# FES Quarterly Report – October 2021

Facilities & Environmental Services Department, Albemarle County



# **Top of the News**

# Low-Income Housing Energy Efficiency Programs

For several years, the County has supported the Local Energy Alliance Program (LEAP) by reducing the cost to County households for home energy audits, energy efficiency retrofits, and other energy-saving services. This past fiscal year, LEAP provided services to 122, mostly low-income County households.

At the beginning of 2021, the County began providing additional financial support to the Albemarle Housing Improvement Program (AHIP) – which works with LEAP – to make energy efficiency improvements to low-income Albemarle County homes. This initiative – called the Assisted Home Performance Program – supports home retrofits such as replacing HVAC systems with more efficient ones, improving insulation, conditioning crawl spaces, sealing air leaks, and installing highly efficient doors and windows.

AHIP has been assisting low-income residents with home improvements for decades and has partnered with LEAP to make energy efficiency upgrades since 2011. AHIP maintains an enduring backlog of applicants and prioritizes work based on health and safety concerns, demographics, and other criteria. Cory Demchak, AHIP's Director of Programs, states that "for every client we help, two more call". The additional County support provided through this program allows AHIP to offer a greater range of improvements and to serve more customers.

At nine months into this new partnership, AHIP has identified approximately \$235,000 in projects for 29 homes and has already completed about \$125,000 in energy efficiency investments in 16 homes. AHIP staff have estimated that the investments in seven homes for which data is available will save a total of approximately 78 MWh of energy each year. To put that into context, if the same amount of money was invested in a solar panel array, this array could produce about 36 MWh of energy per year – or less than half the energy saved by the home improvements.

This program is part of the County's climate action efforts and will contribute towards the County's long-term greenhouse gas emission reduction goals through reducing the amount of energy used within the community. Equally important, however, are the projects' enhancements to the quality of life for participants ... through lowered energy bills and an improvement in the comfort and quality of their homes.

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#### **Capital Projects Report**

Detailed capital projects scope and updates

One of these participants is Phillis, an 81-year-old resident of Scottsville. Phillis retired in 2014 and gets by on a fixed income through Supplemental Security Income. She couldn't afford some needed home repairs and her niece helped her get on the AHIP waiting list.





AHIP started their project in January 2021, which included a new high-efficiency heat pump as well as insulation and ground cover in the home's crawlspace – energy improvements valued at \$10,000. What does Phillis think about the work? "It helps because I needed it and couldn't afford to do it myself. It wasn't fixed up like it should have been ... I'm glad it was done."

Another participate is Norma, a retired senior living in a mobile home in the Batesville area. She reached out to AHIP when her roof began leaking. As part of their project, AHIP made energy upgrades valued at \$9,500 – including a new highericiency heat pump, crawlspace insulation and ground cover, and a new storm door and weather stripping. This project was completed in April 2021.

Albemarle County's financial support of both of these important programs is leveraged by AHIP and LEAP to bring in additional funds from Dominion Virginia Power and private donors.

# **Greenhouse Gas Emission Inventory Report**

This past summer, Environmental Services Division staff completed an inventory to account for community-wide greenhouse gas emissions in the year 2018—the first such inventory since 2008.

#### What is a greenhouse gas emission inventory?

A greenhouse gas emission inventory is a method used by governments and other organizations to quantify their contribution to global climate change by estimating the amount of greenhouse gas emissions that result from activities or processes within the community or organization. Examples of activities include driving an automobile, using electricity in a building to power lights, or burning natural gas on a gas stove. Data for each activity is multiplied by an emission factor, which reflects the quantity of various greenhouse gasses emitted per unit of activity. The resulting product reflects the greenhouse gas emissions associated with that activity.

#### Why do we conduct a greenhouse gas emission inventory?

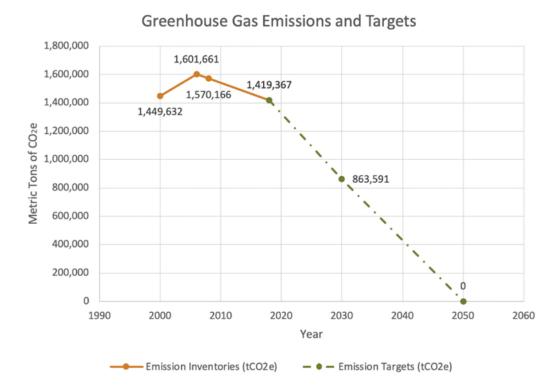
Greenhouse gas emissions drive climate change. To mitigate climate change, we need to reduce emissions. Calculating the emissions across our community on a regular basis is the County's main tool for monitoring progress toward reducing emissions in the community. That's why moving forward, the County will complete a community-wide greenhouse gas emission inventory every two years.

## What does the 2018 inventory tell us?

In the inventory for 2018, we calculated greenhouse gas emissions across four main sectors: transportation; stationary energy (i.e. buildings energy use); waste; and agriculture, forestry, and other land uses. We also calculated emissions associated with local government and public school operations. We estimated total 2018 community-wide greenhouse gas emissions to be 1,419,367 metric tons of carbon dioxide equivalent (tCO<sub>2</sub>e).

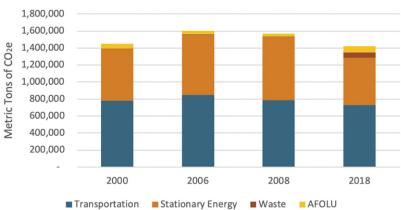
The chart below depicts the trend in community-wide greenhouse gas emissions, based on all previous inventories conducted by the County—years 2000, 2006, 2008, and 2018. The chart also shows a projection of reductions required to meet the County's 2030 and 2050 emission reduction targets.

Total emission producing activities like driving and electricity use increased from 2008 to 2018, so we were surprised to see the reduction in emissions between those same years. This counterintuitive trend can be explained by increased fuel economy in motor vehicles, greater energy efficiency in a variety of building appliances, and changes in the sources of electricity generation.

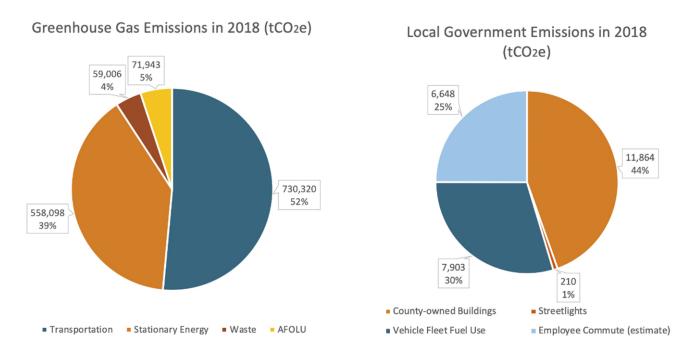


The chart to the right depicts emissions for the four inventory years — 2000, 2006, 2008, and 2018— broken down by emission sector. The chart illustrates the decreases in emissions from the transportation and stationary energy explained sectors, by greater energy efficiency. The slight increases in emissions from waste and agriculture, forestry, and other land uses is likely due to better accounting methods in our 2018 inventory.

# Greenhouse Gas Emissions by Year and Sector



The following two pie charts show emissions in 2018 alone. On the left, we show the community inventory by sector (also shown in the rightmost bar above). On the right, we show the subset of emissions for which local government and public schools are responsible, broken down by operational area. We calculated emissions from local government and public schools to be 26,625 tCO<sub>2</sub>e.



In addition to our inventory of emissions, for the first time we estimated the sequestration of carbon dioxide by forests and other natural land cover types in Albemarle County. On balance, forests in the County sequester significant amounts of carbon dioxide (estimated to be 945,732 tCO<sub>2</sub>e per year on average)—providing a local and global benefit. Because most forest growth in the County results from natural processes rather than deliberate climate action, we do not count the net carbon sequestration revealed in this analysis as progress towards greenhouse gas reduction targets. Nonetheless, the magnitude of the sequestration potential of local forests, trees, and other ecosystems illuminates the importance of protecting and sustainably managing these resources.

#### What is the key takeaway?

From 2008 to 2018, community-wide emissions in Albemarle County decreased, largely due to factors outside of our direct influence. Nevertheless, the community will need to increase the pace of reducing greenhouse gas emissions for us to achieve our reduction targets.

With the adoption of the County's first Climate Action Plan in 2020, the County has a blueprint to reduce emissions in the coming years and decades. If we are successful in implementing the Climate Action Plan, we should expect to see an increase in the pace of greenhouse gas emission reductions in future inventories. Conducting biennial inventories will help us monitor progress and adjust our strategy as needed.

# **Energy Management Program Update Released**

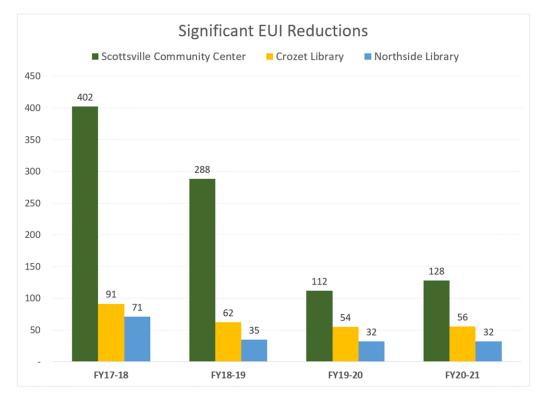
FES staff have been working behind the scenes since 2018 to develop and operationalize an energy management program and have released the first Annual Report on this effort — included as an addendum to this departmental Quarterly Report. Energy management is the process of tracking and optimizing energy consumption to conserve usage in a building. There are several steps for the process of energy management:

- Collecting and analyzing utility data: electricity, natural gas, propane, fuel oil and water
- Identifying apparent problems with how building systems are performing
- Calculating the return on investment for investments in technology upgrades
- Executing energy optimization solutions
- Continuously monitoring building performance to identify any negative trends and to validate the effectiveness of prior efforts to optimize or upgrade equipment

Energy management is the means to controlling and reducing a building's energy consumption, which can result in:

- Reduced costs energy represents 25% of all operating costs in an office building
- Reduced carbon emissions in order to meet internal sustainability goals
- Reduced risk the more energy our facilities consume, the greater the risk that energy price increases or supply shortages will impact the organization's financial base

The report details early success of the program, like these:



And many more charts and graphs. But there are already WAY too many charts in this edition of the FES Quarterly Report, so we'll spare the reader any more of them and encourage the data-oriented to read the Update. Thank you for bearing with us!

