

Application to DHCD Submitted through CAMS

Greensville County

Emporia Greensville 2022 Broadband Project

Application ID: 86508112021074116
Application Status: Pending
Program Name: Virginia Telecommunications Initiative 2022
Organization Name: Greensville County
Organization Address: 1781 Greensville County Circle
Emporia, VA 23847-6347
Profile Manager Name: Brenda Parson
Profile Manager Phone: (434) 348-4205
Profile Manager Email: bparson@greensvillecountyva.gov

Project Name: Emporia Greensville 2022 Broadband Project
Project Contact Name: Linwood Pope
Project Contact Phone: (434) 348-4232
Project Contact Email: lpope@greensvillecountyva.gov
Project Location: 1781 Greensville County Circle
Emporia, VA 23847-6347
Project Service Area: Greensville County

Total Requested Amount: \$12,818,542.20

Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$12,818,542.20	\$15,667,107.14	\$28,485,649.34
Construction	\$12,818,542.20	\$15,667,107.14	\$28,485,649.34
Total:	\$12,818,542.20	\$15,667,107.14	\$28,485,649.34

Budget Narrative:

The funds requested of VATI total \$12,818,542.20, which is 45% of the total project cost for constructing a fiber-to-the-premise network covering the entirety of all unserved and underserved areas within Greensville County in Southern Virginia, resulting in universal coverage. To successfully complete this goal, the County will be divided into serving areas that are connected by 367.38 miles of fiber. VATI funding will cover the costs of aerial and underground main line construction as well as drop construction for the fiber buildout. In addition to VATI funding, the remaining 55%, \$15,667,107.14, of matching funds is sourced from four other entities including: the City of Emporia \$105,000, Greensville County \$2,453,936, a partnership with Dominion Energy will result in an investment of \$7,137,320.47 in middle mile fiber construction where Mecklenburg Electric Cooperative (MEC)/EMPOWER Broadband (EMPOWER) does not currently serve, and the remaining match funds in the amount of \$5,970,850.67 will be provided MEC/EMPOWER through in-house matching cash. MEC/EMPOWER's matching funds will cover remaining construction costs, as well as the following: Outdoor Wall Mount Labor and Materials, Splicing Labor and Materials, Staking Labor, ONT (router) labor and Materials, Network Equipment that consists of E7-2 Package Chassis, GPON SFP OIM, Class B+ 1490/1310nm and E7-2 8 Card PON Unit. These costs are detailed in the derivation of costs spreadsheet attached and labeled as Attachment 12. The total project cost for this proposed county universal coverage fiber-to-the-premise build-out is \$28,485,649.34.

Questions and Responses:

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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 project is a county-wide initiative being pursued jointly by the County of Greensville, the City of Emporia, and Mecklenburg Electric Cooperative (MEC)/EMPOWER Broadband (EMPOWER), in partnership with Dominion Energy, and Mid-Atlantic Broadband. EMPOWER is the wholly owned subsidiary of MEC, a member-owned utility that has been proudly and successfully serving its members for over 80 years. In August 2021, the County of Greensville, the City of Emporia, and MEC/EMPOWER, and Dominion Energy entered into agreements to develop a comprehensive strategy to achieve universal coverage in the county. Collectively, we submit this application to support a project that was developed as part of this planning process.

The project area submitted is comprised of Greensville County. The proposal would result in universal coverage, as defined by the DHCD grant criteria (any area that cannot receive internet speeds greater than 25/3 Mbps), for those in the project area who are currently unserved or underserved. This fiber expansion project will utilize the foundational fiber backbone previously deployed along MEC's electric infrastructure, and where needed, utilize the facilities of Dominion Energy, and Mid-Atlantic Broadband to expand broadband coverage outside of MEC's territory. VATI funds will be utilized to expand the backbone's reach and increase service availability to those that currently have no access, or limited access, to true broadband internet.

The project area will maximize the advantage of being adjacent to MEC's Substation Fiber Backbone that has been constructed with matching funds through a 2018 Virginia Tobacco Region Revitalization Commission (TRRC) Grant and is part of a larger nine (9) county joint project to provide fiber-to-the-premises. Additionally, this route passes many rural residents, businesses and community anchor institutions and will provide broadband opportunities to 2,691 locations passed in Greensville County. Most importantly, this area is not part of any other existing or proposed high-speed system build-out, other than the one described in this application proposed by MEC/EMPOWER in partnership with the County of Greensville and the City of Emporia.

All unserved and underserved locations within this area were mapped, and MEC/EMPOWER, with the assistance of engineering consultants, has undertaken the design process to develop a last-mile, fiber-to-the-premises network that will extend service to all unserved locations. The principal engineering and design process for the entire project is complete, and the components of that work are included with this application.

