

# Application to DHCD Submitted through CAMS

Thomas Jefferson Planning District Commission

TJPDC/Firefly - RISE II - VATI

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**Application ID:** 95708122022143423

**Application Status:** Pending

**Program Name:** Virginia Telecommunication Initiative 2023 - Application

**Organization Name:** Thomas Jefferson Planning District Commission

**Organization Address:** 401 E. Water Street  
Charlottesville, VA 22902

**Profile Manager Name:** Christine Jacobs

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**Project Name:** TJPDC/Firefly - RISE II - VATI

**Project Contact Name:** Lori Allshouse

**Project Contact Phone:** (434) 979-7310

**Project Contact Email:** lallshouse@tjpd.org

**Project Location:** 401 E. Water Street  
Charlottesville, VA 22902-5241

**Project Service Area:** Albemarle County, Cumberland County, Greene County, Madison County

**Total Requested Amount:** \$12,989,017.00

**Required Annual Audit Status:** Under Review

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## Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
<b>Telecommunications</b>	<b>\$12,989,017.00</b>	<b>\$10,199,628.00</b>	<b>\$23,188,645.00</b>
Construction	\$12,989,017.00	\$0.00	\$12,989,017.00
Construction Related Soft Costs	\$0.00	\$10,199,628.00	\$10,199,628.00
<b>Total:</b>	<b>\$12,989,017.00</b>	<b>\$10,199,628.00</b>	<b>\$23,188,645.00</b>

### Budget Narrative:

The total budget for the project is \$23,188,645 and the VATI grant request is \$12,989,017. The counties will be contributing \$1,170,000 and the private utilities will contribute \$9,029,628. The project includes 311 miles of fiber construction and passes 3625 locations. This is a continuation and expansion of the VATI 2022 project. This proposal balances private investment with the necessary grant funds to make the project economically feasible and deliver gigabit speed broadband availability to all unserved locations within the region. Further details regarding the budget can be found in the response to Question 17.

## Questions and Responses:

### 1. Project Description and Need

Describe why and how the project area(s) was selected. Describe the proposed geographic area including specific boundaries of the project area (e.g. street names, local and regional boundaries, etc.). Attach a copy of the map of your project area(s). Label map: Attachment 1 – Project Area Map.

### Answer:

This 2023 VATI proposal includes four counties (Albemarle, Cumberland, Greene, and Madison), touching into three different regional planning districts. The project will bring broadband at gigabit speeds to 3,625 locations.

In 2022, Thomas Jefferson Planning District (TJPD) and Firefly Fiber Broadband were awarded for a successful application for a regional project to make gigabit speed broadband service available universally to locations that qualified as unserved under the 2022 VATI program guidelines. Since that award, an FCC Rural Digital Opportunity Fund auction winner for areas in Madison County has defaulted on their RDOF commitment leaving the area unserved. The 2023 revisions to VATI guidelines raised the minimum speed required to be considered served making them eligible for inclusion in this year's VATI application.

The project area for 2023 was selected carefully to assure universal broadband service availability to every unserved location in a contiguous rural region of central Virginia. The project service area leverages proximity to the original Central Virginia Electric Cooperative (CVEC) fiber network buildout, the Firefly Fiber Broadband fiber optic network, and the Firefly Fiber Broadband partnerships with Rappahannock Electric Cooperative and Dominion Energy. The project will extend the fiber optic network operated by Firefly to reach the newly eligible unserved locations throughout central Virginia.

The fiber optic network buildout extended to these locations presently serves, or will be built out to serve, rural portions of 13 counties. Construction of the fiber network began in 2018 and will bring world-class internet access to almost 40,000 locations by the end of 2022. Plans are underway to pass another 45,000 locations by the end of 2025. The project area for this VATI 2023 application assures that all unserved locations across the 13 counties, using the 2023 VATI guideline definition of unserved, have access to fiber connected broadband service at up to gigabit speeds through expansions from the Firefly network.

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The project map, with the VATI eligible areas specifically identified, is included as Attachment 1 – Map 1 Regional Project Area Map.

Also included is a map for each county and a discussion of the project area for each county to provide more detail of specific service areas with the project. Firefly used all possible tools to create an accurate map of unserved locations throughout each county. A combination of online broadband maps (FCC Broadband, Commonwealth Connection, etc.), speed test data from Firefly and county surveys, and local information about internet availability were used to develop the very specific, proposed project service areas.

Albemarle County (Attachment 1 - Map 2): The map has cutouts throughout the service area that are locations near telephone company digital subscriber line multiplexers (DSLAMs). The proposed service area includes these areas which were avoided in the VATI 2022 application due to speeds of 25 to 50 mbps download and 3 to 20 mbps upload.

Cumberland County (Attachment 1 - Map 3): The proposed project area in the southern part of the county is bounded by RDOF areas awarded to Kinex. The locations within the proposed project area do not overlap the RDOF awarded areas and only have the option of unreliable wireless connectivity or DSL connections with speeds well below 100 mbps download and 20 mbps upload.

Greene County (Attachment 1 - Map 4): Areas included are near DSLAM locations where inadequate speed DSL is the only option other than unreliable wireless connectivity. This area has speeds less than 25 mbps download and 3 mbps upload, which qualifies it as a priority under VATI 2023 guidelines.

Madison County (Attachment 1 - Map 5): The proposed service area includes northern and northwest areas of the county where there are no options to receive service at 25 mbps download speed and 3 mbps upload speeds, and there is no cell phone coverage. This area qualifies as a priority build under the VATI 2023 guidelines.

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2. List existing providers in the proposed project area and the speeds offered. Describe your outreach efforts to identify existing providers and how this information was compiled with source(s).

**Answer:**

At least five approaches were used to identify existing providers and the services and plans offered in the area: Federal Communications Commission (FCC) data sets provided through BroadbandNOW.com; Commonwealth Connection; individual internet service provider websites; multiple press releases and paid advertisements to drive residents in the project area to take a survey which included a speed test component; data collected by our partner localities and their broadband authorities; and ride-outs of the project area to identify and confirm where other providers' networks started and ended.

Madison County issued an RFP for 2023 VATI and Firefly applied and was accepted as their partner. Firefly submitted an Unsolicited Proposal for VATI 2023 for a regional project that included Madison, Greene, Cumberland, and Albemarle counties to the Thomas Jefferson Planning District Commission (TJPDC). This proposal met the PPEA requirements and was publicly announced, and it was accepted by TJPDC on August 22, 2022.

In part of the proposed project area, Verizon is the incumbent telephone company or Incumbent Local Exchange Carrier ("ILEC"). Verizon did not accept Connect America Funds ("CAF") and has not performed any upgrades to its facilities in the project area to improve broadband availability. The Verizon ILEC network in this region meets VATI's "served" definition.

The other incumbent telephone company in this region is CenturyLink, which offers a mix of ADSL, VDSL, and FTTH. Using data from Calix regarding distances and speeds of different versions of xDSL, a 2,500-foot radius was created from every xDSL cabinet and hut that were identified in the field and addresses within the radius were entered on the carrier's website to determine which customers, if any, have access to xDSL speeds that exceed the VATI "unserved" definition.

United States Department of Agriculture (USDA) ReConnect program, FCC Connect American Fund (Auction 903), and VATI funded areas were removed from the project area.

CenturyLink is primarily offering ADSL and VDSL services with some smaller areas with FTTH. Their advertised speeds for xDSL range from up to 1.5Mbps - 100Mbps download. With their FTTH offering, they offer up to 940Mbps symmetrical.

According to the website Commonwealth Connection, there are some potentially-served areas, but in working with the localities, we deemed that the areas proposed are unserved or underserved.

Verizon is not offering FiOS services in the project area, or in areas that are only advertising download speeds up to 15Mbps.

Comcast is offering service in more densely populated areas with speeds ranging from 50Mbps - 2Gbps. They offer various pricing for different contract terms.

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3. Describe if any areas near the project have received funding from federal grant programs, including but not limited to Connect America Funds II (CAF II), ACAM, ReConnect, Community Connect, and Rural Digital Opportunity Funds (RDOF). If there have been federal funds awarded near the project area(s), provide a map showing these areas, verifying the proposed project area does not conflict with these areas. Label Map: Attachment 2 – Documentation on Federal Funding Area.

**Answer:**

CAF II funds were awarded to Firefly and they have been carved out of any areas in this grant application. The areas of CAF funding are shown on the Attachment 2 map.

ReConnect funds (2020 and 2021) were awarded to CVEC and Firefly but have been carved out of any areas in this grant application. ReConnect 2020 granted Firefly/CVEC a \$28 million grant/loan combination in Albemarle, Appomattox, Buckingham, Cumberland, Fluvanna, Goochland, and Louisa counties. ReConnect 2021 awarded Firefly a \$14 million grant, to include areas in Buckingham, Cumberland, Goochland, and Powhatan counties. The two ReConnect grant-funded service areas are shown on Attachment 2.

RDOF funds were granted to areas outside the project area, as well as some areas inside the project area. Firefly received RDOF funds for areas included in this project and for areas in the CVEC electric service territory adjacent to the project, and some other ISPs received funding for areas in or near the project as well. RDOF funds were awarded to Firefly and Shentel and RDOF inside the proposed project area and to CenturyLink and Kinex in adjacent areas. The RDOF funded areas in or near the service area are shown in Attachment 2.

Notes about Attachment 2: On August 10, 2022, the FCC announced that it has denied SpaceX the release of RDOF awards. Thus, defaulted RDOF areas for SpaceX in and near the proposed areas were removed from this map. The RDOF funding areas for Shentel within our proposed project area were returned/declined and thus that area is in default, thus making that area unserved and these areas were removed from the map. Also, Shentel's RDOF winning bid in Madison County was for a fixed wireless service with speeds of 50Mbps download.

4. Overlap: To be eligible for VATI, applicants must demonstrate that the proposed project area(s) is unserved. An unserved area is defined as an area with speeds below 100/20 Mbps and with less than 25% service overlap within the project area for wireless projects and 20% for wireline projects. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 3 – Documentation Unserved Area VATI Criteria.

**Answer:**

The geographic areas in our proposed VATI 2023 application do not have service available meeting or exceeding 100/20 Mbps based on data collected from multiple sources, including federal and state broadband coverage maps, county data on actual unserved locations, and field observations.

The project area map was laid on top of the Commonwealth Connection coverage map and federal maps. Where the maps indicated an overlap with a served area, we verified the areas were unserved using information from the counties and field observations.

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5. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 25 Megabits per second download and 3 Megabits per second upload speeds, as they will receive priority in application scoring. For projects with more than one service area, each service area must have delineated passing information. Label Attachment: Attachment 4 – Passings Form.
- a. Of the total number of VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.
  - b. If applicable, of the total number of RDOF passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.
  - c. If applicable, provide the number of passings that will require special construction costs, defined as a one-time fee above normal service connection fees required to provide broadband access to a premise . Describe the methodology used for these projections.
  - d. If applicable, provide the number of passings included in the application that will receive broadband access because special construction costs have been budgeted in the VATI application. Describe the methodology used for determining which passings with special construction costs were budgeted in the application.
  - e. Provide the number of passings in the project area that have 25/3 Mbps or less. Describe the methodology used for these projections. (up to 15 points)

**Answer:**

- a. See Attachment 4
- b. See Attachment 5
- c. See Attachment 4
- d. See Attachment 4
- e. There are 1,256 passings with speeds at 25/3 or below in the project area. These are passings are in Madison (986) and Greene County (270). The methodology to determine these passings was from prior state and federal grant applications in these service areas. In Madison County, the service area was previously an RDOF area, bid on and won by Shentel for a wireless project. They bid at speeds up to 50mbps download for that wireless project. In April, 2022, Shentel notified Madison County that it no longer planned to serve that area. Shentel pulled out of that commitment with RDOF and returned the funds to the FCC. The passings in this service area qualified for the RDOF auction because speeds were not available above 25/3 and this is still the case. In Greene County, we were able to determine 270 passings at or below 25/3 because this area was in a unsuccessful 2021 VATI application with Greene County and CenturyLink. This area was not funded in the 2021 round and the County of Greene shared their application details with Firefly and TJPDC to identify which passings qualified at that time at or below the 25/3 speed level, to include them in the current 2023 application with Firefly and TJPDC.

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6. Describe if any blocks awarded in Rural Digital Opportunity Fund (RDOF) are included in the VATI application area. If RDOF areas are included in the VATI application, provide a map of these areas and include information on number of passings in RDOF awarded areas within the VATI application area, and Census Block Group ID number for each block group in the project area. Label Attachment: Attachment 5 – RDOF Awarded Areas Form in VATI Area

**Answer:**

In the RDOF 904 Auction, Firefly Fiber Broadband, was awarded blocks that overlap slightly with the VATI application area. In these small overlap areas in Albemarle County, there are 95 passings as shown in the RDOF Passings Form included in Attachment 5. The map included in Attachment 5 will show where the pink RDOF areas overlap the orange VATI areas in Albemarle. As a point of clarification, there is no RDOF overlap in the previously awarded Shentel RDOF area in northwest Madison County because Shentel defaulted on that award and pulled out of their commitments to the FCC.

Below are the RDOF census blocks partially overlapped in the application.

No entire census block group is covered.

**County      Census block group ID**

Albemarle    510030104013

510030112011

510030112012

510030112013

510030112021

510030112022

510030113013

510030113014

510030114001

510030114004

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7. **For wireless projects only:** Please explain the ownership of the proposed wireless infrastructure. Please describe if the private co-applicant will own or lease the radio mast, tower, or other vertical structure onto which the wireless infrastructure will be installed.

**Answer:**

This is not a wireless project, so the question is not applicable.

8. **Network Design:** Provide a description of the network system design used to deliver broadband service from the network's primary internet point(s) of presence to end users, including the network components that already exist and the ones that would be added by the proposed project. Provide a detailed explanation of how this information was determined with sources. Provide information on how capacity for scalability, or expansion, of how the network can adapt to future needs. If using a technology with shared bandwidth, describe how the equipment will handle capacity during peak intervals. For wireless projects, provide a propagation map for the proposed project area with a clearly defined legend for scale of map. Label Map: Attachment 6 – Propagation Map Wireless Project.

**Answer:**

This project is fiber-to-the-home network expansion utilizing new fiber optic cables placed on Dominion Energy (DE) and Rappahannock Electric Cooperative (REC) electric distribution facilities. In the DE service area, the Dominion Energy Middle Mile program will be used to place fiber along the DE lines, which will be leased to Firefly, and Firefly will extend the fiber in service drops to homes and businesses or extend fiber down laterals and then build the service extensions. In REC territory, Firefly will oversee the construction of fiber which REC will own and lease to Firefly, with Firefly providing retail internet service.

The project will tie into Firefly's existing fiber network and or into its RISE project (VATI 2022).

Additional equipment will be needed in some communication huts to support these additional locations. The use of fiber optic cable provides a world-class solution to deliver broadband internet service for now and for the foreseeable future to the rural residents. This technology provides the most reliable, highest speed service transfer of data in the marketplace.

Firefly will be using 32:1 ratio on the network (or up to 32 customers per PON) for residential and small office/home office customers. G-PON has a shared bandwidth per PON of 2.488 Gbits/s downstream and 1.244 Gbits/s upstream. For additional capacity planning the G-PON network can be easily upgraded to allow for 10G PON without a major overhaul.

Firefly currently has G-PON deployed to over 15,000 customers in central Virginia with the current utilization of 2-4% per PON using a 32:1 ratio. If utilization increases over 70%, the PON will be split to lower the utilization. In addition, Firefly will deploy enough fiber for an Active Ethernet overlay for enterprise customers needing symmetrical internet connection speeds. Enterprise services have dedicated bandwidth and a service level agreement with support 24/7/365.

Firefly has diverse connections into peering points in both Richmond and Ashburn, Virginia, and utilizes two upstream providers. Within the next several months, Firefly will add a peering point in Ashburn that will include an additional two upstream providers. Firefly's backbone is currently at 100G, but is capable of reaching speeds of up to 400G channels.

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9. Speeds: Describe the internet service offerings, including download and upload speeds, to be provided after completion of the proposed project. Detail whether that speed is based on dedicated or shared bandwidth, and detail the technology that will be used. This description can be illustrated by a map or schematic diagram, as appropriate. List the private co-applicant's tiered price structure for all speed offerings in the proposed project area, including the lowest tiered speed offering at or above 100/20 Mbps. (up to 10 points)

**Answer:**

Internet service will be available at symmetrical gigabit level speed to every home and business. Firefly has a 100Gbps backhaul connection from the network head end that can be easily expanded as necessary to ensure each user will be able to transmit and receive at the 1 Gbps rate, should they choose to. Some users may choose the 100Mbps option, therefore leaving more capacity in the network. Diversity of data usage typically will allow a 100Gbps connection to meet the needs of thousands of end-users in systems offering gigabit level service. Network monitoring will ensure there is never a slow down or lack of bandwidth for the users to access the internet at the speed at which they pay.

The broadband services being offered will be Fiber to the Premise (FTTP). Both Passive Optical Network (PON) and Active Ethernet equipment can be used to meet both residential and business needs. PON is a shared bandwidth technology and Active Ethernet is dedicated bandwidth. For Residential Fiber to the Home (FTTH) service, gigabit passive optical network (G-PON) will be deployed and for Business Fiber service either G-PON or Active Ethernet will be used based on business needs. As needed, a different card can be inserted in a chassis and next generation 10G-PON can be run on the same fibers as the G-PON and offer even higher speeds once we upgrade the equipment at the select homes/businesses.

Our tiered pricing structure has no contracts, bandwidth limits, data caps, overages, and no hidden fees or introductory pricing. A carrier-grade Wi-Fi 6 (latest standard) router is included at no charge, and only symmetrical bandwidth plans are offered. There are two residential plans: 100Mbps for \$49.99/month and 1Gbps for \$79.99/month. Standard business plans are 100Mbps for \$79.99/month; 250Mbps for \$149.99/month; and 1Gbps for \$249.99/month. Advanced business services are offered and include dedicated point-to-point or point-to-multipoint connections, and these are quoted on a case-by-case basis. Residential voice with unlimited long distance is \$34.99/month, if stand-alone; a \$5 credit is given if combined with internet service. Business phone service starts at \$29.99/month with unlimited long distance. Advanced business phone services like multi-line PRI's and SIP trunking are also available.

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10. Explain how the proposed project achieves universal broadband coverage for the locality or fits into a larger plan to achieve universal broadband coverage for the locality. If applicable, explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage. (up to 50 points)

**Answer:**

Universal broadband coverage for the central Virginia region is a focus of the Thomas Jefferson Planning District (TJPD) and Firefly project. TJPD and Firefly received a VATI 2022 grant for a project that provided universal coverage for 13 counties in the central Virginia region. Modifications to the grant program guidelines for 2023 changed the definition of a served location, creating new unserved locations in four of those counties: Albemarle, Cumberland, Greene, and Madison. This project expands the fiber optic network to cover all locations that meet the definition of unserved under the 2023 guidelines, once again assuring universal broadband internet access availability across the entire central Virginia region.

To assure universal access, the project will include line extensions of up to 2,500 feet for any location without additional charges to the subscriber. To address digital equity, there will be no limit for line extensions without additional cost to full time dwellings of any low to moderate income family. Universal service also requires a thoughtful approach to affordability. There will be no account setup fee or charge of any type for those who sign up for service while construction is ongoing in an area. There are no contracts to force the commitment of a potentially expensive balance of contract payment in a rural area that might not offer secure employment options. The level of funding request is set to allow low rates to be offered throughout the service area, \$49.99 monthly for 100 mbps service and \$79.99 for gigabit service. In the proposal, Firefly is the service provider for all locations and is active in the FCC ACP program. Firefly intends to pursue all other options for support and assistance for those who are challenged to afford universal broadband access, which will include the base price package. This project does not just approach universal broadband access from a construction standpoint, but also includes digital equity and inclusion components which are essential to truly universal access.

When this project is complete, Albemarle, Cumberland, Greene, and Madison counties will have service available at a minimum of 100/20 level for every home and business. When added to the eight counties included in the project last year which do not have any unserved locations under the VATI 2023 guidelines (Amherst, Appomattox, Buckingham, Fluvanna, Goochland, Louisa, Nelson, and Powhatan), plus expanded coverage for a few small areas of Campbell County and Cumberland County for which they have partnered with other providers, the central Virginia region will have universal coverage under the present definition of broadband. From Richmond west to the Blue Ridge Parkway, from Lynchburg to the Culpeper County line, considering the CVEC fiber network, the fiber projects funded by CARES and VATI projects for Firefly and other ISPs, and this project, there will be more than 100,000 rural locations with speeds up to one gigabit per second available as part of the universal broadband coverage in the area.

The region will be served by a sustainable and easily upgradable and expandable network that can grow to meet the broadband needs of the region for decades ahead. Yes, this project meets the goal of providing universal service access across an entire region of the Commonwealth.

11. **Project Readiness**

Describe the current state of project development, including but not limited to: planning, preliminary engineering, identifying easements/permits, status of MOU or MOA, and final design. Prepare a detailed project timeline or construction schedule, identifying specific tasks, staff, contractor(s) responsible, collection of data, etc., and estimated start and completion dates. Applicants are encouraged to extensively discuss, where applicable, easements relating to railroad crossings, federally-owned lands and parks, partnerships with the Virginia Department of Transportation, and mobile home parks. Applicants must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 7 – Timeline/Project Management Plan; Attachment 8 – MOU/MOA between Applicant/Co-Applicant; (up to 10 points)

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## Answer:

This Firefly project is an extension and continuation of the regional fiber optic network buildout with which it has been associated since 2018, and it includes the large VATI 2022 project which is poised to have construction begin within weeks. Through partnerships with its parent company, CVEC, plus other utility partners, Firefly has been involved with projects that have in excess of 1,000 miles of fiber per year in recent years, with plans for that pace to continue for three more years. This VATI 2023 project will expand that network into unserved areas, providing an efficient and cost-effective solution for providing universal coverage.

The project team is in place. Firefly has partnered with Dominion Energy and Rappahannock Electric Cooperative (REC) for construction in their electric service territories. Firefly also has developed business relationships with Appalachian Power (APCo) for sharing of data and coordination of make ready construction. Firefly intends to use the same team of Conexon and S&N Communications, who have worked on the CVEC project. Conexon will provide fiber design and contract management and S&N performs construction overhead and underground. Graybar will provide materials and materials management services as they have for CVEC and REC in the ongoing fiber construction projects.

The planning for the project is underway. Firefly has received electric facilities data from each utility to perform the complete design and planning for the buildout. Preliminary project planning is complete to help develop cost estimates.