# **Capital Projects Updates**

# Project Completion-Scottsville, Red Hill & Broadus Wood

This summer marked the much-anticipated completion of two of the County's school renovation projects: Scottsville & Red Hill Elementary, as well as the installation of a needed HVAC unit at Broadus Wood.

# **Scottsville Elementary School Addition and Renovation**



This project included a 17,500 square ft. addition, renovations to the existing building, and site improvements. The addition contains four classrooms, two smaller resource classrooms, two offices, a gang bathroom, and a full-size gym. The original building received multiple improvements - three open collaboration spaces, 14 renovated classrooms, two new bathrooms, and conversion of the existing gymnasium into a teacher's workroom, music room, and office spaces. Site improvements included outdoor learning areas. Construction began in the summer of 2019 and is now substantially complete. The construction cost to date is approximately \$8.5 million.

# Red Hill Elementary School Gym Addition and Renovation

The construction at Red Hill Elementary consisted of an 8,200 square foot addition with new instructional space, roughly 6,500 square feet of renovated interior space, and almost 2,000 square feet of outdoor learning space. The addition houses a new full-size gymnasium, staff offices, storage space, raised performance stage, and restroom facilities. The existing building received multiple alterations such as converting the original gym into a new media center, the longstanding media center to learning spaces, new cafeteria equipment, classroom space upgrades, teacher workroom, and the complete refinishing of ten existing restrooms. This project also replaced many finishes throughout the building. Site work includes additional parking



and outdoor learning areas. Construction started in the summer of 2020, and the contractor is now substantially complete. The construction cost to date is approximately \$5.2 million.

# **Broadus Wood Elementary School HVAC Upgrades**

The project scope was to remove the existing chiller, unit ventilators, and water-source heat pumps throughout the entire school. The contractor replaced the existing rooftop units with a new Variable Refrigerant Flow (VRF) system in each classroom. VRF systems are very energy efficient and will better control

comfort levels for students and faculty. Systems were installed to help improve indoor air quality throughout the building.

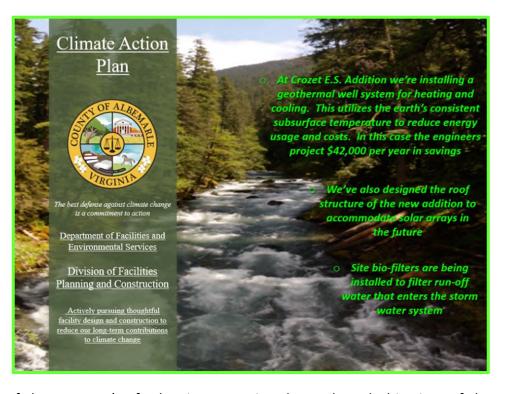
As a result of a large amount of work above the ceiling, the project required replacement of most of the acoustical ceiling grid and tile throughout the building. However, once the ceilings were exposed, the deficiencies in fire-rated walls and damage to a structural bond beam were discovered. The issues were corrected, thus creating a safer facility for students and staff. All construction occurred during the Summer of 2021 with a construction cost of approximately \$2 million.



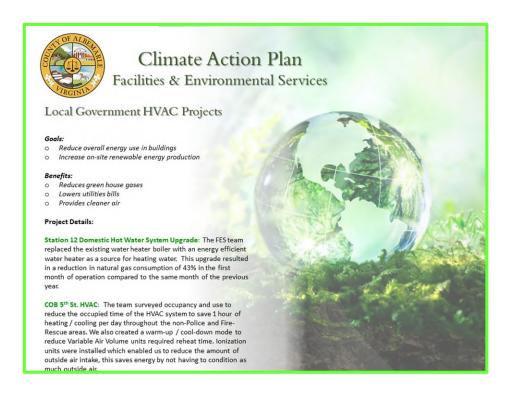
## **FES Construction Climate Action Initiatives**

The Facilities, Planning & Construction Division (FP&C) of FES has embarked on an initiative to communicate information regarding the County's commitment to Climate Action. This information will be made available to the public, the Board of Supervisors, stakeholders, colleagues and more. Staff at FP&C are proud of this initiative and are excited about the opportunity to contribute to the well-being of our planet.

As a result of an internal contest, we received outstanding submissions from Senior Project Managers Walter Harris IV, and Steve Hoffmann. We now can utilize established templates to communicate some of the exciting steps our team is taking to contribute to the health of our community and planet in a positive way. Things like energy efficiency, renewable energy sources, including materials with a higher level of sustainability in our designs, an increase in the amount of insulation used in walls and on roofs, and the use of shading elements to reduce solar heat gain



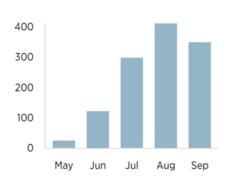
in County buildings are just a few of the ways we're further incorporating the goals and objectives of the County's Climate Action Plan into our projects.



# **Department Updates**

# **EV Charging Update**

As detailed in the previous FES Quarterly Report, in June we installed six electric vehicle charging stations in the middle parking lot at the 401 McIntire Office Building, one at the 5th St. Office Building, and upgraded the existing one at 401 McIntire. This was a demonstration project, consistent with our Climate Action Plan. We are very pleased to announce that each month since installation, usage has increased significantly. In August charging stations were used 412 times by 91 separate individuals.



So far, the project has resulted in avoiding 13,040 kg of greenhouse gas emissions—the equivalent of planting 255 trees and letting them grow for ten years.

# New Employee – Bill Strother



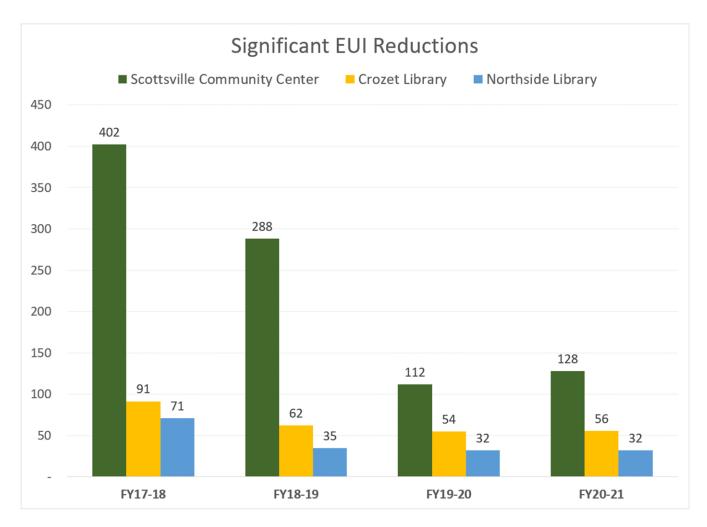
FES welcomed Bill Strother as Chief of Facilities and Operations on August 2, 2021. Bill has over 18 years of prior experience with the City of Charlottesville and has jumped in with both feet as leader of the Public Works team. He oversees all facilities, grounds, maintenance, and operations employees. His immediate goals are to get to know staff and learn County processes.

Bill grew up in Charlottesville, is a graduate of Albemarle High, and attended JMU. Bill is married and has 2 stepchildren. In his spare time, he enjoys fishing and working around the house on projects.

# 2021 Annual Update: Energy Management Program

## **INTRODUCTION**

In 2018, Facilities & Environmental Services (FES) initiated an energy management program. The program immediately identified opportunities for improvement across Albemarle County's portfolio of buildings, which resulted in several immediate low or no-cost fixes and identification of high-yield energy savings projects which have since been implemented. Examples of successful outcomes of the program share shown in the chart below and detailed further in the body of this update.



What is "energy management"? It is the process of tracking and optimizing energy consumption to conserve usage in a building. There are several steps for the process of energy management:

- Collecting and analyzing utility data: electricity, natural gas, propane, fuel oil and water
- Identifying apparent problems with how building systems are performing
- Identifying optimizations in equipment schedules, temperature set points and equipment performance to improve energy efficiency
- Calculating the return on investment for investments in technology upgrades
- Executing energy optimization solutions
- Continuously monitoring building performance to identify any negative trends and to validate the effectiveness of prior efforts to optimize or upgrade equipment

Energy management is the means to controlling and reducing a building's energy consumption, which can result in:

- Reduced costs energy represents 25% of all operating costs in an office building
- Reduced carbon emissions in order to meet internal sustainability goals
- Reduced risk the more energy our facilities consume, the greater the risk that energy price increases or supply shortages will impact the organization's financial base

The energy management program began with the collection of utility data. FES staff had for some time maintained data for the County office buildings located on 5<sup>th</sup> Street (COB-5) and McIntire Road (COB-M), as well as the Albemarle County Courts complex. That data was supplemented with a minimum of two years of historical data for all other County-operated facilities, including ACFR stations, community centers, libraries, leased buildings and parks structures. Data for site lighting at parks and streetlights was also gathered. FES now has at least 5 years of historical data for 85 utility accounts, representing approximately \$900,000 in expenditures per year.