This area has also been selected because current services across the region are far too typical of those found in rural areas, they are at best insufficient, and at worst non-existent. These inadequate options include wireless, cellular, wired access via major commercial carriers, satellite, or DSL. This rural region increasingly faces significant communication challenges due to slow, sporadic, and limited broadband services. The COVID-19 pandemic continues to emphasize the need for reliable internet service in Southside Virginia, including expanded rural broadband capacity to facilitate remote learning, telemedicine, and telework.

This critical infrastructure is a high priority of the locality and MEC/EMPOWER for the betterment of their residents and businesses ... affording the much-needed opportunities regarding education, the receipt of reasonable and necessary services, and the ability to work in a healthy and safe environment. This Universal Broadband Coverage Project will disintegrate the digital divide in the project area by providing world class fiber infrastructure that allows residents to work-from-home, participate in virtual classrooms, and access remote healthcare. This Project will improve the region's infrastructure and sustain communities, enhance local opportunities, and support local business and industry growth.

Ten small localities in southern Virginia, which includes Greensville County, comprise the Crater Economic Development District, home to 186,938 people according to the 2020 US Census. Population growth is stagnant with an increase shy of 7,000 since 2010. A lack of investment in modernization of infrastructure and services like broadband internet accompanies this lack of growth. Unemployment rates in these ten localities range from 4.1 % - also the rate for the Commonwealth as a whole - to 10.3%. Per capita income in the Crater Economic Development District was \$39,684, nearly \$20,000 less than Virginia's per capita income in 2019 according to the US Bureau of Economic Analysis.

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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 County and their residents were substantially engaged in the Center for Innovative Technology (CIT) broadband surveys; the results are documented in the Virginia Broadband Availability Map. This map provided the existing providers for each census block in the proposed project areas. Data was also collected from the Federal Communications Commission's (FCC) "Fixed Broadband Deployment" as an additional source to determine the current providers in the project areas. Additionally, County officials have discussed this expansion project with existing providers and requested updates on previous and potential upgrade areas; to date these have not been provided. Additionally, when upgrades have been completed, speed availability has been significantly overestimated. County officials have received complaints that DSL upgrades only benefit those within 1000 feet of upgraded DSL remotes and do not meet the 25/3 requirements of a majority of those requiring service. Seemingly, the purpose of these upgrades is to meet Form 477 filing requirements of previous CAF grants; accordingly, there is no significant speed increase for all requiring improvements. As is widely known, most of these incumbent providers are not forthcoming with regards to their service areas or services offered. Included below is a breakdown.

There is only one incumbent provider: Verizon. The areas included in this application are the areas where they have low bandwidth DSL infrastructure with internet speeds below DHCD's definition of served, less than 25/3 Mbps. From that information, efforts were made by speaking directly to our MEC members where we discovered that the current providers either did not provide any services in an area, or the service that is currently provided is in the 3-25 Mbps range and, by DHCD and VATI definitions, is determined to be an unserved area. The included coverage map documents the need in this area and reinforces the statements from members within the county overall.

Source: <https://broadband.cgis.vt.edu/IntegratedToolbox/>

<https://broadbandmap.fcc.gov/#/>

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. Do not include areas awarded to satellite broadband providers. Label Map: Attachment 2 – Documentation on Federal Funding Area.

Answer:

Federal funding has not been provided to any of the proposed project areas by means of the following programs: ACAM, CAF II, ReConnect, and Community Connect.

Source: <https://data.usac.org/publicreports/caf-map/>

RDOF blocks are included in the project area that were awarded to MEC/EMPOWER and CCO Holdings.

Source: <https://www.fcc.gov/reports-research/maps/r dof-phase-i-dec-2020/>

A breakdown is included below:

RDOF - Included CCO Holdings, 715 locations MEC/EMPOWER, 1,597 locations

See Attachment 2-Documentation on Federal Funding Area

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4. Describe if any blocks awarded in Rural Digital Opportunity Fund (RDOF), excluding those awarded to satellite internet service providers, are included in the VATI application area. If RDOF areas awarded to terrestrial internet service providers 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 3 – RDOF Awarded Areas Form in VATI Area

Answer:

Yes, all census blocks awarded in the RDOF auction are included in this VATI application that were awarded to MEC/EMPOWER and CCO Holdings. Areas won by other providers, excluding satellite providers, includes 715 locations passed. MEC/EMPOWER has 1,597 locations passed that it won in the auction.

Source: <https://www.fcc.gov/reports-research/maps/rdof-phase-i-dec-2020/>

Please reference the attachment below:

Attachment 3 – RDOF Awarded Areas Form in VATI Area

5. 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 25/3 mbps and with less than 25% service overlap within the project area for wireless projects and 10% 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 4 – Documentation Unserved Area VATI Criteria.