In the Dominion Energy service area in Cumberland and parts of Albemarle, Firefly and Dominion will use the Dominion Middle Mile program made possible by the state utility leverage legislation. Dominion will own and maintain the fiber it builds on its system, leasing it to Firefly for use in extending retail internet access. Firefly will build fiber from the demarcation point on the Dominion poles, extending Firefly owned facilities to homes and down shorter taps to assure all locations in the Dominion service area of the project have broadband access. Firefly is providing access point requests and Dominion will soon begin internal design processes. Dominion plans to file for SCC approval soon after an announcement of a TJPDC-Firefly award in these areas. Dominion will use its own design firm and fiber contractors which will bring more resources into the project. The Dominion construction of the backbone in these areas expedites the build and limits Firefly to only need data collection and construction for laterals and service drops.

The partnership agreement with REC declares REC will own the fiber and all outside plant assets except for communication huts and associated electronics, and Firefly will lease the facilities, maintain them, and provide retail internet service. In the REC service territory, REC is managing the make ready engineering and make ready construction. Firefly will oversee the design and construction of the fiber plant. Preliminary system planning is complete. Due to the quality of the REC mapping data no field data collection is required, saving several thousand dollars per mile. The Firefly-REC partnership will bring universal coverage to Greene and Madison counties as well as parts of Albemarle County.

For APCo electric service territory, APCo will be responsible for all make ready engineering and make ready construction. Firefly will build its fiber on the APCo facilities in the telecommunications space. Firefly has already established business processes with APCo for construction over the past several years. The southern Albemarle County locations in this application will be an expansion and continuation of ongoing work in the APCo electric service territory.

The major materials of the project have been secured, with a planned continuation of monthly deliveries of

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fiber optic cable, conduit, enclosures, pedestals, optical taps and in home electronics to allow a continuation of the present pace of construction. The project has the advantage of being fed from existing communications huts. The associated routers and electronics in the huts will require expansion, but the network nodes that are built in the huts will already be in place.

A preliminary review of potential permits has been completed. Routine permits for working in the VDOT right-of-way will be secured. A permit to allow construction on the existing powerlines through the National Forest will be required in Madison. Firefly intends to avoid the need for railroad permits, but is familiar with the process if one becomes a requirement. Firefly has successfully managed the acquisition and administration of permits on its projects for the last four years and is comfortable that permits will not be a cost or schedule impediment to the construction of this project.

A project plan and timeline has been developed and is included in Attachment 7 – Timeline Project Management Plan. The timeline does show a 30-month construction period; we request that DHCD staff waive the 18-month completion requirement given the need to coordinate the project with the timeline for the VATI 2022 project, which will result in the fiber optic network being built to the borders of the VATI 2023 projects included here.

Firefly and the Thomas Jefferson Planning District (TJPD) have a draft MOU for this VATI 2023 project based on the final agreement for the VATI 2022 project. Similarly, Firefly and TJPD have existing agreements with each of the counties included in this project and intend to execute additional agreements for the VATI 2023 project. A template based on the current agreements among the parties is included (see Attachment 8). The counties have provided commitment letters indicating their commitment to funding or joining the project as a partner; these documents are included in the funding sources section of the application in Attachment 10 – Documentation of Matching Funding.

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12. Has the applicant or co-applicant received any VATI grants? If so, provide a list of these grants, with a detailed summary of the status of each.

**Answer:**

VATI 2022 Thomas Jefferson Planning District and Firefly Fiber Broadband

The applicant and co-applicant, the Thomas Jefferson Planning District and Firefly, had a successful 2022 VATI grant. The contract for the 2022 VATI award was signed on 8/22/2022.

The co-applicant, Firefly Fiber Broadband, has received two additional VATI awards in combination with its parent company Central Virginia Electric Cooperative, as follows:

VATI 2019 Albemarle County and CVEC/Firefly

Albemarle Broadband Authority (ABBA) received a VATI grant for \$301,748. The project with CVEC/Firefly added fiber to the Midway and west area of Albemarle County. Five hundred forty (540) passings were completed after one extension. The project was completed within budget and closeout reports have been filed with DHCD.

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VATI 2019 Fluvanna County and CVEC/Firefly

The CVSI VATI Grant in Columbia was for \$641,967 and included 82 miles of fiber and 569 passings. This project was completed within budget and the actual take rate exceeded the 40% take rate projected in the VATI application. All closeout reports have been filed.

13. Matching funds: Complete the funding sources table indicating the cash match and in-kind resources from the applicant, co-applicant, and any other partners investing in the proposed project (VATI funding cannot exceed 80 percent of total project cost). In-kind resources include, but are not limited to: grant management, acquisition of rights of way or easements, waiving permit fees, force account labor, etc. Please note that a minimum 20% match is required to be eligible for VATI, the private sector provider must provide 10% of the required match. If the private co-applicant cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. If applicants and co-applicants are seeking to include prior expended funds as matching funds, Attachment 11 must be completed. Label Attachments: Attachment 9 - Funding Sources Table; Attachment 10 – Documentation of Match Funding; Attachment 11 - Prior Expended Match Form

**Answer:**

See attachments 9 and 10. Attachment 11 is not applicable.

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14. Leverage: Describe any leverage being provided by the applicant, co-applicant, and partner(s) in support of the proposed project. (up to 10 points)

**Answer:**

In order to build out a 4,000-mile (and soon to be 8000-mile) fiber network, Firefly has stitched together a quilt of funding sources, partners and programs to create a blanket of gigabit speed coverage that will provide universal coverage to every rural location in central Virginia. Each expansion has been strategically planned to optimize the use of previous construction, as well as other funding sources and opportunities.

This application again leverages the existing 4,000-mile network built on Central Virginia Electric Cooperative facilities (CVEC), which is the parent company for Firefly Fiber Broadband. The project also leverages the construction of the network funded in part by the VATI 2022 grant award to TJPDC and Firefly, extending that network further into the rural areas to assure every unserved location is reached. If it had not been for the work and commitments in the VATI 2022 program, the proposed service area in this application could not be reached economically.

The project also leverages the fiber built using CARES funding in 2020-21. It leverages areas built with the support from the FCC Connect America and Rural Digital Opportunity auctions which brought fiber to the edges of these unserved areas. There are 95 locations within the proposed area that are within the RDOF awarded area for Firefly.

The project also leverages the RUS ReConnect grant from the second round of the federal ReConnect program which extended fiber to the edge of the Cumberland service area proposed in this project.

The ability to use the Dominion Energy middle mile program not only makes the project feasible but accelerates the construction by bringing in another design firm and construction company to the same project to work in parallel paths with the Firefly contractors.

This project uses these other programs and funding mechanisms to create a cost effective, technically feasible project to deliver gigabit speed broadband access to some of the most rural and hard to reach areas in central Virginia.

15. Communications Plan: Describe efforts to keep the public informed of project progress and the broadband adoption plan.

a. Explain how you plan on communicating the project status to stakeholders, including but not limited to County leadership, project areas residents, etc. (Up to 10 points)

b. Explain how you plan to promote customer take rate, including marketing activities, outreach plan, and other actions to reach the identified serviceable units within the project area. Provide the anticipated take rate and describe the basis for the estimate. (up to 10 points)

c. Describe any digital literacy efforts to ensure residents and businesses in the proposed project area sufficiently utilize broadband. Please list any partnering organizations for digital literacy, such as the local library or cooperative extension office.

**Answer:**

a. Thomas Jefferson Planning District Commission (TJPDC) and Firefly plan to communicate regularly with leadership of the four counties and prepare bi-annual formal presentations on project and financial progress.

TJPDC staff will:

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- Coordinate with Firefly to hold quarterly meetings with all stakeholders, including county partners, Dominion Energy, and Rappahannock Electric Cooperative (REC).
- Provide regular, informal communication with all stakeholders associated with the VATI project. This includes phone calls, e-mail correspondence, written progress updates, etc. Staff will respond to project inquiries, press requests, and any FOIA requests, as necessary.
- Provide monthly project updates to the Thomas Jefferson Planning District Commissioners during their regular meetings and will present bi-annual formal presentations on project and financial progress to the Commission.
- Communicate regularly with county leadership throughout the project on invoices, required documentation, and associated reports.
- Create and maintain a project website to provide information about the project and links to Firefly's website information. TJPDC will also regularly update stakeholders through an eNewsletter and social media posts.

Firefly will use a similar communication and marketing approach to the one it used in partnership with Central Virginia Electric Cooperative (CVEC) when upgrading their transmission lines and substations. Potential customers will receive mailings at their home that detail the phases of the fiber build. Firefly has already partnered with REC, Appalachian Power Company (APCo), and Dominion Energy (DE) on such mailings.

**b.** Firefly anticipates a 50% (or higher) take rate based on the take rate that has occurred over the last four years in similar rural areas. Potential customers will receive mailings at their home that detail the phases of the fiber build. Firefly has partnered with REC and APCo on such mailings and will expand that partnership to include DE when their build begins.

Firefly will use multiple methods to market service availability:

1. Mailings to alert residents of make-ready work that is being performed in the area, as well as when the fiber construction begins.
2. Invitation to join a town hall meeting in which staff will review timelines, Firefly offerings, and what to expect during installation. Meetings will be via Zoom and/or in-person.
3. Website and social media platforms to communicate updates to potential customers.
4. Firefly trucks are designed with "wraps" that attract attention and provide another important marketing tool. The visibility of the trucks drives interest from those who have not previously signed up for service.
5. Participation in community events such as fairs and festivals in areas being built in order to spread the word about the service and to meet future customers.
6. A "last chance" postcard will be sent to every address in a construction area that has not pre-registered for service.

Firefly will utilize multiple communication avenues to encourage participation in the Affordability Connectivity Program (ACP). Firefly will provide information about the ACP to social services partners, school principals and County officials as well as include information on their website, utilize social media and provide doorhangers that include Firefly's pricing information. For current customers, Firefly will provide information about the ACP in customer emails and bill messaging.

**c.** The expansion of broadband availability does not automatically lead to broadband adoption and there will be households that do not connect at first. Firefly has been fortunate to have a take rate well over 50% in the

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past 18 months, but there are still families and individuals who are not sure how to take advantage of the new broadband access. Digital literacy is a concern among many of our county partners, libraries, and school superintendents. TJPDC and Firefly plan to leverage these partnerships to educate residents about service availability and the advantages of fiber to the home Internet.

Cumberland County offers technology classes at its library, as well as assistance from a librarian to help with basic issues. For those requiring more training, one of the library branches offers free technology appointments.

The Literacy Council in Madison County offers adult residents classes in basic computer skills including the following: learning keyboard, how to use the Internet, setting up an e-mail account, how to use online calculators (for GED prep), applying for jobs online and how to save and send documents electronically. The Literacy Council supports this application and has submitted a letter of support that can be found in Question 20.

Greene County libraries offer LinkedIn Learning to its card-holders, as well as six-week long courses with professional instructors to strengthen skills for work, school, or a favorite hobby.

In Albemarle County, St. John Family Life & Fitness Center (SJFLFC) is committed to digital literacy programs. Internet connections and free wi-fi at this community center will provide opportunities for education, research, community meetings, health and wellness, job opportunities and research, and ancestry research.

Additionally, Firefly is exploring a partnership with Jefferson Area Board for Aging (JABA) to offer internet education with aging populations at all income levels in Charlottesville, and Albemarle, Fluvanna, Greene, Louisa, and Nelson counties.

16. Project Management: Identify key individuals who will be responsible for the management of the project and provide a brief description of their role and responsibilities for the project. Present this information in table format. Provide a brief description of the applicant and co applicant's history and experience with managing grants and constructing broadband communication facilities.

## Answer:

### **Thomas Jefferson Planning District Commission (Applicant)**

Christine Jacobs

Executive Director

Oversight of project

Lori Allshouse

VATI Program Director

Point of Contact for Administration of Grant Reporting

### **Central Virginia Services, Inc. (Co-applicant)**

Gary Wood

President and CEO

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Oversight of project

Bruce Maurhoff

Sr. VP & COO

Oversight of construction activities

Tina Mallia

VP & CFO

Oversight of finances, accounting, and grant fund compliance

Dennis Reece

General Manager

Project Manager

## **Rappahannock Electric Cooperative (Partner)**

John Hewa

President and CEO

Oversight for the fiber project in REC footprint

Mark Ponton

Director Broadband and Fiber Services

Lead's REC's activities and primary liaison to project team

Peter Muhoro

Chief Strategy, Technology & Innovation Officer

Project executive sponsor

## **Dominion Energy (Partner)**

Ed Diggs

Manager, Electric Distribution Grid Solutions, Rural Broadband Program

Lead's Dominion's activities and primary liaison to project team

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Matt Hartwell

Manager, Electric Distribution Grid Solutions, Rural Broadband Program

Project liaison

## **Albemarle County (Partner)**

Michael Culp

Director of Broadband Accessibility and Affordability Office

Grant and program oversight

## **Cumberland County (Partner)**

Derek Stamey

County Administrator

Grant and program oversight

## **Greene County (Partner)**

Mark Taylor

County Administrator

Grant and program oversight

## **Madison County (Partner)**

Jonathon Weakley

County Administrator

Grant and program oversight

The Thomas Jefferson Planning District Commission (TJPDC), the applicant, and the partner county staff have pursued, been awarded, and successfully administered numerous grants at the federal and state level. They are familiar with the requirements of the VATI program and stand ready to oversee an award for this project. The TJPDC team is led by Christine Jacobs and Lori Allshouse.

Christine Jacobs is the Executive Director of the Thomas Jefferson Planning District Commission (TJPDC), where she is responsible for overseeing the financial, programmatic, and administrative functions of the organization.

Lori Allshouse is the VATI Program Director for TJPDC, where she has spearheaded TJPDC's work

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on the VATI 2022 project. She came to TJPDC after a 20-year career in upper-level management with Albemarle County.

The Firefly team has proven an ability to build fiber fast, with its present project constructing 20 miles of fiber weekly. The team includes the design and project management from Conexon, which is a national leader. The fiber contractor is S&N Communications, a Virginia company headquartered in Louisa, Virginia, which has a long and successful record of working on large projects with Google, Verizon, and other major communications companies.

Gary Wood is the President and CEO at Central Virginia Electric Cooperative (CVEC) & Central Virginia Services, Inc. (CVSI) dba Firefly Fiber Broadband (Firefly). Mr. Wood has served as CEO of the electric cooperative since 2008, and has overseen the development and build of the system-wide fiber network being constructed on CVEC infrastructure. That \$130 million project will be completed one year earlier than expected.

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## 17. Project Budget and Cost Appropriateness

**Budget:** Applicants must provide a detailed budget that outlines how the grant funds will be utilized, including an itemization of equipment, construction costs, and a justification of proposed expenses. If designating more than one service area in a single application, each service area must have delineated budget information. For wireless projects, please include delineated budget information by each tower. Expenses should be substantiated by clear cost estimates. Include copies of vendor quotes or documented cost estimates supporting the proposed budget. Label Attachments: Attachment 12 – Derivation of Costs; Attachment 13 - Documentation of Supporting Cost Estimates. (up to 10 points)

### **Answer:**

Firefly has developed cost estimates based on the most recent contracts for labor and materials. With several ongoing projects and continuing monthly deliveries of materials to facilitate a 20 mile per week build rate, actual costs for labor and materials from these projects will give the best basis for the estimates. The budget results in a request for 56% of the total project costs for the Dominion, REC, and Firefly construction in the project area. The request for VATI assistance represents a higher percentage than recent applications with Firefly as a co-applicant due to the higher costs in a labor constrained and supply chain challenged environment. The project also reaches some of the most sparsely populated areas along the rugged terrain east of the Blue Ridge Mountains in Madison County which increases costs. The higher density in other areas helps to offset the cost per passing in the total project to make the overall proposal very economical for the VATI grant program funding.

The project extends service to every unserved location within the four-county region. The universal nature of the build is inclusive of low-density areas along the rivers and mountains, resulting in a higher cost per passing. On the other hand, having all locations included in a universal service project allows those high-cost areas to gain access to the same level of broadband service as all others in the project.

The estimates include anticipated increases in labor and materials given the increased investment in fiber construction nationwide. With the funds being requested on a pro rata basis, if the anticipated increases do not materialize the level of requested funds will be reduced as well. The budget is based on a 30-month construction schedule. This schedule allows for extensions of existing construction contracts to secure labor and equipment for the entire project. With supply chain pressures creating extended lead times for many materials, having a 30-month window allows for prices on materials contracts to be fixed and for the flow of materials to continue throughout the project, without a start-stop of ordering based on current long lead times and uncertain delivery dates. The normal VATI timeline requires projects to be completed in less than 18 months but given the coordination with the VATI 2022 build required in this project and the need for continuity in a high demand environment for materials and labor, TJPDC and Firefly request that the full project be funded for the 30-month build out schedule. Having an adequate planning and construction window to coordinate with the VATI 2022 in the same area will provide the most cost-effective approach to the regional universal service project.

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18. The cost benefit index is comprised of state cost per unit passed. Individual cost benefit scores are calculated and averaged together to create a point scale for a composite score. Provide the following:

- a. Total VATI funding request
  
- b. Number of serviceable units  
(up to 125 points)

**Answer:**

- |                                |              |
|--------------------------------|--------------|
| 1. Total VATI funding request  | \$12,989,017 |
| 2. Number of serviceable units | 3625         |

19. **Commonwealth Priorities (Up to 50 points)**

Additional points will be awarded to proposed projects that reflect Commonwealth priorities. If applicable, describe the following:

- a. Businesses, community anchors, or other passings in the proposed project area that will have a significant impact on the locality or region because of access to broadband.
  
- b. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.
  
- c. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 100/20 mbps, include information regarding the internet service provider's participation in the Affordable Connectivity Program
  
- d. The co-applicant's efforts to mitigate supply chain constraints, including labor shortages and order-to-delivery delays on telecommunications materials required to construct broadband networks.
  
- e. The applicant's and co-applicant's efforts to promote broadband adoption, including, but not limited to: telehealth, smart farming, e-entrepreneurship, and distance learning.

**Answer:**

1. The project area is extremely rural and includes very few businesses or community anchors. Residential passings are the critical focus since they have been left behind with zero to minimal internet access, preventing residents from pursuing business, continuing education, or accessing telehealth. Fiber internet will allow these rural residents to engage in activities online that will improve their safety, health, finances, and general quality of life.

Several important community locations will be served through this project:

- Criglersville Mountain Museum, dedicated to those displaced by the Shenandoah National Park and Blue Ridge Parkway
- Rapidan Camp, a National Park Service site which served as the retreat for President Herbert Hoover
- Blue Ridge Mountains in Madison County, serving trail heads and fire road entrances that provide benefits to hikers and providing emergency communications for first responders services in areas without cell coverage
- Old Rag Mountain Rangers Station, Berry Hollow Trailhead, Rose River Fire Road
- The Girl Scout Camp in Sugar Hollow in Albemarle
- G&T Adult Home in Cumberland provides critical community support services for families with elderly who require daily assistance

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- More than a dozen churches of all denominations

Scalability: Firefly endeavors to offer universal broadband access/coverage to the counties included inside the project area by building fiber across the remaining unserved portions of these four counties.

Fiber networks have inherent advantages to being able to expand in bandwidth; the same fiber can carry many multiples of its bandwidth with a simple change of electronics. Whether more bandwidth for the subscribers, adding new subscribers in the service area, or expanding into locations adjacent to the service area, having a fiber optic network in place assures that the central Virginia region will be able to quickly and affordably expand to meet all future broadband and telecommunications needs.

2. Firefly is partnering with Rappahannock Electric Cooperative (REC) and Dominion Energy (DE), utilizing fiber optic assets they will own to help deliver broadband service access in their electric territories. Firefly will also build fiber in coordination with Appalachian Power (APCo) territory in southern Albemarle County.

The four counties have collectively committed \$1,170,000 in matching funds, proving their commitment to make broadband access available to every location in their county. Dollars aside, county partners have given support to boost survey participation, provide demographics, and publicize milestones for the project.

The partnership benefits several higher education facilities, since many of their students, faculty and staff live in the project area that closely surrounds campus and will be able to enjoy distance learning. These facilities/institutions include the University of Virginia, Longwood University, Hampden-Sydney College, and Piedmont Virginia Community College.

3. Firefly covers the cost of a fiber drop up to 2,500 feet. For low-to-moderate income (LMI) homes, Firefly covers the cost of the fiber drop entirely. The generous allowance for the fiber drop to all households and the commitment to build to all LMI households regardless of the distance of the drop ensures digital equity.

Firefly offers two internet packages and one phone package for residential service. The service packages are affordable, with 100 mbps at \$49.99/month and 1 gbps at \$79.99/month. There is no fine print, no contracts, and cutting-edge modem and router are provided for free to every customer.

Firefly encourages participation in the Affordability Connectivity Program (ACP) by providing information to social services partners, school principals and County officials, and posting information on their website and social media.

- d. Firefly has successfully navigated supply chain issues by planning ahead for material needs and keeping more than enough stock in critical supplies on hand. Firefly contracts with Graybar, who specializes in supply change management services, to operate storage facilities for Firefly in each division and secures materials for the fiber build.

Firefly has partnered with its contractors for four years and built solid relationships to ensure that the job is done with their labor force. Most contractors are local to our area and simply move from job to job across Firefly's service territory.

- e. In addition to the outreach plan detailed in question 15, Firefly partners with area agencies to advance education, health, and commerce. These agencies include Chambers of Commerce; Economic Development agencies; schools; colleges and universities; Social Services, first responders; and local cooperative exchanges.

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Broadband allows medical professionals to login at home and deliver remote medical evaluations and services and allows patients to access remote doctors for regular checkups and virtual visits for private ailments. New medical devices such as pacemakers require reliable broadband connections for daily uploads of health data to the monitoring physicians. Broadband has become a critical utility that opens the door for telehealth.

E-entrepreneurship will blossom with the expansion of rural broadband connectivity. Small business owners benefit from internet access for the first time in a rural area. Firefly works with new startups and all businesses to assure business level services for internet connections and VOIP telephone are affordable to support their startup efforts.

Distance learning is one of the most important benefits recognized during COVID in rural areas. Students and faculty benefit from being able to attend class virtually. The new project will bring that option to thousands more locations.

Firefly has connected several farms and agribusinesses that use their services to improve production and efficiency. Working with local Farm Bureaus and other organizations, Firefly will use this project to encourage faster adaptation of smart farming techniques.

## 20. **Additional Information**

Please attach any letters of support from stakeholders. If the applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality.

Attachment 14 – Letters of Support.

Provide the two most recent Form 477 submitted to the FCC, or equivalent, as well as point, polygon, and, for wireless providers, RSSI shapefiles for the project area **in .zip file form**. With attachments 17 through 20, attach any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:

- a. Attachment 15 –Two most recent Form 477 submitted to the FCC or equivalent
- b. Attachment 16 - Point and Polygon shapefiles, in.zip file form, showing proposed passings and project area
- c. Attachment 17 - For wireless applicants: shapefiles, in .zip file form, indicating RSSI projections in the application area
- d. Attachment 18 – XXXXXXXX
- e. Attachment 19 – XXXXXXXX
- f. Attachment 20 – XXXXXXXX

**Answer:**

N/A

**Attachments:**

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Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMap823202242932.pdf

Documentation of Federal Funding (CAF/ACAM/USDA/RDOF, etc...) in and/or near proposed project area.