### This update will:

- Provide the initial findings of staff's data analysis, including utility consumption, costs and greenhouse gas impacts
- Describe how those findings have informed subsequent efforts to optimize building performance
- Compare the current building performance to a baseline of fiscal year 2017-2018 (FY18)
- Outline plans to make further improvements to our facilities' systems to control costs and reduce greenhouse gas emissions

#### **INITIAL FINDINGS**

Rather than begin with the technical jargon of energy management, the chart below provides cost data for electricity, natural gas, propane and fuel oil in County buildings for the baseline year of FY18. We all understand the value of a dollar. And it is simple to grasp that a lower cost per square foot is better than a higher cost per square foot.

Utility Costs: Fiscal Year 2017-2018

		Electricity			Natural Gas				Propane-Fuel Oil				Total All Utilities				
Location	Sq. Ft.		Cost	Co	ost/SF		Cost	C	ost/SF		Cost	Co	st/SF		Cost	Co	st/SF
COB McIntire Road	127,336	\$	129,657	\$	1.02	\$	21,064	\$	0.17	\$	*	\$	-	\$	150,721	\$	1.18
COB 5th Street	125,464	\$	170,784	\$	1.36	\$	31,412	\$	0.25	\$	-	\$	-	\$	202,196	\$	1.61
Court Square	33,225	\$	36,697	\$	1.10	\$	8,365	\$	0.25	\$	- 6	\$	*	\$	45,062	\$	1.36
Northside Library	63,888	\$	56,562	\$	0.89	\$	16,466	\$	0.26	\$	-	\$	-	\$	73,028	\$	1.14
Crozet Library	21,208	\$	29,152	\$	1.37	\$	-	\$	~	\$	24,869	\$	1.17	\$	54,021	\$	2.55
Scottsville Library ^	3,940	\$	5,174	\$	1.31	\$	+	\$	-	\$	-	\$	-	\$	5,174	\$	1.31
Crozet Artisan Depot ^	2,655	\$	2,741	\$	1.03	\$	-	\$	-	\$	-	\$	-	\$	2,741	\$	1.03
Crozet Arts & Field School	25,250	\$	10,974	\$	0.43	\$	+	\$	-	\$	14,350	\$	0.57	\$	25,324	\$	1.00
Firearms Training Center +	18,930	\$	19,670	\$	1.04	\$	141	\$	-	\$	5,714	\$	0.30	\$	25,385	\$	1.34
Hollymead Fire St 12	16,247	\$	18,659	\$	1.15	\$	9,182	\$	0.57	\$	-	\$	-	\$	27,841	\$	1.71
Monticello Fire St 11	14,242	\$	19,710	\$	1.38	\$	3,634	\$	0.26	\$	-	\$	-	\$	23,344	\$	1.64
Pantops Rescue St 16		\$	-	\$	( <del>-</del> 0 )	\$	7. (4)	\$	-	\$	4	\$	-	\$		\$	-
Berkmar Rescue St 8	2,861	\$	4,844	\$	1.69	\$	24	\$	0.01	\$	-	\$	-	\$	4,868	\$	1.70
Yancey		\$		\$	(-)	\$	-	\$	-	\$	-	\$	-	\$		\$	-
Ivy Creek Buildings + ^	4,954	\$	2,050	\$	0.41	\$	-	\$	-	\$	-	\$	-	\$	2,050	\$	0.41
Greenwood Community Center +	7,422	\$	2,289	\$	0.31	\$	-	\$	-	\$	4,562	\$	0.61	\$	6,851	\$	0.92
Scottsville Gym	8,742	\$	12,528	\$	1.43	\$	4,889	\$	0.56	\$	-	\$	-	\$	17,417	\$	1.99
Meadows Community Center ^	2,400	\$	4,204	\$	1.75	\$	-	\$	-	\$	8	\$	-	\$	4,204	\$	1.75
All Buildings	478,764	\$	525,697		1.02	\$	95,036	\$	0.20	\$	49,495	\$	0.10	\$	670,228	\$	1.40

This data tells a number of stories. Fire/Rescue stations are continuously occupied, have full commercial kitchens, and bay doors that let in the elements when they go to and return from a call for service. This is a very different "energy footprint" compared to an office building. Both of our public safety agencies are housed at COB 5<sup>th</sup> Street, with the bulk of ACPD space heated and cooled at all times. This is reflected in the cost per square foot differential between that building and COB McIntire.

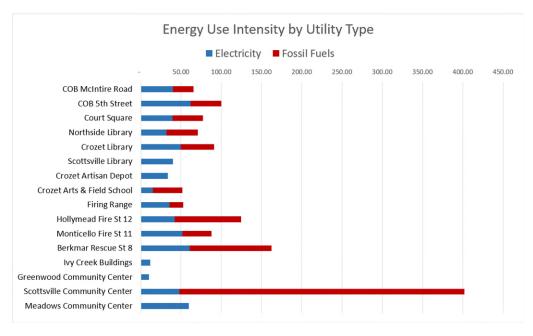
The data also revealed a few eye-raising concerns. For instance:

- The highest cost per square foot building was the Crozet Library at \$2.55/year. This is a relatively new building, designed and constructed to meet green building standards
- The Scottsville Community Center was not far behind at \$1.99/square foot/year
- Natural gas consumption at ACFR Station 12 was abnormally high compared to the other stations

While costs are a bottom line and a reasonable indicator of performance, there are limitations to that approach. Due to the greatly varying utility rates around the nation, it's not possible to accurately compare our own facilities to national standards. Even within our own portfolio of buildings, there are significant disparities. Propane is significantly more expensive than natural gas, for instance, and pricing can vary from month to month. Each of the four electric utilities that provide power to our buildings have different rate structures.

The standard metric of comparison for energy use in facilities is Energy Use Intensity (EUI). The metric is expressed as energy per square foot per year. It's calculated by dividing the total energy consumed by a building in one year (measured in thousand British thermal units, or kBtus) by the total gross floor area of the building (measured in square feet or square meters). The federal government's <a href="EnergyStar">EnergyStar</a>

<u>website</u> has a full explanation and helpful benchmark comparison points for average and high performing buildings of most types. The chart below shows each County building's EUI for baseline year FY18.



#### **CURRENT STATE - ENERGY MANAGEMENT IN APPLICATION**

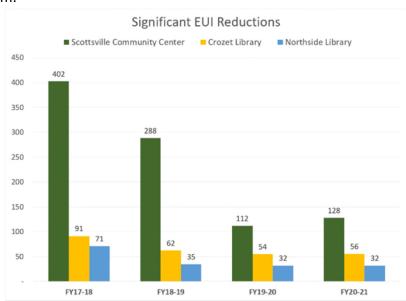
A basic and important tenet of energy management is to assess energy and water consumption on a monthly basis. This aids in the identification of emerging issues with building equipment and the computer controls systems that control their operation. Comparisons to the prior month, and to the same month in prior years are greatly aided by statistic normalization of weather data and billing periods for each account. FES staff developed modeling to accomplish this. Below is an example of a monthly view of normalized energy use data, from the baseline fiscal year.

			THIS Mont	h		Same	Month Last	Year	Last Month 2018-05			
Location			2018-06				2017-06					
	EUI Elec.	EUI Fossil	Tot, EUI	EUI/DD/SF	Performance	EUI Elec.	EUI Fossil	Total	EUI Elec.	EUI Fossil	Tot. EUI	
COB McIntire Road	3.61	0.43	4.04	0.0146	X 7%	3.51	0.26	3.78	3.09	0.23	3.32	
COB 5th Street	5.75	1.50	7.25	0.0267	-5%	6.28	1.46	7.75	5.00	2.15	7.15	
Court Square	3.98	0.69	4.67	0.0148	√ -14%	4.10	1.34	5.44	3.47	1.41	4.88	
Northside Library	2.88	1.09	3.97	0.0112	√ -21%	3.75	1.34	5.10	2.89	1,31	4.20	
Crozet Library	3.70	1.10	4.80	0.0111	√ 41%	4.75	1.58	6.33	3.69	1,10	4.79	
Scottsville Library ^	1.81	-	1.81	0.0063	√ -37%	2.70		2.70	1.80	-	1.80	
Crozet Artisan Depot ^	1.59	7	1,59	0.0048	√ -14%	1.98	-	1.98	1.33	-	1.33	
Crozet Arts & Field School	1.29	3.66	4.94	0.0043	<b>√</b> -77%	0.97	4.50	5.48	1.22	3,66	4.87	
Firing Range +	4.08	3,70	7.78	0.0131	0%	4.01	0.00	4.01	3.10	3,70	6.80	
Hollymead Fire St 12	4.60	7.99	12.59	0.0382	<b>36</b> 70%	4.62	3.01	7.63	4.88	8,83	13.71	
Monticello Fire St 11	4.35	0.58	4.93	0.0167	-7%	4.83	0,66	5.49	4.02	1,89	5.92	
Pantops Rescue St 16	3.34	0.50	3.84	0,0123	NA	-	- 1	-	2.83	0,56	3.38	
Berkmar Rescue St 8	5.66	0.64	6,30	0.0169	NA	0.04		0.04	5.12		5.12	
Yancey	-	-	-	-	NA	-	-	-	-	-		
Greenwood Community Center +	1.36	-	1,36	0,0043	<b>3</b> 128%	0.64	-	0.64	1.11	-	1.11	
Scottsville Gym	4.40	22,11	26,51	0,0176	√ -20%	5.14	18,05	23.19	3.61	22,30	25.91	
Meadows Community Center ^	3,33		3,33	0,0111	-20%	4,96		4.96	2,98		2,98	
Average All Buildings	3.48	3.67	6.23			3.49	3.22	5.63	3.13	4.29	6.08	
Degree Days *		304	8.6				331.0	-	291.5			

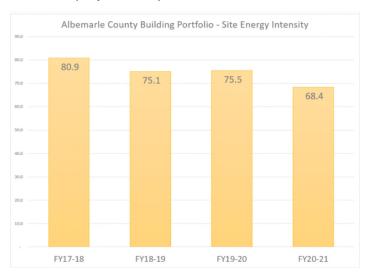
If this table raises more questions than it answers for the reader, or the reader simply isn't a "table person", a green check mark indicates that a given building is performing well compared to itself, when accounting for weather and its own past performance. A red X indicates a negative trend that should be explored.

