

Application to DHCD Submitted through CAMS

County of Buckingham

Buckingham County - Firefly Fiber Broadband Project 2021

Application ID: 75708142020141130
Application Status: Pending
Program Name: Virginia Telecommunications Initiative 2021
Organization Name: County of Buckingham
Organization Address:
Profile Manager Name: Jamie Shumaker
Profile Manager Phone: (434) 969-4242
Profile Manager Email: jshumaker@BuckinghamCounty.Virginia.gov

Project Name: Buckingham County - Firefly Fiber Broadband Project 2021
Project Contact Name: Jamie Shumaker
Project Contact Phone: (434) 969-4242
Project Contact Email: jshumaker@BuckinghamCounty.Virginia.gov
Project Location: 13380 West James Anderson Hwy
Buckingham, VA 23921-3135
Project Service Area: Buckingham County, Dillwyn Town

Total Requested Amount: \$1,400,000.00
Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$1,400,000.00	\$765,800.00	\$2,165,800.00
Construction	\$1,400,000.00	\$437,000.00	\$1,837,000.00
Other: Other Project Costs	\$0.00	\$328,800.00	\$328,800.00
Total:	\$1,400,000.00	\$765,800.00	\$2,165,800.00

Budget Narrative:

Buckingham County will offer non-cash support through assistance with grant management and administration, facilitation of the necessary permitting and county approvals for the construction process, support at community meetings to publicize the project, consideration of taking service at county facilities, and providing access to any county easements. Firefly will provide a \$437,000 cash match for the construction of the project, making up 20.2% of the project cost. In addition, Firefly will provide \$328,800 in additional contributions through labor and equipment for home installs, marketing and promotion efforts, and project management and oversight labor.

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:

The United States is in a period of transition. The new generation are the millennials and many of them work in the “gig” economy. Rural areas of Virginia are being left behind, and the millennials are leaving the bucolic countryside to pursue the new opportunities working with technology companies or working in fields that depend on technology helping with social media platforms, data gathering and analysis, and online interfaces with consumers which are all part of the “gig” world. There are no “gigs” in the Sprouses Corner and Dillwyn area of Buckingham County. The largest town in the county, which also serves as a commercial center as well as having the highest residential density in the county, has almost no access to broadband internet at even the lowest level of acceptable speeds. The present situation is difficult for all businesses in the town and the future is very uncertain.

This area was chosen for a Virginia Telecommunications Initiative (VATI) grant for many reasons. The town of Dillwyn is a central location for many Buckingham County residents to visit for banking, shopping, services, food, healthcare, and many other purposes. Bringing affordable, reliable, and world class speed broadband internet access to every business and home in the area will transform the town. It will allow important local offices of the Virginia State Police, US Department of Agriculture, and the Virginia Department of Motor Vehicles to have high speed internet access; it will provide gigabit speed access to the library, a doctor’s office, a dentist’s office, and three banks. The 400 plus residents (2010 census) of the town of Dillwyn and many more residents in the nearby

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areas outside of the town limits will get access to internet sufficient to allow distance learning, remote working and telemedicine.

The project also is a critical step in continuing to provide connectivity to all Buckingham County citizens. This project will open the northern Rt 15 corridor to further expansion of broadband access. The project will provide another source of fiber connectivity to the state prison just outside of the town. It will also strengthen the larger rural broadband network that Firefly Fiber Broadband is constructing across Buckingham County and neighboring counties, improving reliability and driving down costs to allow the very competitive rates to remain in place for many years in the future.

The area for this project is adjacent to the northern border of the Central Virginia Electric Cooperative (“CVEC”) fiber build and the retail internet access service area of Firefly Fiber Broadband (“Firefly”), a wholly owned subsidiary of CVEC. The project will connect to that network and extend north along Rt 15 through Dillwyn and further north to Bell Road. The project area then continues east along Bell Road and then down Scotts Bottom Road back to Rt 60. From there the project area map goes back west to Sprouses Corner. There is also a small area along Rt 60 west of Sprouses Corner that provides service to the Va State Police office, USDA office and several other businesses and homes. The full project area is shown on Attachment 1 – Sprouses Corner – Dillwyn Project Area Map.

2. List existing providers in the proposed project area and the speeds offered. Please do not include satellite. Describe your outreach efforts to identify existing providers and how this information was compiled with source(s).

Answer:

The incumbent telephone company in the area is CenturyLink and they provide DSL service from their copper lines. The only other options for internet access are cell phone companies and satellite companies. The information on providers was identified using the FCC Broadband map (<https://broadbandmap.fcc.gov/#/>) which provides information based on FCC Form 477 reported coverage areas for all broadband providers. Local businesses and residences also provided information regarding their options, or lack thereof.

CenturyLink was contacted by email regarding their offerings. Their email response from a regional representative in North Carolina indicated that their records showed availability of “25/3 or faster” to 22% of residents in the project area. However their service availability website (<https://www.centurylink.com/home/internet/cx/ctap/>) does not show speeds of even 25 mbps download or 3 mbps upload at any location in the service area.

For example, on 13 August for the address 17047 Oak Street, the best speed available was shown as 1.5 mbps on the CenturyLink site. Their FCC filings showed that speeds up to 20 mbps download were available in the census block on the south side of the street and 100 mpbs on the north side of the street. Residents of the project area, from Rt 60 through Dillwyn and north to Bell Rd report actual speeds that are under 10 mbps. It is the opinion of the county and of Firefly that the speeds represented by CenturyLink as being available are not accurate. Certainly there are no more than 10% with service available faster than 25/3; it appears that as much as 80% of the area do not have consistent access at even the 10/1 level of speed.

