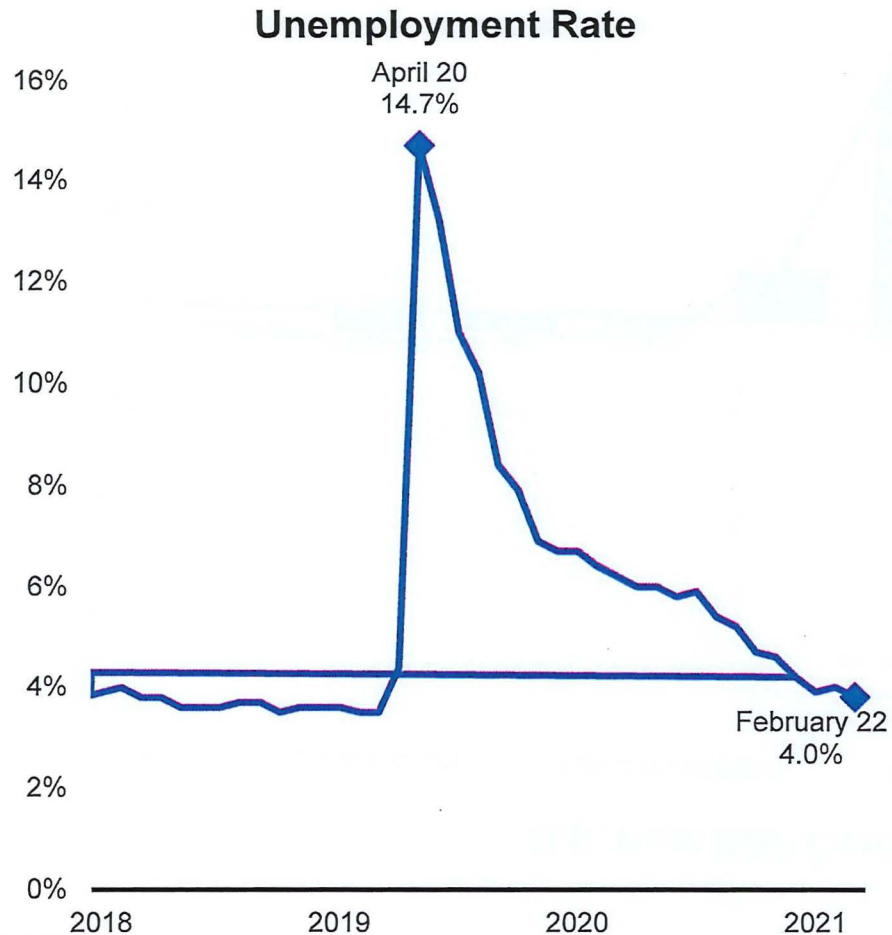
U.S. GDP Expanded at 7.0% in the Fourth Quarter of 2021 Fueled by the Rebuilding of Inventories

U.S. Real GDP Contributors and Detractors



Source: Bloomberg, Bureau of Economic Analysis, as of February 2022.

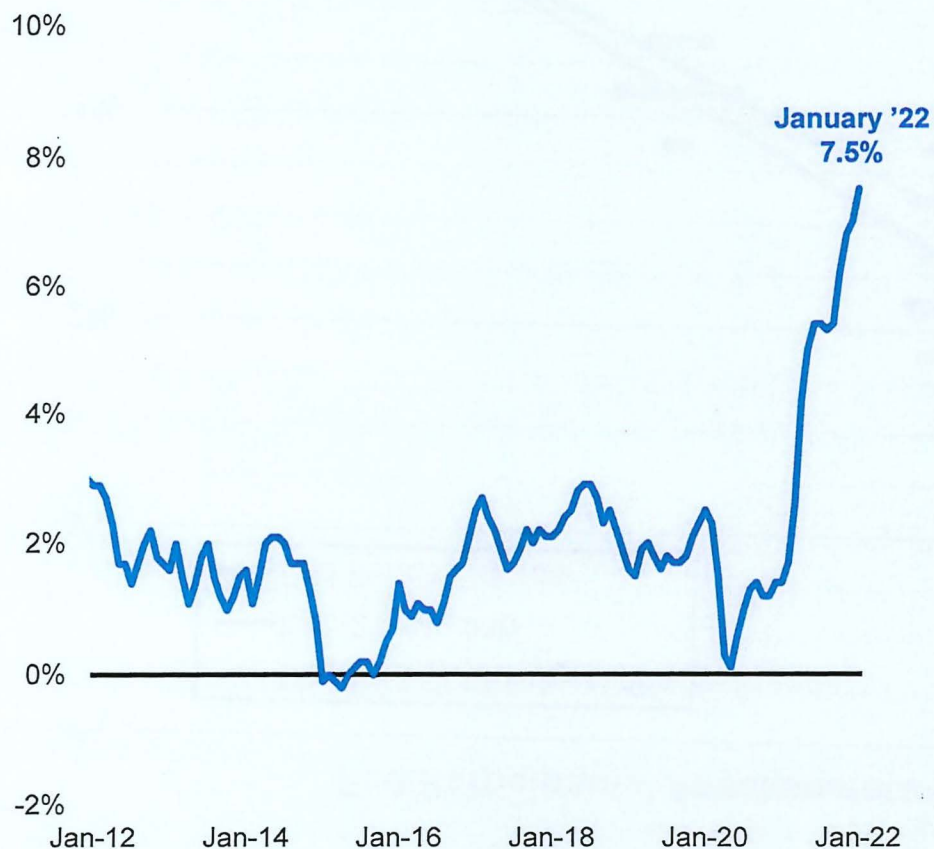
U.S. Economy Added 678,000 Jobs in February; Jobless Rate Decreases to 3.8%



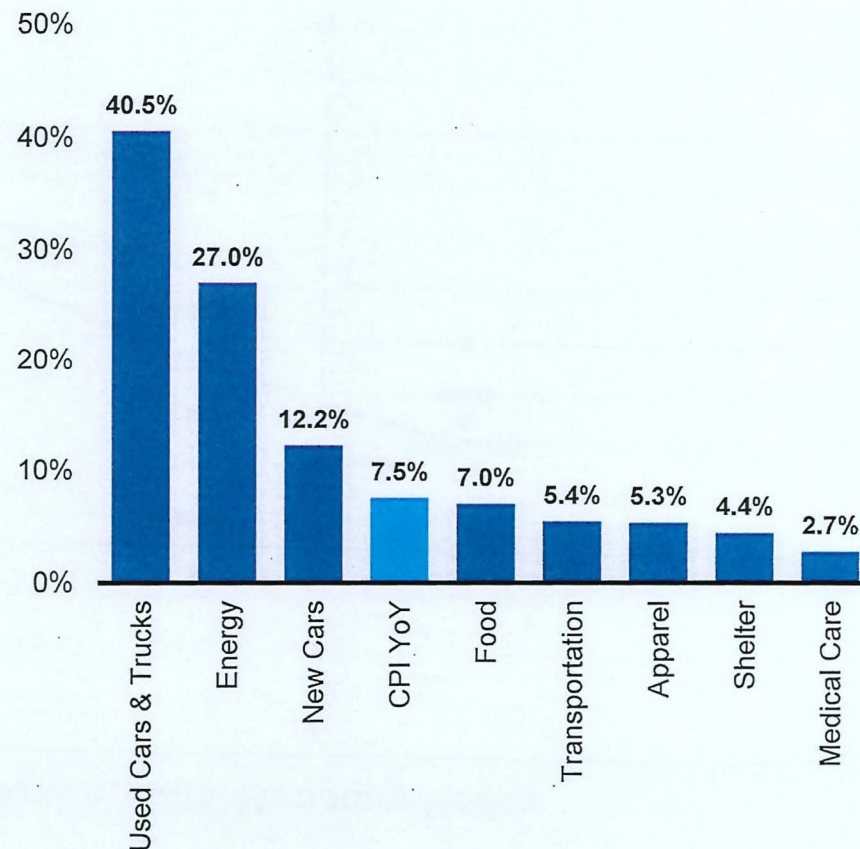
Source: Bloomberg, as of February 2022. Data is seasonally adjusted.