Some of the green check marks are noteworthy, however. By June of 2018, the energy management program had yielded the identification of not just concerns, but of some relatively easily implemented solutions. The Crozet Library, Northside Library and Scottsville Community Center are all good examples of impactful early successes of the Program.

For the cost of installing a single sensor that was missed during the construction of the Crozet Library and some simple programming adjustments, reduction in energy use was achieved **Programming** within а year. adjustments undertaken at the Northside Library resulted in a 51% energy use reduction. Over a two-year period, minor repairs and operational adjustments have reduced the Scottsville Community Center's energy use by 72%.



Other concerns identified have required engineering support, identification of funds, and significant capital investments. During FY21, FES completed several significant upgrade projects at the COB 5<sup>th</sup> facility. The results of that work are apparent in monthly utility consumption data and well on track to meet the projected 7-year financial return on investment. All heating and cooling equipment at the



Scottsville Community Center is being replaced with high efficiency equivalents, with final completion anticipated by the end of the calendar year.

The energy management program has achieved a marked reduction in the Energy Use Intensity (EUI) for our portfolio of buildings over time, as indicated in the chart to the left.

It's worth noting that in early FY19 ACFR Pantops Station was opened and Yancey Community Center was accepted as a County facility.

Further, it is difficult to quantify the extent to which COVID-19 affected energy consumption throughout FY21. The advent of teleworking reduced "plug load" and lighting electricity across much of the portfolio's square footage, but not in all areas. Buildings occupied solely or largely by public safety operations can be presumed to have operated as before, with the exception of additional energy consumption associated with indoor air quality equipment enhancements. Identical equipment was installed in most County facilities.

A direct comparison of energy costs between FY18 and FY21 indicates that the effort to develop the energy management program and subsequent investments in our building systems efficiency have helped to offset utility rate increases and additional electricity consumption improved associated with air quality equipment.

#### LOOKING TO THE FUTURE

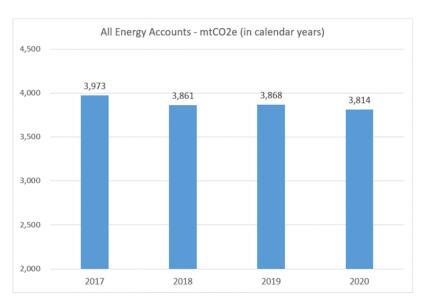
Energy management programs began with the advent of computerized building automation systems, primarily as a cost control measure. As awareness rose of the impacts of energy consumption on our globate climate, these programs gained greater senses of importance and urgency.

Albemarle County's tracking and analysis tool includes conversion factors to calculate greenhouse gas emissions, utilizing the accepted standard of measure: metric tons of carbon dioxide equivalent (mtCO2e).

The chart to the right reflects historical greenhouse gas emissions for all energy use by the County, *excluding* vehicle fuel, but *including* buildings, site lighting and streetlighting.

Regular analysis of energy use helps to curb greenhouse gas emissions that could occur by a lack of due diligence.

It also helps to reinforce the building owner's mindset beyond simple maintenance and replacements based on bottom line cost effectiveness. When selecting replacement



equipment, consideration must be given to the "greenness" of selected energy sources to transition away from use of fossil fuels and towards utilization of technologies like geothermal heating and cooling systems.

There are numerous opportunities on the planning horizon to upgrade equipment and lighting in Albemarle County's buildings. For instance, many of our building systems are at the end of their expected useful lives or will be within the next 5 years. Staff work plans include conducting energy audits of all buildings not recently constructed to help define scope, up-front costs, and reduction potential of energy use and long-term costs.

Similarly, large roof sections at multiple County buildings are due for replacement. Installation of on-site renewable energy generation technology on Albemarle County facilities was a strong recommendation of the County's 2020 Climate Action Plan. Staff have since adopted a standing practice to make all replaced roofs "solar ready", to be followed by solar array installations where feasible. Alternative strategies for implementation include the utilization of power purchase agreements and coordinated cooperative procurement with the Albemarle County Public Schools.

Thank you, and please direct any questions to:

Lance Stewart, Director
Facilities & Environmental Services Department
Albemarle County
LStewart@albemarle.org

# Capital Projects Report - Facilities and Environmental Services Local Government

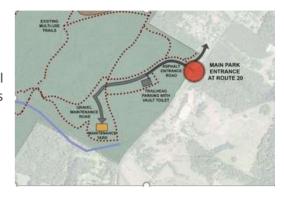
### Biscuit Run Phase 1a

### **Project Scope**

Biscuit Run Park is a nearly 1,200 acre property located in Albemarle County. The Commonwealth of Virginia acquired the property in 2009 and announced a partnership with Albemarle County to open Biscuit Run park to the public. The park partnership is the first of its kind in Albemarle's development area and will provide high-quality recreational opportunities for Albemarle County and the surrounding communities. A minimum of 80% of the park will remain forested, all sensitive natural heritage resources will be protected, and management concerns like invasive species will be addressed.

### **Project Update**

In early September the Project Team received design comments from the VDOT Regional Engineers - prompted by the Access Grant application. After reviewing these comments FP&C directed the AE design team to execute a report on potential Budget and Schedule ramifications regarding each of the VDOT comments. FP&C team members met to review this report the first week of October. County Staff met with VDOT on 10/7 to discuss the project regarding each of the comments and to further clarify the County's goals and intentions for this project's design. After meeting with County Staff, the project manager representing VDOT decided to re-visit the project's review protocol to ensure Regional and Local VDOT staff are reviewing this project as a Commercial Entrance with an access "Driveway" instead of a major "Road" project. By getting a better understanding of the design and properly labeling this project, VDOT may relieve the County of some of their more cost impacting comments. County Staff is currently awaiting further clarification from VDOT before recommending the County reconsider use of access funds for this project.



Current Phase:

% Complete:

Design

50%

Design % Complete:

85%

Construction % Complete:

0%

Updated: 10/11/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 8/17/2022

 Budget:
 \$2,171,755.00

 PO Balance:
 \$181,676.50

 Paid to Date:
 \$306,578.50

 Balance:
 \$1,683,500.00

# **Local Government**

## **COB 5th Roof Replacement**

### **Project Scope**

The Partial Roof Replacement at the County Office Building 5th Street will entail the removal of all the existing flat EPDM roof systems, and replacement with the installation of a new fully adhered EPDM roof system over tapered insulation. Roof work will also include repairs to the existing skylight features and a full weight load assessment of the roof structural elements for future potential solar array installation. There is a total of 92,300sf of roof to be replaced at this facility.

#### **Project Update**

Facilities and Operations & FP&C will utilize Grimm and Parker Architect's AE Roof Design Term Contract for the roof design and full inspection services for the Partial Roof Replacement at the County Office Building at 5th Street. Staff is currently reviewing the AE proposal and preparing a schedule for project execution in the coming calendar year.

Current Phase: Design Budget: \$257,441.00

% Complete: 1% PO Balance: \$0.00

Design % Complete: 2% Paid to Date: \$0.00

Construction % Complete: 0% Balance: \$257,441.00

Updated: 10/8/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 

# **Local Government**

# **COB McIntire Window Replacement**

### **Project Scope**

The windows installed in 1979-1980 are inefficient; are beginning to fail; and are well beyond their expected life span. 390 windows will be replaced along with portions of the building envelope that surround the windows and this will result in a more energy efficient building while maintaining the historic characteristics of the facility.

## **Project Update**

The AE team and County Staff met on site 9/9 to finalize finish color selection and discuss logistics for installation coordination for the spring. Due to COVID related manufacturing delays, installation is now slated to begin mid February 2022. The window order has been submitted to the manufacturer and the Design team is waiting for confirmation of manufacturing dates to finalize coordination for delivery to the site just ahead of construction. Substantial Completion is scheduled for 5/12/2022.



Current Phase: Construction
% Complete: 60%

Design % Complete: 100%

Construction % Complete: 20%

Updated: 10/7/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 5/12/2022

 Budget:
 \$1,681,790.81

 PO Balance:
 \$1,216,882.45

 Paid to Date:
 \$104,378.20

 Balance:
 \$360,530.16

# **Local Government**

# **Courts Complex Addition & Renovation**

### **Project Scope**

This project will expand capacity and modernize Court facilities to support projected space needs through 2035, and will be conducted in two phases. Phase I: In partnership with the City of Charlottesville, construct a new co-located General District Court facilities and renovate the historic portion of the Levy Opera House to accomodate the Albemarle Commonwealth Attorney's office. Phase II: renovation and modernization of the historic Albemarle County courts complex to house the Albemarle County Circuit Court.

### **Project Update**

The architectural team submitted the Schematic Design estimated pricing to the County on September 24th. On September 29th, County staff awarded the phase one contract to Grunley Construction for Construction Manager at Risk (CMAR) preconstruction services. The CMAR issued their estimate to the County for comparison on October 6th. Currently, the County is reviewing both estimates in preparation for a reconciliation meeting.



Current Phase:Design% Complete:20%Design % Complete:40%Construction % Complete:0%

Updated: 10/7/2021 Managed By: Walter Harris

**Substantial Completion:** 

 Budget:
 \$30,993,225.00

 PO Balance:
 \$3,754,083.78

 Paid to Date:
 \$1,713,268.64

**Balance:** \$25,525,872.58

# **Local Government**

# **Facilities Master Plan Study**

### **Project Scope**

The purpose of the Facilities Master Plan is to assess existing and future space needs (20-year window) of County functions, and make recommendations to ensure adequate spaces. Assessment will also include opportunities to improve customer interface. Recommendations may include additions to assorted County facilities, potential space leasing, and/or new construction. Study will consider existing County-owned properties which have been land-banked for future use and proffered properties not currently owned by the County, to determine their suitability for future development by the County.