Attachment2DocumentationofFederalFundingArea823202243022.pdf

Documentation that proposed project area is unserved based on VATI criteria

Attachment3DocumentationUnservedAreaVATICriteria823202243049.pdf

Passings Form (Use template provided)

Attachment4PassingsForm823202244311.pdf

Documentation of RDOF awarded area in VATI project Area (Use template provided)

Attachment5RDOFAwardedAreasincludedinVATIApplication824202294733.pdf

Timeline/Project Management Plan

Attachment7TimelineProjectManagementPlan823202252254.pdf

MOU/MOA between applicant/co-applicant (can be in draft form)

Attachment8MOUMOAbetweenApplicantCoApplicant823202252312.pdf

Funding Sources Table (Use template provided)

Attachment9FundingSourcesTable823202253419.pdf

Documentation of Match Funding

Attachment10DocumentationofMatchFunding824202294525.pdf

Derivation of Cost/Project Budget (Use template provided)

Attachment12DerivationofCosts824202295741.pdf

Documentation of Supporting Cost Estimates

Attachment13DocumentationofSupportingCostEstimates824202211318.pdf

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Letters of Support

Attachment14LettersofSupport824202225241.pdf

Two most recent Form 477 submitted to the FCC or equivalent

Attachment15TwomostrecentForm477submittedtotheFCCorequivalent823202281321.pdf

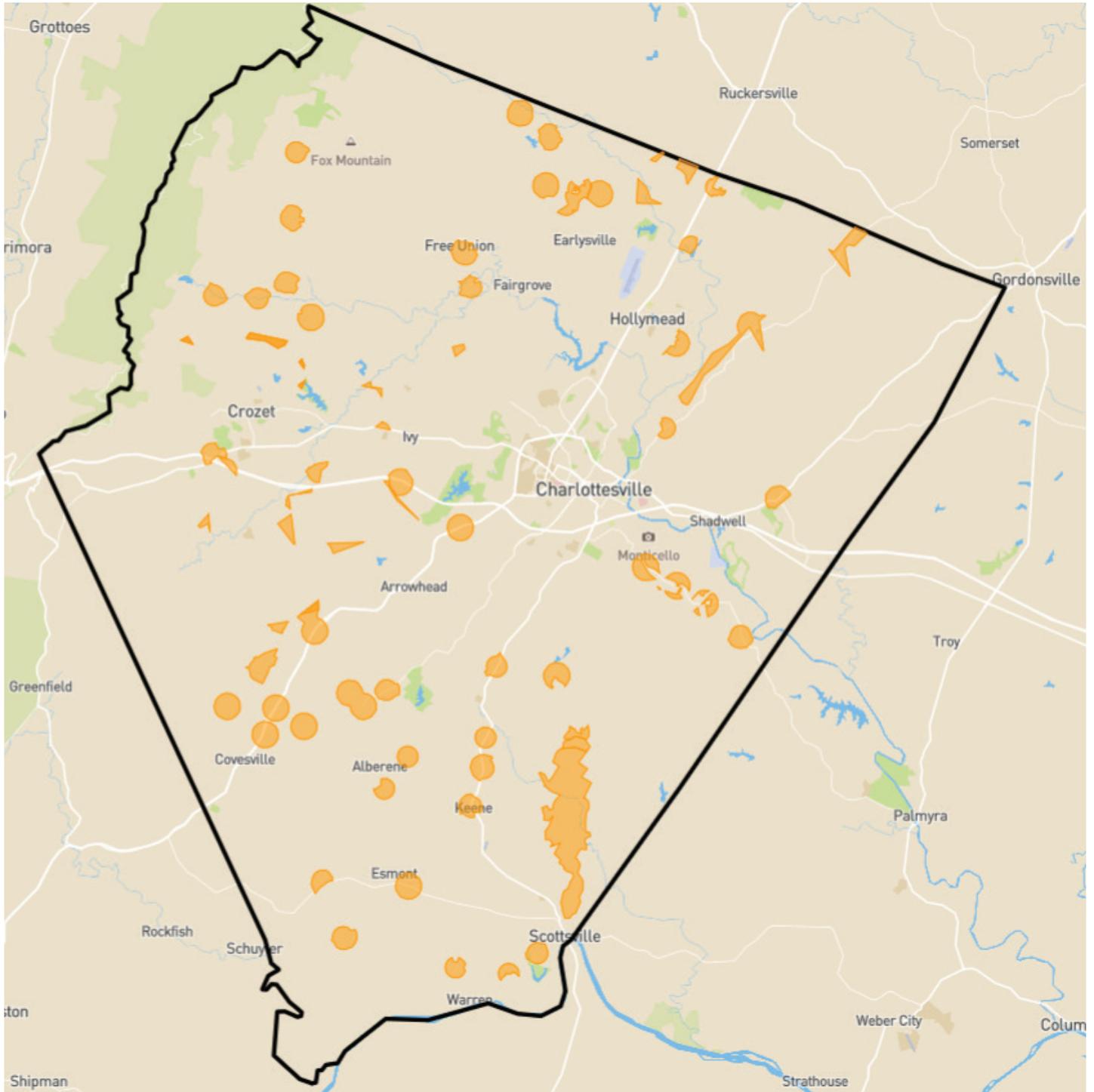
Point and Polygon shapefiles, in.zip file form, showing proposed passings and project area

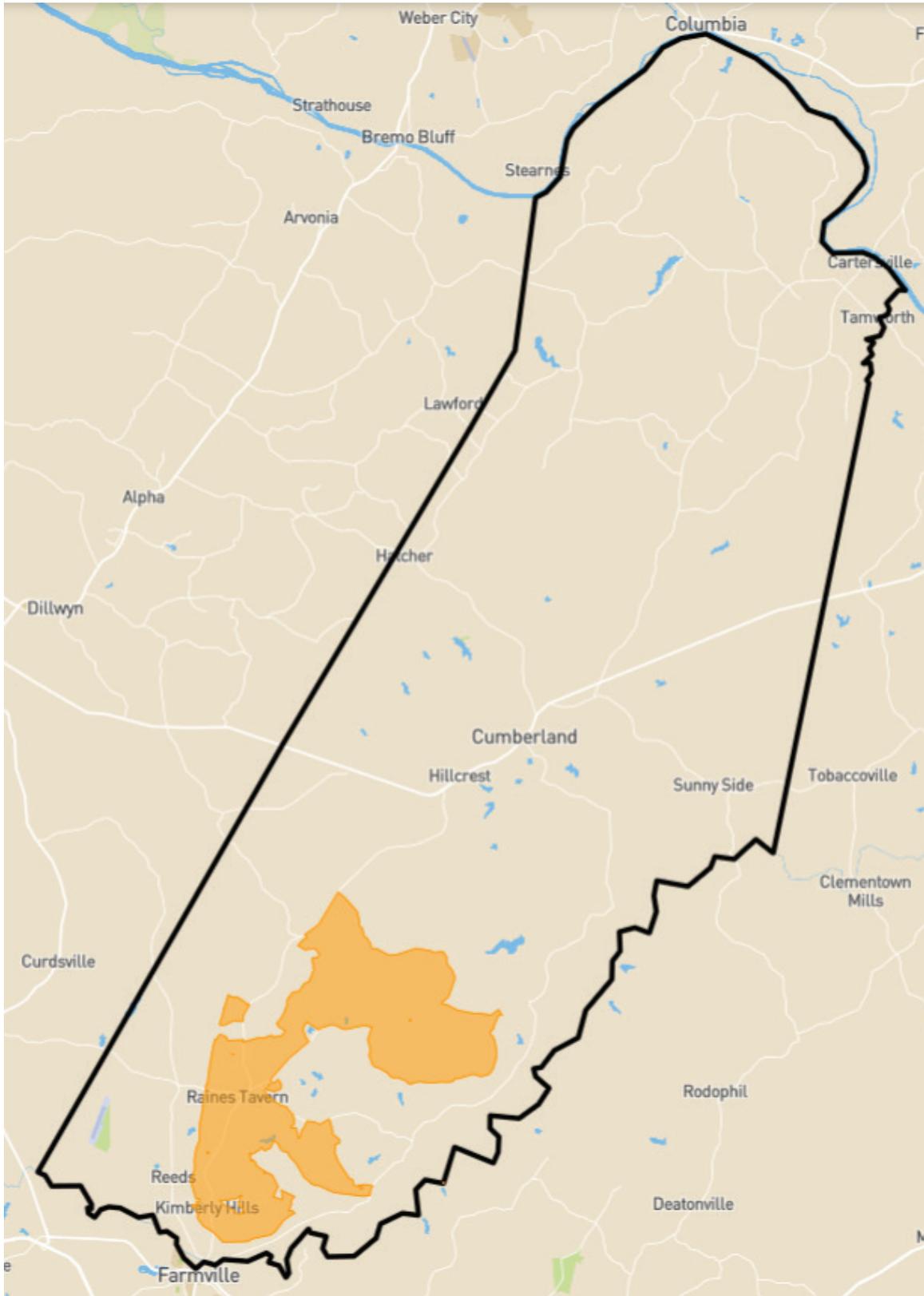
Attachment16PointandPolygonShapefiles824202250019.zip

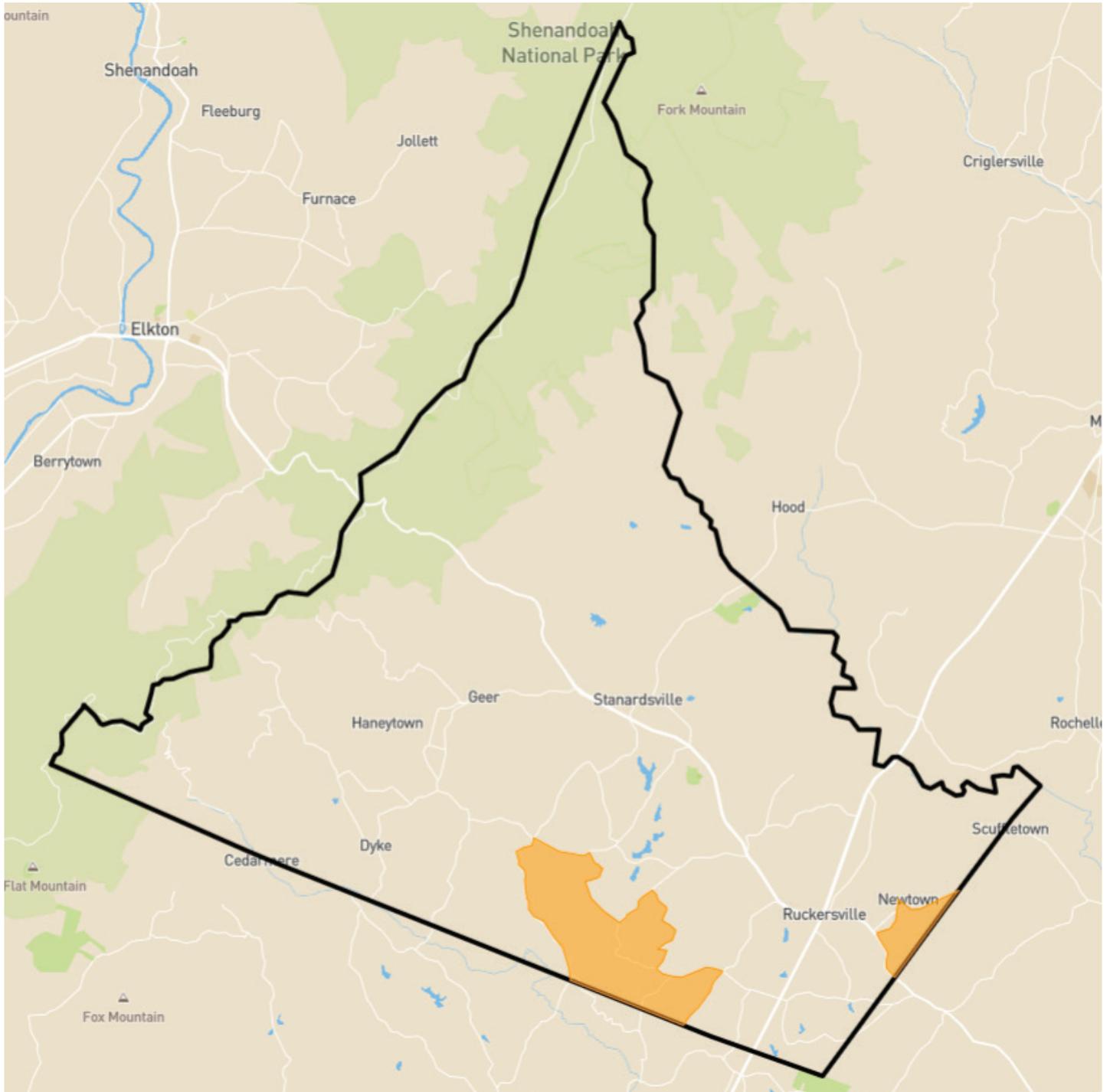
Optional

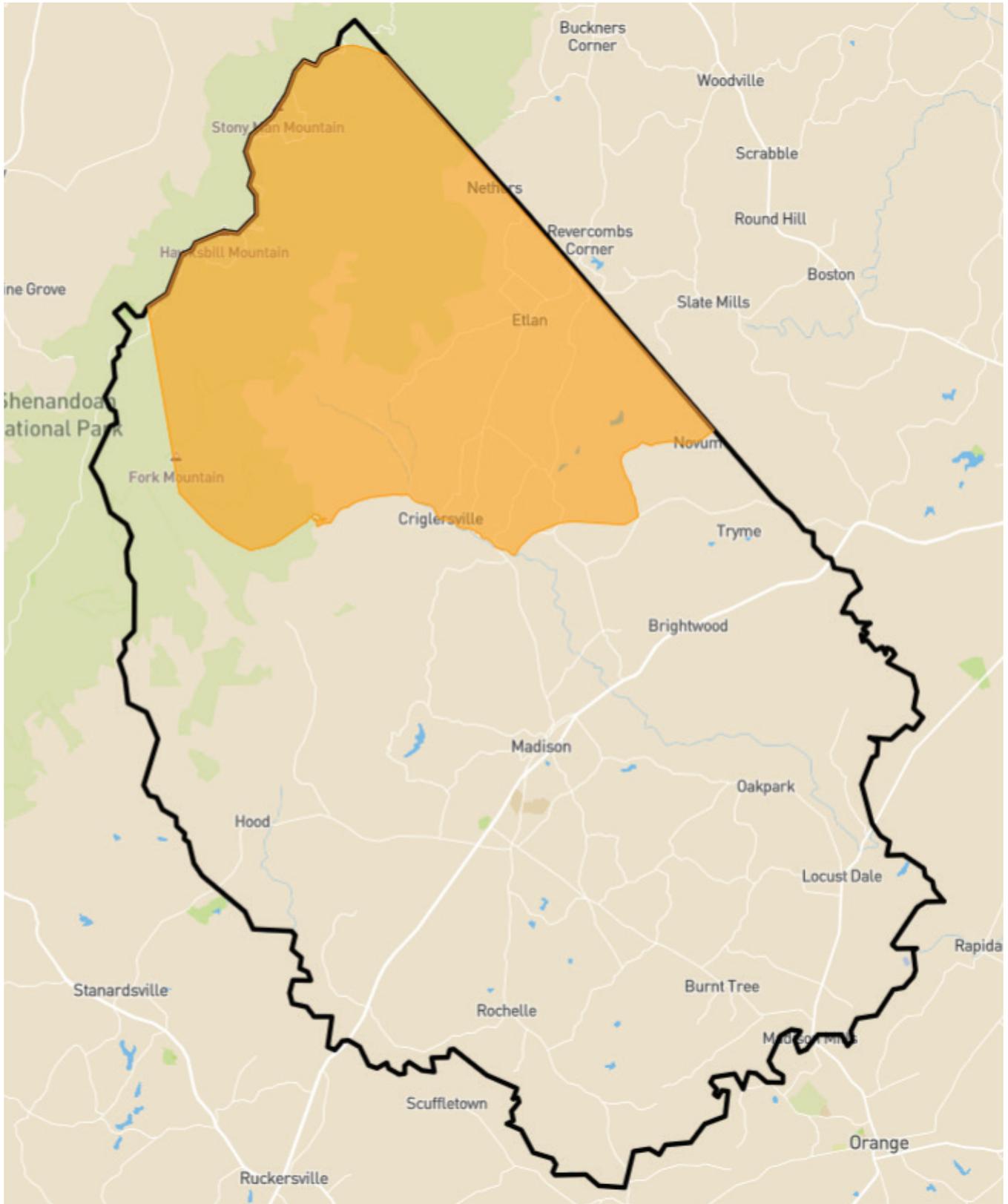
Attachment18ACommitmenttoRegionalUniversalServiceVATI2023824202292749.pdf

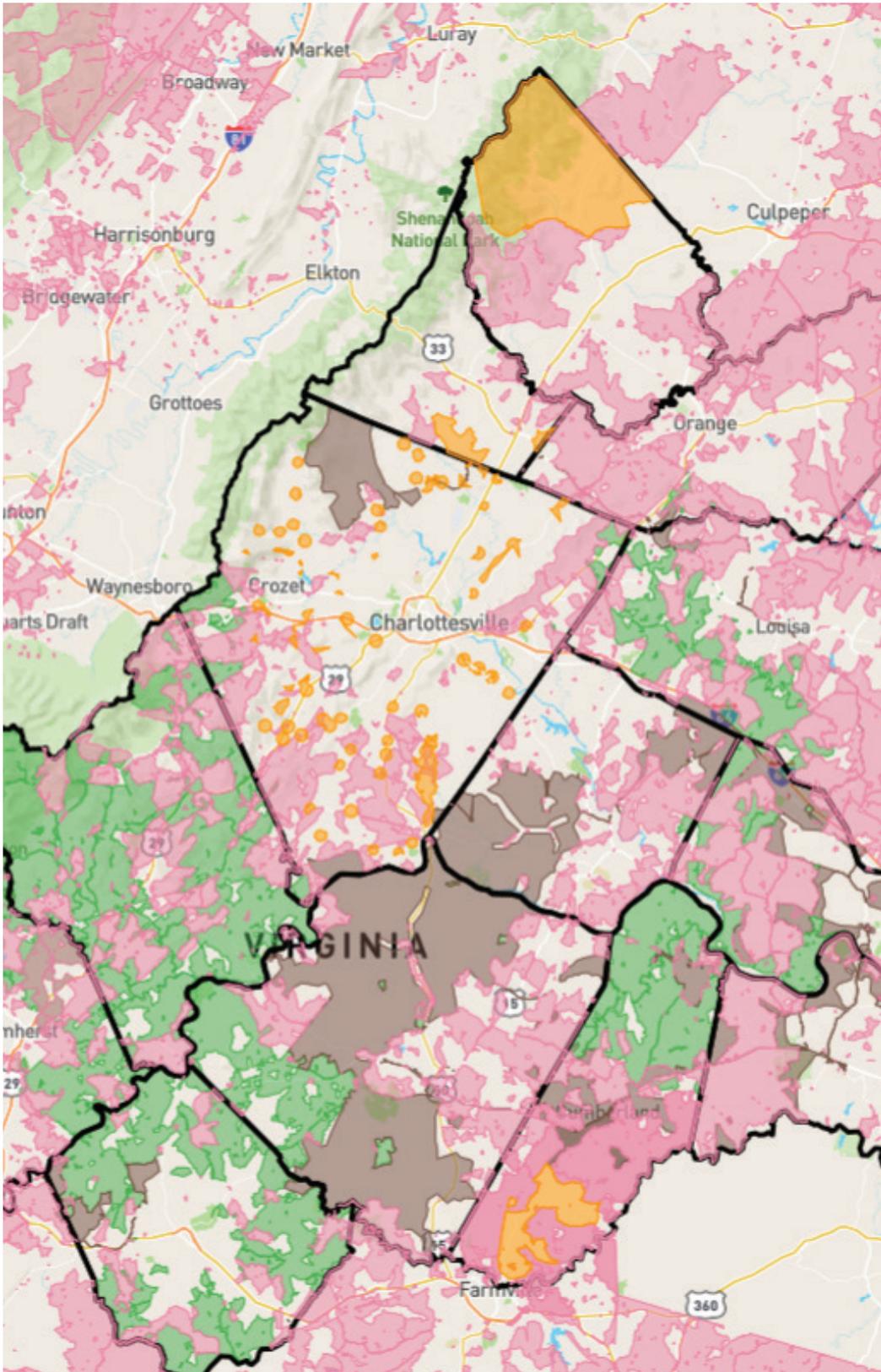












**MAP LEGEND**

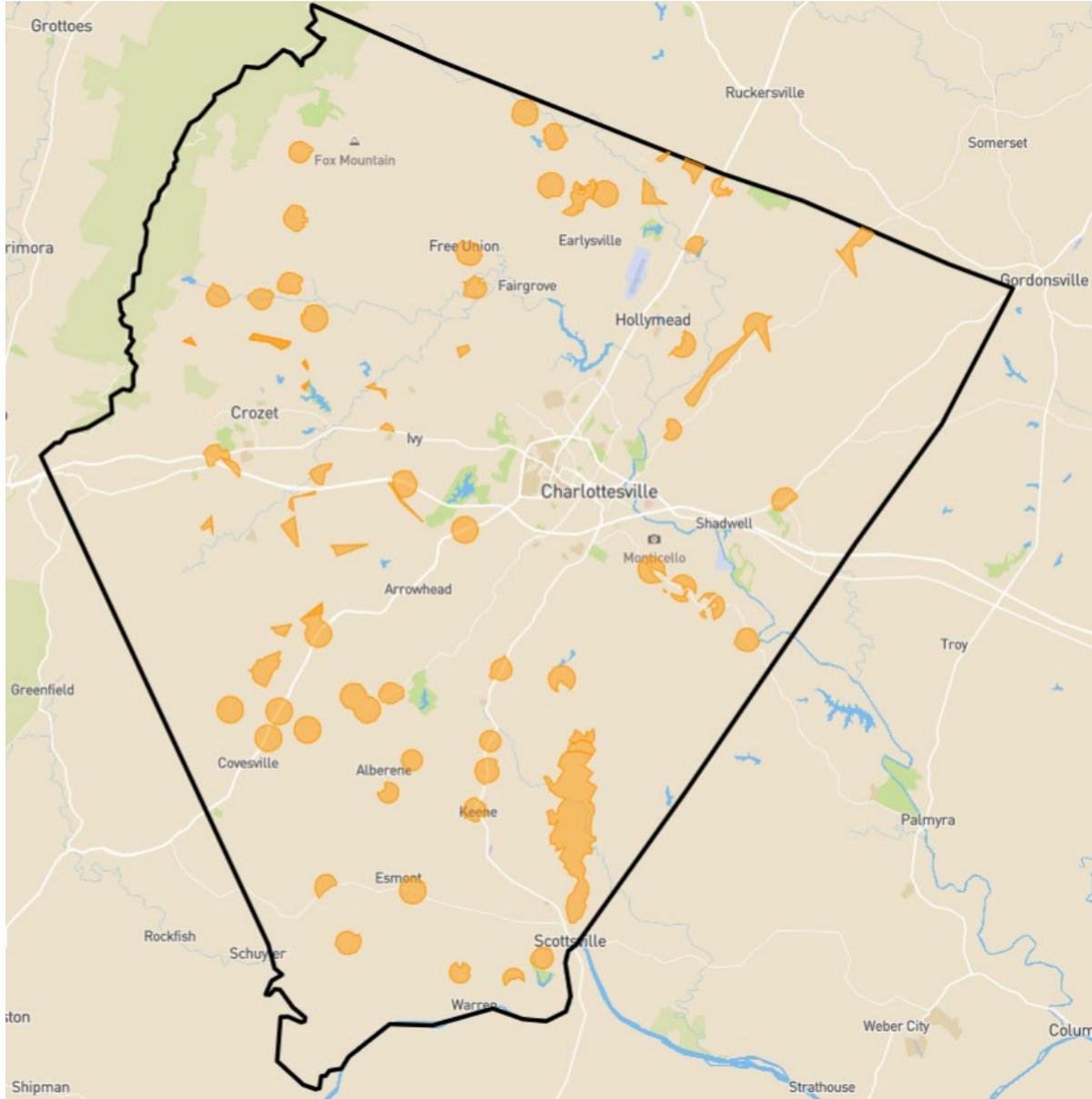
-  RDOF
-  ReConnect
-  CAF
-  Proposed Project Area