Consumer Inflation Rose at Fastest Rate Since 1982

Consumer Price Index
% Change YoY



Key Consumer Price Index Components
% Change YoY

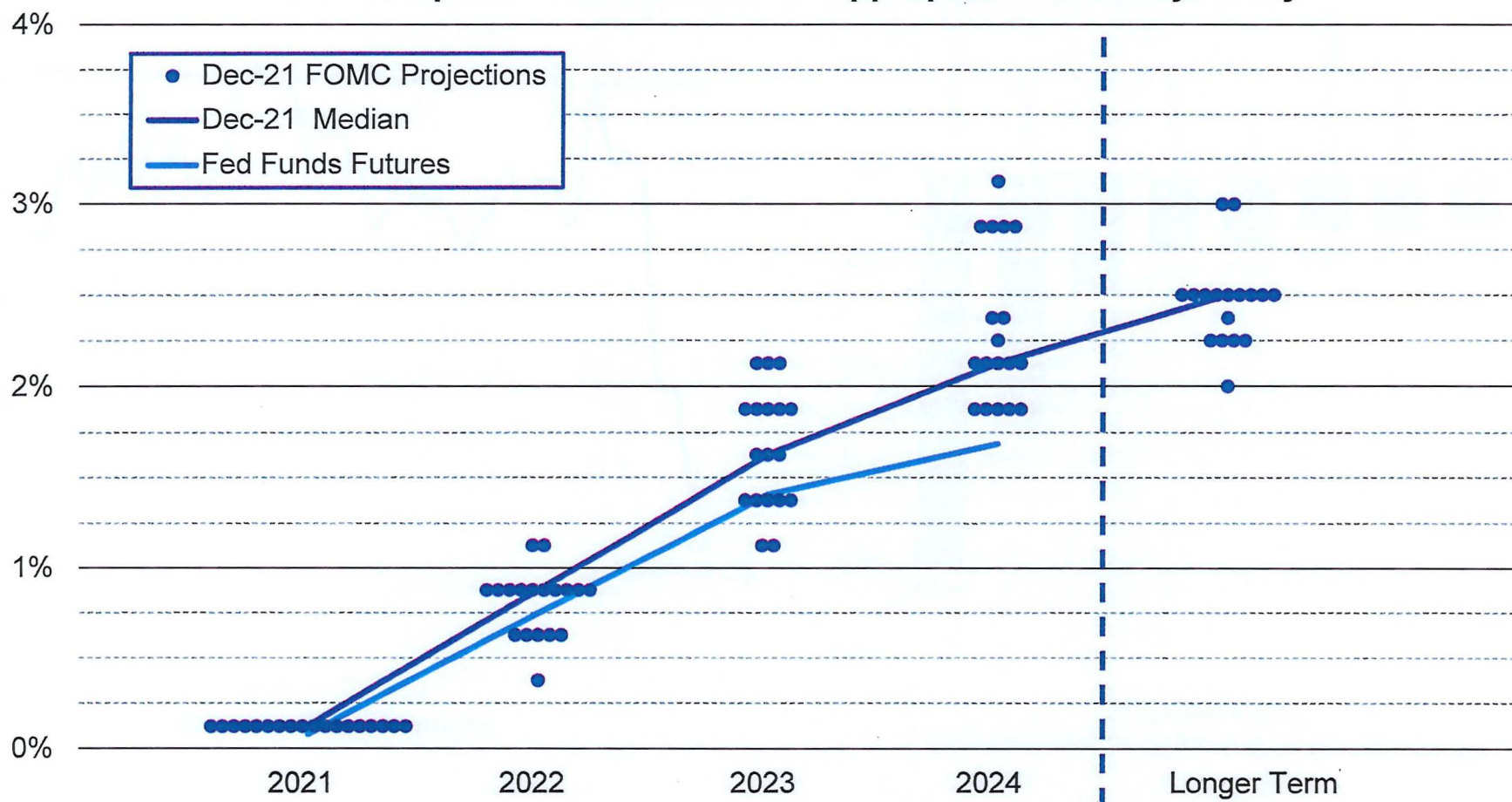


Source: Bloomberg, as of January 2022.

FOMC Accelerates Asset Purchase Tapering and Prepares for Rate Lift-off

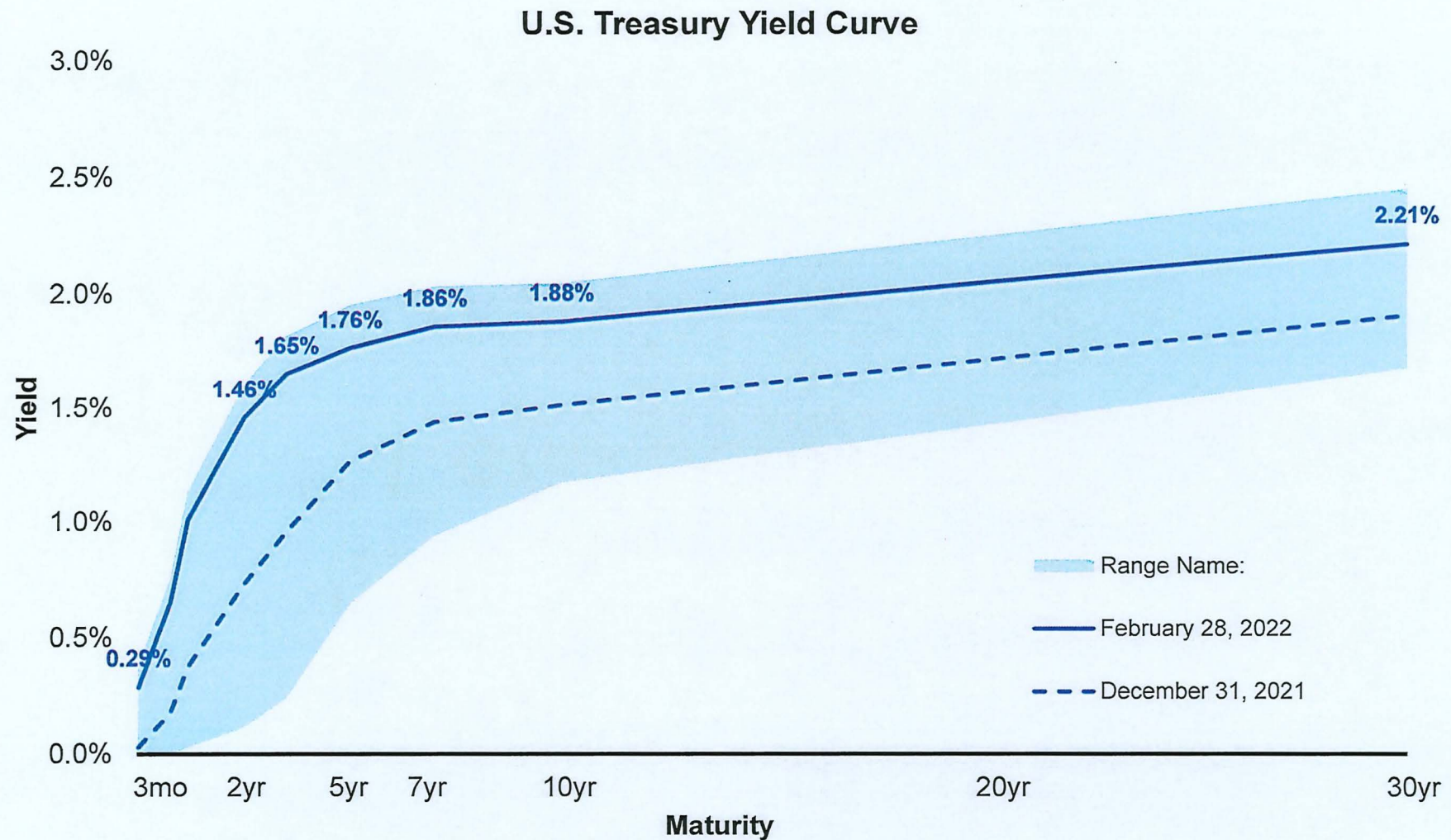
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Fed Participants' Assessments of 'Appropriate' Monetary Policy



Source: Federal Reserve and Bloomberg, as of 12/31/2021. Individual dots represent each Fed members' judgement of the midpoint of the appropriate target range for the federal funds rate at each year-end.