#### **Project Update**

Staff has responded to Fentress Inc.'s questions regarding existing data and will start generating revised department forecasts by the end of October. This initial study is projected to be complete by the end of November 2021 then will begin a second phase to looking at individual departments more in depth.



Current Phase:

% Complete:

Design

40%

Design % Complete:

40%

Construction % Complete:

0%

Updated: 10/7/2021

Managed By: Tyler Gifford

Substantial Completion: 6/30/2022

 Budget:
 \$159,390.00

 PO Balance:
 \$25,190.96

 Paid to Date:
 \$79,128.37

 Balance:
 \$55,070.67

# **Local Government**

# Ivy Creek Natural Area ADA Paved Trail

### **Project Scope**

Repave and widen existing walking paths and provide new ADA compliant asphalt paths. Project has been separated into 3 phases. Funds for phase 1 of the project are currently available. Phases 2 and 3 will be completed as funds become available.

## **Project Update**

Managed By:

**Substantial Completion:** 

The asphalt overlay is complete for Phase One. The final steps of backfill and seeding will occur in phases with a stone aggregate as a first step to provide safe walkway edges and maintenance access. Then the soil fill, top soil and seed-straw will occur by the end of October.

Lisa Glass

10/29/2021



**Current Phase: Budget:** Construction \$81,500.00 PO Balance: % Complete: 80% \$54,452.27 **Design % Complete:** Paid to Date: 98% \$11,672.00 **Construction % Complete: Balance:** 80% \$15,375.73 **Updated:** 10/7/2021

# **Local Government**

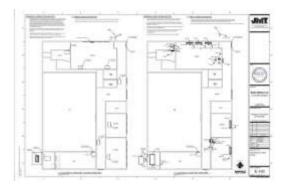
# **Scottsville Comm Center HVAC Replacement**

### **Project Scope**

This facility originally constructed in 1959, is comprised of 13,000 SF containing a gymnasium, cafeteria, two classrooms, restrooms, and an office within the larger building. The facility has outdated HVAC that has reached the end of it's useful life span and requires replacement. Some of this equipment is 35+ years old and has become increasingly unreliable and expensive to repair. A decision was made by Albemarle County Parks & Rec. to replace existing mechanical systems with a high efficiency climate control system.

### **Project Update**

Phase 2 construction is in progress. Currently, we are waiting for revised contractor pricing and actual lead times from the Ductless Units vendor. We anticipate the Air Handlers for the gym to arrive in early November.



**Current Phase:** Construction

% Complete: 25%

Design % Complete: 100%

Construction % Complete: 20%

Updated: 10/7/2021
Managed By: Walter Harris
Substantial Completion: 11/30/2021

**Budget:** \$314,260.00

**PO Balance:** \$216,945.58 **Paid to Date:** \$76,989.42

**Balance:** \$20,325.00

# **Local Government**

# **Southern Convenience Study**

### **Project Scope**

In coordination with the Rivanna Solid Waste Authority, design and construction a solid-waste convenience center to service Southern Albemarle County. Budget includes all costs associated with on-site amenities, including the purchase of containers and compactors. The design includes a bid additive item to extend the bounds of the project to the east, to accommodate an additional household waste compactor, should demand for this service element be high.

### **Project Update**

Design at 30% complete. Site plan approved by Albemarle County CDD, contingent upon Planning Commission finding that the project is in substantial accord with the Comprehensive Plan. The Planning Commission will consider this matter at it scheduled virtual meeting on October 19, 2021.



Current Phase: Design

% Complete: 10%

Design % Complete: 30%
Construction % Complete: 0%

Updated: 10/11/2021
Managed By: Lance Stewart

**Substantial Completion:** 

**Budget:** \$1,100,000.00

PO Balance: \$0.00

**Paid to Date:** \$15,760.00

**Balance:** \$1,084,240.00

#### NIFI - Albemarle Jouett Greer SRTS

### **Project Scope**

Following an extensive community-driven process, the Places29-Hydraulic Community Advisory Committee selected the Albemarle-Jouett-Greer School Pedestrian Connections as one of their priority projects. The critical need for this crosswalk was also identified in the "Safe Routes to School (SRTS) Travel Plan - Greer Elementary Jouett Middle" dated May 2012. The CAC used a portion of their NIFI allocation to leverage a VDOT Safe Routes to School grant for the design and construction of the project. Scope of work includes approximately 2015 ft of pedestrian improvements throughout the complex, including 485 ft of concrete sidewalk (8' wide); 1430 ft of multi-use trail (10' wide); and 100 ft of pedestrian crosswalks. Stormwater management for the additional impervious area will also be provided.



## **Project Update**

Bid opening on 9/15 occurred with one valid bid being received. The bid was roughly \$100K over budget. On 9/22 the Civil Engineer executed their bid analysis and recommended moving forward with the project and for the County to allocate additional funding to cover the deficit. FP&C identified the availability of additional funding for construction and contingency within the NIFI Projects general contingency fund. A request to move this money into the AHS JOU GRE SRTS project was sent out from FP&C on 10/1 and approved by the County Executive on 10/4. Additional funding confirmation and approval of Bid Analysis will be sent over to VDOT on 10/8. Contractor Notice to Proceed will be issued this November. Construction will start on or before February 14, 2022 and be substantially complete 120 days after the commencement of work.

Current Phase: Contractor Bid Budget: \$1,000,678.65

 % Complete:
 50%
 PO Balance:
 \$3,928.62

 Design % Complete:
 100%
 Paid to Date:
 \$146,940.71

 Construction % Complete:
 0%
 Balance:
 \$848,730.67

Updated: 10/7/2021
Managed By: Steve Hoffmann

**Substantial Completion:** 6/14/2022

#### NIFI - Mountain View SRTS

### **Project Scope**

Following an extensive community-driven process, the 5th and Avon Community Advisory Committee selected the Mountain View Elementary School Crosswalk as one of their priority projects. The critical need for this crosswalk was also identified in the "Virginia School Travel Plan - Mountain View Elementary" therefore the CAC used a portion of their NIFI allocation to leverage a VDOT Safe Routes to School grant for the design and construction of the project. The design includes a northern sidewalk connection to a planned Avon Street Extended sidewalk extension project and a southern sidewalk connection to the existing asphalt path on the western side of Avon Street Extended with a mid-block street crossing in front of Mountain View Elementary School.



#### **Project Update**

All work has been completed except for installation of: 1) off-season plantings on site and retention pond (scheduled for October) 2) guardrail end cap (on backorder); both to be completed by Contractor, and 3) streetlights which are on backorder by Dominion Energy.

**Current Phase: Budget:** Construction \$597,094.00 % Complete: 90% PO Balance: \$117,988.34 Paid to Date: **Design % Complete:** 100% \$436,072.09 **Balance: Construction % Complete:** 95% \$43,033.57

**Updated:** 9/27/2021

Managed By: Montie Breeden

**Substantial Completion:** 9/17/2021

# NIFI - The Square

### **Project Scope**

Following an extensive community-driven process, the Crozet Community Advisory Committee selected The Square and Oak Street Improvements as one of their priority projects. The Square is a focal point of Downtown Crozet and Oak Street will provide a critical connection to Library Avenue. Therefore the CAC used their NIFI allocation to leverage a Virginia Department of Transportation (VDOT) Revenue Sharing funds for the design and construction of the project. This locally administered Revenue Sharing project will improve the existing public street and on-street parking, including: altering traffic flow direction and/or ingress/egress at Crozet Avenue, formalizing and providing angled parking along both sides, new sidewalk in front of the businesses, improving ADA accessibility, grading/drainage improvements to prevent flooding of the businesses east of the alley intersection, and drainage system to convey storm runoff to Oak Street along with street, sidewalk and drainage improvements to Oak Street.



#### **Project Update**

VDOT has notified FP&C Staff that two design issues related to the alley off The Square will require a single design waiver. VDOT has also indicated that are willing to proceed with right-of-way (ROW) authorization concurrently with the design waiver review process. FP&C Staff met with the A/E team on 9/30 and directed them to proceed with preparations for these two processes. FP&C Staff will be scheduling a scope closure meeting with VDOT so that the County can request ROW authorization. FP&C Staff continue to coordinate with the Library Avenue project team on design coordination issues.

**Current Phase: Budget:** \$1,510,000.00 Design % Complete: PO Balance: 68% \$112,127.05 **Design % Complete:** Paid to Date: 80% \$162,678.35 **Construction % Complete: Balance:** 0% \$1,235,194.60

Updated: 10/7/2021

Managed By: Matt Wertman

Substantial Completion: 5/12/2023

# **Broadus Wood Well Upgrades**

#### **Project Scope**

This project is to provide adequate domestic water supply at Broadus Wood Elementary School. The existing well system needs to be replaced and upgraded to meet current Virginia Health Department (VHD) requirements. The goal of this project is to abandon the existing system, including the water storage tank, the pump house, chemical system, and associated plumbing lines. New improvements include a new water storage tank, new booster pumps, well casing improvements, and a new pump house.

### **Project Update**

The water tank arrived onsite on 8/30. Unknown field conditions discovered during excavation of the foundation pads - along with rainy weather - has delayed pouring the concrete footers and pads. Those conditions have been resolved, and the pads are scheduled to be poured the week of 10/18. Once the pads are poured, installation of the new water tank and associated piping will begin. All other auxiliary work associated with this project, including maintenance on the wells and infilling the abandoned tank on the interior courtyard have been completed.