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, and Community Connect. If there have been federal funds awarded near the project, provide a map verifying the proposed project area does not conflict with these areas. Describe if there are Rural Digital Opportunity Fund (RDOF) eligible census blocks located in the proposed

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project area. Label Map: Attachment 2 – Documentation on Federal Funding Area.

Answer:

No federal funds have been received from the CAF II auction, ACAM, ReConnect or Community Connect programs for the project area. ReConnect funds have been received for the CVEC fiber area that is adjacent and can be seen on Attachment 2 – Documentation of Federal Funding. There are RDOF eligible census blocks within the project area. The total number of passings within those census blocks is 114 which is 16.3% of the total passings in the project area. Should the RDOF blocks be awarded, Firefly will rescope the project to exclude the relative census blocks and those associated homes and businesses. Should a rescope be required, the project can be truncated or additional areas along several roadways could be added in to replace the RDOF areas removed.

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 of 25/3 mbps or less and with less than 10% service overlap within the project area. 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 proposed service area does not have service available at greater than 25/3. Businesses and residents of the area report speeds that are well under the threshold. In addition, the online CenturyLink service availability tool does not advertise or offer internet service at even 25/3 speeds. A screen shot of the typical response from the website is shown showing the speeds offered on the CenturyLink site is included in Attachment 3.

The actual speeds delivered to CenturyLink DSL customers differ from the advertised speeds reported on the Form 477 and from an email response from the company. The email reported that 22% of the addresses within the proposed service area could receive service at these speeds, but no response was received to a follow up email requesting the locations receiving greater than 25/3 with the offer to remove those locations from the project area.

5. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 10 Megabits per second download and 1 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 passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. Describe the methodology used for these projections.
 - b. Provide the number of serviceable units in the project area that have 10/1 mbps or less. Describe the methodology used for these projections.

Answer:

- a. Based on the county GIS system the total number of buildings passed in the service area is 700. An email response from CenturyLink regarding the project area indicated their database showed 866 address locations in the project area. Assuming the difference is in multidwelling units and retail centers with multiple businesses in one building, there are probably more demands for service than the building count but less than the phone system

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count. Using the average of the two is 783 which seems to be a reasonable approach to the calculation of the units passed. Of the 783, 74 are businesses. There are also multiple community anchor institutions including: a school, a doctor's office, a dentist office, an orthodontics office, a counseling center, a nursing home, a library, a fire department, a rescue squad, the Va State Police office, a community center, a USDA office, multiple churches, and a US Post Office

b. Based on reports from residents to their county supervisors and county staff, plus the online speeds available indicated by CenturyLink, the best estimate of units with less than 10 mbps download and 1 mbps upload is more than 400 and could be as high as 600 units.

6. 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:

Not a wireless project so not applicable.

7. 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 25/3 mbps.

Answer:

For residential service, Firefly offers two levels of service. The basic package is their Light service which provides 100 mbps symmetrical upload and download for \$49.99 per month. The second option is the Flash service which provides 1 gigabit per second symmetrical transfer for \$79.99 monthly. Voice over IP telephone service is offered for \$34.99 with a \$5.00 per month bundling discount if paired with internet service.

The speed is not an "up to" measurement like the one typically used by wireless technologies and DSL, but a base level that users will actually and consistently receive. Firefly residential service uses GPON technology and topography that does share a single fiber among several accounts, as all fiber based residential services does. Firefly monitors the performance level at the user and individual fiber level as well as at the network level to assure top level network performance. The new Firefly network has built a reputation on consistent speed delivery at even the highest demand times. Recently the Firefly network upgraded to a 100 gbps backhaul capacity; the present peak load is 12 gbps but with a fast growth plan Firefly is meeting its subscribers expectations by staying well ahead of the demand.

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

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was determined with sources. 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 5 – Propagation Map Wireless Project.

Answer:

The Firefly Fiber Broadband network is a 100% fiber optic connected network. It is a looped system with immediate failover capability to assure full data flow continues through any backbone loop equipment failure or fiber break. The network is based on rings within rings that provide additional local redundancy. Communications huts serve as hubs on the network, with fiber optic lateral lines extending out from the huts to the end users.

Firefly has committed to always keeping its backbone bandwidth adequate to assure the network never suffers from peak use congestion. This year the company began to transition to a full 100 gbps network ring capacity, with the plan to complete the full backbone ring next year to the next capacity that is a tenfold increase over the original 10 gbps capacity.

The proposed VATI project includes a new communications hut that will be connected back to the Curdsville hut which is on a ring on the southern leg of the network loop. Future plans for further enhancements to reliability and capacity include a potential new backbone leg using a proposed MidAtlantic Broadband expansion of middle mile through Sprouses Corner and going north to Culpeper; Firefly will have the option of connecting the network to this new major fiber backbone.

The system has a present peak usage of 12 gbps with rapid growth plans that will increase the number of services connected and bandwidth used by 500% over the next three years. Firefly is prepared for this level of growth and more should opportunities arise.

9. 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 must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 6 – Timeline/Project Management Plan; Attachment 7 – MOU/MOA between Applicant/Co-Applicant.