Treasury Yield Curve Shifts Lower



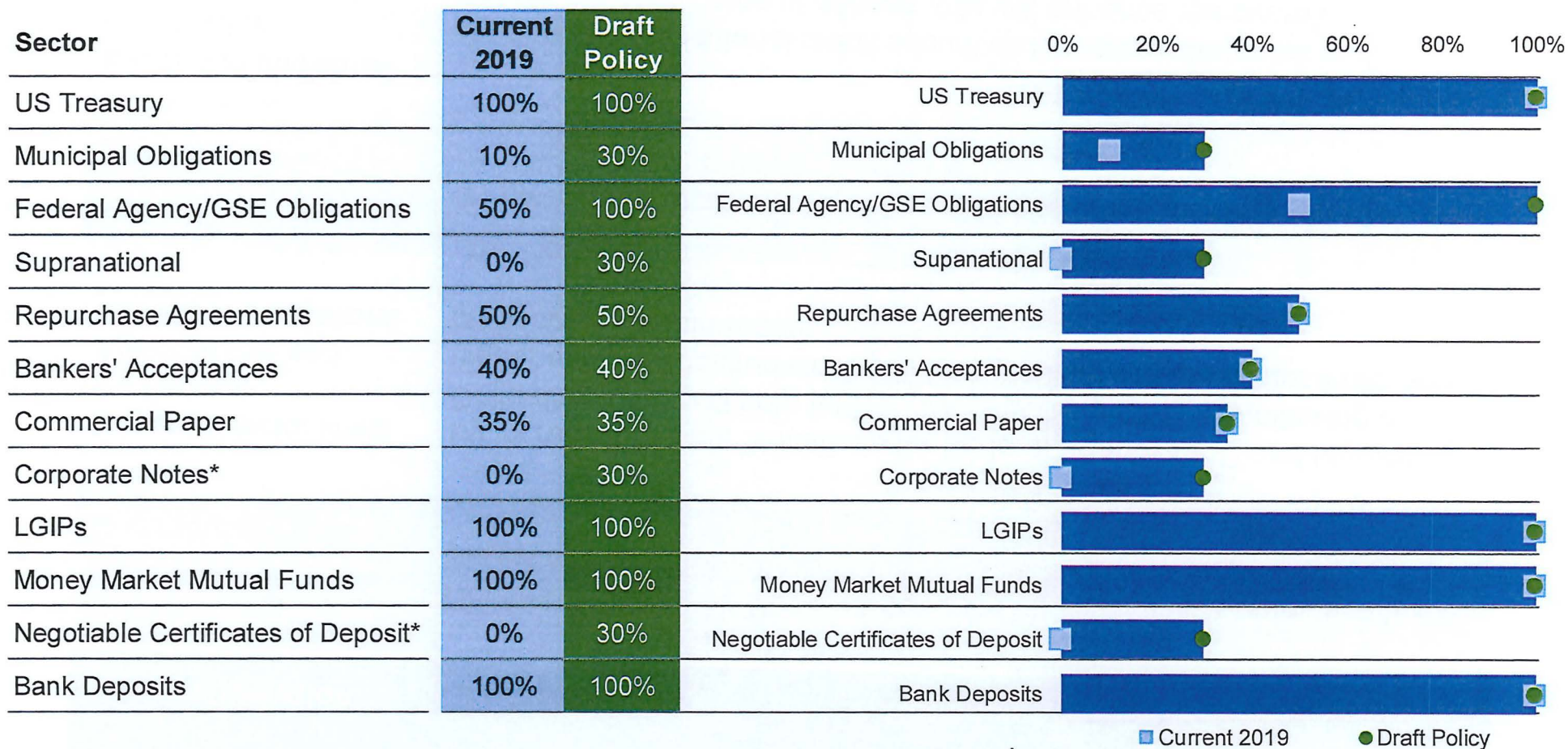
Source: Bloomberg, as of 2/28/2022.

Investment Policy Considerations

Investment Policy Revision Considerations

Consideration	Rationale
Update rating requirement for Commercial Paper	House Bill 1587 modified §2.2-4500 et seq. as of July 1, 2020 to expand the list of NRSRO's ratings that qualify certain credit securities.
Increase sector limits for Federal Agency/GSE and Municipal Obligations	By increasing sector limitations for Federal Agency/GSE and Municipal Obligations, this will help further diversify the portfolio by allowing a higher sector allocation while still being in line with the issuer limits and credit rating requirements.
Expand governmental sector	By permitting Supranationals, this will help further diversify the overall portfolio and potentially enhance yield.
Expand to additional high quality investment sectors: Corporate Notes and Negotiable Certificates of Deposit	By permitting additional credit securities like corporate notes and negotiable certificates of deposit, this will enhance the overall diversification and potential yield of the overall portfolio by taking on additional credit risk.

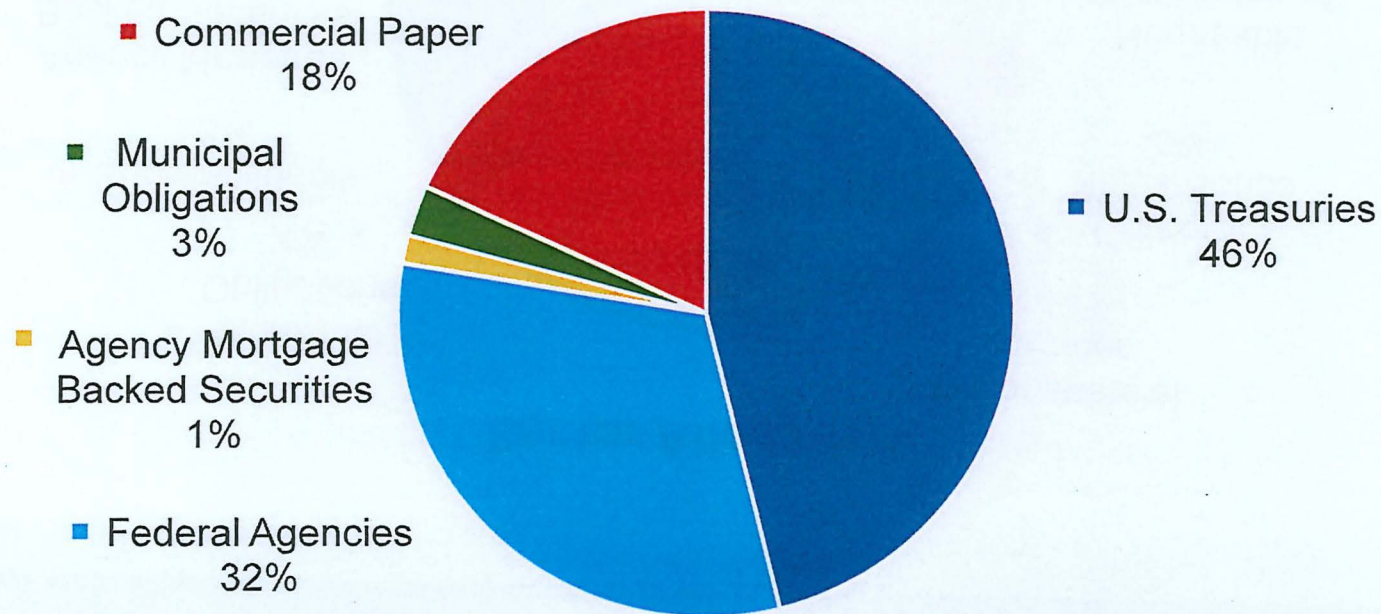
Permitted Investments Diversification



*An issuer limit of 5% is also proposed for these sectors which would align with the current issuer limit for Commercial Paper and Municipal Obligations.