**Current Phase:** Construction **Budget:** \$469,350.00 % Complete: PO Balance: 65% \$336,110.36 **Design % Complete:** Paid to Date: 100% \$117,794.64 **Construction % Complete: Balance:** 40% \$15,445.00

Updated: 10/7/2021

Managed By: Matt Wertman

Substantial Completion: 11/15/2021

# **Crozet Elementary Additions & Improvements**

### **Project Scope**

The Western County Feeder Pattern is a designated growth area in the county; additional capacity is needed to accommodate this anticipated growth. Crozet Elementary School is currently over capacity and additional students are anticipated. Additions and renovations will take place. This project includes an estimated 28,000 SF addition to the building, as well as making improvements to the existing building and site. The additions will include 16 classrooms, 3 smaller resource classrooms, 2 offices, a faculty workroom, and various support spaces. Improvements to the existing building will include improvements to existing classrooms, improvements to the kitchen, stage and cafeteria, and improvements to existing administration, support spaces, and toilets. Site improvements will include outdoor learning areas, new and expanded bus drop-off, additional parking, additional playground equipment, and the replacement of a paved play area due to the likely location of the addition.



#### **Project Update**

Work on the bus loop has been ongoing over the last month. The base coat of asphalt was laid on 10/6 and it is expected to be available for operation starting the week of 10/18 if the Schools desire. Joists and roof decking are complete and framing is currently underway on the kitchen addition. Footers, foundation walls, and under slab MEP rough-in are complete on the classroom addition. The lower level slab on grade is anticipated to be poured on 10/12. Immediately following that milestone, masonry work on the elevator shaft will commence. Steel erection on the movement space and classroom addition is anticipated to begin in late October or early November, depending on weather.

**Current Phase:** Construction **Budget:** \$21,250,000.00 % Complete: PO Balance: 65% \$13,433,896.16 **Design % Complete:** Paid to Date: 100% \$6,222,360.67 **Construction % Complete: Balance:** 40% \$1,593,743.17

Updated: 10/7/2021

Managed By: Matt Wertman

**Substantial Completion:** 8/5/2022

# **Learning Cottage Mountain View**

### **Project Scope**

ACPS is installing a Modular Learning Cottage at Mountain View. These added spaces will help accommodate students at the school with additional learning spaces. These (18) trailers will provide (8) classroom spaces and (2) restroom areas.

## **Project Update**

**Substantial Completion:** 

Trailers are set and being trimmed out. Utilities are being installed to connect water, sewer and power and expect to be complete by Friday 10/15. Steps and ramps to be delivered on Thursday 10/14. Furniture move in is scheduled for 10/28-10/29. Staff is preparing for students to start utilizing learning pods by the second quarter.

10/29/2021

**Current Phase: Budget:** \$105,000.00 Construction

% Complete: PO Balance: \$0.00 85% **Design % Complete:** Paid to Date: 100% \$0.00

**Construction % Complete: Balance:** 70%

\$105,000.00 **Updated:** 10/7/2021 Managed By: Tyler Gifford

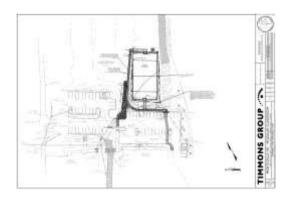
# **Learning Cottage-Monticello High**

### **Project Scope**

ACPS is installing a Modular Learning Cottage at Monticello Highschool. These added spaces will help accommodate students at the school with additional learning spaces. These (18) trailers will provide (8) classroom spaces and (2) restroom areas.

## **Project Update**

Trailers will be delivered and set the end of October. Utilities will be installed – connection to water, sewer and power - expected to be complete by 11/20. Steps and ramps to be delivered end of November along with paving. ACPS is preparing for students to start utilizing Learning Cottages by the end of the second quarter.



**Current Phase:** Construction

% Complete: 60%

Design % Complete: 100%

Construction % Complete: 25%

Updated: 10/8/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 12/1/2021

**Budget:** \$105,000.00

PO Balance: \$0.00

Paid to Date:

\_ .

**Balance:** \$105,000.00

\$0.00

# **Red Hill Gym Addition and Improvements**

#### **Project Scope**

This project is necessary for increased functionality of school operations, as well as for parity. The addition would add 6,300 square feet, comprised of a new gymnasium and support spaces such as staff offices and storage space. The current gym at Red Hill would be renovated, converting it to classroom space. Site work would include additional parking, site improvements, and outdoor learning areas. Existing spaces to be renovated include the cafeteria, bathrooms, hallways, and kitchen equipment.

### **Project Update**

GC is currently working on wrapping up interior Punch List items. AE and FP&C will return to the site in the coming week to execute the "Interior of the building" Back Punch List walk-thru with the contractor and confirm a planned final completion date for work in the field. Contractor has also been given additional work by Change Order to execute in the coming weeks – this additional work will have completion dates beyond the Final Completion date of the Phased Contract work. Final Completion of all scheduled contract work should conclude by the end of October.



**Current Phase:** Construction **Budget:** \$6,135,894.00 % Complete: PO Balance: 98% \$360,217.97 **Design % Complete:** Paid to Date: 100% \$5,350,975.27 **Construction % Complete:** Balance: \$424,700.76 96%

Updated: 10/11/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 8/13/2021

# Schools Restroom Upgrades Agnor Hurt and Green

### **Project Scope**

Similar project to upgrades made in summer of 2019, project will replace plumbing fixtures, toilet partitions, ceramic tile and new coats of paint. Work for this project will commence at Agnor Hurt and Greer.

## **Project Update**

**Updated:** 

Managed By:

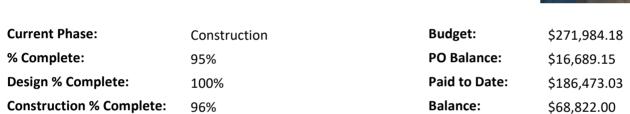
**Substantial Completion:** 

Substantial Completion was achieved on 08-20-21. Final Completion is pending the installation of a screen partition (Greer boys' toilet), and the storefront door (Greer media center). Expected Final completion has slipped from late-September to October. GC and A/E submission of close-out documents and PM transmittal of record documents to stakeholder is also pending. Anticipate project close-out by November.

9/27/2021

8/20/2021

Montie Breeden



# **Schools Summer Roofing Projects 2021 HEN**

### **Project Scope**

This summer's Roof Projects are the partial roof replacements at three schools: Henley Middle School, Walton Middle School, and Western Albemarle High School. At all three schools the work will entail removal of existing roof systems, and the installation of a new fully adhered EPDM roof system over tapered insulation. There is a total of 121,400 sf of roof to be replaced this summer with Henley receiving 32,943sf; Walton receiving 42,936sf; and Western receiving 45,518sf of new roof.

## **Project Update**

Roofing contractor, WA Lynch, completed roof work at Henley Middle School and is substantially complete. Contractor claimed Substantial Completion on 8/25 but remained on site to assist with roof coordination of re-installation of Solar Array. AE executed Punch List walk through on 8/31 and contractor executed all Punch List items by 9/23. Contractor and AE are currently working on wrapping up closeout documentation. Solar Array re-installation work continues by other contract - WA Lynch will visit site one more time for final closeout at completion of Solar Array work.



Current Phase: Closeout
% Complete: 99%

Design % Complete: 100%

Construction % Complete: 100%

Updated: 10/7/2021

Managed By: Steve Hoffmann

**Substantial Completion:** 8/25/2021

**Budget:** \$623,582.00

**PO Balance:** \$75,942.65

**Paid to Date:** \$547,639.35

**Balance:** 

# Scottsville Elementary Classroom Addition & Gym 2019

### **Project Scope**

The closing of Yancey ES added to the population of Scottsville Elementary School, requiring additional classroom learning space. This project will include a new gym, classroom addition and renovations in much of the school. The project will add 17,500 sf to the building as well as make improvements to the existing building and site. The additions will include 4 additional classrooms, 2 smaller resource classrooms, 2 offices, a gang bathroom, and a full-size gym. Improvements to the existing building will include repurposing the current gym into instructional space and other modernizations and renovations throughout the building to improve space for both students and staff. Site improvements will include outdoor learning areas and a septic system replacement.



#### **Project Update**

The contractor continues to work on the site work around the school. The majority of the area near the school is starting to grow grass. We anticipate the bioretention work to begin in early November. Items to be corrected are still on track to be completed by the end of winter break. These items include interior glazing replacements and canopy roof replacement. Long lead interior lighting upgrades in the main corridor will also be complete by the end of winter break.

**Current Phase: Budget:** Construction \$10,904,120.00 % Complete: 95% PO Balance: \$730,463.99 Paid to Date: **Design % Complete:** 100% \$8,931,722.98 **Construction % Complete:** Balance: 97% \$1,241,933.03

Updated: 10/7/2021

Managed By: Walter Harris

Substantial Completion: 8/2/2021

# Sidewalk Repair and Replacement-Multiple Campus

### **Project Scope**

This project will assess and address the conditions of accessible sidewalks at school campuses around the County. By working with a GC that specializes in sidewalk repairs, County Schools will be able to determine conditions of the existing sidewalks and work to formulate a multi-year sidewalk maintenance plan. The initial funding for this project will allow building services to implement the first year of this maintenance and repair plan and to address the more damaged/deteriorated areas of sidewalk at school campuses.

### **Project Update**

**Updated:** 

Managed By:

**Substantial Completion:** 

Sidewalk repair contractor, Precision Safe Sidewalk (PSS), has completed work at Western Albemarle High, Jack Jouett Middle, Monticello High, Henley Middle, Agnor Hurt Elementary, Meriwether Lewis Elementary, Murray Elementary schools as well as the Community Lab School. The next few campuses will include Woodbrook Elementary, Brownsville Elementary and the Vehicle Maintenance Facility. Work will continue being executed after hours either on evenings, weekends or holidays. All work is slated to be completed by early December.