Answer:

The Firefly network is in a rapid growth state. In 2020, the network will be built out in the Curdsville substation area, which is the take-off point for the VATI grant project area for Sprouses Corner-Dillwyn. The project team is in place, including design, project management, permitting, materials and inventory management, fiber construction and consumer premise installation. Presently CVEC and Firefly are constructing at a rate of 20 miles of fiber per week and connecting more than 100 weekly while ramping up to 150 and with planning in place to reach 200 new connections per week by 2022. The team is capable and has capacity to include this project within their other work without slowing the CVEC fiber build given the expected calendar.

Our approach will be to deploy a field data gathering team, then perform an autodesign process followed by field confirmation of the design outcome. At that point we will be ready to create construction documents and deploy contractors to begin construction. We already have relationships with the design and construction teams and have

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contracts in place. We also are maintaining a large inventory of fiber and ancillary materials due to the size and scope of our major fiber project; we will be able to access this inventory as necessary for the Sprouses Corner Dillwyn buildout which will not be slowed by long lead times for material or equipment purchases.

10. 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 the 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's cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. Label Attachments: Attachment 8 - Funding Sources Table; Attachment 9 – Documentation of Match Funding.

Answer:

The county will offer non-cash support through assistance with grant management and administration, facilitation of the necessary permitting and county approvals for the construction process, support at community meetings to publicize the project, consideration of taking service at county facilities, and providing access to any county easements. The county is excited about the project and plans to be a partner, helping to assure its success for the citizens of Buckingham.

Firefly will provide a \$437,000 cash match for the construction of the project, making up 20.2% of the project cost. In addition, Firefly will provide \$328,800 in additional contributions through labor and equipment for home installs, marketing and promotion efforts, and project management and oversight labor. The marketing and promotion are particularly critical to achieving the desired take rates when a new service is offered to an area that has never had a true broadband option before. Firefly will also provide the expanded backhaul capacity to carry the additional traffic and address all other network impacts with internal investment, adding tens of thousands of dollars in electronics and other hardware.

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

Answer:

The project is a perfect example of a public private partnership with both the county and private partner bringing additional benefits that provide leverage to make the project successful and to let the reach of this project go well beyond the borders of the project area.

The county will offer non-cash support through assistance with grant management and administration, facilitation of the necessary permitting and county approvals for the construction process, support at community meetings to publicize the project, consideration of taking service at county facilities, and providing access to any county easements. The county is excited about the project and plans to be a partner, helping to assure its success for the citizens of Buckingham.

Firefly is excited about the project and the opportunity to serve Sprouses Corner and Dillwyn. Firefly also brings the benefit of having its fiber network just adjacent to the project area on the southern border. It also has very good potential of receiving a ReConnect grant that will build areas to the east as well as already having federal support with the buildout of the network to the south of the project area. Further to the south the backbone loop was

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extended with support by a Virginia Tobacco Region Revitalization Commission grant for the Pamplin substation area. This project is made possible by a combination of public and private investment that is overcoming the rural digital divide. This project makes another huge impact on the area, and will lay the groundwork for Buckingham County to achieve its goal of having 100% of its citizens having access to affordable, reliable world class speed broadband.

12. Marketing: Describe the broadband adoption plan.

a. 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.

b. 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. Firefly has been offering internet to rural, underserved communities for 18 months and has achieved take rates in those areas ranging from 50-70%. The largest emphasis of the marketing plan for this project will revolve around direct mail to the residents who live in these areas. The County can provide mailing addresses for each residence in the project area and Firefly will craft a mailing specific to this area. We know that rural America still checks their mailboxes and direct mail is a proven way to communicate with our audience. We can also rely on word of mouth and our vibrant Firefly installation trucks, a.k.a. rolling billboards, to reach residents who may have tossed our mailing aside or missed the messaging. In addition, Firefly will be listed as an internet provider on any County provider listing for that area.

If the grant is awarded, Firefly will issue a press release to the local media to highlight the areas of the build to keep residents informed of the award and the progress. Press releases are posted on the Firefly website and maps of the build can be posted on the website as well. Additionally, press releases are posted on social media. Firefly has found an active audience on social media and updates its followers there often on new announcements.

b. Firefly hosts Town Hall meetings for each community when a build is launched in order to answer questions about their services and about the internet in general. As space and connectivity have allowed, Firefly employees took a television and showed guests how to stream programs using the internet instead of subscribing to cable. Firefly has hosted the Town Hall events at local churches and community centers to attract guests.

13. 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. Please attach any letters of support from stakeholders. If applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality. Attachment 10 – Letters of Support.

Answer:

Firefly Fiber Broadband is led by a team with Gary Wood, Bruce Maurhoff and Tina Mallia. This same team is responsible for the pursuit, award and administration of two grants from the Virginia Tobacco Region

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Revitalization Commission, two Virginia Telecommunications Initiative Grants, several county level grants, a \$28.6 million FCC Connect America Fund II auction award and a \$28 million USDA ReConnect program grant/loan award within the past two years. The Firefly team this year added Dennis Reece as its General Manager, bringing in additional experience with successful grant management from his career at Citizens Telephone Cooperative in Floyd, VA. Dennis has experience with grants from the federal, state and local levels.

The Firefly team has built approximately 1200 miles of fiber within the past two years. Starting 2019 with 6 subscribers, it will have 7000 at the end of 2020. The team includes the design and project management from Conexon which is working with multiple electric cooperatives across many states in similar buildout efforts. The fiber contractor is S&N Communications, a Virginia company headquartered in Louisa, Va which has a long and successful record of working on large projects with Google, Verizon, Comcast and other major communications companies. Internally, Dennis Reece leads the effort for Firefly with his 23 years of experience in the construction and operation of internet communication facilities.