Current Portfolio Sector Allocation

**Portfolio Composition
(as of 1/31/2022)**

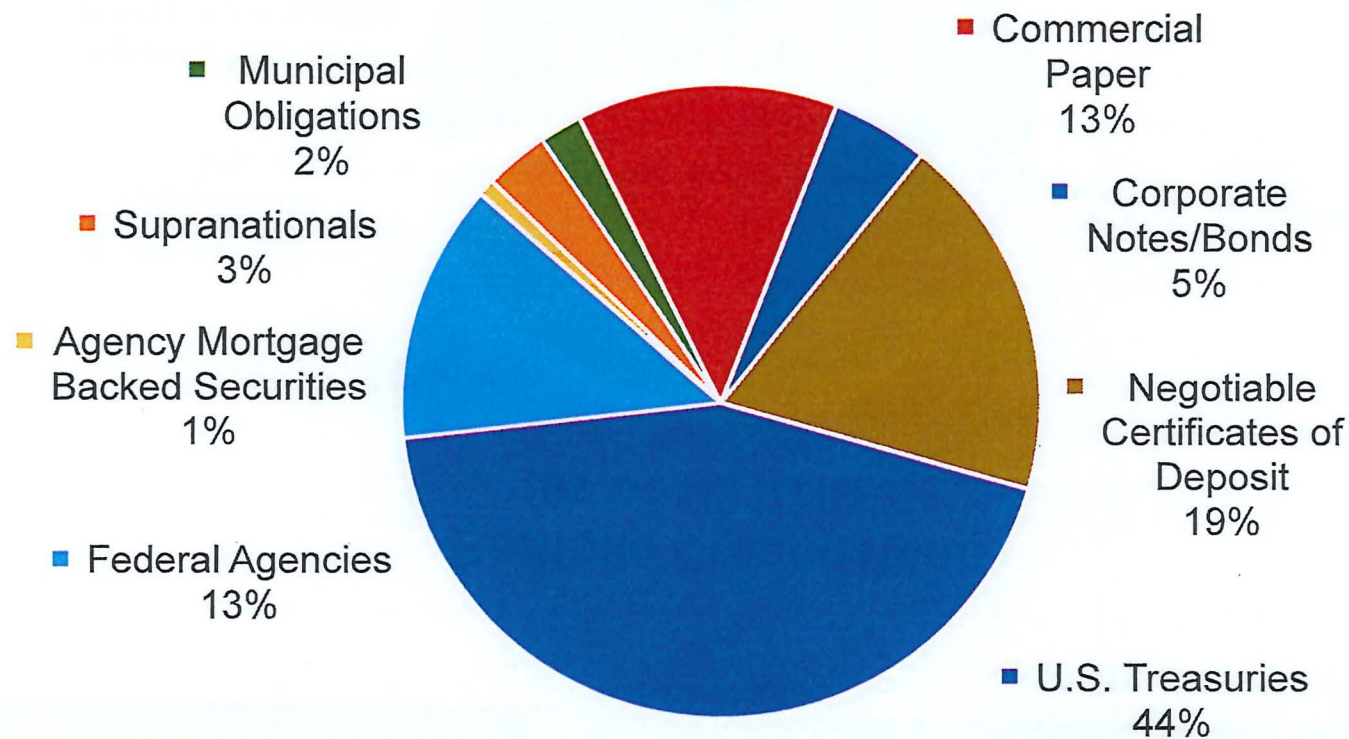


Portfolio composition as of 1/31/2022 based on the Authority's current investment policy 2019.

Sample Portfolio

0-3 Year Investment Strategy

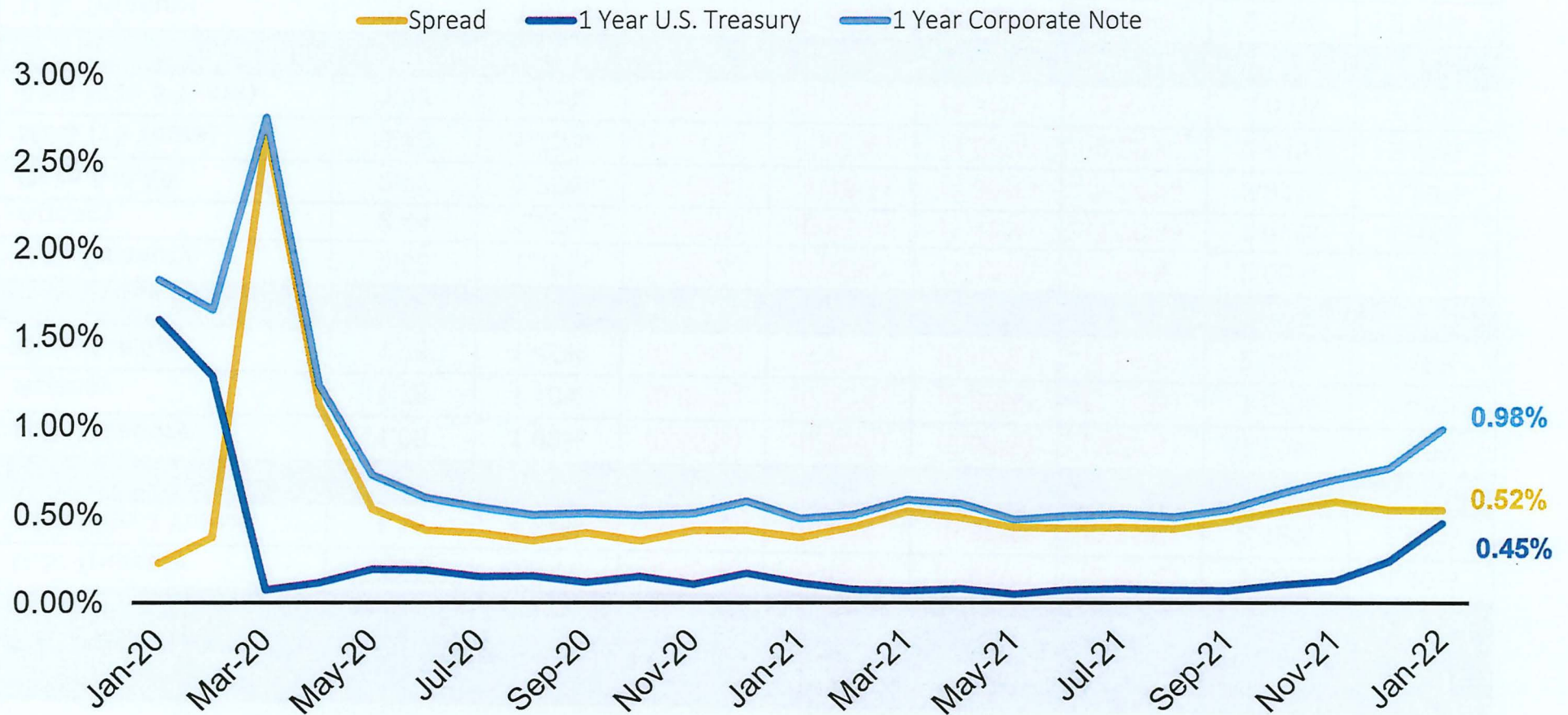
Sector Allocation



As of 1/31/2022 and for illustrative purposes only. No guarantee.

Yield Spreads

Corporate Notes A-AAA Yield Spread



Source: Bloomberg 1/31/2022.

Fixed-Income Index Returns

January 31, 2022	Effective Duration	Yield	YTD	1 Month	3 Month	1 Year	3 Years	5 Years
0-3 Year Indices								
U.S. Treasury	1.38	0.87%	(0.48%)	(0.48%)	(0.65%)	(0.86%)	1.53%	1.40%
ABS (0 to 3 Years)	1.16	1.32%	(0.25%)	(0.25%)	(0.37%)	(0.31%)	2.12%	2.02%
1-3 Year Indices								
U.S. Treasury	1.80	1.09%	(0.65%)	(0.65%)	(0.88%)	(1.22%)	1.70%	1.45%
Agency	1.78	1.10%	(0.67%)	(0.67%)	(0.89%)	(1.14%)	1.57%	1.45%
Corp A-AAA	1.76	1.45%	(0.75%)	(0.75%)	(0.97%)	(1.02%)	2.40%	2.19%
1-5 Year Indices								
U.S. Treasury	2.55	1.25%	(0.89%)	(0.89%)	(1.12%)	(1.94%)	2.00%	1.67%
Agency	2.44	1.25%	(0.87%)	(0.87%)	(1.15%)	(1.70%)	1.67%	1.54%
Corp A-AAA	2.77	1.75%	(1.16%)	(1.16%)	(1.35%)	(1.74%)	2.91%	2.56%
MBS (15 Years)	3.46	1.73%	(1.41%)	(1.41%)	(1.58%)	(2.22%)	2.41%	2.11%
ABS (0 to 5 Years)	1.37	1.21%	(0.33%)	(0.33%)	(0.48%)	(0.61%)	2.04%	1.91%
Master Indices (Maturities 1 Year and Greater)								
U.S. Treasury	7.15	1.57%	(1.89%)	(1.89%)	(1.58%)	(3.13%)	3.35%	2.70%
Agency	4.00	1.45%	(1.25%)	(1.25%)	(1.30%)	(2.12%)	2.87%	2.45%
Corp A-AAA	8.14	2.49%	(3.05%)	(3.05%)	(3.11%)	(3.35%)	4.96%	4.07%
MBS (0 to 30 Years)	4.49	2.26%	(1.50%)	(1.50%)	(1.71%)	(2.81%)	2.27%	2.23%
Municipals	6.08	1.60%	(2.69%)	(2.69%)	(1.76%)	(1.56%)	3.70%	3.55%

Source: BofA Merrill Lynch Indices. Returns greater than one year are annualized.