10/7/2021

12/1/2021

Steve Hoffmann



**Current Phase:** Construction **Budget:** \$75,000.00 % Complete: PO Balance: 85% \$36,139.00 **Design % Complete:** Paid to Date: 100% \$34,816.00 **Construction % Complete:** Balance: 75% \$4,045.00

# WAHS Softball Restrooms/ADA

#### **Project Scope**

This project provides: 1) toilet, concession, and press-box facilities for the girls' softball program and 2) ADA ramps a) between the school building and the paved driving range and b) at the football stadium seating; both utilized by the band program for practice and performance.

## **Project Update**

Contract negotiations are proceeding after Board of Supervisors approval of additional funding at their first meeting in October. In the meantime, the purchase of nutrient credits is underway and completion of that deal will enable the site plan, WPO, and building permit application reviews to be completed. Expected timeframe for reviews: October through November. It is anticipated construction could start by December provided all reviews are in order.



**Current Phase: Budget: Contractor Bid** \$829,000.00 % Complete: PO Balance: 69% \$12,788.50 **Design % Complete:** Paid to Date: 100% \$19,075.66 **Construction % Complete: Balance:** 0% \$797,190.86

**Updated:** 9/27/2021

Managed By: Montie Breeden

**Substantial Completion:** 3/14/2022

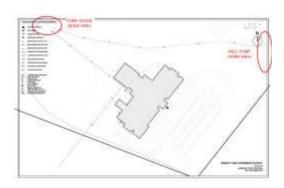
#### **Walton Domestic Water Supply Replacement**

#### **Project Scope**

Replace the existing private water works system, which has reached the end of its useful life, with a new one.

#### **Project Update**

Design is mostly complete. Site Plan has been reviewed and approved by the County. The second VA Dept. of Health review is underway. Bidding is anticipated to occur during early-Winter '21 with construction starting in early-Spring '22 and system change-over occurring during Summer '22.



Current Phase:Design% Complete:46%Design % Complete:85%Construction % Complete:0%

**Updated:** 9/27/2021

Managed By: Montie Breeden

**Substantial Completion:** 8/12/2022

 Budget:
 \$350,000.00

 PO Balance:
 \$52,906.40

 Paid to Date:
 \$47,155.60

 Balance:
 \$249,938.00

## **Transportation**

#### **Berkmar Bike Ped Improvements**

#### **Project Scope**

This project will support pedestrian and bicyclist safety by constructing an approximately 1.1 mile long Shared-use Path from the Berkmar Drive/Rio Road West intersection to Hilton Heights Road and connect to the Shared-Use Path extending northward from the Berkmar Drive-Hilton Heights Road roundabout. Segment 1 is from Rio Road West to the commercial entrance behind Kroger at Rio Hill. Segment 2 starts at the commercial entrance behind Kroger at Rio Hill and continues to the round-about at Hilton Heights Road.

#### **Project Update**

Design consultant (AMT) is ready to submit revised Segment 1 - Preliminary 30% Plans pending staff responses to the clarifications requested by the consultant. Staff will continue to review the Segment 2 - Preliminary 30% Plans and Cost Estimate. Once staff is satisfied that the 30% plans are ready, they'll be submitted to VDOT for review.

Current Phase:Design% Complete:15%Design % Complete:32%Construction % Complete:0%

Updated: 10/7/2021
Managed By: Jack Kelsey
Substantial Completion: 8/13/2025

**Budget:** \$2,890,026.00

PO Balance: \$319,827.83

Paid to Date: \$153,490.63

Balance: \$2,416,707.54

## **Transportation**

#### Earlysville Road\_Reas Ford Study

#### **Project Scope**

Over the past 5 years safety concerns have been identified at the Reas Ford Rd/Earlysville Road Intersection in north-central Albemarle County. As a result, VDOT and Albemarle County have been evaluating this intersection for potential improvements that might address these concerns.

In support of this effort, two studies were produced by VDOT (2018 & 2019). Each included historical crash data, an assessment of the factors contributing to the crashes, intersection level of service, and other geometric, and volume information. Both also offer recommendations for short to long-term improvements to address the safety issues.

Initial recommendations that included vegetation clearing, new replacement signage, and new and improved pavement markings were all completed in 2019. In May through June 2020, Albemarle County worked with VDOT to install a flashing LED stop sign on Reas Ford Rd., approaching the intersection from the south and radar speed detection and display signs (showing drivers their speed) on Earlysville Rd approaching the intersection from both the east and west. These were funded through the Secondary Six Year Plan and are being maintained by VDOT.

The recommendations in the two past studies point to a potential reconfiguration of the intersection into a roundabout as the next step to take if safety continues to be an issue. The 2019 study developed a concept and cost estimate of approximately \$2 Million for this roundabout. The Albemarle County Board of Supervisors have identified some initial funding to begin to evaluate the best options at this point. Therefore, Albemarle County is contracting with a transportation engineering consultant to provide the necessary evaluation, analysis and report that would include concepts and estimated cost of the project so that the County can determine what the next steps are at this intersection.

#### **Project Update**

Task Order to AMT Engineering was executed and sent to design firm on September 10, 2021. AMT is currently working on review of previous studies and traffic data collection.

 Current Phase:
 Design
 Budget:
 \$350,000.00

 % Complete:
 5%
 PO Balance:
 \$54,480.00

Design % Complete: 5% Paid to Date: \$0.00

Construction % Complete: 0% Balance: \$295,520.00

Updated: 10/11/2021
Managed By: Blake Abplanalp

**Substantial Completion:** 12/24/2021

# Capital Projects Report - Facilities and Environmental Services Transportation

## Eastern Avenue Preliminary Study

#### **Project Scope**

This project will provide a location study and the design of preliminary plans for approximately 3,000 linear feet of roadway and a bridge crossing over Lickinghole Creek. It will include the evaluation and recommendation of a preferred alignment and bridge crossing, development of the conceptual design for the roadway and bridge, an engineer's opinion of probable construction cost to support Albemarle County request for funding, as well as environmental and traffic engineering analysis.

#### **Project Update**

As part of the Revenue Sharing final application process, our consultant (Kimley-Horn) submitted an updated cost estimate based on the outcome of the risk & cost factors meeting with VDOT. VDOT has concurred with the revised estimate. CDD is finalizing the Revenue Sharing application for the 10-08-21 extended deadline. Our consultant is coordinating a proposal for geotechnical field work and a data report in the area of the proposed bridge supports for consideration as a change order to the preliminary design scope. This data will inform the bridge foundation design and reduce the potential risk and associated contingency cost. Draft property entry notice letters are being reviewed by staff.

Current Phase: Design
% Complete: 100%
Design % Complete: 100%
Construction % Complete: 0%

Updated: 10/7/2021
Managed By: Jack Kelsey
Substantial Completion: 6/9/2021

**Budget:** \$275,000.00

**PO Balance:** \$42,551.54

**Paid to Date:** \$226,937.16

**Balance:** \$5,511.30

### **Transportation**

#### Sidewalk - Commonwealth/Dominion

#### **Project Scope**

Design and construct approximately 6,450 feet of sidewalk on Commonwealth Drive from Hydraulic Road to Peyton Drive (east side); Commonwealth Drive from Commonwealth Circle to Dominion Drive (both sides); and along Dominion Drive from Commonwealth Drive to US 29 (both sides). Funded through the Revenue Sharing and Transportation Alternatives Programs grant applications administered by Virginia Department of Transportation (VDOT). Initial planning including VDOT related submissions represent a large portion of the up-front work. There are approximately 100 easements or temporary easements required for this project.



#### **Project Update**

The Staff Team met with County Executive Office staff on 9-8-21 to review conceptual design alternatives and project cost estimates. Feedback on the presentation, exhibits, are being incorporated in revisions to those documents. The end product of this work is intended to clearly illustrate impacts on residents in this area for the several concepts which have been generated to successfully enhance bicycle and pedestrian safety in this neighborhood.

**Current Phase: Budget:** \$3,336,224.00 Design % Complete: PO Balance: 29% \$338,741.28 **Design % Complete:** Paid to Date: 29% \$161,417.88 **Construction % Complete:** 0% Balance: \$2,836,064.84

Updated: 10/7/2021
Managed By: Jack Kelsey
Substantial Completion: 1/10/2025

## **Transportation**

#### Sidewalk - Ivy Road

#### **Project Scope**

This VDOT Revenue Sharing project supports pedestrian safety by providing sidewalk along Ivy Road from the existing sidewalk at the Charlottesville City limits to Stillfried Lane with a potential future extension along the University of Virginia property to the Route 29/250 Bypass interchange. The project includes crosswalks and pedestrian signals at the Old Ivy Road (railroad underpass) and Ivy Road intersection; bike lane facilities, curb & gutter, storm drainage system improvements; and consideration for possible street trees and pedestrian lighting. Complicated right-of-way acquisitions are a challenge on this project.



#### **Project Update**

The contractor began work Monday, October 4th. They installed temporary traffic signage and began locating the existing utilities within the work area. On October 12th, they plan to start the work between Stillfried Lane and Twin Sycamores Lane, starting with the removal of an existing hydrant. Then on October 19th, they plan to remove the three sycamore trees at the Saint Anne's School. Every two weeks, the contractor will provide a two-week look ahead which the County will use to keep the community informed of construction activities that may impact them.