The county staff has 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.

Name	Title	Project Duties
Rebecca Carter	County Administrator	Grant and program oversight
Jamie Shumaker	IT Manager	Point of Contact Administration of grant Reporting

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Gary Wood	President and CEO	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

14. Project Budget and Cost Appropriateness

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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 11 – Derivation of Costs; Attachment 12 - Documentation of Supporting Cost Estimates.

Answer:

The budget was developed using actual pricing from the ongoing 4000+ mile buildout across the CVEC footprint. The estimates were developed using market prices established in competitively bid labor and materials contracts. Consumer premise equipment and communications hut electronics are based on contract pricing with our equipment partners for the large buildout.

15. The cost benefit index is comprised of three factors: (i) state share for the total project cost, (ii) state cost per unit passed, and (iii) the internet speed. From these statistics, 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
 - c. Highest residential speed available in proposed project area

Answer:

- a. Total VATI funding request is \$1.4 million.
- b. 783 serviceable units are within the project area.
- c. The highest residential speed will be 1 gigabit per second.

16. Commonwealth Priorities

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

- a. How the proposed project fits into a larger plan to achieve universal broadband coverage for the locality. Explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage.
- b. 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.
- c. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.

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d. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 25/3 mbps.

Answer:

Buckingham County has approximately 8200 homes and businesses. Almost 4600 are served by Central Virginia Electric Cooperative and will have internet options from their system wide fiber build which will be completed by 2023. In addition, Firefly has applied for a ReConnect grant for some non-CVEC territory which will cover almost 300 additional homes and businesses. With 783 being passed with this project and if the ReConnect grant is awarded this fall, Firefly will have fiber optic service passing almost 5800, or 71% of the county homes and businesses. There are a few areas with CenturyLink DSL that exceeds 25/3, and another local fiber based internet company provides service to the school system and a small portion of the residences and businesses; with these two providers plus Firefly, more than 80% of all county buildings will have access to broadband after this project.

The remaining areas of the county with inadequate broadband access after this project will be mostly along Rt 15 north of Dillwyn. These areas will have some RDOF funded census blocks, and it is in the Dominion electric service territory. Between the expansion of service from the incumbent fiber providers utilizing RDOF funds and/or VATI grants plus the potential of a Dominion pilot project, the remaining areas should have service options well within the ten year goal the Governor has set for universal service. This project facilitates the buildout of the last remaining area by bringing gigabit speeds and fiber backbone bandwidth to the edge of the unserved area. This is a gateway project what will expedite the county reaching its 100% connected goal.

1. *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.*

The project will make fiber optic connected, reliable, affordable, high speed broadband service available to the following businesses and community anchors:

Virginia State Police division office

US Department of Agriculture Farm Service office

US Post Office

Va DMV office

Buckingham Branch Railway

Dillwyn Fire Department

Buckingham County Rescue Squad

Dillwyn Waste-Water Treatment Plant

Central Va Christian School

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Dillwyn Pharmacy

Two motels plus one new hotel

Multiple banks (BB&T, Farmers, First Bank)

Multiple restaurants (including McDonalds which offers free wifi)

Dentist office

Doctors office

Va ABC Store

Multiple churches

And many other retail stores, gas and convenience stores, grocery stores, funeral homes, etc.

- 2. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.*

This project is a partnership of the local government with Firefly Fiber Broadband, a local community-based internet service provider owned by the not for profit electric cooperative, Central Virginia Electric Cooperative. Firefly offers world class speed internet with superior local customer service at rates that are usually only found in the highest density most competitive markets. The profits from the project will stay local, with a portion reinvested in further expansion of rural broadband access in Buckingham County and central Virginia.

- 3. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 25/3 mbps.*

The proposed project provides a basic service of 100 mbps at \$49.99 per month. Firefly offers service through the Lifeline program of the FCC with a discount of \$10.00 per month for any account which qualifies for that program. In addition, the basic service provides broadband of speed and reliability to allow television channels to be received using online services such as Hulu, Sling, DirecTVNow, YoutubeTV and others. These online providers have much lower rates than satellite or cable packages, allowing families who presently have other television viewing packages to choose basic internet service plus an online television provider for less than family is presently spending for television alone.

One new Firefly subscriber calculated a \$2400 annual savings for his household when using the Firefly internet and voice over IP services with an online video service to replace their present internet, satellite television and landline phone services.

17. Additional Information

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17. Provide any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:

- a. Attachment 13 – Two most recent Form 477 submitted to the FCC or equivalent
- b. Attachment 14 – XXXXXXXX
- c. Attachment 15 – XXXXXXXX
- d. Attachment 16 – XXXXXXXX
- e. Attachment 17 – XXXXXXXX

Answer:

N/A

Attachments:

Map(s) of project area, including proposed infrastructure

BuckinghamFireflyMap1A814202024219.pdf

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

2Attachment2B814202082351.jpg

Documentation that proposed project area is unserved based on VATI criteria

VATIBuckinghamAttachment3814202025059.pdf

Passings Form (Please use template provided)

PassingsFormBuckingham814202033715.pdf

Timeline/Project Management Plan

VATIProjectScheduleBuckinghamCounty814202021640.xlsx

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

VATIBuckinghamAttachment7814202025545.pdf

Funding Sources Table

8VATIFundingSourcesTableBuckingham817202031156.pdf

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Documentation for match funding