Introduction to ESG/SRI



Approaches to Sustainable Investing

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SRI

Avoid socially adverse industries like fossil fuels, tobacco, alcohol, and weapons

Exclusionary



ESG Integration

Systematically consider impact of environmental, social, and governance risks

Risk Management



Thematic

Align objectives with values, such as UN Sustainable Development Goals

Goals Driven



Impact

Seek companies that have a direct impact on positive societal change (clean energy)

Social & Env. Outcome

What is ESG Investing?

- ▶ ESG investing is a sustainable investment approach
 - ▶ More inclusive than Socially Responsible Investing (exclusionary approach)
 - ▶ Broader in scope than Thematic and Impact investing
- ▶ Incorporates **measurable non-financial ESG factors** into an investment analysis

ENVIRONMENTAL

How a company limits its environmental impact and carbon footprint



Climate Change



Air Pollution



Deforestation



Water Pollution

SOCIAL

How a company treats its employees, customers, community, and other companies it interacts with



Data Protection



Human Rights



Gender & Diversity



Community Relations

GOVERNANCE

How a company is led and managed, including executive pay and any internal controls



Board Composition



Bribery & Corruption

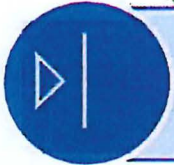


Lobbying



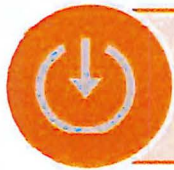
Executive Compensation

Why Do Investors Implement an ESG Investment Approach?



Alignment of Objectives with Values

Adoption of ESG initiatives allows investors to align investment objectives with values



External Pressures

ESG investing is of particular concern for entities who control taxpayers' dollars, as they may be under public scrutiny if they invest in a highly controversial company



Risk Management

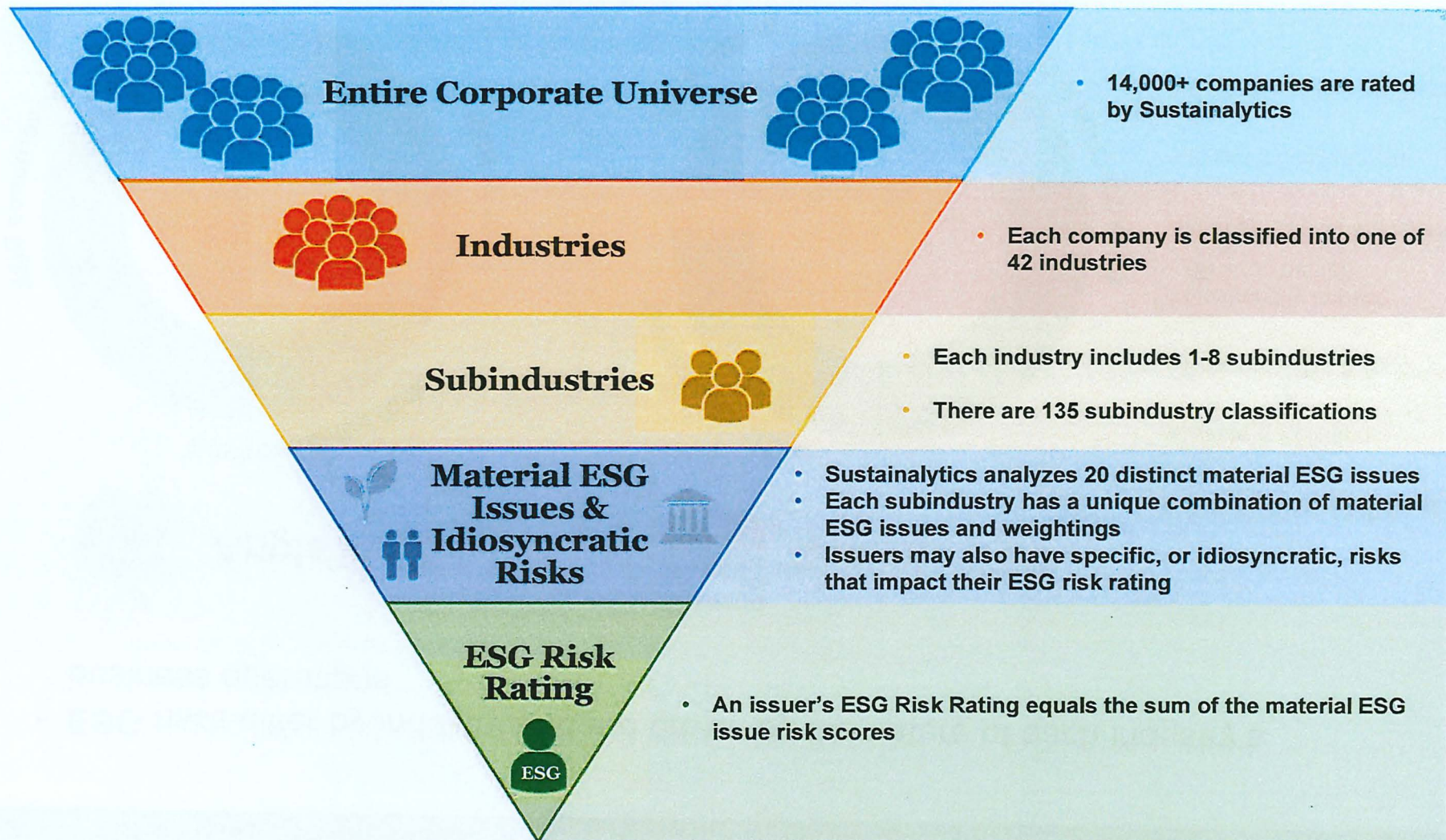
Rewarding ESG values may be seen as a way to help mitigate overall risk



Seek Competitive Returns

Good ESG quality has the potential to help a company to develop a competitive advantage, which can then drive outperformance

How is the ESG Risk Rating Determined?



Source: Sustainalytics. As of December 9, 2021.

Example: Comparing & Evaluating ESG Risks

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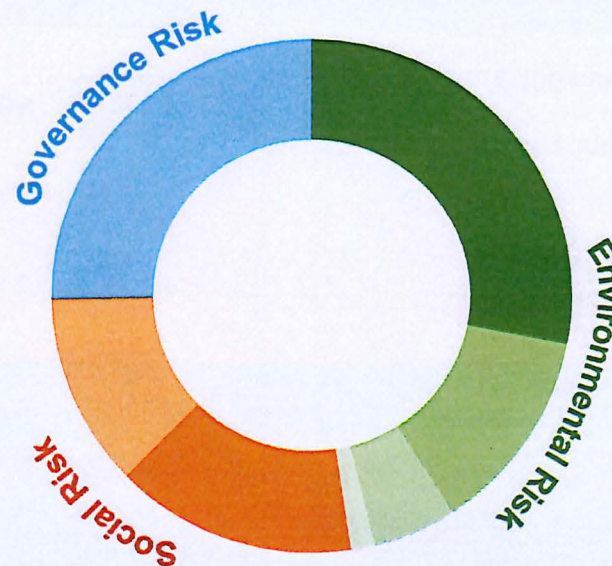
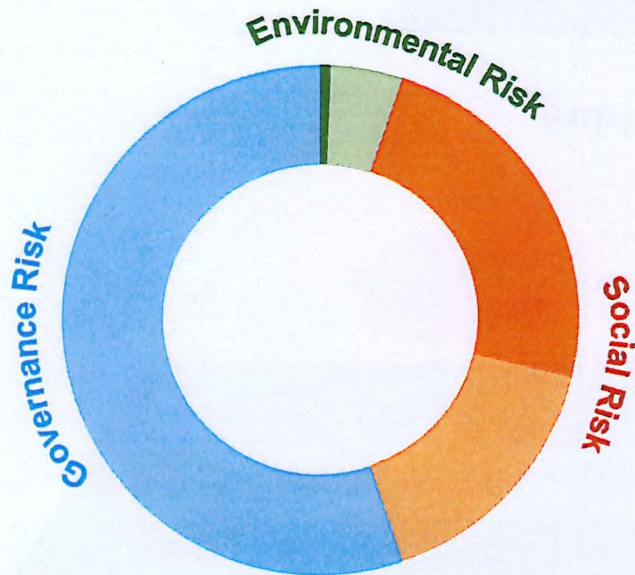
- ESG risks differ by industry and are driven by the nature of each industry's business operations



Apple Inc.