**Question #4 - Overlap: To be eligible for VATI, applicants must demonstrate that the proposed project area(s) is unserved. An unserved area is defined as an area with speeds below 100/20 Mbps and with less than 25% service overlap within the project area for wireless projects and 20% for wireline projects. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 3 – Documentation Unserved Area VATI Criteria.**

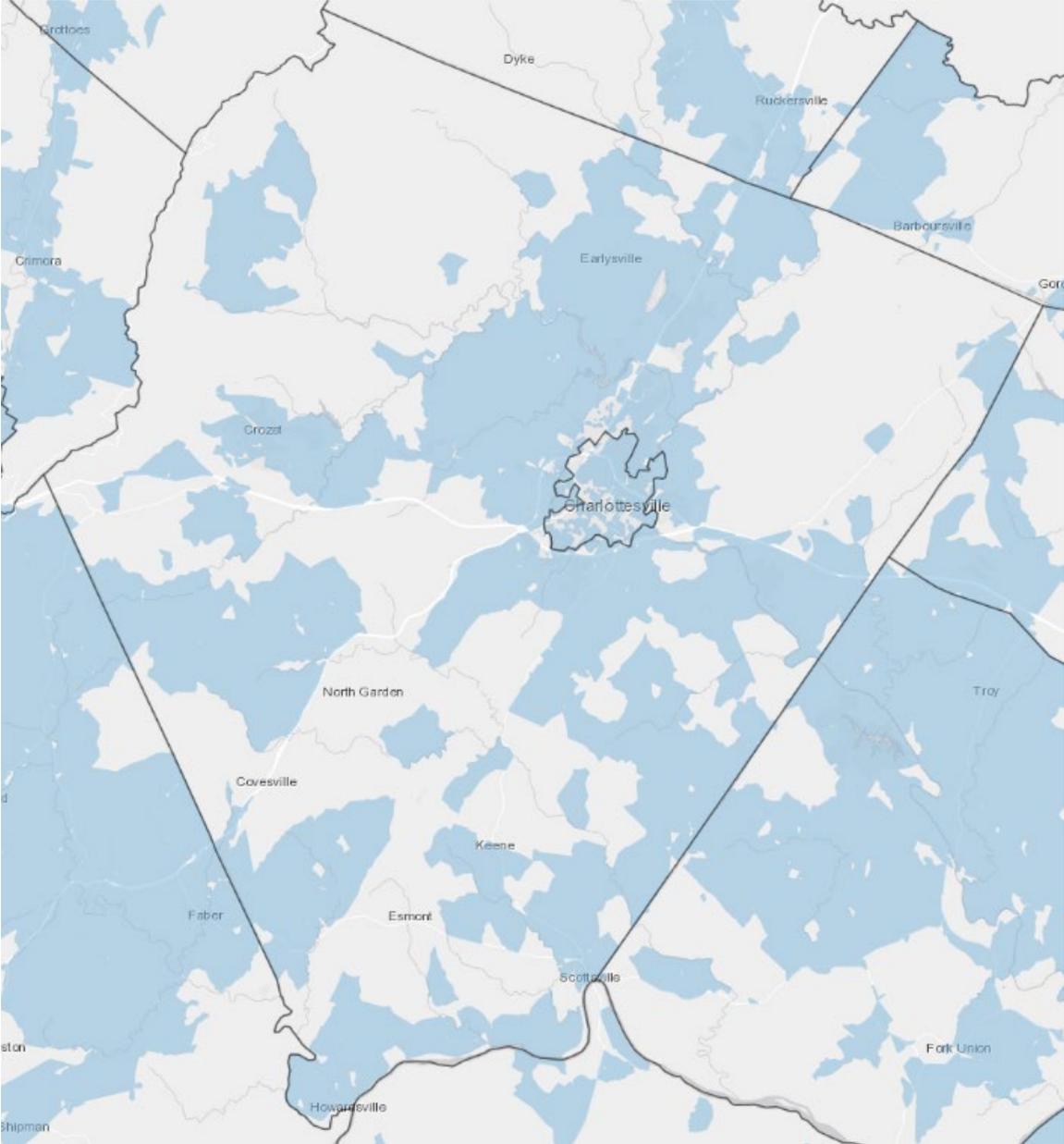
The geographic areas in our proposed VATI 2023 application do not have service available meeting or exceeding 100/20Mbps based on data collected from multiple sources, including federal and state broadband coverage maps, county data on actual unserved locations and field observations. We have developed the proposed project area aggressively to cover every identified unserved location.

# Albemarle County

Albemarle County - Project areas shown in orange.

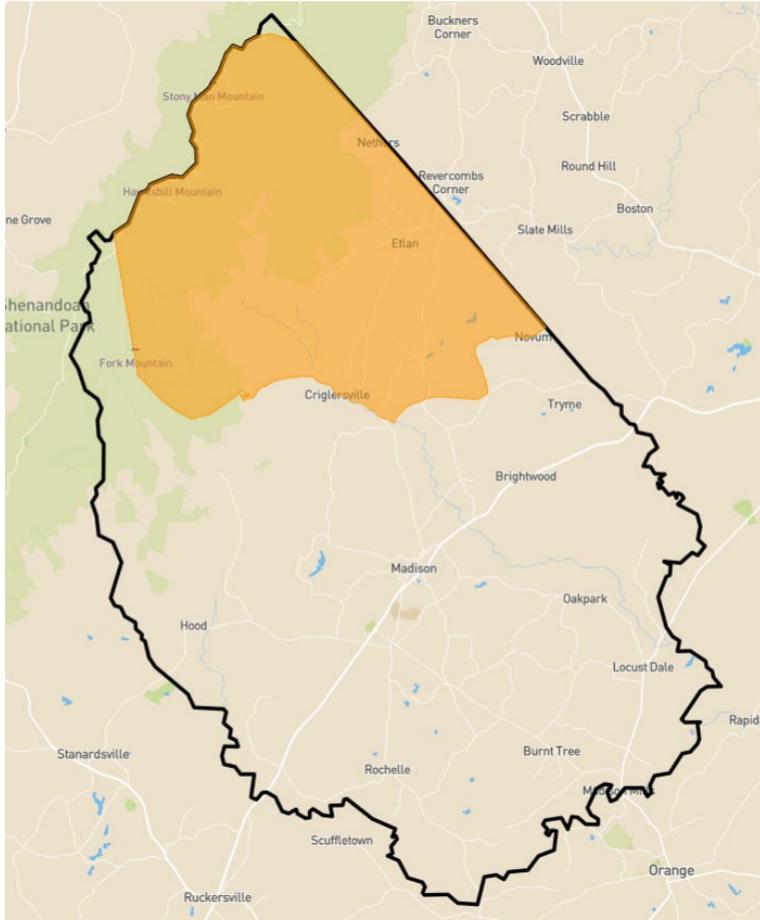


Albemarle County - Commonwealth Connection map for 100x20 and above speeds. We have determined that any overlapping areas are unserved based on county data on actual unserved locations and field observations.

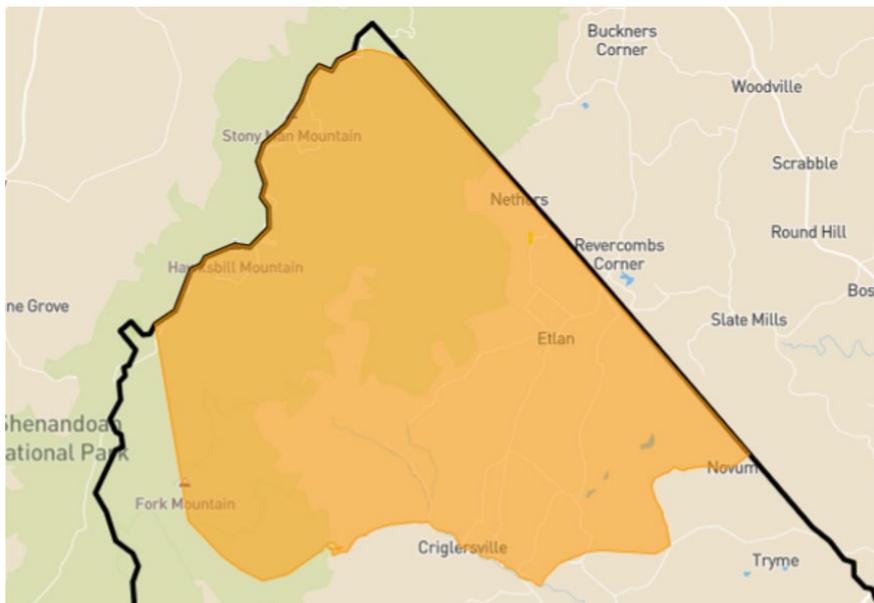


# Madison County

Madison County – Project areas shown in orange.



Madison County – Project areas shown in orange.



Madison County - Commonwealth Connection map of 100x20 and above showing no overlap with the project area.

The screenshot displays the Commonwealth Connection web application interface. At the top left is the logo for Commonwealth Connection, featuring a cardinal and the text "COMMONWEALTH CONNECTION Mapping Virginia's Expanding Broadband Access". To the right is a search bar with the placeholder text "Find Address" and "Search for an Address".

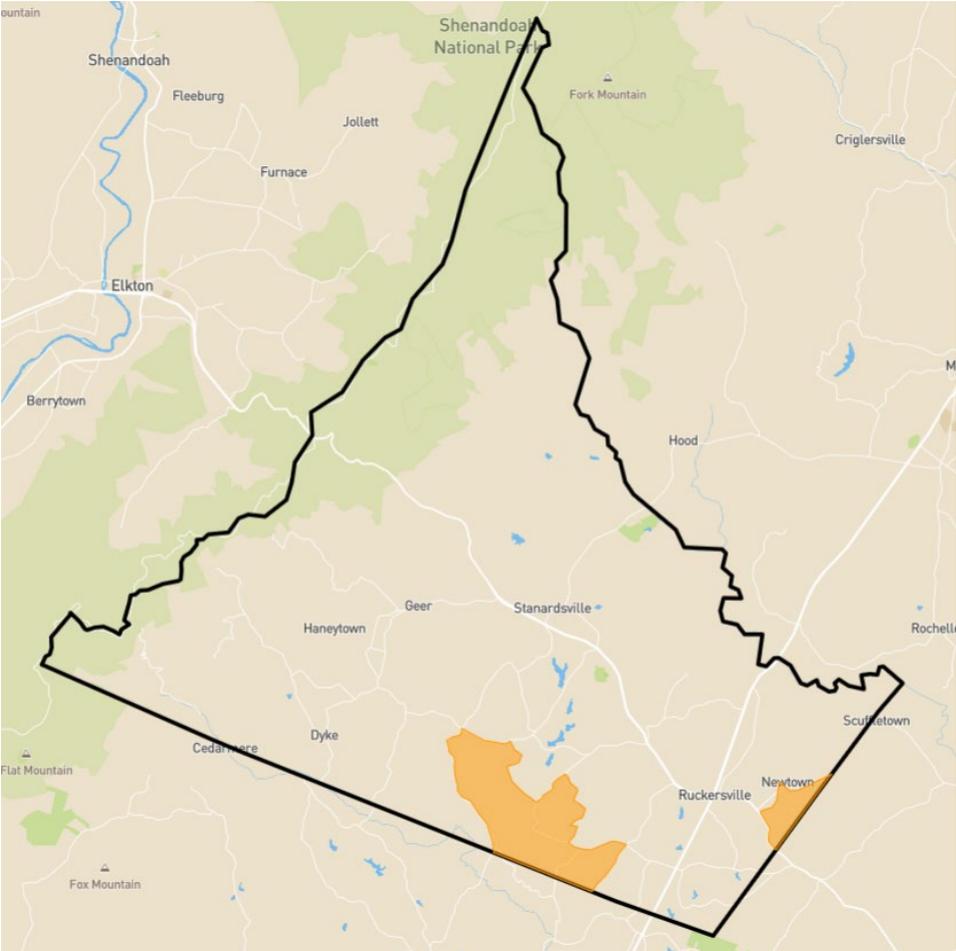
The main content area is a map of Madison County, Virginia, showing various geographical features and labels such as Woodville, Etlan, Syria, Banco, and Haywood. A black line, likely representing a project boundary, is visible on the map, but it does not overlap with the county's area.

On the left side, there is a sidebar with several interactive panels:

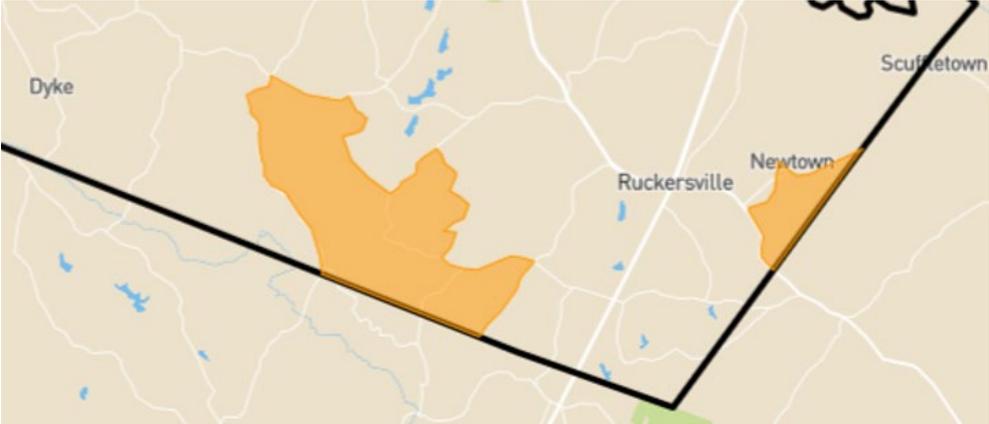
- Speed Test**: Download Speed, Upload Speed, and Latency.
- Broadband Coverage**: FCC vs. Virginia Broadband, Speed, Technology. Below this, a note states: "Broadband coverage is based on the amount of addresses served within a Census Block." There are two sections: "Virginia Collected" (DEC 2021) with a checkbox for "At least one address served" and radio buttons for "95%", "85%", and "80%" (selected); and "FCC Form 477" (DEC 2020) with a checkbox for "At least one address served".
- FILTERS FOR COVERAGE**: A section titled "Speed" with radio buttons for download and upload speeds: "25 mbps", "100 mbps" (selected), "100 mbps", "250 mbps", and "1000 mbps"; and "3 mbps", "20 mbps", "Any", "Any", and "Any". A note below reads: "\* Coverage in layer is for speeds that are equal".
- Boundaries**: Census, Counties/Cities, Government Districts.
- Assets and Programs**: WiFi, Towers, State and Non-Profit Programs.

# Greene County

Greene County – Project areas shown in orange.



Greene County – Project areas shown in orange.



Greene County - Commonwealth Connection map for 100x20 and above speeds. We have determined that any overlapping areas are unserved based on county data on actual unserved locations and field observations.

**COMMONWEALTH CONNECTION**  
Mapping Virginia's Expanding Broadband Access

Find Address | Search for an Address

**Speed Test**  
Download Speed, Upload Speed, and Latency

**Broadband Coverage**  
FCC vs. Virginia Broadband, Speed, Technology

At least one address served  
Minimum Percentage Served in Census Block  
 95%  85%  80%

**FCC Form 477** DEC 2020  
 At least one address served

**FILTERS FOR COVERAGE**

**Speed**

- ↓ 25 mbps    ↑ 3 mbps
- ↓ 100 mbps    ↑ 20 mbps
- ↓ 100 mbps    ↑ Any
- ↓ 250 mbps    ↑ Any
- ↓ 1000 mbps    ↑ Any

\* Coverage in layer is for speeds that are equal or greater than speed displayed.

**Broadband Technology**

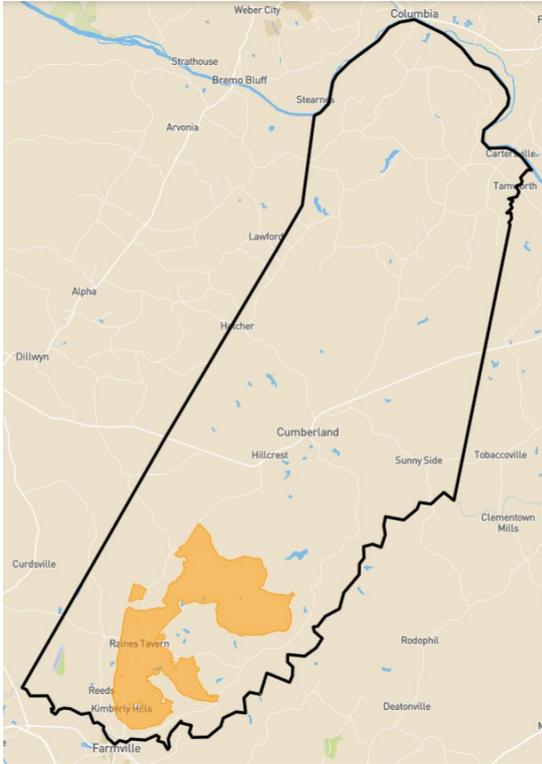
- Any Broadband Technology
- Cable     DSL/Copper
- Fiber     Fixed Wireless

**Boundaries**  
Census, Counties/Cities, Government Districts

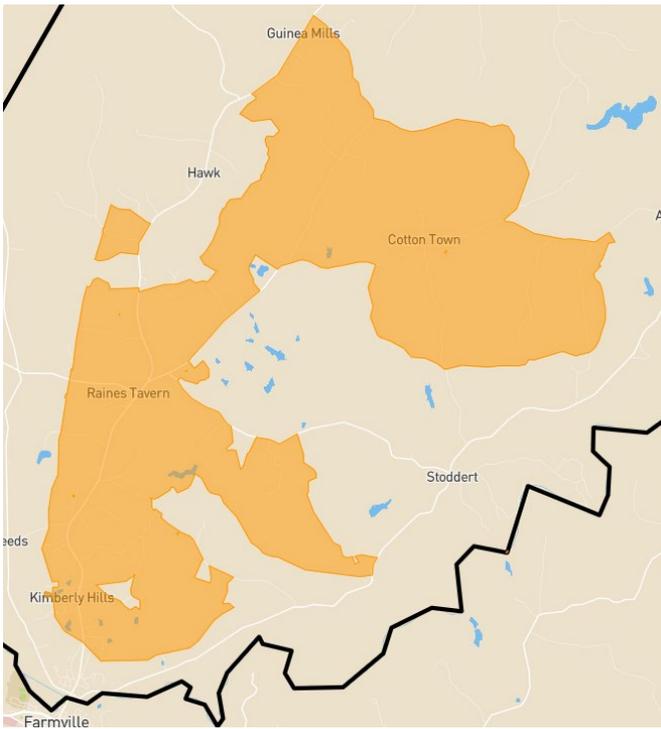
**Assets and Programs**  
WiFi, Towers, State and Non-Profit Programs

# Cumberland County

Cumberland County - Project areas shown in orange.



Cumberland County – Project areas shown in orange.



Cumberland County - Commonwealth Connection map for 100x20 and above speeds. We have determined that any overlapping areas are unserved based on county data on actual unserved locations and field observations.

**COMMONWEALTH CONNECTION**  
Mapping Virginia's Expanding Broadband Access

Find Address  Search

**Speed Test**  
Download Speed, Upload Speed, and Latency

**Broadband Coverage**  
FCC vs. Virginia Broadband, Speed, Technology

*Broadband coverage is based on the amount of addresses served within a Census Block.*

**Virginia Collected** DEC.2021  
 At least one address served  
Minimum Percentage Served in Census Block  
 95%  85%  80%

**FCC Form 477** DEC.2020  
 At least one address served

**FILTERS FOR COVERAGE**

**Speed**

- ↓ 25 mbps    ↑ 3 mbps
- ↓ 100 mbps    ↑ 20 mbps
- ↓ 100 mbps    ↑ Any
- ↓ 250 mbps    ↑ Any
- ↓ 1000 mbps    ↑ Any

\* Coverage in layer is for speeds that are equal

**Boundaries**  
Census, Counties/Cities, Government Districts

**Assets and Programs**  
WiFi, Towers, State and Non-Profit Programs

Map labels: Fork Union, Columbia, New Canton, Arvonnia, Carterville, Dilwyn, Cumberland, Farmville, Jetersville.