**Current Phase: Budget:** Construction \$3,078,000.00 % Complete: 28% PO Balance: \$2,078,430.95 **Design % Complete:** 100% Paid to Date: \$781,757.82 **Construction % Complete: Balance:** 2% \$217,811.23

Updated: 10/7/2021

Managed By: Walter Harris

**Substantial Completion:** 8/30/2022

## **Transportation**

#### Sidewalk - Library Avenue

#### **Project Scope**

This project will extend Library Avenue westward through the Barnes Lumber property to connect to High Street and then to Hilltop Street in Parkside Village as well as a connection to The Square. This is being proposed as a public private partnership with the developer of the Barnes Lumber property.

#### **Project Update**

Staff completed a quality control/construction review of the water & sewer plans Timmons had prepared for the RWSA & ACSA and the review comments and responses. Staff comments are being finalized and will be sent to Timmons on 10-08-21. Timmons will address the WPO/Stormwater Management plans and add the necessary easements to the Right-of-way (60%) Plans. Economic Development followed up with JMT and their report on the assessment of the Dominion Energy utility line relocation alternatives and costs estimates will be provided by 10-08-21. Establishing the utility relocation alignment and necessary easements is currently the critical path for finalizing the Right-of-Way (60%) plans. Staff will review the revisions to the County Attorney Office's revised draft project management agreement. Economic Development is targeting January to discuss with the Board of Supervisors the need for additional project funding and possible amendment of the public-private agreement.

**Current Phase: Budget:** \$0.00 Design PO Balance: % Complete: \$0.00 57% **Design % Complete:** Paid to Date: 83% \$0.00 **Construction % Complete:** Balance: 0% \$0.00

Updated: 10/7/2021
Managed By: Jack Kelsey
Substantial Completion: 7/3/2023

# Capital Projects Report - Facilities and Environmental Services Transportation

#### Sidewalk - Rio Road, Avon Street & Rt. 250 West-Crozet

#### **Project Scope**

VDOT Revenue Sharing project supports pedestrian safety by providing sidewalk improvements along Rio Road, Avon Street, and US 250 West (Rockfish Gap Turnpike). The Rio Road Sidewalk Improvement project will connect the Stonehenge residential neighborhood to the John Warner Parkway and Rio Road sidewalk system. The Avon Street Walkway/Crosswalks Improvement project will provide sidewalks on the east side from Swan Lake Drive to Mill Creek Drive and then to Cale Elementary School and on the west side from Stoney Creek Drive to Arden Drive. The US 250 West-Crozet project will consist of the construction of sidewalk and crosswalks from Cory Farms to the Cloverlawn commercial area and Blue Ridge Shopping Center.



#### **Project Update**

Construction on Rio Road began on 9/27. To date, E&S controls have been established and some materials have been delivered to site. Weather has caused some initial delays in progress. Work on Rockfish Gap Turnpike is expected to start in late October to early November. FP&C and CAPE Staff have distributed communications to various individuals and businesses in the vicinity of the Rio Road work and are preparing to do the same for the Rockfish Gap portion of work. FP&C Staff are finalizing procurement efforts for the materials testing work that is associated with the project.

**Current Phase: Budget:** Construction \$5,005,208.72 % Complete: PO Balance: 93% \$3,609,675.95 Paid to Date: **Design % Complete:** 100% \$1,039,206.81 **Construction % Complete:** 1% Balance: \$356,325.96

Updated: 10/7/2021

Managed By: Matt Wertman

**Substantial Completion:** 6/2/2022

# Summary - Active Capital Projects

Jack Jouett				
Project Name	Project Type	ProjectPhase	% Complete	Budget
Ivy Creek Natural Area ADA Paved Trail	Local Government	Construction	80%	\$81,500
NIFI - Albemarle Jouett Greer SRTS	NIFI	Contractor Bid	50%	\$1,000,679
Sidewalk - Commonwealth/Dominion	Transportation	Design	29%	\$3,336,224

Total: \$4,418,403

Rio				
Project Name	Project Type	ProjectPhase	% Complete	Budget
Broadus Wood Well Upgrades	Schools	Construction	65%	\$469,350
Berkmar Bike Ped Improvements	Transportation	Design	15%	\$2,890,026

Total: \$3,359,376

Samuel Miller				
Project Name	Project Type	ProjectPhase	% Complete	Budget
Southern Convenience Study	Local Government	Design	10%	\$1,100,000
Red Hill Gym Addition and Improvements	Schools	Construction	98%	\$6,135,894
Walton Domestic Water Supply Replacement	Schools	Design	46%	\$350,000
Old Lynchburg Sidewalk Improvements	Transportation		0%	\$0

Total: \$7,585,894

Scottsville				
Project Name	Project Type	ProjectPhase	% Complete	Budget
Biscuit Run Phase 1a	Local Government	Design	50%	\$2,171,755
COB 5th Roof Replacement	Local Government	Design	1%	\$257,441
Scottsville Comm Center HVAC Replacement	Local Government	Construction	25%	\$314,260
NIFI - Mountain View SRTS	NIFI	Construction	90%	\$597,094
Learning Cottage Mountain View	Schools	Construction	85%	\$105,000
Learning Cottage-Monticello High	Schools	Construction	60%	\$105,000
Scottsville Elementary Classroom Addition & Gym 2019	Schools	Construction	95%	\$10,904,120

Total: \$14,454,670

White Hall				
Project Name	Project Type	ProjectPhase	% Complete	Budget
NIFI - The Square	NIFI	Design	68%	\$1,510,000
Crozet Elementary Additions & Improvements	Schools	Construction	65%	\$21,250,000
WAHS Softball Restrooms/ADA	Schools	Contractor Bid	69%	\$829,000
Eastern Avenue Preliminary Study	Transportation	Design	100%	\$275,000
Sidewalk - Library Avenue	Transportation	Design	57%	\$0

Total: \$23,864,000

Multiple				
Project Name	Project Type	ProjectPhase	% Complete	Budget
Facilities Master Plan Study	Local Government	Design	40%	\$159,390
Schools Restroom Upgrades Agnor Hurt and Greer	Schools	Construction	95%	\$271,984
Schools Summer Roofing Projects 2021 HEN	Schools	Closeout	99%	\$623,582
Sidewalk Repair and Replacement-Multiple Campus	Schools	Construction	85%	\$75,000
Sidewalk - Ivy Road	Transportation	Construction	28%	\$3,078,000
Sidewalk - Rio Road, Avon Street & Rt. 250 West-Crozet	Transportation	Construction	93%	\$5,005,209

Total: \$9,213,165

NA				
Project Name	Project Type	ProjectPhase	% Complete	Budget
COB McIntire Window Replacement	Local Government	Construction	60%	\$1,681,791
Courts Complex Addition & Renovation	Local Government	Design	20%	\$30,993,225

Total: \$32,675,016

\$95,570,523

Local Government				
Project Name	Magisterial District	ProjectPhase	% Complete	Budget
Biscuit Run Phase 1a	Scottsville	Design	50%	\$2,171,755
COB 5th Roof Replacement	Scottsville	Design	1%	\$257,441
COB McIntire Window Replacement	NA	Construction	60%	\$1,681,791
Courts Complex Addition & Renovation	NA	Design	20%	\$30,993,225
Facilities Master Plan Study	Multiple	Design	40%	\$159,390
Ivy Creek Natural Area ADA Paved Trail	Jack Jouett	Construction	80%	\$81,500
Scottsville Comm Center HVAC Replacement	Scottsville	Construction	25%	\$314,260
Southern Convenience Study	Samuel Miller	Design	10%	\$1,100,000

Total: \$36,759,362

NIFI				
Project Name	Magisterial District	ProjectPhase	% Complete	Budget
NIFI - Albemarle Jouett Greer SRTS	Jack Jouett	Contractor Bid	50%	\$1,000,679
NIFI - Mountain View SRTS	Scottsville	Construction	90%	\$597,094
NIFI - The Square	White Hall	Design	68%	\$1,510,000

Total: \$3,107,773

### Schools

Project Name	Magisterial District	ProjectPhase	% Complete	Budget
Broadus Wood Well Upgrades	Rio	Construction	65%	\$469,350
Crozet Elementary Additions & Improvements	White Hall	Construction	65%	\$21,250,000
Learning Cottage Mountain View	Scottsville	Construction	85%	\$105,000
Learning Cottage-Monticello High	Scottsville	Construction	60%	\$105,000
Red Hill Gym Addition and Improvements	Samuel Miller	Construction	98%	\$6,135,894
Schools Restroom Upgrades Agnor Hurt and Greer	Multiple	Construction	95%	\$271,984
Schools Summer Roofing Projects 2021 HEN	Multiple	Closeout	99%	\$623,582
Scottsville Elementary Classroom Addition & Gym 2019	Scottsville	Construction	95%	\$10,904,120

Schools				
Project Name	Magisterial District	ProjectPhase	% Complete	Budget
Sidewalk Repair and Replacement-Multiple Campus	Multiple	Construction	85%	\$75,000
WAHS Softball Restrooms/ADA	White Hall	Contractor Bid	69%	\$829,000
Walton Domestic Water Supply Replacement	Samuel Miller	Design	46%	\$350,000

Total: \$41,118,930

Transportation				
Project Name	Magisterial District	ProjectPhase	% Complete	Budget
Berkmar Bike Ped Improvements	Rio	Design	15%	\$2,890,026
Earlysville Road_Reas Ford Study	Rio	Design	5%	\$350,000
Eastern Avenue Preliminary Study	White Hall	Design	100%	\$275,000
Old Lynchburg Sidewalk Improvements	Samuel Miller		0%	\$0
Sidewalk - Commonwealth/Dominion	Jack Jouett	Design	29%	\$3,336,224
Sidewalk - Ivy Road	Multiple	Construction	28%	\$3,078,000
Sidewalk - Library Avenue	White Hall	Design	57%	\$0
Sidewalk - Rio Road, Avon Street & Rt. 250 West-Crozet	Multiple	Construction	93%	\$5,005,209

Total: \$14,934,459

\$95,920,523