Chevron Corp.



- Carbon Output & Energy Use
- Waste & Pollution
- Resource Use & Biodiversity
- Community Impact (Environmental)
- Human Capital Management
- Product Governance
- Community Impact (Social)
- Corporate Governance

Example ESG Investment Approaches

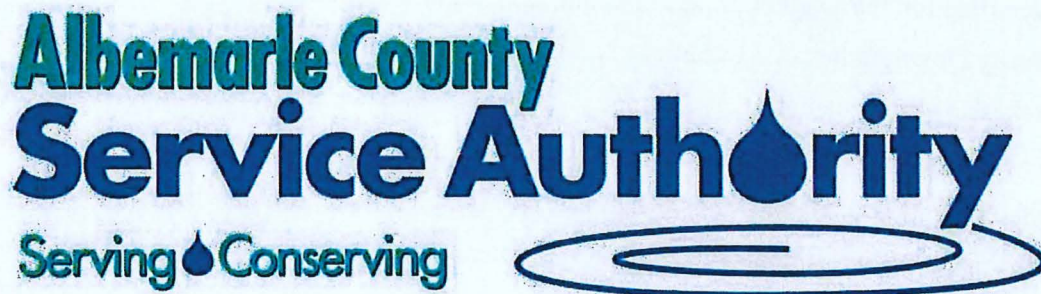
ESG Approach	ESG Investment Criteria Overview
Top Performers 	<ul style="list-style-type: none">• Eligibility based on issuer ESG risk assessments• Limit eligibility to issuers that maintain medium or lower ESG risk ratings
E, S, or G Focus 	<ul style="list-style-type: none">• Limit exposure to issuers with higher environmental, social, or governance risk based on industry exclusions and ESG risk drivers
Hybrid Approach 	<ul style="list-style-type: none">• Base eligibility on top performer ESG investment criteria• Incorporate E, S, or G focus and/or issuer or industry exclusions

Disclaimer

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Albemarle County Service Authority



Investment Policy

Adopted December 19, 2019

Revised ~~{Date}~~ March xx, 2022

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Purpose and Scope

The purpose of this Investment Policy is to establish guidelines for the safeguarding and efficient management of the Albemarle County Service Authority (the "ACSA") funds and for the purchase and sale of investment instruments. The goal is to minimize risk and to ensure the availability of cash to meet the Authority's expenditures, while generating revenue from the use of funds, which might otherwise remain idle. This Investment Policy applies to all financial assets under the authority of the Director of Finance.

Unless otherwise noted, all citations in this policy refer to the Code of Virginia Sections §2.2-4400 et seq., §2.2-4500 et seq., and §2.2-4700 et seq., as amended.

Objectives

1. All investments shall be in compliance with the Code of Virginia Sections §2.2-4400 et seq. and §2.2-4500 et seq.
2. The cash management and investment activities of the Authority shall be conducted in a manner which is consistent with prevailing prudent business practices which may be applied by other public organizations of similar size and financial resources.
3. The primary objectives of the Director of Finance's investment activities, in priority order, are: safety, liquidity, and yield.
 - **Safety of Principal** - Safety of principal is the foremost objective of the investment of public funds. Investments shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio.
 - **Maintenance of Liquidity** - The investment portfolio will remain sufficiently liquid to enable the Director of Finance to meet all operating requirements of the Authority, which might be reasonably anticipated.
 - **Maximizing Return** - The investment portfolio shall be designed with the objective of attaining a market rate of return throughout budgetary and economic cycles. This objective shall take into account constraints as to acceptable risk and the characteristics of the Authority's cash flow.

Role of the Director of Finance

The Director of Finance is designated as the investment officer of the Authority and is responsible for investment activities and decisions. The Director of Finance will establish and maintain investment policies and procedures under the general guidance and written approval of the Board of Directors.

Standard of Prudence

The standard of prudence to be used by investment officials shall be the “prudent person” standard and shall be applied in the context of managing an overall portfolio. Investment officers acting in accordance with written procedures and this Investment Policy and exercising due diligence shall be relieved of personal liability for an individual security’s credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and appropriate action is taken to control adverse developments. The “prudent person” standard states that:

“Investments shall be made with judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived.”

The Director of Finance’s designees acting in accordance with written procedures, this Policy and exercising due diligence shall be relieved of personal responsibility for an individual security’s performance as provided in Code of Virginia §2.2-4516.

Furthermore, in accordance with Section §2.2-4410 et seq. of the Code of Virginia, the Director of Finance shall not be liable for loss of public money due to the default, failure or insolvency of a depository.

Ethics and Conflict of Interest

The Director of Finance and other employees involved in the investment process shall comply with the Code of Virginia Section §2.2-3100 et seq. and the State and Local Government Conflict of Interests Act. Employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. Employees shall disclose any material interests in financial institutions with which they conduct business. They shall further disclose any personal financial/investment positions that could be related to the performance of the investment portfolio. Employees shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the Authority.

Internal Controls

The Director of Finance is responsible for establishing and maintaining an internal control structure designed to ensure that the assets of the Authority are protected from loss, theft or misuse. The internal control structure shall be designed to provide reasonable assurance that these objectives are met.

The internal control structure shall address the following points:

- Control of collusion
- Separation of transaction authority from accounting and recordkeeping
- Custodial safekeeping
- Avoidance of physical delivery securities
- Clear delegation of authority to subordinate staff members
- Written confirmation of transactions for investments and wire transfers
- Development of a wire transfer agreement with the lead bank and third-party custodian.

Authorized Investments

The Director of Finance may invest in the following securities that are in compliance with the Code of Virginia. The Director of Finance, however, may impose additional requirements and restrictions in order to ensure that the Authority's goals are met.

Permitted Investments for the Investment Portfolio include:

1. **U.S. Treasury Obligations.** Bills, notes and any other obligation or security issued by or backed by the full faith and credit of the United States Treasury as described by Code of Virginia §2.2-4501.
2. **Municipal Obligations.** Bonds, notes and other general obligations of a state or municipal government, upon which there is no default, and which otherwise meets the requirements of Code of Virginia §2.2-4501.
3. **Federal Agency/ Government Sponsored Enterprise Obligations.** Bonds, notes and other obligations of the United States, and securities issued by any federal government agency or instrumentality or government sponsored enterprise, as described by Code of Virginia §2.2-4501.
4. **U.S. Dollar Denominated Supranational Agency Bonds. Bonds and other obligations issued, guaranteed or assumed by the International Bank for Reconstruction and Development, by the Asian Development Bank or by the African Development Bank, as described by Code of Virginia §2.2-4501.**
- 3.5. **Repurchase Agreements.** Repurchase agreements meeting the requirements of Code of Virginia §2.2-4507 and the conditions stated below:
 - a. the contract is fully secured by deliverable U.S. Treasury and Federal Agency obligations as described in paragraph 1 above (with a maximum maturity of 5 years), having a market value at all times of at least one hundred and two percent (102%) of the amount of the contract;
 - b. a Master Repurchase Agreement or specific written Repurchase Agreement governs the transaction;
 - c. the securities are free and clear of any lien and held by an independent third party custodian acting solely as agent for the Authority, provided such third party is not the seller under the repurchase agreement;

- d. a perfected first security interest under the Uniform Commercial Code in accordance with book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of the Authority;
- e. for repurchase agreements with terms to maturity of greater than one (1) day, the Authority will value the collateral securities daily and require that if additional collateral is required then that collateral must be delivered within one (1) business day (if a collateral deficiency is not corrected within this time frame, the collateral securities will be liquidated);
- f. the counterparty is a:
 - i. primary government securities dealer who reports daily to the Federal Reserve Bank of New York, or
 - ii. a bank, savings and loan association, or diversified securities broker-dealer having at least \$5 billion in assets and \$500 million in capital and subject to regulation of capital standards by any state or federal regulatory agency; and
- g. the counterparty meets the following criteria:
 - i. a long-term credit rating of at least 'AA' or the equivalent from an Nationally Recognized Statistical Rating Organization ("NRSROs")
 - ii. has been in operation for at least 5 years, and
 - iii. is reputable among market participants.