VATIBuckinghamAttachment9814202021921.pdf

Letters of Support

BuckinghamFireflyResolution814202022900.pdf

Derivation of Cost (Project Budget)

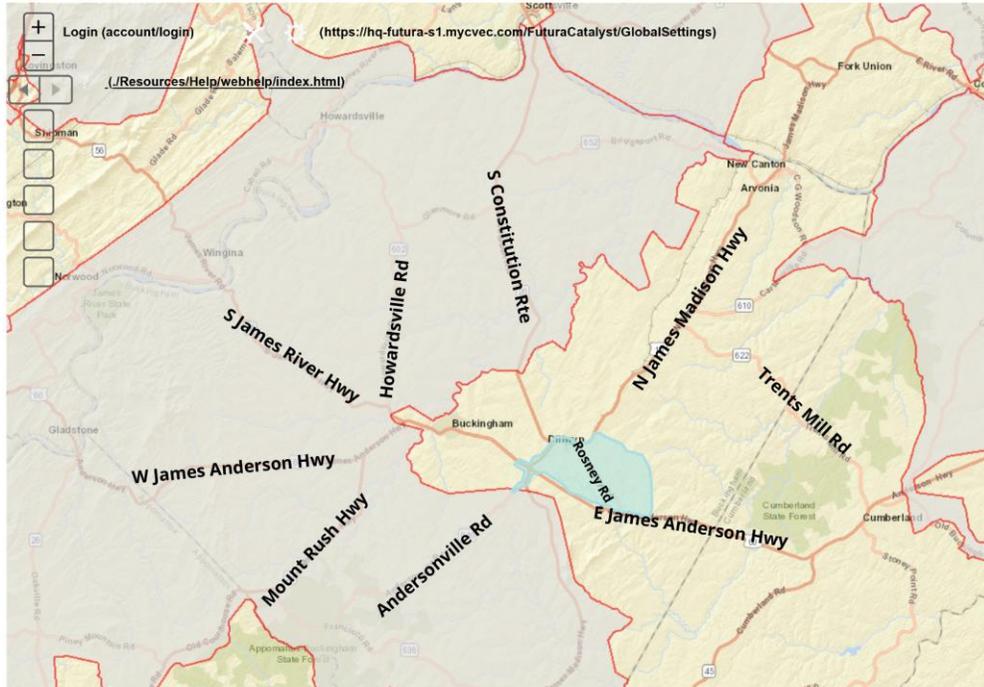
11DerivationofCostsBuckinghamCounty817202031210.xlsx

Documentation supporting project costs (e.g. vendor quotes)

12ProjectCostJustification8172020102104.pdf

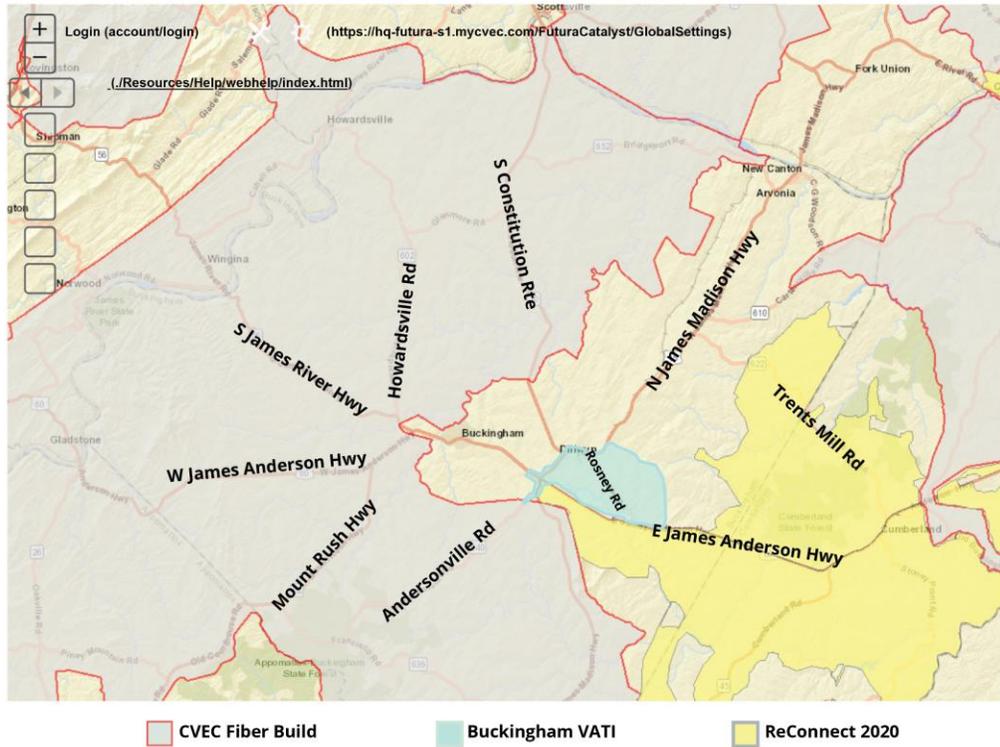
Two most recent Form 477 submitted to FCC