## 2023 Virginia Telecommunication Initiative (VATI) SUMMARY Passing Form

Type of Passings	Total Number of Passings in the Project Area <sup>1</sup>	Passings in the Project Area, without Special Construction Costs Required <sup>2</sup>	Passings with Special Construction Costs budgeted in the Application <sup>3</sup>	Number of Passings with Speeds at 25/3 or below in Project Area <sup>4</sup>
Residential	2,987	2,987	0	1,176
Businesses (non-home based)	435	435	0	55
Businesses (home-based)	23	23	0	8
Community Anchors	38	38	0	6
Non-residential	47	47	0	11
<b>Total</b>	3,530	3,530	0	1,256

**e. Provide the number of passings in the project area that have 25/3mbps or less. Describe the methodology used for these projections. (up to 15points)**

- There are 1,256 passings with speeds at 25/3 or below in the project area. These are passings are in Madison (986) and Greene County (270). The methodology to determine these passings was from prior state and federal grant applications in these service areas. In Madison County, the service area was previously an RDOF area, bid on and won by Shentel for a wireless project. They bid at speeds up to 50mbps download for that wireless project. In April, 2022 Shentel notified Madison County that they no longer plan to serve that area and Shentel had pulled out of that commitment with RDOF and returned the funds to the FCC. The passings in this service area qualified for the RDOF auction because speeds were not available above 25/3 and this is still the case. In Greene County, we were able to determine 270 passings were at or below 25/3 because this area was in a unsuccessful 2021 VATI application with Greene County and CenturyLink. This area was not funded in the 2021 round and the County of Greene shared their application details with Firefly and TJPDC to identify which passings qualified at that time at or below the 25/3 speed level, to include them in the current 2023 application with Firefly and TJPDC.

**Note:** The Total Number of Passings **MUST** be equal to the Residential, Business (non-home based), Non-residential and Community Anchors sum.

**Note:** Do not include passings in RDOF awarded areas that were awarded to the co-applicant; these passings should be included in the RDOF Passings Form. Passings included in this application in RDOF awarded areas that were not awarded to the co-applicant, unless successfully challenged, are considered unserved and should be counted as passings in this form.

<sup>1</sup>The total number of structures in the project area that can receive service. See definition of passing below for more detail.

<sup>2</sup>The number of structures in the project area that will not require special construction costs to provide service to. These passings fall within the broadband provider's standard service connection drop length and do not require nonstandard equipment or any additional fees above normal service connection fees required to provide broadband access to a premise.

<sup>3</sup>The number of structures in the project area with all construction costs budgeted in the application. These passings will not require any additional special construction costs beyond those budgeted for in the VATI application.

<sup>4</sup>The number of structures in the project area that do not have access to internet at speeds of at least 25 mbps download and 3 mbps upload.

**2023 Virginia Telecommunication Initiative (VATI)  
Albemarle County Service Area Passing Form**

<b>Type of Passings</b>	<b>Total Number of Passings in the Project Area <sup>1</sup></b>	<b>Passings in the Project Area, without Special Construction Costs Required<sup>2</sup></b>	<b>Passings with Special Construction Costs budgeted in the Application <sup>3</sup></b>	<b>Number of Passings with Speeds at 25/3 or below in Project Area <sup>4</sup></b>
<b>Residential</b>	1,247	1,247		
<b>Businesses (non-home based)</b>	189	189		
<b>Businesses (home-based)</b>	10	10		
<b>Community Anchors</b>	15	15		
<b>Non-residential</b>	19	19		
<b>Total</b>	1,480	1,480	0	0

## 2023 Virginia Telecommunication Initiative (VATI) Cumberland County Service Area Passing Form

Type of Passings	Total Number of Passings in the Project Area <sup>1</sup>	Passings in the Project Area, without Special Construction Costs Required <sup>2</sup>	Passings with Special Construction Costs budgeted in the Application <sup>3</sup>	Number of Passings with Speeds at 25/3 or below in Project Area <sup>4</sup>
Residential	645	645		
Businesses (non-home based)	90	90		
Businesses (home-based)	5	5		
Community Anchors	7	7		
Non-residential	9	9		
<b>Total</b>	756	756	0	0

**2023 Virginia Telecommunication Initiative (VATI)  
Greene County Service Area Passing Form**

<b>Type of Passings</b>	<b>Total Number of Passings in the Project Area <sup>1</sup></b>	<b>Passings in the Project Area, without Special Construction Costs Required<sup>2</sup></b>	<b>Passings with Special Construction Costs budgeted in the Application <sup>3</sup></b>	<b>Number of Passings with Speeds at 25/3 or below in Project Area <sup>4</sup></b>
<b>Residential</b>	264	264		230
<b>Businesses (non-home based)</b>	35	35		32
<b>Businesses (home-based)</b>	2	2		2
<b>Community Anchors</b>	3	3		3
<b>Non-residential</b>	4	4		3
<b>Total</b>	308	308	0	270

**2023 Virginia Telecommunication Initiative (VATI)**  
**Madison County Service Area Passing Form**

<b>Type of Passings</b>	<b>Total Number of Passings in the Project Area <sup>1</sup></b>	<b>Passings in the Project Area, without Special Construction Costs Required<sup>2</sup></b>	<b>Passings with Special Construction Costs budgeted in the Application <sup>3</sup></b>	<b>Number of Passings with Speeds at 25/3 or below in Project Area <sup>4</sup></b>
<b>Residential</b>	946	946		946
<b>Businesses (non-home based)</b>	23	23		23
<b>Businesses (home-based)</b>	6	6		6
<b>Community Anchors</b>	3	3		3
<b>Non-residential</b>	8	8		8
<b>Total</b>	986	986	0	986

## Definitions

**Passing** – any structure that can receive service. Multi-unit structures may be counted as more than 1 passing, provided individual connections and account are planned at that structure.

**Business** – An organization or entity that provides goods or services in order to generate profit. Businesses based in residential homes can count if they are a registered business (BPOL, LLC, etc.).

**Community Anchor** - schools, libraries, medical and health care providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, unemployed, and the aged.

**Non-Residential Passing** – places of worship, federal, state, or local facilities or other potential customers that are neither a residence, business or a community anchor as defined above.

# 2023 Virginia Telecommunication Initiative (VATI) RDOF Passings Form

Type of Passings	Total Number of Passings in the Project Area that lie within Preliminarily Awarded RDOF Areas <sup>1</sup>
Residential	95
Businesses (non-home based)	0
Businesses (home-based)	0
Community Anchors	0
Non-residential	0
<b>Total Number of RDOF Passings</b>	<b>95</b>

*Note: The Total Number of RDOF Passings **MUST** be equal to the Residential, Business (non-home based), Non-residential and Community Anchors sum.*

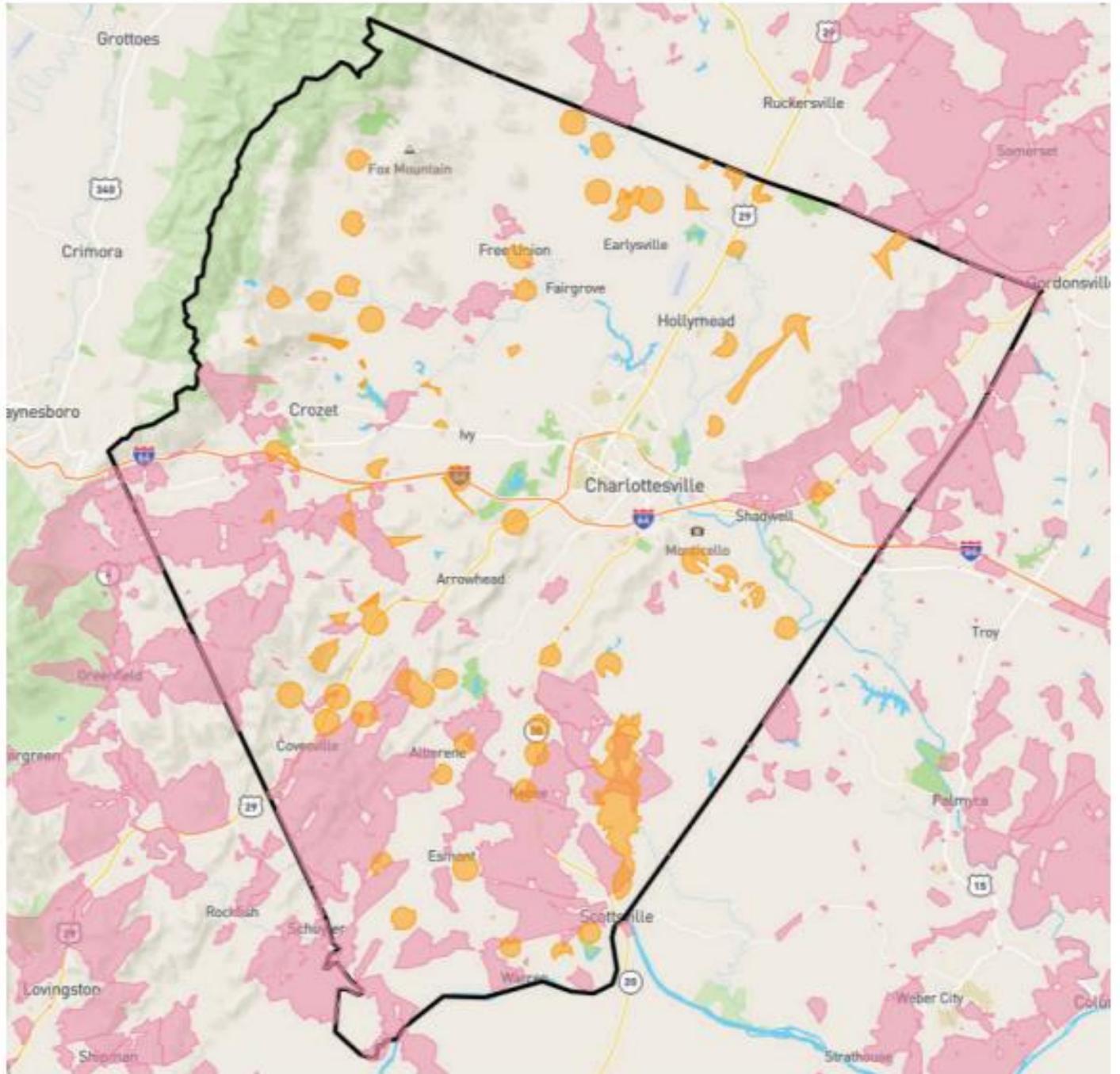
## Definitions

**Passing** – any structure that can receive service. Multi-unit structures may be counted as more than 1 passing, provided individual connections and account are planned at that structure.

**Business** – An organization or entity that provides goods or services in order to generate profit. Businesses based in residential homes can count if they are a registered business (BPOL, LLC, etc.).

**Community Anchor** - schools, libraries, medical and health care providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, unemployed, and the aged.

**Non-Residential Passing** – places of worship, federal, state, or local facilities or other potential customers that are neither a residence, business or a community anchor as defined above.



**MAP LEGEND**

-  RDOF
-  Proposed Project Area



**Agreement between Central Virginia Services, Inc, Rappahannock Electric Cooperative  
and Thomas Jefferson Planning District Commission**

This Agreement dated this \_\_\_\_ day of \_\_\_\_\_, 2023, is entered into by and between the Thomas Jefferson Planning District Commission (TJDC) and Central Virginia Services, Inc. doing business as Firefly Fiber Broadband (Firefly).

WHEREAS, by letter dated \_\_\_\_\_, the Virginia Department of Housing and Community Development (“DCHD”) offered the Thomas Jefferson Planning District Commission (“TJPDC”) a total of \$12,989,017 in funding under the Virginia Telecommunications Initiative (VATI) program in response to the joint application of TJPDC and Firefly; and

WHEREAS, DHCD requires TJPDC to establish and execute an agreement with Firefly, which is binding and enforceable to assure that Firefly can adequately meet its contractual obligations under the grant awarded through the VATI grant-making process.

WHEREAS, the grant application included commitments of \$1,170,000 from the 4 counties in which construction will take place (Albemarle, Cumberland, Greene, and Madison); and

WHEREAS, Firefly, Dominion, and Rappahannock Electric Cooperative (“REC”), will provide a minimum of \$9,029,628 in matching funds for this project; and

WHEREAS, pursuant to the program guidelines and statutory authority, the primary objective of the VATI 2022 grant program is to provide financial assistance to supplement construction costs by private sector broadband providers, in partnership with local units of government, to extend service to areas that presently are unserved by any broadband provider; and

WHEREAS, Firefly will own the fiber facilities built with funds from this grant in the Dominion Energy, Appalachian Power, and Southside Electric service territories, and REC will own the

facilities built in its service territory under this grant agreement, with those facilities leased to Firefly for the purpose of delivering retail internet service; and

WHEREAS, agreements signed with each county will provide the structure for their participation and payment of their matching funds; and

WHEREAS, TJPDC and Firefly are counter parties to four agreements between TJPDC, Firefly and the participating counties. The county agreements are identified in Attachment A and are incorporated herein by reference.

WHEREAS, VATIISF#\_\_\_\_\_ Agreement between DHCD and the TJPDC (the “DHCD Agreement”) imposes certain responsibilities on TJPDC as the “GRANTEE” and Firefly as the “COMPANY” in accepting the VATI grant. The DHCD agreement, upon execution by the parties thereto will be incorporated herein and attached hereto as Attachment B.

As anticipated in the joint application for funding submitted by TJPDC and Firefly, the parties wish to outline the roles of each party now that the grant has been awarded.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

TJPDC and Firefly will carry out a broadband construction project designed to provide access to broadband services to 3625 serviceable units in Albemarle, Cumberland, Greene, and Madison.

Firefly, as the COMPANY, shall perform, oversee and coordinate all work as described and in compliance with all aspects of the DHCD Agreement, and all DHCD approved contract negotiation record documents, including the submitted application. Firefly will complete all work herein within two years from the date of this agreement. Specifically, Firefly shall complete all Grant Activities as described and in compliance with all aspects of the DHCD Agreement. Firefly shall oversee construction of 311 miles of fiber network.

Firefly will be responsible for the make ready engineering and construction, as well as providing the funding and payments for fiber construction, including all necessary labor and construction for the materials to provide gigabit speed service to each location-within the project territory. Firefly shall provide the fiber network design as well as oversee and administer the contracts for fiber construction, up to and including approving invoices for payment and as built drawings on the REC system.

Invoices will be paid on a cost-reimbursement basis. Firefly will submit a reimbursement request with invoices to TJPDC monthly. All reimbursement requests will include all DHCD required supporting documentation including the VATI Cost Performance Index form. The invoices and reimbursement requests will be separated into work on the REC system and all other work. Invoices for all work shall also be broken out for each of the counties in which the work was performed. TJPDC shall review all invoices, and verify completion of deliverables, approve, and submit the request to DHCD and the affected counties for reimbursement. Upon receipt of grant funds from the state and matching funds from the counties. TJPDC shall promptly transfer payment to Firefly.

Firefly will provide TJPDC speed validation data in accordance with the DHCD Agreement to ensure that the project outcomes have been met and the system constructed is capable of providing broadband speeds that meet VATI criteria. No VATI or county matching funds shall be distributed unless and until (a) Firefly has submitted all requested documents applicable to the construction project and (b) Firefly has verified that pre-construction and/or construction work has been completed or equipment has been ordered and received.

Firefly and TJPDC will exercise due diligence and best efforts on community outreach and marketing the availability of service, which is the intent of the program. The parties understand, however, that the actual number of customers who choose to subscribe is beyond the parties' control. The parties also understand that the intent of DHCD is that the parties exercise due diligence and best efforts to reach the program goals, and the intent is to not return funds to DHCD nor have funds retained by TJPDC.

Recognizing the scale and complexity of this project, to the extent that changes to the project management schedule arise due to requirements imposed by DHCD or for any other reason not caused by the action or failure to act by any party to this agreement, including, but not limited to, Acts of God, weather events, or construction supply and/or labor shortages, the Parties agree to engage in good faith discussions to undertake modifications to the schedule. All agreed-upon changes to the project management schedule shall be set forth in a new written schedule and provided to all Parties. A formal amendment to this Agreement shall not be required, but the Parties will cooperate to request a project completion date extension from DHCD as needed.

Firefly will provide a progress update to the Counties and TJPDC as required by and in the format that is required by DHCD, every 30 days until project completion.

Pursuant to Section 10 of the DHCD Agreement, Firefly will provide TJPDC with broadband service and coverage data and information in the time and formats established by DHCD in its Internet Service Provider Service Territory Data Submission Guidelines.

Firefly agrees to assume responsibility for keeping TJPDC updated per the project timeline included in the grant. The project timeline of the grant states that all activities are to be completed by May 2026. Firefly agrees to provide TJPDC post-closeout subscriber reports after construction is complete, and six months later, so that TJPDC can report to DHCD in accordance with its agreement with the DHCD Agreement.

Firefly shall maintain all data and records related to the project for a period of five years following the conclusion of the project.

Firefly will publicly recognize DHCD's support in efforts to expand broadband.

All information and documentation submitted to TJPDC and DHCD in connection with or which accompanied the application out of which this Agreement arises and/or in connection with any contract or agreement that may result from an award arising out of said application are true and accurate in all material respects.

Firefly hereby represents and warrants that the certifications are true and correct in all respects and that the GRANTEE and DHCD may reasonably rely upon such certifications as statements of preexisting facts.

Without limiting any legal or equitable remedies available to Firefly, in the event that TJPDC fails to remit sums due Firefly in a timely manner, Firefly shall have the right to cease work until payment is made.

Firefly shall maintain policies of liability to insure coverage of tort liability to the public and employees and to enable the continued operation of the qualifying project.

Firefly shall file any required financial statements on a periodic basis which statements are confidential and proprietary pursuant to Virginia Code Section 2.2-3705.6 (11) and shall not be made available for public inspection.

TJPDC retains the right to:

- a) Inspect the qualifying project to ensure that Firefly's activities are acceptable to TJPDC and in accordance with the provisions of the comprehensive agreement.
- b) Monitor the practices related to the execution of this agreement by Firefly to ensure proper maintenance.
- c) Review and approval of plans and specifications for the qualifying project by TJPDC.

**General Conditions:**

This Agreement constitutes the entire agreement as to the Project and any associated VATI grant and may not be amended or modified except in writing, signed by each of the parties hereto.

This Agreement is made and is intended to be performed in the Commonwealth of Virginia and must be construed and enforced in accordance with the laws of the Commonwealth of Virginia.

The parties agree that the clause of the DHCD Agreement regarding repayment of the DHCD grant and providing corrective action plans apply and both parties agree to be subject to the terms of the DHCD Agreement. In the event that the comprehensive agreement is terminated or there is a material default by the operator, TJPDC may refer the matter to the OAG as outlined above.

Firefly confirms that no principal, partner, shareholder, director, officer, member, manager or other employee of Firefly with managerial control or responsibility over said entity or any significant aspect of its operations in the Commonwealth of Virginia were employed (i) by the awarding agency and involved in the evaluation and scoring of applications received for consideration of award during a period of one (1) year prior to the date of the announcement of project awards, or (ii) by the Governor’s administration during a period of two (2) years prior to the date of the execution of this Agreement.

If TJPDC should decide to contribute financial resources to the project, this Agreement will be amended to set forth the terms and conditions of such contribution.

CENTRAL VIRGINIA SERVICE, INC  
d/b/a “FIREFLY FIBER BROADBAND”

THOMAS JEFFERSON PLANNING DISTRICT

By: \_\_\_\_\_ [SEAL]

By: \_\_\_\_\_ [SEAL]

Executive Director

\_\_\_\_\_ [PRINT]

Date: \_\_\_\_\_

\_\_\_\_\_ [TITLE]

Date: \_\_\_\_\_

**13. Matching Funds**

**Attachment 9 - Funding Source Table**

Source	Amount	%	Status
Requested VATI	\$ 12,989,017	56.0%	Pending
County Match Contribution - Local	\$ 1,170,000	5.0%	Secured
Firefly/Dominion/Rappahannock - Private	\$ 9,029,628	38.9%	Partially Secured
<b>Total</b>	<b>\$ 23,188,645</b>	<b>100%</b>	

### Private Investment Commitments

Per Attachment 9, Funding Sources table the private funding totals \$9,029,628.

It is broken down further in the creation of the Derivation of Costs, and the totals for each utility that will finance a portion of the project as:

Dominion Energy (middle mile program)	\$3,100,000
Rappahannock Electric Cooperative (Firefly partnership and lease)	\$3,500,000
Firefly Fiber Broadband	\$2,429,628
<b>TOTAL</b>	<b>\$9,029,628</b>

Each of the utilities that will provide financing for a portion of the buildout have commitment letters included in this attachment.



August 23, 2022

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, Virginia 23219

RE: 2023 VATI Applications from Firefly Broadband

Dear Ms. Holmes:

Dominion Energy Virginia ("Dominion") is pleased to be a party to several Memoranda of Understanding with Firefly Broadband ("Firefly"), Albemarle and Cumberland (each, a "Participating County").

Dominion, Firefly, and our partners have developed a unique approach for achieving universal broadband access with individual Counties, and through broader, regional approaches. Dominion's participation in each of these projects will be pursuant to, and in a manner consistent with the provisions of, Virginia Code § 56-585.1:9 (the "Utility Leverage Statute").

This letter confirms Dominion's support for the applications to the 2023 Virginia Telecommunication Initiative to be submitted by Firefly and our Participating County partners named above. Dominion's specific investments that will support each proposed project will be set forth in petitions under the Utility Leverage Statute that will be submitted to the State Corporation Commission ("SCC"). Dominion's participation in each project, and its specific level of related investment, will be subject to the approval of the SCC and the terms set forth in the SCC's Final Order related to each project.

Sincerely,

*David F Walker*

David F. Walker  
Director Rural Broadband

August 24, 2022

Tamarah Holmes, Ph.D.  
Director, Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, Virginia 23219

RE: Firefly Fiber Broadband Deployment Initiative

Dr. Holmes:

On behalf of Rappahannock Electric Cooperative (REC), I am pleased to submit this letter in support of the applications that Firefly Fiber Broadband (Firefly) is submitting for grant funding from the 2023 Virginia Telecommunication Initiative.

We appreciate the focus from the Commonwealth on this critical need to make high-quality broadband internet service available in our unserved and underserved communities. REC is a member-owned, member-focused electric cooperative serving portions of 22 counties. The partnership between us and Firefly, a wholly owned subsidiary of Central Virginia Electric Cooperative, is a wonderful example of a key principle for cooperatives – cooperation among cooperatives. With this collaboration, REC intends to own and lease fiber to Firefly, and Firefly will serve as the internet service provider. REC also intends to apply for loan funds from our banking partners to finance this project. Our efforts have facilitated commitments that will deliver universal, fiber-to-the-home broadband access in the partnered counties served by REC. Additionally, REC is constructing a utility fiber backbone network designed to facilitate the successful completion of these broadband partnership solutions.

This cooperation among cooperatives creates opportunities to simultaneously address critical needs such as modernizing the energy grid and strengthening the reliability and security of our electric infrastructure, while making broadband access universally available. REC is proud to be a facilitator of this internet solution and to contribute to these important projects. We also look forward to continuing our work with Firefly.

Thank you for your consideration of awarding the funding necessary to complete these important projects.