4.6. Bankers' Acceptances. Issued by domestic banks or a federally chartered office of a foreign bank, which are eligible for purchase by the Federal Reserve System as described by Code of Virginia §2.2-4504.

7. Commercial Paper. "Prime quality" commercial paper, issued by corporations operating under the laws of the United States or any state thereof, and otherwise meeting the requirements of Code of Virginia §2.2-4502.

8. Corporate Notes. Unsecured promissory notes issued by corporations, and otherwise meeting the requirements of Code of Virginia §2.2-4510.

5. Negotiable Certificates of Deposit and Bank Deposit Notes. Negotiable certificates of deposit and negotiable bank deposit notes of domestic banks and domestic offices of foreign banks, and otherwise meeting the requirements of Code of Virginia §2.2-4509.

9.

6.10. Pools. Pooled investment programs provided that the underlying investments by such funds are restricted to investments otherwise permitted by the Code of Virginia for political sub-divisions, as described by Code of Virginia §2.2-4513.1, §2.2-4600 et seq., and §2.2-4700 et seq. The ACSA can invest in two different types of Pools:

- a. **Principal Stability Pools** that operate in compliance with the Government Accounting Standards Board's Statement 79 ("GASB 79"), which maintain a weighted average maturity of less than 60 days and whose primary objective is to maintain a stable net asset value; and

- b. **Short-Term Bond Pools** that may have a longer average maturity than principal stability pools and a fluctuating net asset value. Bond Pools are designed to generate a higher rate of return than Principal Stability Pools.

7.11. Money Market Mutual Funds (Open-Ended Investment Funds). Shares in open-end, no-load investment funds meeting the requirements of Code of Virginia §2.2-4508 provided that such funds are registered under the Federal Investment Company Act of 1940. The mutual fund must comply with the diversification, quality and maturity requirements of Rule 2(a)-7, or any successor rule, of the United States Securities and Exchange Commission, provided the investments by such funds are restricted to investments otherwise permitted by the Code of Virginia §2.2-4500 et seq.

8.12. Bank Deposits and Non-Negotiable Certificates of Deposit. Demand deposits, time deposits, and other deposits that comply with all aspects of the Security for Public Deposits Act and with Code of Virginia §2.2-4518.

Investment Parameters

Mitigating Credit Risk in the Portfolio

Credit risk is the risk that a security or a portfolio will lose some or all of its value due to a real or perceived change in the ability of the issuer to repay its debt. It is the policy of the Authority to diversify its investment portfolios to minimize risk of loss resulting from the over-concentration of assets in a specific maturity, issuer, or class of securities.

Mitigating Market Risk in the Portfolio

Market risk is the risk that the portfolio value will fluctuate due to changes in the general level of interest rates. The Authority recognizes that, over time, longer-term/core portfolios have the potential to achieve higher returns. On the other hand, longer-term portfolios have higher volatility of return. The Authority shall mitigate market risk by providing adequate liquidity for short-term cash needs, and by making longer-term investments only with funds that are not needed for current cash flow purposes. The Authority further recognizes that certain types of securities, including variable rate securities, securities with principal pay downs prior to maturity, and securities with embedded options, will affect the market risk profile of the portfolio differently in different interest rate environments.

Maximum Maturity

Maintenance of adequate liquidity to meet the cash flow needs is essential. Accordingly, to the extent possible, the investment portfolio will be structured in a manner that ensures sufficient cash is available to meet anticipated liquidity needs. Whenever practical, selection of investment maturities will be consistent with the Authority's known cash requirements in order to minimize the forced sale of securities prior to maturity. Investments are limited to a maximum maturity of five (5) years from the transaction settlement date (with the exception of Agency Mortgage-Backed Securities ("MBS") which must have a weighted average life ("WAL") of no more than five (5) years).

To manage the volatility of the Investment Portfolio, the Director of Finance shall determine an appropriate duration or weighted average maturity (“WAM”) target for each component of the Investment Portfolio. At no time shall the duration or WAM of any component of the Investment Portfolio exceed three (3) years.

Diversification Parameters

The following diversification parameters have been established and will be reviewed periodically by the Director of Finance for all funds. The Director of Finance may choose to implement limitations that are more restrictive than these parameters if he or she deems it prudent to do so. The diversification parameters will be applied across all of the Authority’s investments governed by this policy, not at the individual fund level. The investment portfolios shall be diversified by security type and institution. The maximum percentage of the portfolio permitted in each eligible security is as follows:

Permitted Investment	Sector Limit	Issuer Limit	Ratings Requirement ^{1,2}	Max Maturity ³
U.S. Treasury Obligations	100%	100%	N/A	5 Years
Municipal Obligations	34 0%	5%	AA (S&P) and Aa (Moody’s)	3 Years
Federal Agency/ GSE Obligations	5 100%	50%	“AA” or equivalent to U.S. Federal Government	5 Years (5 year max WAL for MBS)
<u>Supranational Agency Bonds</u>	<u>30%</u>	<u>5%</u>	<u>Same as or higher than the U.S. Federal Government</u>	<u>5 Years</u>
Repurchase Agreements	50%	25%	N/A	5 Years
Bankers’ Acceptances	40%	5%	A-1 or equivalent by an NRSRO	6 Months
Commercial Paper	35%	5%	At least two of the following: A-1 (S&P), P-1 (Moody’s), or F-1 (Fitch), and D-1 (Duff & Phelps).	270 Days
<u>Corporate Notes</u>	<u>30%</u>	<u>5%</u>	<u>At least two of the following: AA (S&P), Aa (Moody’s) or AA (Fitch).</u>	<u>5 Years</u>
<u>Negotiable Certificates of Deposit and Bank Deposit Notes</u>	<u>30%</u>	<u>5%</u>	<u>At least two of the following: A-1 (S&P), P-1 (Moody’s) or F1 (Fitch) if less than one year to maturity; at least two of the following: AA (S&P), Aa (Moody’s) or AA (Fitch) if greater than one year to maturity</u>	<u>5 Years</u>
Principal Stability Pools	100%	100%	AAAm or equivalent by an NRSRO	N/A

Short-term Bond Pools	100%	100%	AAf or equivalent by an NRSRO	Maximum duration of 3 years
Money Market Mutual Funds	100%	100%	AAAm or equivalent by an NRSRO	N/A
Bank Depositories	100%	100%	N/A	5 Years

1. Ratings by NRSROs as designated by the SEC and are without regards to the rating modifiers
2. At time of purchase
- ~~3. From transaction settlement date~~
- ~~3.~~

The Sector Limit and Issuer Limit shall be applied to the Authority's total cash and investments asset value at the date of acquisition.

Security Downgrades

In the event that any security held in the Investment Portfolio is downgraded below the ratings required by this Policy, the Director of Finance shall be notified immediately in order to determine any actions to be taken in relation to the downgrade.

Purchase of Investments

Generally, investment offers must be compared to real-time market data. The Director of Finance may use discretion in selecting the bidders, taking into consideration an institution's reputation, past success rate, timeliness in providing bids and any other factors which the Director of Finance believes to have bearing. The Director of Finance may purchase or sell investments at his or her discretion without competition provided that the securities involved meet all the criteria for allowed investments.

In general, the highest yielding instrument offered will be the investment selected. The Director of Finance may reject an investment, even if it yields the highest rate, if he or she feels it carries an element of risk which may not be reflected in the published credit rating or if it is not in the Authority's interest to hold such an investment in its portfolio.

Banks and broker/dealers shall be instructed to mail trade confirmations or similar documentation to an individual designated by the Director of Finance.