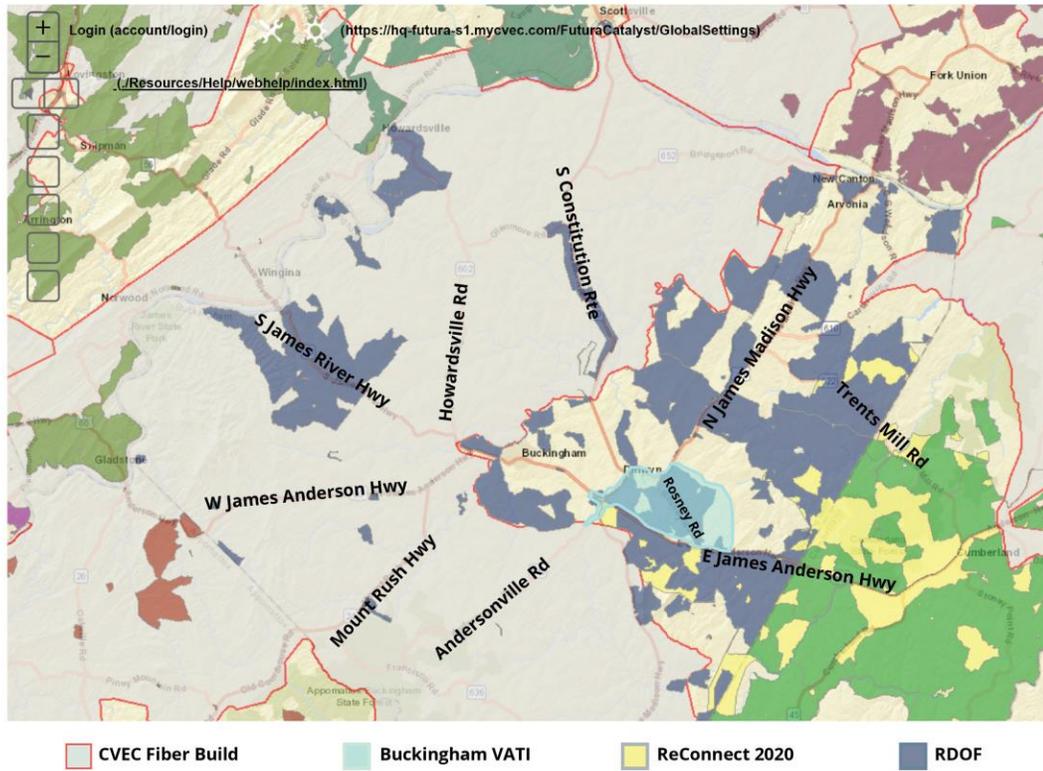
13LastTwoFCCForm477FilingsCombined8172020110557.pdf



 CVEC Fiber Build

 Buckingham VATI





shop.centurylink.com/MasterWebPortal/freeRange/login/ShopNC_viewNCBundlesPage?Internet=true#step=choose

CenturyLink

17047 OAK ST, # 2459, DILLWYN, VA, 23936 Change Address

Great! First let's choose an Internet speed.
Up to 1.5 Mbps is available at your address

Price For Life! Pay the same monthly rate year after year.
Our best offers are online!

No Contract!

Up to
1.5
Mbps

\$49/MO

Prepay required. Additional taxes, fees, and surcharges apply. [Offer Details](#)

Add to Cart

1.5 Mbps is perfect for:

- WiFi to connect your devices
- Stream videos and music
- Shop, pay bills, and surf at ease

8:14:33 PM
Thursday, August 13, 2020

August 2020

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

Today

Add an event or reminder

All Day Safety Meetings
Tue - Colleen, Wed - App, Thu - Pal

All Day Safety Meetings
Tue - Colleen, Wed - App, Thu - Pal

9:00 AM Invitation: Lit and CVEC Conversatio...
[Hide agenda](#)

broadbandmap.fcc.gov/#/location-summary?version=jun2019&place_name=17047%20Oak%20Street,%20Dillwyn,%20Virginia,%2023936,%20United%20States&lat=37...

Federal Communications Commission

Fixed Broadband Deployment

Home Location Summary Area Summary Area Comparison Provider Detail Data Download About

Address 17047 Oak Street, D

All Providers Reporting Service

Census block ID: 510299302011072

Number of Fixed Residential Broadband Providers

0 1 2 3 4 6 12 or more

Broadband

Technology ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed ≥ 25/3 Mbps
Date June 2019 (latest public release)

Provider	Tech	Down (Mbps)	Up (Mbps)
ViaSat, Inc.	Satellite	35	3
Hughes Network Systems, LLC	Satellite	25	3
CenturyLink, Inc.	ADSL	20	1.5
VSAT Systems, LLC	Satellite	2	1.3

2021 Virginia Telecommunication Initiative (VATI) Passing Form

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	682	369
Businesses (non-home based)	74	23
Businesses (home-based)	8	2
Community Anchors	13	4
Non-residential	6	2
Total Number of Passings	783	400

Note: The Total Number of 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.

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.