Sincerely,



Peter Muhoro, Ph.D.  
Chief Strategy, Technology and Innovation Officer  
Rappahannock Electric Cooperative

Rappahannock Electric Cooperative is an equal opportunity provider and employer.



August 22, 2022

Dr. Tamarah Holmes, Director  
Office of Broadband  
Virginia Department of Housing & Community Development  
600 East Main Street, Ste 300  
Richmond, VA 23219

RE: Documentation of Match Funding for 2023 VATI Application for Firefly Fiber Broadband<sup>SM</sup>

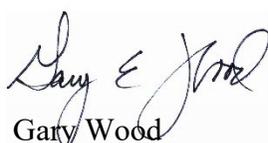
Dr. Holmes:

Universal broadband coverage for the central Virginia region is a focus of the Thomas Jefferson Planning District (TJPD) and Firefly project. TJPD and Firefly received a VATI 2022 grant for a project that provided universal coverage for 13 counties in the central Virginia region. Modifications to the grant program guidelines for 2023 changed the definition of a served location, creating new unserved locations in four of those counties: Albemarle, Cumberland, Greene and Madison. This project expands the fiber optic network to cover all locations that meet the definition of unserved under the 2023 guidelines, once again assuring universal broadband internet access availability across the entire central Virginia region.

With the support of our Board of Directors, Firefly will take the steps necessary to fund the fiber build. Firefly has a commitment letter from its lending partner, CoBank, to fund the Firefly portion of the total VATI 2023 build.

Firefly is eager to continue bridging the digital divide here in central Virginia and ensuring digital equity for all of our neighbors. When this project is complete, Albemarle, Cumberland, Greene and Madison counties will have service available at least at the 100/20 level for every home and business. When added to the eight counties included in the project last year which do not have any unserved locations under the VATI 2023 guidelines plus expanded coverage for a few small areas who have partnered with another provider, the central Virginia region will once again have universal coverage under the present definition of broadband. We are most hopeful that we will be awarded the grant funds that will help Firefly continue to transform the lives of local residents of all ages and backgrounds.

Sincerely,



Gary Wood  
President and CEO



## BROADBAND ACCESSIBILITY AND AFFORDABILITY OFFICE

OF ALBEMARLE COUNTY, VIRGINIA  
COUNTY OFFICE BUILDING  
401 McINTIRE ROAD  
CHARLOTTESVILLE, VIRGINIA 22902-4596

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August 23, 2022

Tamarah Holmes, Ph.D. Director Office of Broadband  
Department of Housing and Community Development  
600 East Main Street, Ste 300  
Richmond, VA 23219

Dear Dr. Holmes:

Albemarle County Board of Supervisor's approved FY2023 budget included an appropriation of \$2,000,000 for the strategic purpose of expanding broadband (page 9 in the approved FY23 Budget Document: [Approved Albemarle County, VA FY2023 Budget Document](#) ). The Albemarle Broadband Accessibility and Affordability Office and the Albemarle County Grants Office continue work with Firefly Fiber Broadband (Firefly) and the Thomas Jefferson Planning District (TJPD) to address areas of the County currently not planned to receive speeds greater than the new VATI standard of 100/20 Mbps. Both offices are in support of the TJPD/Firefly VATI 2023 application which if awarded will fill these gaps and provide the necessary utility for our underserved locations.

Proof of funding availability to complete the VATI 2023 Application Albemarle summary funding table:

Albemarle - 1575 passings  
Total Budget - \$8,764,940  
VATI ask - \$3,692,189  
County Match - not to exceed \$440,000

is found on page 239 of the [Approved Albemarle County, VA FY2023 Budget Document](#) as part of the American Rescue Plan Act (ARPA) State and Local Fiscal Recovery Funds (SLFRF) table. The \$440,000 to be committed from the \$2,000,000 in available ARPA funds on the line entitled Broadband.

Regards,

*M J Culp*

Mike Culp, Director  
Albemarle Broadband Accessibility and Affordability Office  
434-296-5891  
[mculp@albemarle.org](mailto:mculp@albemarle.org)



## Grant Approval Process

Title	Virginia Telecommunication Initiative (VATI) 2023 Grant
Grant Phase	Application or Award
Dept.	BAAO: Mike Culp and Jason Inofuentes
Proposed Budget	<p>This budget is subject to change depending on option for funding outlined below:</p> <p>VATI Amount Requested: \$3,692,189.00</p> <p>Match Amount \$440,000</p> <p>Admin Costs \$4,400.00</p> <p>Total Grant Cost: \$444,400.00</p> <p>Match Source: From \$2M ARPA SLFRF appropriated by the BOS in the FY23 budget</p> <p>Albemarle- 1575 passings</p> <p>Total Budget- \$8,764,940</p> <p>VATI ask- \$3,692,189</p> <p>County Match- not to exceed \$440,000</p>
Summary	<p>The grant funds will be used to add additional fiber infrastructure (buried cable, network devices) and assist in payment for the labor to install it in many areas of the County now deemed underserved or high-cost broadband areas.</p> <p><b>Note:</b> The turnaround time to apply for this grant is very quick and BAAO is working on three scenarios:</p> <ol style="list-style-type: none"> <li>1. (most likely) BAAO applies for VATI '23 through TJPDC's larger application. They would use their FY23 ARPA funds for their match.</li> <li>2. BAAO applies for VATI '23 on their own using their ARPA funds for their match.</li> </ol>

	<p>3. BAAO does not apply for VATI '23 and issues and RFP for their projecting using their FY23 ARPA funds.</p> <p>The ARPA funds were approved by the BOS in the FY23 budget for the purpose of finishing the projects anticipated with one of the funding methods above.</p> <p><b>Note from Mike:</b> ABBA will be made aware on Wednesday Aug. 24 of the decision to use the \$2M from appropriated ARPA funding (BAAO funding) for the FY23 VATI application. Comments from this meeting may change the course of the application options outlined above.</p>
Sustainability Concerns	This project, when complete, is to be sustained solely by the partner Firefly Fiber Broadband and will continue if for any reason the assets deployed are transferred to another entity.
Reviewed by	<p>Kimberly Gardner 8/18/2022</p> <p>Application only, so no need for CA review but use of ARPA funds for this match approved by CA 8/16/2022</p>

Approved



Nelsie Birch, Chief Financial Officer

Date

8/24/2022

Approved



Jeffrey B. Richardson, County Executive

Date

8/24/22

**Board of Supervisors**

**County Administration**

**Brian Stanley, Chairman**  
First Election District

**Eurika Tyree, Vice Chair**  
Third Election District

**Gene Brooks**  
Fourth Election District

**Robert Saunders, Jr.**  
Fifth Election District

**Ronald Tavernier**  
Second Election District



**Derek L. Stamey**  
County Administrator

PO Box 110

1 Courthouse Circle  
Cumberland, VA 23040

Phone: (804) 492-3800  
Fax: (804) 492-9224

info@cumberlandcounty.virginia.gov  
www.cumberlandcounty.virginia.gov

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Date: August 24, 2022

To: Dr. Tamarah Holmes, Office of Broadband Department of Housing and Community Development  
600 East Main Street, Ste 300 Richmond, VA 23219

Re: Cumberland County Support of Application – 2023 VATI Grant Application from Firefly

Dear Dr. Holmes:

On behalf of Cumberland County, I would like to express our support of the 2023 VATI application from Firefly. The County is committed to creating universal access to high-speed internet for all residents and businesses. In order to increase coverage in unserved and underserved areas within the county, the Board of Supervisors supports the regional 2023 VATI Application submitted by lead applicant Thomas Jefferson Planning District Commission with ISP partner FireFly Fiber Broadband.

The Cumberland County Board of Supervisors is committed to the effort and is prepared to match the requested amount of 5% or approximately \$250,000. We thank you for your efforts on behalf of the partnering localities for this application and we look forward to working with all of the partnering organizations involved.

Sincerely,

A handwritten signature in black ink, appearing to read "Derek L. Stamey".

Derek Stamey, County Administrator Cumberland County



**BOARD OF SUPERVISORS**  
POST OFFICE BOX 358  
STANARDSVILLE, VIRGINIA 22973  
TELEPHONE: 434-985-5201

August 23, 2022

Dr. Tamarah Holmes, Director  
Office of Broadband Department of Housing and Community Development  
600 East Main Street,  
Ste 300  
Richmond, VA 23219

Dear Dr. Holmes:

The Greene County Board of Supervisors is committed to creating universal access to high-speed internet for all citizens and businesses. In order to increase coverage in unserved and underserved areas within the county, the Board of Supervisors supports the regional 2023 VATI Application submitted by lead applicant Thomas Jefferson Planning District Commission with ISP partner FireFly Fiber Broadband.

The Board of Supervisors is also committed to supporting the application, which seeks to serve more than 300 unserved households in Greene County, by committing match funding not to exceed \$80,000.00, which represents a 5% match of the overall budget in Greene County.

The Board of Supervisors approved this letter of support for the application by a consensus vote on August 23, 2022.

Sincerely,

  
Marie Durrer, Chair  
Greene County Board of Supervisors

**Chairman**  
R. Clay Jackson

**Vice-Chairman**  
Carty Yowell

**BOARD MEMBERS**  
Charlotte Hoffman  
Dustin Dawson  
James Jewett



**Madison County Board of  
Supervisors**

**Jonathon Weakley**  
County Administrator

**Sean Gregg**  
County Attorney

414 N. Main Street  
P. O. Box 705  
Madison, Virginia 22727  
(540) 948-7500 (ph)  
(540) 948-3843 (fax)

August 23, 2022

Gary Wood, President and CEO  
CVEC & Firefly Fiber Broadband  
P.O. Box 359  
Lovingsston, VA 22949

**RE: FY23 VATI Internet Initiative – Letter of Support**

Dear Mr. Wood :

The Madison County Board of Supervisors at their 8/9/22 meeting, voted unanimously to select CVEC & Firefly Fiber Broadband as their co-applicant for the 2023 Virginia Telecommunication Initiative (VATI) application.

The Board of Supervisors based this decision on the Evaluation Criteria provided in the VATI application from DHCD. Madison looks forward to continuing the relationship with Firefly to provide universal broadband coverage. Firefly has a history of managing these projects and we have a unique partnership to include a regional approach which will score well with DHCD.

As part of the FY23 VATI grant application, the Madison County Board of Supervisors is providing a letter of support for the VATI grant application and hereby commits to provide local funding of the FY23 VATI project. Madison County hereby pledges a not to exceed local contribution of \$400,000.

We look forward to a successful grant cycle and reaching universal broadband coverage in Madison County.

Sincerely,



Jonathon Weakley

## Project Summary Derivation of Costs

<b>Product</b>	<b>Total</b>	<b>VATI</b>	<b>Non-VATI</b>	<b>Source of Estimate</b>	<b>Date</b>
<b>Hut Electronics</b>	\$ 167,845	\$ 111,557	\$ 56,288	Present Construction	7/31/2022
(includes routers, switches, power supply, cross connect, and patch panels, etc.)					
<b>UG Construction</b>	\$ 9,418,950	\$ 6,442,654	\$ 2,976,296	Present Construction	7/31/2022
Total Build (115 miles)					
<b>OH Construction</b>	\$ 11,185,125	\$ 5,282,596	\$ 5,902,529	Present Construction	7/31/2022
Total Build including Make Ready (196 miles)					
<b>Service Installations</b>	\$ 1,276,200	\$ 852,210	\$ 423,990	Present Construction	7/31/2022
Service Drops (1,813 drops)					
<b>TJPDC Grant Oversight and Administration</b>	\$ 300,000	\$ 300,000			
<b>VATI Construction Totals</b>	<b>\$ 22,348,120</b>	<b>\$ 12,989,017</b>	<b>\$ 9,359,103</b>		
Additional Project Costs	\$ 840,525	\$ -	\$ 840,525	Present Construction	7/31/2022
(includes home installs, marketing and management)					
<b>VATI Project Totals</b>	<b>\$ 23,188,645</b>	<b>\$ 12,989,017</b>	<b>\$ 10,199,628</b>		
<b>County Match Contributions</b>			\$ (1,170,000)	County Commitment	8/23/2022
<b>Non VATI/After Contributions</b>			<b>\$ 9,029,628</b>		

**Albemarle County Derivation of Costs**

<b>Product</b>	<b>Total</b>	<b>VATI</b>	<b>Non-VATI</b>	<b>Source of Estimate</b>	<b>Date</b>
<b>Hut Electronics</b>	\$ 91,220	\$ 59,293	\$ 31,927	Present Construction	7/31/2022
(includes routers, switches, power supply, cross connect, and patch panels, etc.)					
<b>UG Construction</b>	\$ 2,724,420	\$ 1,770,874	\$ 953,546	Present Construction	7/31/2022
Total Build (34 miles)					
<b>OH Construction</b>	\$ 4,334,250	\$ 1,452,263	\$ 2,881,987	Present Construction	7/31/2022
Total Build including Make Ready (66 miles)					
<b>Hut Electronics</b>	\$ 630,400	\$ 409,760	\$ 220,640	Present Construction	7/31/2022
Service Drops (788 drops)					
<b>VATI Construction Totals</b>	<b>\$ 7,780,290</b>	<b>\$ 3,692,190</b>	<b>\$ 4,088,100</b>		
Additional Project Costs	\$ 354,650	\$ -	\$ 354,650	Present Construction	7/31/2022
(includes home installs, marketing and management)					
<b>VATI Project Totals</b>	<b>\$ 8,134,940</b>	<b>\$ 3,692,190</b>	<b>\$ 4,442,750</b>		
<b>Albemarle Match Contribution</b>			<b>\$ (440,000)</b>	County Commitment	8/23/2022
<b>Non VATI/After Contributions</b>			<b>\$ 4,002,750</b>		

**Cumberland County Derivation of Costs**

<b>Product</b>	<b>Total</b>	<b>VATI</b>	<b>Non-VATI</b>	<b>Source of Estimate</b>	<b>Date</b>
<b>Hut Electronics</b>	\$ 24,570	\$ 18,428	\$ 6,142	Present Construction	7/31/2022
(includes routers, switches, power supply, cross connect, and patch panels, etc.)					
<b>UG Construction</b>	\$ 3,203,330	\$ 2,402,498	\$ 800,832	Present Construction	7/31/2022
Total Build (41 miles)					
<b>OH Construction</b>	\$ 1,272,625	\$ 204,469	\$ 1,068,156	Present Construction	7/31/2022
Total Build including Make Ready (15 miles)					
<b>Service Installations</b>	\$ 226,800	\$ 170,100	\$ 56,700	Present Construction	7/31/2022
Service Drops (378 drops)					
<b>VATI Construction Totals</b>	<b>\$ 4,727,325</b>	<b>\$ 2,795,495</b>	<b>\$ 1,931,830</b>		
Additional Project Costs	\$ 172,150	\$ -	\$ 172,150	Present Construction	7/31/2022
(includes home installs, marketing and management)					
<b>VATI Project Totals</b>	<b>\$ 4,899,475</b>	<b>\$ 2,795,495</b>	<b>\$ 2,103,980</b>		
<b>Cumberland Match Contribution</b>			\$ (250,000)	County Commitment	8/23/2022
<b>Non VATI/After Contributions</b>			<b>\$ 1,853,980</b>		

**Greene County Derivation of Costs**

<b>Product</b>	<b>Total</b>	<b>VATI</b>	<b>Non-VATI</b>	<b>Source of Estimate</b>	<b>Date</b>
<b>Hut Electronics</b>	\$ 10,010	\$ 6,507	\$ 3,503	Present Construction	7/31/2022
(includes routers, switches, power supply, cross connect, and patch panels, etc.)					
<b>UG Construction</b>	\$ 848,430	\$ 551,480	\$ 296,950	Present Construction	7/31/2022
Total Build (11 miles)					
<b>OH Construction</b>	\$ 781,150	\$ 507,748	\$ 273,402	Present Construction	7/31/2022
Total Build including Make Ready (17 miles)					
<b>Service Installations</b>	\$ 123,200	\$ 80,080	\$ 43,120	Present Construction	7/31/2022
Service Drops (154 drops)					
<b>VATI Construction Totals</b>	<b>\$ 1,762,790</b>	<b>\$ 1,145,815</b>	<b>\$ 616,975</b>		
Additional Project Costs	\$ 72,450		\$ 72,450	Present Construction	7/31/2022
(includes home installs, marketing and management)					
<b>VATI Project Totals</b>	<b>\$ 1,835,240</b>	<b>\$ 1,145,815</b>	<b>\$ 689,425</b>		
<b>Greene Match Contribution</b>			\$ (80,000)	County Commitment	8/23/2022
<b>Non VATI/After Contributions</b>			<b>\$ 609,425</b>		

## Madison County Derivation of Costs

Product	Total	VATI	Non-VATI	Source of Estimate	Date
<b>Hut Electronics</b>	\$ 42,045	\$ 27,329	\$ 14,716	Present Construction	7/31/2022
(includes routers, switches, power supply, cross connect, and patch panels, etc.)					
<b>UG Construction</b>	\$ 2,642,770	\$ 1,717,802	\$ 924,968	Present Construction	7/31/2022
Total Build (29 miles)					
<b>OH Construction</b>	\$ 4,797,100	\$ 3,118,116	\$ 1,678,984	Present Construction	7/31/2022
Total Build includeing Make Ready (98 miles)					
<b>Service Installations</b>	\$ 295,800	\$ 192,270	\$ 103,530	Present Construction	7/31/2022
Service Drops (493 drops)					
<b>VATI Construction Totals</b>	<b>\$ 7,777,715</b>	<b>\$ 5,055,517</b>	<b>\$ 2,722,198</b>		
Additional Project Costs	\$ 241,275		\$ 241,275	Present Construction	7/31/2022
(includes home installs, marketing , management)					
<b>VATI Project Totals</b>	<b>\$ 8,018,990</b>	<b>\$ 5,055,517</b>	<b>\$ 2,963,473</b>		
<b>Madison Match Contribution</b>			<b>\$ (400,000)</b>	County Commitment	8/23/2022
<b>Non VATI/After Contributions</b>			<b>\$ 2,563,473</b>		

### **Attachment 13 – Documentation Supporting Cost Estimates**

Firefly is engaged in several active projects with ongoing contracts for labor and materials. The costs from these active contracts for the CVEC fiber build, the Firefly ReConnect build and the contract for the VATI 2022 project were used as a basis for the estimate with adjustments made for anticipated changes. Two annual 10% increases are built into the labor rates due to the increased demand for fiber construction contract laborers. Materials have been increased to match present pricing with some items having increased as much as 50% in the past six months. Forecast increases for major items like fiber cables and strand have also been built in based on manufacturers best estimates.

Adjustments were made for the unique nature of construction in each locality (rock in the mountains, etc.) and on different utility distribution systems (building in the “power zone” nearer high voltage lines on REC versus building in the telecommunications space on the pole on APCo). Assumptions were used for average installations in terms of units of a specific type, likely number of strands in various fiber routes, number of subscribers, and other variables. Make ready costs vary considerably between utilities and within different areas of construction for the same utility. An area with older poles can be very expensive, and a recently built distribution line might have little or no make ready cost. Utilities are hesitant to give make ready estimates for large projects across wide expanses of rural territory. Firefly has developed estimates for make ready based on work with the same utilities, as well as the utility background of our leadership which has expertise in the electric distribution field.

Below are some price sheets from recent contracts for labor, broken out by construction units, and materials. To create the cost estimate for the project we consider whether the planned work areas will have more or less units of specific types than a typical CVEC circuit buildout with fiber might have, and we adjust the budget up or down to account for the differences.

Please keep the labor and material numbers confidential per our FOIA exemption request.