Investments shall be made with the judgment and care which persons of discretion, prudence and intelligence exercise in the management of their own affairs, not for speculation, but for investment for the protection of principal. Consideration for the safety of capital shall be

paramount over the probable income to be derived. Individuals responsible for investing Authority funds shall in no way benefit personally as a result of investment decisions.

The Authority has established the following procedures:

1. The Director of Finance shall seek to obtain competitive bid information on all purchases of investment instruments purchased on the secondary market.
- ~~2.~~ If the Authority is offered a security for which there is no readily available competitive offering on the same specific issue, then the Director of Finance shall document quotations for comparable or alternative securities. When purchasing original issue instrumentality securities, no competitive offerings will be required as all dealers in the selling group offer those securities as the same original issue price.

2.

Investment of Bond Proceeds

The Authority intends to comply with all applicable sections of the Internal Revenue Code as it relates to Arbitrage Rebate and the investment of bond proceeds. All investment records will be maintained to ensure compliance with all regulations. All bond proceeds will be invested in accordance with applicable bond resolutions.

Collateralization of Bank Deposits

All bank deposits of the Authority shall be considered Public Deposits as defined by Code of Virginia Security for Public Deposits Act (Section 2.2-4400 et seq.) and all deposits must be made with Qualified Public Depositories.

Engagement of Investment Managers

The Authority may engage one (1) or more qualified firms to provide investment management services. All investment management firms who desire to provide investment services to the Authority will be provided with current copies of the Investment Policy. Before an organization can provide investment services to the Authority, it must confirm in writing that it has received and reviewed the Investment Policy.

Only firms meeting the following requirements will be eligible to serve as investment manager for the Authority:

1. Registered with the Securities and Exchange Commission under the Investment Advisers Act of 1940;
2. Must provide to the Authority an annual updated copy of Form ADV, Part II;
3. Must be registered to conduct business in the Commonwealth of Virginia; and
4. Must have proven experience in providing investment management services under Code of Virginia §2.2-4500 et seq.

Any firm engaged by the Authority to provide investment services shall:

1. Maintain a list of approved security brokers/dealers selected by creditworthiness who are authorized to provide investment services in the Commonwealth of Virginia;
2. Execute all security transactions within the guidelines of this Investment Policy;
3. Provide monthly reports of transactions and holdings to the Director of Finance;
4. Provide quarterly performance reports that display investment performance compared to an established and agreed upon investment benchmark for each portfolio;
5. Maintain sufficient records for any security purchased or sold on behalf of the Authority which can be made available upon request;
6. Apply the diversification parameters across all of the Authority's investments under the Investment Manager's management (excluding any of the Authority's investments that are not managed by the Investment Manager); and
7. Not collect any soft dollar fees from any broker/dealer or other financial firm in relation to services provided to the Authority.
8. Investment Manager shall seek to obtain competitive bid information on all purchases of investment instruments purchased on the secondary market.

Selection of Brokers/Dealers

The Director of Finance will maintain a list of broker/dealers that are approved for investment purposes. All broker/dealers who desire to provide investment services to the Authority will be provided with current copies of the Investment Policy. Before an organization can provide investment services to the Authority, it must confirm in writing that it has received and reviewed the Investment Policy.

At the request of the Director of Finance, broker/dealers will supply the Authority with information sufficient to adequately evaluate their financial capacity and creditworthiness. The following information will be provided:

1. Audited financial statements;
2. Regulatory reports on financial condition;
3. Proof of Financial Institution Regulatory Authority ("FINRA") certification and of state registration;

4. A sworn statement by an authorized representative of the broker/dealer pledging to adhere to "Capital Adequacy Standards" established by the Federal Reserve Bank and acknowledging the broker/dealer understands that the Authority has relied upon this pledge; and
5. Any additional information requested by the Director of Finance in evaluating the creditworthiness of the institution.

Only firms meeting the following requirements will be eligible to serve as broker/dealers for the Authority:

1. "Primary" dealers and regional dealers that qualify under Securities and Exchange Commission Rule 15C3-1 (uniform net capital rule);
2. Capital of at least \$10,000,000;
3. Registered as a dealer under the Securities Exchange Act of 1934;
4. Member of FINRA;
5. Registered to sell securities in the Commonwealth of Virginia; and
6. Engaged in the business of effecting transactions in U.S. government and agency obligations for at least five (5) consecutive years.

The Authority shall designate broker/dealers on an annual basis. If an external third-party Investment Manager is engaged, the Authority is not responsible for maintaining a list of approved broker/dealers.

Safekeeping and Custody

The Policy requires that all investment securities purchased by ACSA or held as collateral on deposits or investments shall be held by ACSA or by a third-party custodial agent who may not otherwise be a counterparty to the investment transaction.

All securities in the Investment Portfolio will be held in the name of the Authority and will be free and clear of any lien. Further, all investment transactions will be conducted on a delivery versus payment basis. The custodial agent shall issue a safekeeping receipt to the Authority listing the specific instrument, rate, maturity, and other pertinent information. On a monthly basis, the custodial agent will provide reports that list all securities held for the Authority, the book value of holdings, and the market value as of month-end.

The officials and representatives of the custodial agent responsible for, or in any manner involved with, the safekeeping and custody process of the Authority shall be bonded in such a manner as to protect the Authority from losses from malfeasance and misfeasance.

Original copies of non-negotiable certificates of deposit and confirming copies of all other investment transactions must be delivered to the Authority or its custodial agent.

Records and Reports

The Director of Finance will review an investment report on at least a quarterly basis as provided by external and/or internal investment managers, or its custodial agent. Reports will provide an analysis of the status of the current investment portfolio and the individual transactions executed over the last quarter. This report will allow the Director of Finance to ascertain whether investment activities during the reporting period have conformed to the Investment Policy.

These reports may include, at a minimum, the following:

1. An asset listing showing par value, cost and accurate and complete market value of each security, type of investment, issuer, and interest rate;
2. Average maturity of the portfolio and effective duration of the portfolio;
3. Maturity distribution of the portfolio;
4. Credit rating of each security within the portfolio
5. Distribution by type of investment; and
- ~~6.~~ Performance relative to established benchmarks.
- 6.

Performance Standards

The Investment Portfolio will be designed to obtain at least a market level rate of return, given budgetary and economic cycles, commensurate with the Authority's investment risk and cash flow needs. The Authority may periodically restructure the Investment Portfolio to take advantage of current and anticipated interest rate movements. The returns on the Portfolios will be compared on a quarterly basis to indices of U.S. Treasury securities having similar maturities or to other appropriate benchmarks. For funds having a weighted average maturity greater than 90 days, performance will be computed on a total return basis.

Investment Policy Adoption

This policy is adopted by the Albemarle County Service Authority Board of Directors, this ____ day of _____.

Name, Chair	Name, Vice-Chair
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MOTION:

MEETING DATE: March 17, 2022

SECOND:

RESOLUTION

BE IT RESOLVED by the Board of Directors of the Albemarle County Service Authority that the Board needs to enter into Executive Session to consider the following matter:

1. Pursuant to Va. Code §2.2-3711 A (1) to discuss a personnel matter concerning the Executive Director's Annual Performance Review, and
2. Pursuant to Va. Code §2.2-3711 A (7) to consult with legal counsel and staff regarding specific legal matters requiring legal advice.

VOTE:

AYES:

NAYS:

(For each nay vote, the substance of the departure from the requirements of the Act should be described).

ABSENT DURING VOTE:

ABSENT DURING EXECUTIVE MEETING:

Gary B. O'Connell, Secretary-Treasurer



MOTION:

MEETING DATE: March 17, 2022

SECOND:

CERTIFICATION OF EXECUTIVE MEETING

WHEREAS, the Board of Directors of the Albemarle County Service Authority has convened an executive meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of The Virginia Freedom of Information Act; and

WHEREAS, §2.2-3711 A (1) and A (7) of the Code of Virginia requires a certification by this Board that such executive meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED that the Board hereby certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the executive meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the executive meeting were heard, discussed or considered by the Board.

VOTE:

AYES:

NAYS:

(For each nay vote, the substance of the departure from the requirements of the Act should be described).

ABSENT DURING VOTE:

ABSENT DURING EXECUTIVE MEETING:

Gary B. O'Connell, Secretary-Treasurer