Agreement between Central Virginia Services Inc (CVSI) and Buckingham County Regarding VATI Funding

An Agreement dated _____, between DHCD and Buckingham County (the "DHCD Agreement") imposes certain responsibilities on the "Grantee" in accepting the VATI grant. As anticipated in the joint application for funding submitted by Buckingham County and CVSI, the parties wish to outline the roles of each party now that the grant has been awarded. Accordingly, the parties now hereby agree as follows:

CVSI shall perform all work described in the DHCD Agreement (which is attached hereto and incorporated herein by reference), the submitted application, project management schedule, and budget. Specifically, CVSI shall complete all Grant Activities described in the DHCD Contract Documents (including but not limited to installing 20.5 miles of fiber along with one communication hut and electronics, building out the network to make fiber to the home broadband service available to 783 service units in the Sprouses Corner - Dillwyn including to those who choose to take service, and supplying and installing all related equipment) on or before 31 December 2022. CVSI shall indemnify, defend, and hold Buckingham County harmless for any failure(s) (a) to complete any Grant Activities described in the DHCD Contract Documents on or before 31 December 2020. Upon completion of the project, CVSI will provide Buckingham County speed validation data to ensure that the project Outcomes have been met and plant constructed is capable of providing broadband speeds that meet VATI criteria. CVSI may choose to submit either monthly invoices or a single invoice for payment upon completion of the work. No VATI funds shall be distributed unless and until (a) CVSI has submitted all requested documents applicable to the construction project and (b) Buckingham County has verified that pre-construction and/or construction work has been completed or equipment has been ordered and received. Upon any change to availability of funding, Buckingham County must notify CVSI immediately. At its sole discretion, CVSI may amend or terminate the project. Buckingham County will use best efforts to request the full amount of grant funds prior to 31 December 2022.

CVSI and Buckingham County 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 and that no funds will be returned to the Commonwealth nor retained by Buckingham County so long as the parties exercise due diligence and best efforts to reach the program goals.

Buckingham County requires a progress update from CVSI every 30 days until project completion. CVSI agrees to assume responsibility for keeping Buckingham County updated per the project timeline included in the grant. Project timeline of the grant states all activities to be completed by 18 months from contract date of Buckingham County and DHCD. CVSI agrees to provide Buckingham County post-closeout subscriber reports as of 1 April 2023, so that Buckingham County can report to DHCD in accordance with its agreement with the DHCD Agreement.

CENTRAL VIRGINIA SERVICES, INC

BUCKINGHAM COUNTY

By:

By:

_____[SEAL]
Gary Wood, President

_____[SEAL]

Date: _____

Date: _____

VATI FUNDING SOURCES TABLE

Please fill in the chart below with a description of the project funding source (local, federal, state, private, other), the amount from that source, the percentage of total project funding that source represents, and a description of the current status of the funds (pending, secured, etc.).

Source	Amount	%	Status
REQUESTED VATI	\$ 1,400,000	64.6%	Pending
FIREFLY CASH	\$ 437,000	20.2%	APPROVED
FIREFLY IN KIND	\$ 328,800	15.2%	APPROVED
	\$		
	\$		
	\$		
	\$		
TOTAL	\$ 2,165,800	100 %	

EXCERPT FROM THE MINUTES OF THE CVSI BOARD OF DIRECTORS MEETING HELD AUGUST 10, 2020, AT WHICH MEETING A QUORUM WAS PRESENT

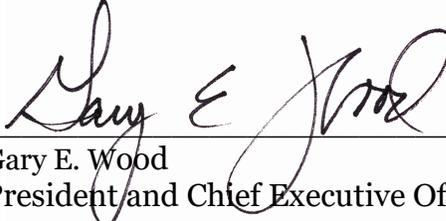
VATI Grant Applications Approval

RESOLVED: That the Board of Directors of Central Virginia Services, Inc. Approves the submission of VATI grant applications for the counties of Amherst, Buckingham, and Goochland. The two applications for Amherst County are for the areas of Sweet Briar and New Glasgow Road. The Goochland application is back-up for ReConnect funding.

CERTIFICATION

I, GARY E. WOOD, PRESIDENT AND CHIEF EXECUTIVE OFFICER OF CENTRAL VIRGINIA SERVICES, INC., DO HEREBY CERTIFY THAT THE ABOVE ARE TRUE AND CORRECT EXCERPTS FROM THE MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF CENTRAL VIRGINIA SERVICES, INC., HELD ON THE 10th DAY OF AUGUST, 2020, AT WHICH MEETING A QUORUM WAS PRESENT.

August 10, 2020



Gary E. Wood
President and Chief Executive Officer

RESOLUTION

SUBMISSION OF A GRANT APPLICATION WITH THE VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (DHCD) 2021 VIRGINIA TELECOMMUNICATIONS INITIATIVE (VATI), AND ACCEPTANCE AND SUPPLEMENTAL APPROPRIATION OF THE GRANT FUNDS

WHEREAS, on June 10, 2020, Buckingham County (“the County”) provided a notice to the Virginia Department of Housing and Community Development (DHCD) stating it’s intent to file an application for a grant under the FY2021 Virginia Telecommunications Initiative (VATI) program; and

WHEREAS, Central Virginia Service, Inc. d/b/a Firefly Fiber Broadband (“Firefly”) approached the County with a project description to extend a fiber-to-the-home network into an unserved area for broadband in and around Dillwyn and requested assistance to obtain a VATI grant for the project; and

WHEREAS, the County seeks to apply for a VATI grant for this project, which may provide up to 80% of the total project cost to extend broadband to unserved areas; and

WHEREAS, Firefly has committed to provide matching funds of totaling more than \$375,000 to the project, and is requesting \$1,500,000 from VATI; and

WHEREAS, the project will include 20.5 miles of fiber optic plant construction and pass 700 homes and businesses that have no option today for broadband access at speeds of 25 mbps download and 3 mbps upload; and

WHEREAS, the County will invest staff time to administer the grant, will expedite approvals necessary for construction and to facilitate all communications with DHCD, but no additional matching funds from the Board of Supervisors is requested, nor required; and

WHEREAS, the DHCD VATI program guidelines for grant applications require a government entity as the applicant with a qualified and experienced private sector broadband provider as the co-applicant.