Unit Name	Unit	RUS Unit Reference	Labor
<b>AERIAL UNITS</b>			
C6M Strand	FT	Included in CO	\$
PM2-A	EA	Included in CO	\$
PE1-3	EA	NPE1-2	\$
PM11	EA	PM11	\$
PF3-3 Aux	EA	None	\$
PF3-3	EA	PF3-3	\$
PM4	EA	PM4	\$
PM4-A	EA	PM4-A	\$
PMSL	EA	PM21	\$
PM-SR	EA	PM21	\$
CO(count)	FT	CO(count)	\$
CO(count)D	FT	CO(count)D	\$
CO(count)E	FT	CO(count)E	\$
WD	EA	Section W-Special Units	\$
MR-S	EA	Section W-Special Units	\$
MR-C	EA	Section W-Special Units	\$
MR-DE	EA	Section W-Special Units	\$
WC-1	EA	Section W-Special Units	\$
MR-A	EA	Section W-Special Units	\$
WCT	FT	Section W-Special Units	\$
DCT	FT	Section W-Special Units	\$
RCD	EA	Section W-Special Units	\$
BM80T	EA	PM21	\$
RPE1-3	EA	NONE	\$
REOH	EA	NONE	\$
RCO(count)	FT	NONE	\$
PP	EA	RETIRE A UNIT	\$
RA	EA	RETIRE PF UNIT	\$
<b>OTHER UNITS</b>			
EAS	HR	NONE	\$
EACA	HR	NONE	\$
EACU	HR	NONE	\$
<b>UNDERGROUND UNITS</b>			
BFO2 VT	FT	UD(1-2)	\$
BF02(2) VT (24")	FT	UD(2-2)	\$
BF02(2) VP (24")	FT	UD(1-2) PLOW	\$
BF02 VP	FT	UD(1-2) DEEP PLOW	\$
BM60(2)D	FT	UD(1-2) DIR BORE	\$
BM60(2)A	FT	UD(2-2) DIR BORE	\$
BF03 VT	FT	UD(1-3)	\$
BF03 VP	FT	UD(1-3) PLOW	\$

Unit Name	Unit	RUS Unit Reference	Labor
BM60(3)D	FT	UD(1-3) DIR BORE	\$
BM60(2)R	FT	BM71	\$
BF02 VT-R(24)	FT	BM71	\$
BF02 VT-R(18)	FT	BM71	\$
BF02 VT-R(12)	FT	BM71	\$
BF02 VT-R(06)	FT	BM71	\$
BM80	EA	SECTION BM-MISCELLANEOUS	\$
BM72	SQ FT	SECTION BM-MISCELLANEOUS	\$
BM73	SQ FT	SECTION BM-MISCELLANEOUS	\$
BM53	EA	SECTION BM-MISCELLANEOUS	\$
BD5RV	EA	HU	\$
BD5RL	EA	HU	\$
BDV	EA	UM	\$
BDVL	EA	UM	\$
BDHH	EA	UH	\$
BDMV	EA	UM	\$
BF02(2)(CO)ED	FT	UO	\$
BFO1(count)	FT	UO	\$
BFO1(count)D	FT	UO	\$
BFO1(count)E	FT	UO	\$
BFO_TRACE	FT	UO	\$
BFOPS	FT	UO	\$
<b>COMPOSITE UNDERGROUND UNITS</b>			
CUG	Sheath FT	NONE	\$
CUG-R	FT	NONE	\$
<b>SPLICING UNITS</b>			
HAFO (A)	EA	SIMILAR HR1	\$
HAFO (B)	EA	SIMILAR HR1	\$
HAFO (C)	EA	SIMILAR HR1	\$
HAFO (D)	EA	SIMILAR HR1	\$
HAFO (2T)	EA	SIMILAR HR2	\$
HAFO (4T)	EA	SIMILAR HR2	\$
HAFO (8T)	EA	SIMILAR HR2	\$
HBFO (A)	EA	SIMILAR HUO	\$
HBFO (B)	EA	SIMILAR HUO	\$
HBFO (C)	EA	SIMILAR HUO	\$
HBFO (D)	EA	SIMILAR HUO	\$
HBFO (2T)	EA	SIMILAR HUO	\$
HBFO (4T)	EA	SIMILAR HUO	\$

Unit Name	Unit	RUS Unit Reference	Labor
HBFO (8T)	EA	SIMILAR HUO	\$
XXHAFO (A)	EA		\$
XXHAFO (B)	EA		\$
XXHAFO (C)	EA		\$
XXHAFO (D)	EA		\$
XXHAFO (2T)	EA		\$
XXHAFO (4T)	EA		\$
XXHAFO (8T)	EA		\$
XXHBFO (A)	EA		\$
XXHBFO (B)	EA		\$
XXHBFO (C)	EA		\$
XXHBFO (D)	EA		\$
XXHBFO (2T)	EA		\$
XXHBFO (4T)	EA		\$
XXHBFO (8T)	EA		\$
HO1 (1-12 cnt)	EA	HO1	\$
HO1 (13-48 cnt)	EA	HO1	\$
HO1 (49-96 cnt)	EA	HO1	\$
HO1 (>96 cnt)	EA	HO1	\$
HO1T	EA	Included in HAFO(6)	\$
<b>Fiber Optic Service Drops</b>			
SEA02 (<125)	FT	SEA2	\$
SEA02 (<250)	FT	SEA2	\$
SEA02 (>250)	FT	SEA2	\$
C6M	FT	INCLUDED IN SEA	\$
SEB02 (MP)	FT	SEB2	\$
SEB02	FT	SEB2	\$
BM60 (.75)	FT	BM MISCELLANEOUS	\$
BF01 (Drop)	FT		\$
BM50	EA	BM MISCELLANEOUS	\$
HAFO (6)	EA	NID	\$
HO1(Drop)	EA	HO1	\$
HO2	EA	HO2	\$
TEMP	FT	NONE	\$
<b>Additional Amendment Units</b>			
Traffic Control		NOT APPLICABLE	
DP-ADM	HR	NOT APPLICABLE	\$
CD-OT	FT	NOT APPLICABLE	\$
MT-SC	FT	NONE	\$
MT-WG	FT	NONE	\$

Unit Name	Unit	RUS Unit Reference	Labor
MT-SPGC	FT	NONE	\$
BM60(2)RS	FT	NONE	\$
WP-Trim	Span	R2-5	\$
BH-ROW	FT	R2-5	\$
UG ROW	FT	R2-5	\$
SUPT-01	HR	NOT APPLICABLE	\$
SST-01	HR	NOT APPLICABLE	\$
AMC01	HR	NOT APPLICABLE	\$
BMC01	HR	NOT APPLICABLE	\$
ADC01	HR	NOT APPLICABLE	\$
BDC01	HR	NOT APPLICABLE	\$
SPLT01	HR	NOT APPLICABLE	\$
MRC(LC)	HR	NOT APPLICABLE	\$
MRC-LT	HR	NOT APPLICABLE	\$
MRC(DM)	HR	NOT APPLICABLE	\$
MRC(PT)	HR	NOT APPLICABLE	\$
MRC-ATV	HR	NOT APPLICABLE	\$
MRC(A)	HR	NOT APPLICABLE	\$
HUT GROUNDING	EA	MATERIALS PROVIDED BY S&N	\$
NEW UNIT - ADD DROP TO TAP	EA	ADD DROP TO EXISTING TAP LOCATION	\$
Closure Entry (A)	EA	Additional splice enclosure entry equivalent of Tyco "A"	\$
Closure Entry (B)	EA	Additional splice enclosure entry equivalent of Tyco "B"	\$
Closure Entry (C)	EA	Additional splice enclosure entry equivalent of Tyco "C"	\$
Closure Entry (D)	EA	Additional splice enclosure entry equivalent of Tyco "D"	\$
Panel Prep (144)	EA	Prep patch panel - 144 count	\$
Panel Prep (96)	EA	Prep patch panel - 96 count	\$



County of Albemarle  
B.F. Yancey Community Center  
7625 Porters Road  
Esmont, VA 22937

August 23, 2022

RE: Letter of Support for 2023 VATI Application for Albemarle County

Dear Selection Committee,

We are writing in support of Firefly Fiber Broadband SM , a wholly-owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal for building Fiber-to-the-Premise (FTTP) in Albemarle County, Virginia. We recognize the importance of broadband to citizens in our County and particularly in the southern rural part of the county.

Additionally, such improvements will increase the ability of our residents including school and college students to work better from home. Many times, our students are unable to access information for their homework or to participate in on-line college courses because of our lack of broadband.

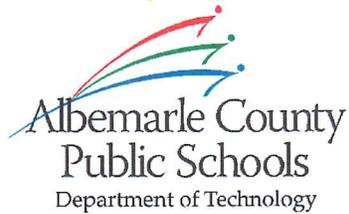
Also, there is the fundamental issue of equity in a post COVID era where both management level residents and professional level employees are unable to split workdays at home and on premise due to poor Internet Access.

FTTP would also provide economic growth in Albemarle County for all. The proposed investment in broadband infrastructure utilizing VATI funds along with County matching funds would greatly improve the opportunities only faster broadband can afford. We ask that you strongly consider and support their application request for the betterment of our community.

Yours in community service,

*Ed Brooks*

Edward R. Brooks, Program Coordinator  
B.F. Yancey School Community Center  
Esmont, Virginia



August 19, 2022

RE: Letter of Support for 2023 VATI Application for Albemarle County

Dear Selection Committee,

We are writing in support of Firefly Fiber Broadband<sup>SM</sup>, a wholly-owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal for building Fiber-to-the-Premise (FTTP) in Albemarle County, Virginia. We recognize the importance of broadband to citizens in our County.

Additionally, such improvements will increase educational opportunities for our staff and most importantly, our students. Many times, our students are unable to access information for their schoolwork or research in our County because of our lack of broadband. Also, our schools are unable to effectively connect between the locations, thus limiting our ability to offer reliable internet connections for both instruction and school division operations.

FTTP would also provide economic growth in Albemarle County for all. The proposed investment in broadband infrastructure utilizing VATI funds along with County matching funds would greatly improve the opportunities only faster broadband can afford. Please consider their application and know we stand in support of these efforts.

Sincerely,

A handwritten signature in black ink that reads "Christine Diggs".

Dr. Christine Diggs  
Chief Technology Officer  
Albemarle County Public Schools



**JEFFERSON-MADISON**  
REGIONAL LIBRARY

201 E. Market Street | Charlottesville, VA  
434.979.7151 | FAX 434.971.7035 | [jmrl.org](http://jmrl.org)

August 22, 2022

Tamarah Holmes, Ph.D  
Director  
Office of Broadband  
Department of Housing and Community Development  
600 East Main Street, Ste 300  
Richmond, VA 23219

Dear Dr. Holmes:

The Jefferson Madison Regional Library (JMRL) serves the people of Albemarle County, and has firsthand experience with the negative impact that the digital divide means to this community. JMRL works hand in hand with the Thomas Jefferson Planning District Commission (TJPDC) and Albemarle County Public Schools (ACPS) to meet these challenges, and to provide much needed digital access to all. JMRL has also seen firsthand the dedication and commitment that Albemarle County and the TJPDC have toward resolving this critical issue.

JMRL fully supports TJPDC's application for VATI 2023, as this grant will help to provide service and access to those that need it more than ever during the current pandemic.

Please accept JMRL's support for this VATI grant application. Our understanding is that if this grant application is offered funds, the resulting projects will offer fiber broadband service (up to gigabit speeds) to many locations in JMRL's service area without access to broadband today. If offered funds, the resulting projects will have a positive digital learning impact for the people of Albemarle County.

Sincerely,

David Plunkett  
Library Director

**grow. learn. connect.**



**Serving Charlottesville, Albemarle County, Greene County, Louisa County, and Nelson County**



August 24, 2022

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, Virginia 23219

RE: **2023 VATI Applications from Central Virginia Electric Cooperative (CVEC) / Firefly**

Dear Ms. Holmes:

BARC Electric Cooperative / BARC Connects (“BARC”) is pleased to submit this letter of support for CVEC/Firefly and the counties of Albermarle, Cumberland, Greene, and Madison, (“Participating Counties”).

BARC, and CVEC/Firefly have developed a cooperative approach for achieving universal broadband access with each of our individual Counties, through an arrangement where CVEC/Firefly provides Network Operations Center (NOC) services to BARC, providing economies of scale for both cooperatives and their collective member / customers. This approach to providing a high level of service to our member / customers in remote rural areas across our existing electric service territories, exemplifies our cooperative commitment to the communities we serve. Not only does CVEC / Firefly work to provide BARC with operational services, but also with other electric cooperatives, providing broadband services to their member / customers.

This letter confirms BARC’s support for the application to the 2023 Virginia Telecommunication Initiative to be submitted by CVEC/Firefly and their Participating Counties named above.

Sincerely,

Bill Buchanan  
Chief Executive Officer



August 19, 2022

To Whom It May Concern:

Please accept this letter as my full support for Greene County's participation in the regional application to the 2023 Virginia Telecommunications Initiative grant. The request is being submitted by lead applicant Thomas Jefferson Planning District Commission with ISP partner FireFly Fiber Broadband providing access to unserved homes to access broadband.

Reliable and reasonable access rates are essential for a thriving community and a solid economic base. As Director of Economic Development and Tourism, I see on a daily basis the need to bring broadband to all parts of the county. Home businesses, individuals that telecommute, and rural businesses struggle to meet their communications needs. This hampers economic growth as potential businesses are not created or choose to locate in another community with broadband.

As a former educator and resident of the community, I see how the lack of broadband has put our students at a great disadvantage when they cannot access the internet. Not only does this impact our community on a personal note, it deters students from integrating into our community after graduating from public education, creating a great loss in potential entrepreneurs that could enhance our community.

Considering the economic impact on our community, I greatly appreciate your consideration for Greene's grant application. By awarding the grant, you will be investing in a community with great potential.

Most Sincerely,

A handwritten signature in black ink, appearing to read "Alan E. Yost", is written over a faint, larger version of the same signature.

Alan E. Yost  
Director of Economic Development and Tourism

Greene County Economic Development & Tourism  
Greene County Visitor Center  
8315 Seminole Trail, Ruckersville, VA 22968  
Phone: (434) 985-6663  
[www.exploregreene.com](http://www.exploregreene.com)



## Greene County Public Schools

P.O. Box 1140, 40 Celt Road  
Stanardsville, Virginia 22973  
Office: 434-939-9000 Fax: 434-985-4686

August 19, 2022

To Whom It May Concern:

I am in full support of Greene County's participation in the regional application to the 2023 Virginia Telecommunications Initiative grant. The request is being submitted by lead applicant Thomas Jefferson Planning District Commission with ISP partner FireFly Fiber Broadband providing access to unserved homes to access broadband. Reliable communication access for everyone is vital to the success of a modern community.

As Superintendent for the Greene County School District I recognize the need for students and teachers to have broadband availability. Broadband is an important tool to help educators, parents and students meet major challenges. The county's economic welfare and long-term success depend on improving learning for all students, and broadband-enabled solutions hold tremendous promise to help reverse patterns of low achievement. With broadband, students and teachers can expand instruction beyond the confines of the physical classroom and traditional school day. Broadband can also provide more customized learning opportunities for students to access high-quality, low-cost and personally relevant educational material. Broadband can improve the flow of educational information, allowing teachers, parents and organizations to make better decisions tied to each student's needs and abilities. Improved information flow can also make educational product and service markets more competitive by allowing school districts and other organizations to develop or purchase higher-quality educational products and services.

At Greene County Public Schools, our motto is "Every Child-Every Chance-Every Day". To accomplish this goal, all of our students require equal access to reliable communications. I strongly support the application in order to make sure every child In Greene has an equal opportunity to reach their full achievement level.

Sincerely,

Andrea E. Whitmarsh, EdD  
Superintendent of Schools

# MADISON COUNTY EMERGENCY COMMUNICATIONS

Brian J. Gordon, *Director*

P. O. Box 705

107 Church Street

Madison, Virginia 22727

Tel.: (540) 948-5144  
(540) 395-7033 (cell)

Fax: (540) 948-3069  
Email: bgordon@madisonco.virginia.gov

August 22, 2022

Dr. Tamarah Holmes  
Office Of Broadband  
600 East Main Street, Suite 300  
Richmond, VA 23219

Reference: Letter of Support for Firefly Broadband/TJPDC 2023 VATI Application

Dear Dr. Holmes,

I am contacting you on behalf of Madison County Emergency Communications in support of the Firefly project. Madison County is very rural and does not offer many of the resources that are seen throughout the Commonwealth due largely to our rural nature and the complexity of delivering such resources to its' citizens. There are many areas of our County that do not have any reliable communication outside of POTS and this creates quite a burden for our citizens during times of outages.

Having a reliable data flow for our citizens would open the door to additional means of communications, mainly VOIP, which is becoming more and more available for those with sufficient data flow to feed the service. A service like broadband would open many possibilities for communications and this would be the first step in realizing those possibilities.

We respectfully request that you consider the application and know that Madison County Emergency Communications stands behind that application.

Sincerely,



Brian J. Gordon  
Madison County  
Director of Emergency Communications



## **Madison County Department of EMS**

**Noah Hillstrom, EMS Chief**

**1494 N. Main St., Madison VA, 22727**

**Phone: 540-948-4813 Fax: 540-948-4821**

August 19, 2022

Dr. Tamarah Holmes  
Office of Broadband  
600 East Main Street, Ste 300  
Richmond, VA 23219

RE: Letter of Support for Firefly Broadband/TJPDC 2023 VATI Application

Dear Dr. Holmes,

I am writing on behalf of the Madison County Department of EMS in support of Firefly Fiber Broadband, a wholly owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal to continue building Fiber-to-the-Premise (FTTP) in Madison County, Virginia.

I strongly support efforts for broadband infrastructure in Madison County, as a good portion of Madison County does not have access to broadband. This makes it difficult and/or impossible for many of our residents and businesses to access vital programs and services. Connectivity to services in education, healthcare, public safety, and government are vital to the well-being of the residents and visitors of Madison County.

The proposed investment in broadband infrastructure utilizing VATI funds with matching County funds would greatly improve the opportunities only faster broadband can afford. Grant funding programs are critical to the development of broadband systems needed to provide access in unserved areas of Madison County. I fully support Madison County and its partners pursuing such grant opportunities.

Sincerely,

*Noah Hillstrom*

Noah Hillstrom  
Chief of EMS



# Literacy Council of Madison County, Inc.

P.O. Box 575, Madison, VA 22727

(540)948-5514 - E-mail: [info@madisonliteracy.org](mailto:info@madisonliteracy.org)

August 22, 2022

Dr. Tamarah Holmes  
Office of Broadband  
800 East Broad Street, Swe. 300  
Richmond, VA 23219

RE: Letter of Support for Firefly for Firefly Broadband/TJPDC 2023 VATI Application

Dear Ms. Holmes:

I am writing on behalf of the Literacy Council of Madison County in support of Firefly Fiber Broadband, a wholly owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal to continue building Fiber-to-the-Premise (FTTP) in Madison County, Virginia. We are acutely aware of the advantages of offering broadband not only to the citizens in our county, but also to the entire region. Such improvements will greatly increase educational opportunities and economic growth in the County. The proposed investment in broadband infrastructure utilizing VATI funds with matching County funds would greatly improve the opportunities only faster broadband can afford.

Our non-profit organization offers workshops to the community about how to use smartphones and other digital devices. These workshops are very popular and well-received. We have been conducting virtual tutoring for the past several years. We offer hot spots to our students so that they may participate virtually in tutoring and other learning opportunities. Accessing internet service is a huge problem in many areas of our county.

Personally, as a member of the Madison County Planning Commission, I am aware that businesses plan to relocate or build in a community that has good reliable high-speed internet for the business as well their employees. We don't want to miss out on the opportunities for growth because of our limited access to fast, reliable broadband.

We respectfully ask that you consider the application. Please be assured that the Literacy Council is in full support of this effort to improve communication in Madison County.

Sincerely,

*Fay Utz*

Fay Utz, President of the Board



Superintendent  
Ms. Anna Graham

Assistant Superintendent  
Dr. Cathy Jones

Director of Finance  
Ms. Tina Cropp



60 School Board Court  
Madison, VA 22727

540-948-3780  
540-948-5143 facsimile

## MADISON COUNTY SCHOOL BOARD

Dr. Tamarah Holmes  
Office of Broadband  
600 East Main Street, Ste 300  
Richmond, VA 23219

RE: Letter of Support for Firefly Broadband/TJPDC 2023 VATI Application

Dear Dr. Holmes,

I am writing on behalf of Madison County Public Schools in support of Firefly Fiber Broadband, a wholly owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal to continue building Fiber-to-the-Premise (FTTP) in Madison County, Virginia. Our students in Madison County are at a disadvantage in that not all of their homes have reliable internet services. During the pandemic, only 50% of our students reported having reliable internet access. We struggled to provide students with equitable instruction. As a school division, we installed external Wi-Fi antennas at two of our facilities to at least provide families the option to park on school grounds to do work or download content offline. We also purchased hotspots, but these did not work for families who live in areas with poor cellular coverage. These problems still exist today.

Improved broadband connectivity would increase educational opportunities for our students. Students with reliable internet access at home can better complete their homework, study for tests and quizzes, conduct research, access online textbooks and books, work collaboratively with peers and email their teachers for help. Students with reliable internet access can also take advantage of online courses not offered by our small rural division. Increased broadband access would also allow more students the option of taking online college courses while staying home to help their families.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Anna Graham', written over a light blue horizontal line.

Anna Graham  
Superintendent

**Madison Primary School**  
158 Primary School Drive  
Madison, VA 22727  
540-948-3781

**Waverly Yowell Elementary School**  
1809 North Main Street  
Madison, VA 22727  
540-948-4511

**William Wetsel Middle School**  
186 Mountaineer Lane  
Madison, VA 22727  
540-948-3783

**Madison County High School**  
68 Mountaineer Lane  
Madison, VA 22727  
540-948-3785

**TEACHING · LEARNING · CARING**

[www2.madisonschools.k12.va.us](http://www2.madisonschools.k12.va.us)



**Madison County Economic Development and Tourism Dept**  
110 N Main St.  
Madison, VA 22727  
540-948-7560  
[tgardner@madisonco.virginia.gov](mailto:tgardner@madisonco.virginia.gov)

August 19, 2022

Dr. Tamarah Holmes  
Office of Broadband  
600 East Main Street, Ste 300  
Richmond, VA 23219

RE: Letter of Support for Firefly Broadband/TJPDC 2023 VATI Application

Dear Dr. Holmes,

I am again writing on behalf of the Madison Economic Development & Tourism Department in support of Firefly Fiber Broadband, a wholly owned subsidiary of Central Virginia Electric Cooperative (CVEC), and their proposal to continue building Fiber-to-the-Premise (FTTP) in Madison County, Virginia. Our Board frequently discusses the importance of broadband not only to the citizens in our County, but also to the entire Region. Such improvements will increase educational opportunities and economic growth in the County. The proposed investment in broadband infrastructure utilizing VATI funds with matching County funds would greatly improve the opportunities only faster broadband can afford.

As I've mentioned previously, rural counties such as Madison, tend to have limited availability to infrastructure such as water and sewer that many larger companies demand. However, there are many other opportunities with smaller businesses that do not request that infrastructure, but access to reliable and efficient broadband is non-negotiable. It really is the key to the future success of rural areas in terms of economic growth as well as attracting people to the area to settle and raise their families.

We respectfully ask that you consider the application and know we stand in support of their effort.

Sincerely,

Tracey Gardner  
Economic Development & Tourism Director

# Form 477 Filing Summary

FRN:  
0027729573

Data as of:  
Jun 30, 2021

Operations:  
Non-ILEC

Submission Status:  
Original - Submitted

Last Updated:  
Aug 25, 2021 09:26  
AM

## Filer Identification

Section	Field	Response
Filer Information	Company Name	Central Virginia Services, Inc.
	Holding Company Name	Central Virginia Services, Inc.
	Filing Type	Non-ILEC
	SAC ID	N/A
	499 ID	832816
Data Contact Information	Data Contact Name	Mark Lammert
	Data Contact Phone Number	(407) 794-3488
	Data Contact E-mail	regulatory@csilongwood.com
Emergency Operations Contact Information	Emergency Operations Name	Ryan Coffey
	Emergency Operations Phone Number	(434) 282-7682
	Emergency Operations E-mail	rcoffey@fireflyva.com
Certifying Official Contact Information	Certifying Official Name	Gary Wood
	Certifying Official Phone Number	(434) 263-8336
	Certifying Official E-mail	gwood@mycvec.com

## Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	Central Virginia BBDeployment.csv	Aug 24, 2021 03:25 PM	1,755
Fixed Broadband Subscription	Central Virginia BBSubscript.csv	Aug 25, 2021 09:24 AM	68
Fixed Voice Subscription	Central Virginia 1H21 Voice.csv	Aug 24, 2021 03:31 PM	26

## Fixed Broadband Deployment

### Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
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State	DBA Name	Technology	Blocks
Virginia	Firefly Fiber Broadband	Optical Carrier/Fiber to the End User	1,755
<b>Total</b>			<b>1,755</b>

## Fixed Broadband Subscription

### Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
Virginia	Optical Carrier/Fiber to the End User	68	8,149	178	8,327
<b>Total</b>		<b>68</b>	<b>8,149</b>	<b>178</b>	<b>8,327</b>

### Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
50.000	50.000	0	10	10
100.000	100.000	5,189	141	5,330
250.000	250.000	0	23	23
1,000.000	1,000.000	2,960	4	2,964
<b>Total</b>		<b>8,149</b>	<b>178</b>	<b>8,327</b>

### Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Optical Carrier/Fiber to the End User	50.000	50.000	0	10	10
	100.000	100.000	5,189	141	5,330
	250.000	250.000	0	23	23
	1,000.000	1,000.000	2,960	4	2,964
<b>Total</b>			<b>8,149</b>	<b>178</b>	<b>8,327</b>

## Fixed Voice Subscription

### VGE Lines and VoIP Subscriptions by State and End User Type

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Virginia	0	0	1,596	1,509
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1,596</b>	<b>1,509</b>

## Fixed Voice Subscription (iVoIP)

### Over-the-Top VoIP Subscriptions by State and End User Type

State	Total	Consumer	Business/Govt.
Virginia	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

### All Other VoIP Subscriptions by State, End User Type, Bundle and Last-Mile Medium

State	Total	by End User Type		by Bundle		by Last-Mile Medium			
		Consumer	Business/Govt.	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	1,596	1,509	87	1,551	45	1,596	0	0	0
<b>Total</b>	<b>1,596</b>	<b>1,509</b>	<b>87</b>	<b>1,551</b>	<b>45</b>	<b>1,596</b>	<b>0</b>	<b>0</b>	<b>0</b>

Reminder: Use 2010 Census geographies for data as of June 30, 2021 and before. Use 2020 Census geographies for data as of December 31, 2021 and after.