NOW, THEREFORE, BE IT RESOLVED, that the Buckingham County Board of Supervisors does hereby approve the submission and acceptance of a grant application to Virginia Telecommunications Initiative to assist in building out broadband telecommunications infrastructure in this unserved area of the County and authorized county staff to submit this grant application to the DHCD with the co-applicant, Central Virginia Service, Inc. d/b/a/ Firefly Fiber Broadband (“Firefly”).

BE IT FURTHER RESOLVED that the Board does hereby authorize the supplemental appropriation of the grant funds when the funds becomes available.

ATTEST:



Rebecca S. Carter
County Administrator

Derivation of Costs

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Communications Hut	\$ 110,000	\$ 85,000	\$ 25,000	Present cost in fiber project	8/14/2020
(includes land, concrete pad, electric service, backup generator, racks and dual a/c.)					
Hut Electronics	\$ 105,000	\$ 80,000	\$ 25,000	Present cost in fiber project	8/14/2020
(includes routers, switches, Calix E7 or equivalent, power supply, cross connect and patch panels, etc)					
UG Construction					
Labor (20.5 miles at 52,200)	\$ 1,050,000	\$ 840,000	\$ 210,000	Present cost in fiber project	8/14/2020
Conduit and fiber (20.5@5600)	\$ 114,800	\$ 80,000	\$ 34,800	Present cost in fiber project	8/14/2020
Pedestals/Vaults (20.5*2925)	\$ 60,000	\$ 46,000	\$ 14,000	Present cost in fiber project	8/14/2020
Splicing	\$ 24,000	\$ 19,000	\$ 5,000	Present cost in fiber project	8/14/2020
Design and Mgmt (Contract)	\$ 90,000	\$ 25,000	\$ 65,000	Present cost in fiber project	8/14/2020
Service Installations					
Service Drops (472@\$600 ea)	\$ 283,200	\$ 225,000	\$ 58,200	Present cost in fiber project	8/14/2020
Construction Totals	\$ 1,837,000	\$ 1,400,000	\$ 437,000		
Additional Project Costs					
Firefly install & equip (472@\$400 ea)	\$ 188,800	\$ -	\$ 188,800	In kind labor & equip contribution	8/14/2020
Marketing and Promotion	\$ 25,000		\$ 25,000	In kind labor & cost contribution	8/14/2020
In House Project Mgmt and Oversight	\$ 115,000		\$ 115,000	In kind labor contribution	
In Kind Contribution Totals	\$ 328,800	\$ -	\$ 328,800		
PROJECT TOTALS	\$ 2,165,800	\$ 1,400,000	\$ 765,800		



14 August 2020

Documentation of Budget Costs

Central Virginia Services, Inc, d/b/a Firefly Fiber Broadband, is a wholly owned subsidiary of Central Virginia Electric Cooperative (CVEC). Since August 2018, CVEC has been building a system wide fiber network across its system. Each of the past two years have seen capital investments in the project of more than \$30 million. These active, ongoing projects have provided real time pricing that is the basis for our estimates.

The prices come from proprietary contracts with our design firm, fiber contractor, and our inventory & materials management contractor. They are customized by location, soil conditions, and unique aspects of construction in each area. There are multiple professional engineers on staff who oversee the project, value engineer it and assure there is efficient construction. We stand behind the project budgets. If there are any cost overruns, Firefly will be responsible for the additional funding to complete the project.

(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0027729573 | Data as of: Dec 31, 2019 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Feb 26, 2020 22:03:52

Filer Identification

Section	Question	Response
Filer Information	Company Name	Central Virginia Services, Inc.
	Holding Company Name	Central Virginia Electric Cooperative
	SAC ID	199021
	499 ID	832816
Data Contact Information	Data Contact Name	Cheryl Sandas
	Data Contact Phone Number	(434) 263-8336 ext: 1502
	Data Contact E-mail	csandas@mycvec.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 ext: 1100
	Certifying Official E-mail	gwood@mycvec.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	Dec_2019_fbd_rev.csv	Feb 26, 2020 21:59:21	611
Fixed Broadband Subscription	Dec_2019_fbs_rev1.csv	Feb 26, 2020 21:29:25	17
Fixed Voice Subscription	Dec_2019_fvs_rev1.csv	Feb 26, 2020 21:23:14	7

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	611
Total			611

Fixed Broadband Subscriptions by State, Technology and End-user Type

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Fixed Broadband Subscription

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Optical Carrier/Fiber to the End User	17	1583	25	1608
Total		17	1583	25	1608

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
3.000	1.000	1	0	1
100.000	100.000	1163	21	1184
250.000	250.000	0	2	2
1000.000	1000.000	419	2	421
Total		1583	25	1608

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	3.000	1.000	1	0	1
	100.000	100.000	1163	21	1184
	250.000	250.000	0	2	2
	1000.000	1000.000	419	2	421
Total			1583	25	1608

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	337	324
Total	0	0	337	324

Fixed Voice Subscription (iVoIP)

Over-the-top VoIP Subscriptions by State and End-user Type

State	Total	Consumer	Business / Govt
Virginia	0	0	0
Total	0	0	0

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 / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	337	324	13	336	1	337	0	0	0
Total	337	324	13	336	1	337	0	0	0