# Form 477 Filing Summary

FRN:  
0027729573

Data as of:  
Dec 31, 2021

Operations:  
Non-ILEC

Submission Status:  
Revised - Submitted

Last Updated:  
Aug 23, 2022 04:19  
PM

## Filer Identification

Section	Field	Response
Filer Information	Company Name	Central Virginia Services, Inc.
	Holding Company Name	Central Virginia Electric Cooperative
	Filing Type	Non-ILEC
	SAC ID	N/A
	499 ID	832816
Data Contact Information	Data Contact Name	Mark Lammert
	Data Contact Phone Number	(407) 260-1011
	Data Contact E-mail	regulatory@csilongwood.com
Emergency Operations Contact Information	Emergency Operations Name	Gary Wood
	Emergency Operations Phone Number	(833) 473-3591
	Emergency Operations E-mail	gwood@MyCVEC.com
Certifying Official Contact Information	Certifying Official Name	Gary Wood
	Certifying Official Phone Number	(833) 473-3591
	Certifying Official E-mail	gwood@MyCVEC.com

## Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	DEC_2021_fbd_2.csv	Aug 23, 2022 12:59 PM	1,938
Fixed Broadband Subscription	DEC_2021_fbs.csv	Aug 23, 2022 12:59 PM	88
Fixed Voice Subscription	DEC_2021_fvs.csv	Aug 23, 2022 12:59 PM	35

## Fixed Broadband Deployment

### Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	Firefly Fiber Broadband	Optical Carrier/Fiber to the End User	1,938

State	DBA Name	Technology	Blocks
<b>Total</b>			<b>1,938</b>

## Fixed Broadband Subscription

### Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
Virginia	Optical Carrier/Fiber to the End User	88	10,986	305	11,291
<b>Total</b>		<b>88</b>	<b>10,986</b>	<b>305</b>	<b>11,291</b>

### Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
50.000	50.000	0	5	5
100.000	100.000	6,965	250	7,215
250.000	250.000	0	23	23
1,000.000	1,000.000	4,021	27	4,048
<b>Total</b>		<b>10,986</b>	<b>305</b>	<b>11,291</b>

### Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Optical Carrier/Fiber to the End User	50.000	50.000	0	5	5
	100.000	100.000	6,965	250	7,215
	250.000	250.000	0	23	23
	1,000.000	1,000.000	4,021	27	4,048
<b>Total</b>			<b>10,986</b>	<b>305</b>	<b>11,291</b>

## Fixed Voice Subscription

### VGE Lines and VoIP Subscriptions by State and End User Type

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Virginia	0	0	2,165	1,936
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2,165</b>	<b>1,936</b>

## Fixed Voice Subscription (iVoIP)

### Over-the-Top VoIP Subscriptions by State and End User Type

State	Total	Consumer	Business/Govt.
Virginia	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

All Other VoIP Subscriptions by State, End User Type, Bundle and Last-Mile Medium

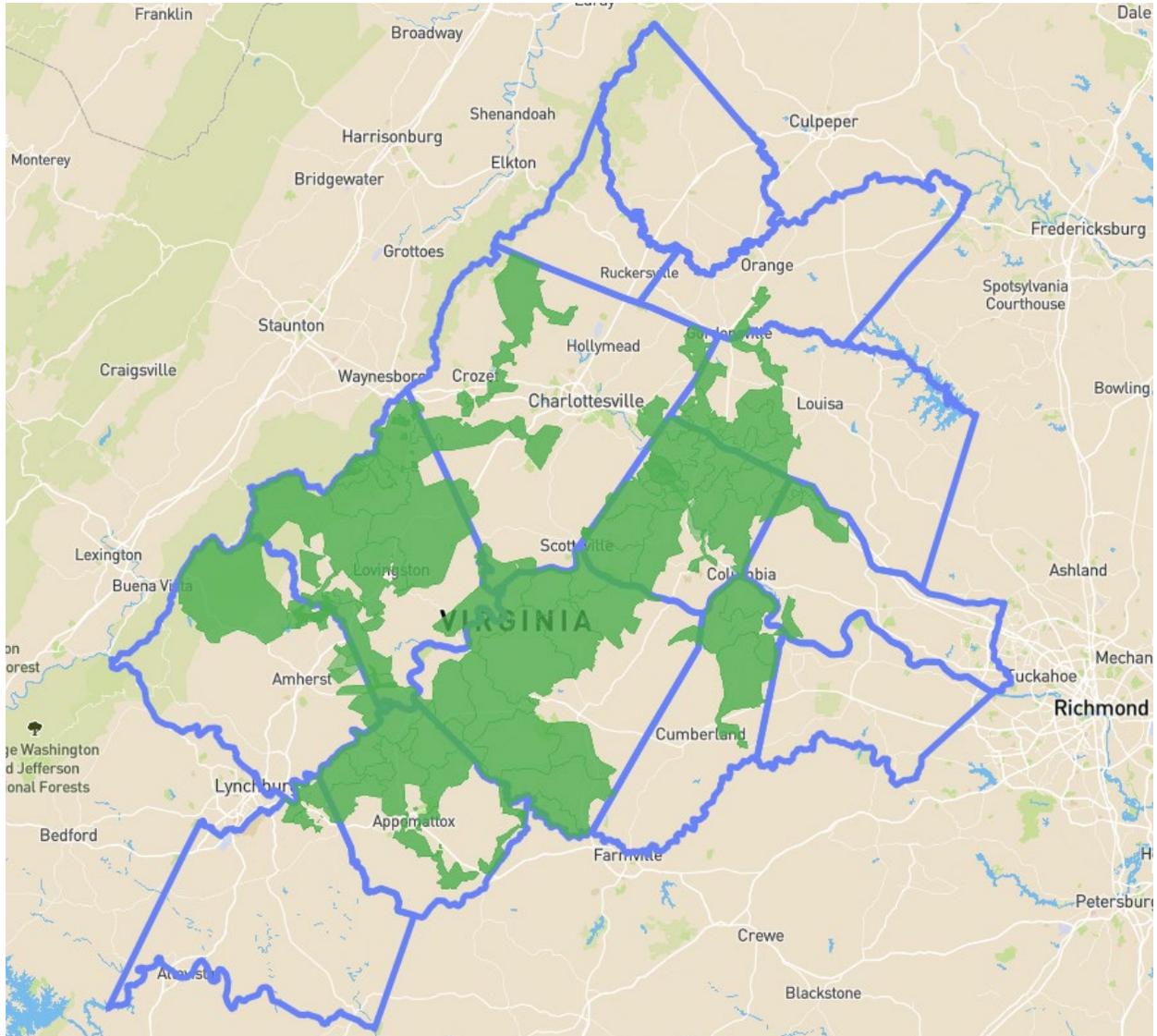
State	Total	by End User Type		by Bundle		by Last-Mile Medium			
		Consumer	Business/Govt.	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	2,165	1,936	229	2,098	67	2,165	0	0	0
<b>Total</b>	<b>2,165</b>	<b>1,936</b>	<b>229</b>	<b>2,098</b>	<b>67</b>	<b>2,165</b>	<b>0</b>	<b>0</b>	<b>0</b>

Reminder: Use 2010 Census geographies for data as of June 30, 2021 and before. Use 2020 Census geographies for data as of December 31, 2021 and after.

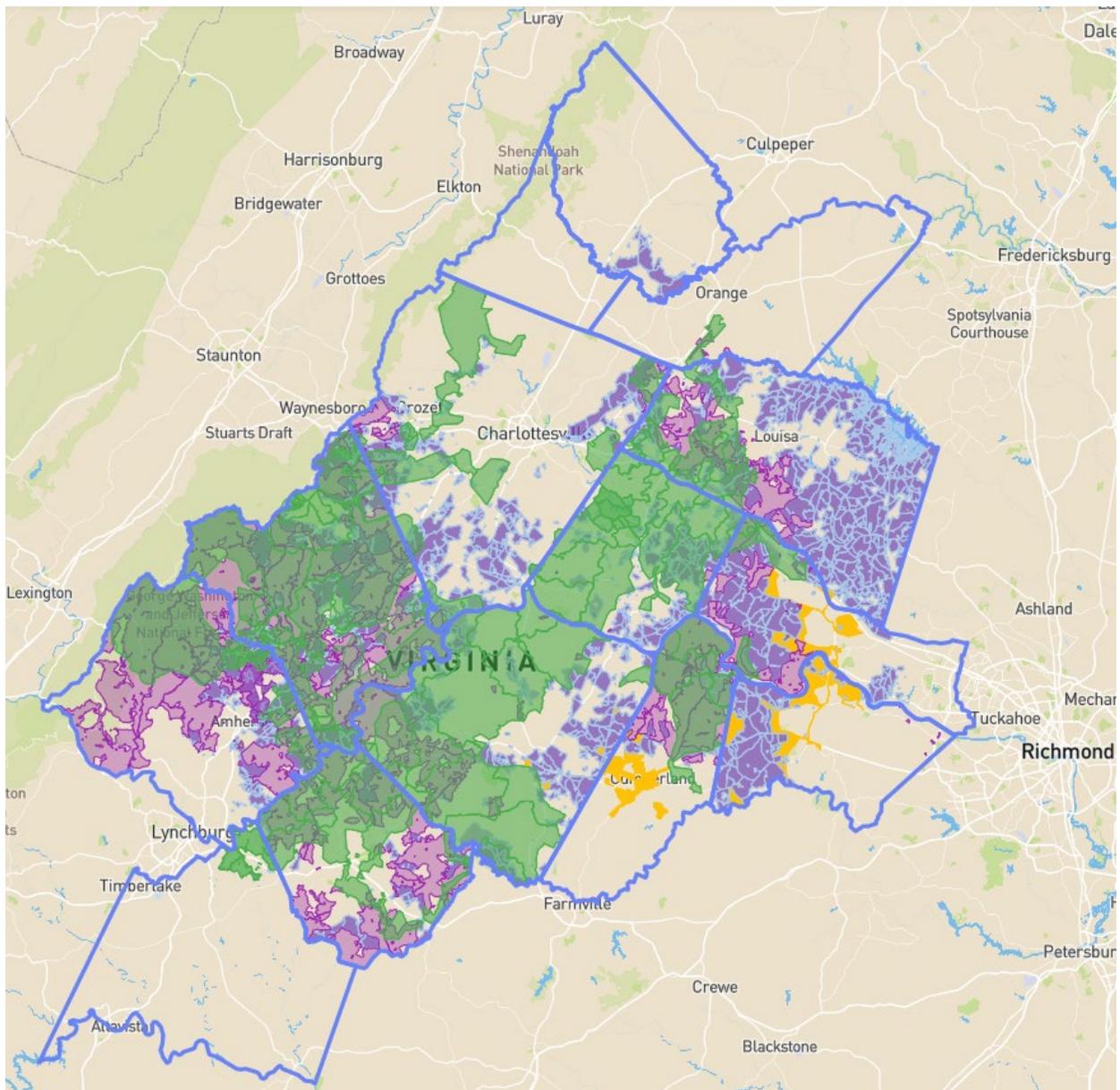


There was no work going on of any volume to achieve universal service. The VATI program only had \$1 million to spread across the entire state. There were no major infrastructure projects underway.

In August 2022, the CVEC fiber project is almost complete and all CVEC members will have access to gigabit speed service by year end. All 38,000 electric accounts will have fiber connections available, and another 2000 off system locations will have access as well with CARES projects and other extensions. The Firefly service territory will look like this:

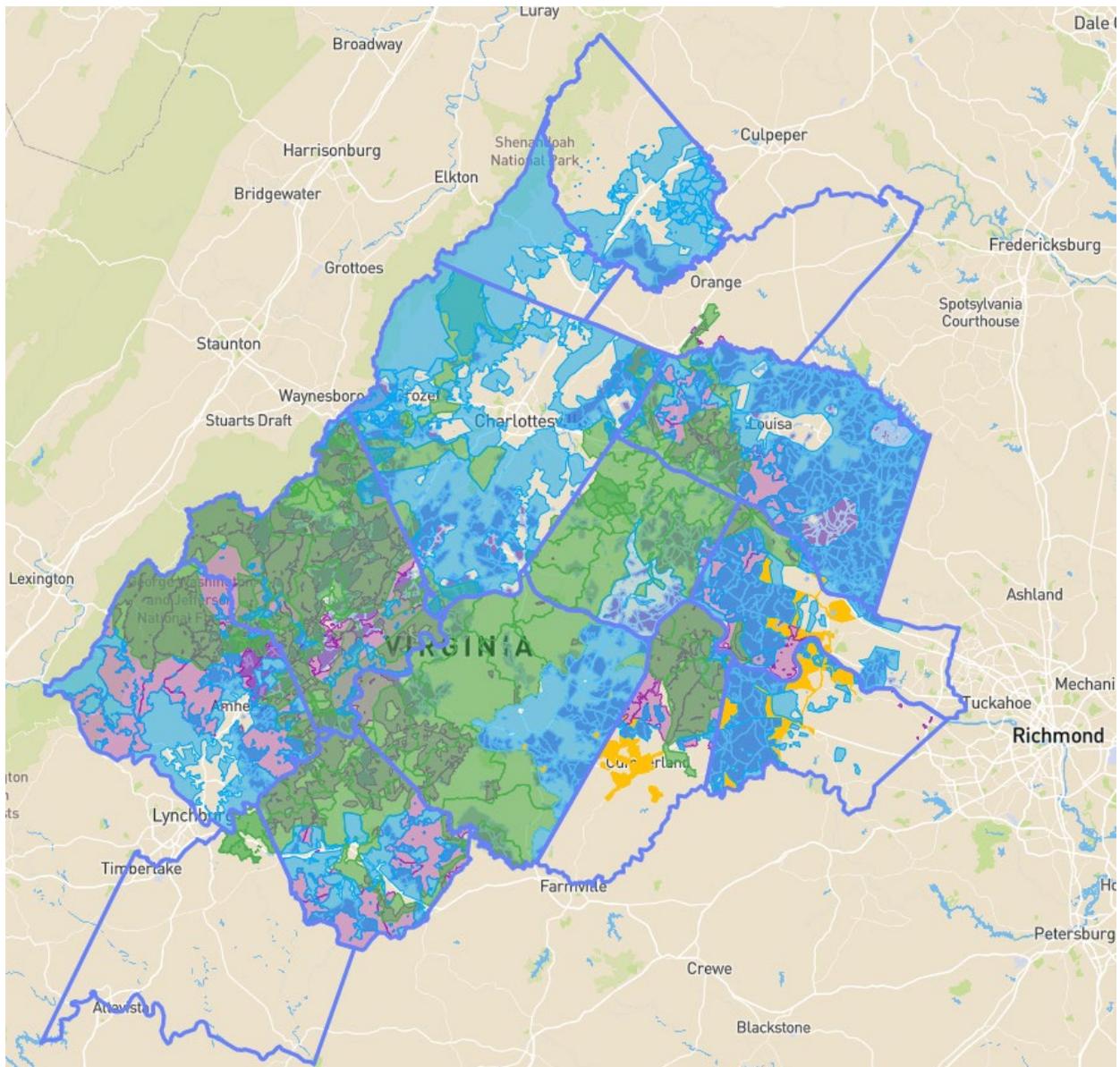


Firefly was formed with a commitment to universal service, but it was not formed to be limited to the CVEC electric service territory. Building fiber outside the CVEC footprint requires Firefly to build on other utilities' facilities which is more expensive. Knowing the communities adjacent to the CVEC territory were also lacking broadband, Firefly has sought ways to bring in funding to offset the cost of reaching those locations. Firefly has been active in FCC auctions for CAF-II and RDOF funding to help expand service to those without options. Some of that funding helped offset costs of construction inside the CVEC territory but the Firefly commitments now go into several adjacent areas. Firefly has also pursued an RUS ReConnect grant that covers areas east of the CVEC territory. The map below shows the Firefly CAF-II (lavender), RDOF (purple), and ReConnect (orange) areas:



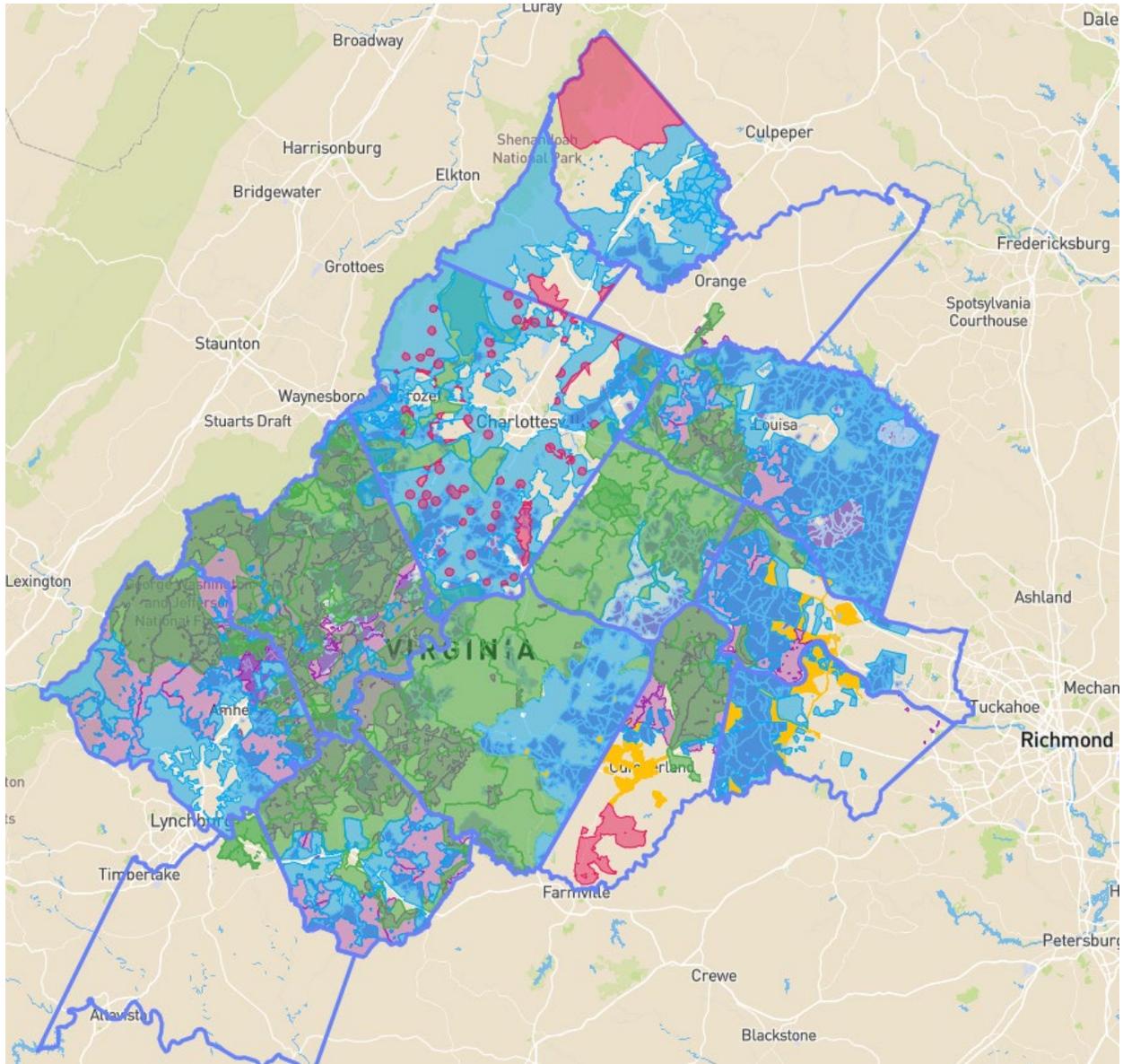
Next, Firefly began looking for off system partners to help reach the unserved in these communities. With partnerships in place with Rappahannock Electric Cooperative and Dominion Energy, the last limiting factor was the funding to help keep capital investment to a level that allows Firefly to maintain their affordable rates. When the Virginia Telecommunications Initiative(VATI) program was expanded with federal funds to have \$700 million in funding for the 2022 round of grants, it created a once in a lifetime opportunity to construct the rest of the regional network and provide truly universal broadband access in the counties of central Virginia.

This proposal, under the regional leadership of the Thomas Jefferson Planning District, will expand access over the next three years to fill in the uncolored areas of the map like this:



The VATI 2022 project made universal service available to all locations eligible under VATI 2022 guidelines.

Now with the new VATI 2023 guidelines that provide funding to reach any location not presently served at a speed of 100 mbps download, Firefly again is stepping forward with its partners in the counties and with the leadership of the Thomas Jefferson Planning District to assure every possible location receives access to affordable, reliable true broadband service. With the proposed VATI 2023 area highlighted in red, the Firefly service area in the central Virginia region will look like this:



The areas in each county that are not colored generally have incumbent providers offering fiber or cable connection options, or in Campbell and Cumberland counties, the location in uncolored areas is covered under other VATI 2022 grant awards with other ISPs who plan to build out in the next few years. The exceptions to this are the areas challenged by Lumen/Brightspeed in Madison, Greene and Campbell which will be built out by them or Firefly within a similar time frame.

The central Virginia broadband map has come a long way in the last four years. Last year's award covered all known unserved locations at the time, but this year's change in guidelines opened new holes in the coverage area. With the VATI 2023 project it will once again become a completed canvas, indicating that every home and business in a 13-county region will have access to broadband. The project touches four counties who want broadband for all their citizens. It includes parts of three regional planning districts. It brings together three electric utilities in a partnership and covers territory in two other utilities territory. It combines the benefits of federal, state, and local funding from several programs and agencies.

TJPDC, the counties and the construction partners of Dominion, REC and Firefly will realize their common goal of universal service for this entire region. It also will satisfy the inherent drive within Firefly to provide universal broadband access in the same way that its parent CVEC provides universal electric access. This proposal once again assures that every unserved location in the 13-county central Virginia region will have access to broadband internet service.