Answer:

Data was gathered by MEC/EMPOWER's engineering firm from the Virginia Broadband Availability Map and Integrated Broadband Planning and Analysis Toolbox, the most recent FCC 477 data and the FCC Broadband Map to determine unserved and underserved coverage areas and any possible overlap. As of the time of this application submittal, there is only one provider, other than satellite, that has reported coverage within the proposed project areas, Verizon. According to the research performed, service was not available or did not meet the 25/3 Mbps requirement.

Maps documenting only unserved and underserved areas are included in the application as all possible measures to avoid overlap were undertaken. By utilizing these maps, only areas with service less than 25/3 Mbps are included in the proposed design for the County.

Greenville County's unserved and underserved areas include 2,691 locations passed of the total 4,765, representing 56% of the county lacking broadband of 25/3 Mbps or greater. The current MEC/EMPOWER fiber-to-the-premise project underway was excluded from the locations passed; CARES project which will serve 124 locations passed.

Recognizing, the primary objective of the VATI program is to provide broadband services to all residents of the Commonwealth; there are providers who have previously claimed to serve portions of this proposed project area. However, in contrast and by their own admission, through company website and customer service sources, deny the ability to provide service to those along this proposed route when residents inquire. Subsequently, these areas must be regarded as unserved. If every premise was able to sign up for services from the current service provider in each area, it would consist of less than a two percent overlap under the most liberal of estimates.

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6. 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 5 – Passings Form.
- Of the total number of VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. (Up to 10 points for businesses and community anchor institutions)
 - 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.
 - 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.
 - 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.
 - Provide the number of passings in the project area that have 10/1 mbps or less. Describe the methodology used for these projections. (up to 15 points)

Answer:

A. To determine the number of residential, business, non-residential, and community anchors in the project area, county GIS data were cross-referenced with the serviceable locations in the project area. This analysis indicated that the project area contains 2,698 residences, 101 non-home-based businesses, 120 businesses believed to be home-based, 14 community anchors, and 30 other non-residential (churches) passings.

Please note that one of the greatest challenges in selecting an area for broadband expansion is choosing one with many community anchors such as schools, libraries, community centers, etc. The areas within the service territory that have these institutions are in areas that are within the densely populated localities and, therefore, already have broadband services available. Due to the lack of broadband in the areas we serve and have selected, these institutions are not readily available; however, through the support of VATI funding, these areas will now have access to the tools that will allow community anchor institutions to be developed, grow and thrive. VATI, along with the applicant and co-applicant share the same goal to bring much needed broadband to rural Virginia; however, to overlook rural areas due to a lack of community anchors would be a great disservice, as broadband access and community anchors tend to go hand in hand.

B. Our analysis indicates that of the total number of RDOF passings, 1,481 are residential, 65 are home-based businesses, 35 are non-home-based businesses, 6 are community anchors, and 10 are considered non-residential (churches).

C. Not applicable.

D. Not applicable.

E. Based on a detailed comparison of our field verification data, the Virginia Broadband Availability Map, and other public data, we estimate that 379 (or 14%) of the locations in the project area lack access to 10/1 Mbps service. However, all 2,691 passings (or 100%) lack access to broadband service of 25/3 Mbps and are by VATI definition, unserved. See Attachment 17-Map of 10 MBPS 1 Up

Source: <https://broadband.cgit.vt.edu/IntegratedToolbox/>

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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:

Not applicable

8. **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. (up to 10 points)

Answer:

Upstream 37.5 Mbit/customer = (1.2 Gbps)/(32 customers)

Downstream 75 Mbit/customer = (2.4 Gbps)/(32 customers)

MEC/EMPOWER Broadband, Inc. is using the Calix implementation of Gigabit Passive Optical Network (GPON). GPON is a fiber-to-the-premises (FTTP) technology that implements point-to-multipoint architecture to serve residential and business customers and provide up to 1 Gbps service per subscriber. This technology utilizes fiber optic splitters to enable up to 64 customer locations to be served by a single optical line terminal (OLT) port. However, MEC/EMPOWER has opted to limit splitter assignment to 32. See Attachment 22 for an example of how the bandwidth is shared utilizing the preferred 1:32 fiber split.

Residential packages offered to subscribers within the proposed area are as follows:

50 Mbps/50 Mbps - \$69.95/month (optional VOIP telephone service at \$30/month)
100 Mbps/100 Mbps - \$119.95/month (optional VOIP telephone service at \$30/month)
300 Mbps/300 Mbps - \$199.95/month (optional VOIP telephone service at \$34.95/month)
1 GB - \$269.95/month (optional VOIP telephone service at \$30/month)

Business packages offered to enterprises within the proposed area are as follows:

50 Mbps/50 Mbps - \$89.95/month (optional VOIP telephone service at \$34.95/month)
100 Mbps/100 Mbps - \$139.95/month (optional VOIP telephone service at \$34.95/month)
All business packages larger than 100Mbps/100Mbps would require a consultation for a customized quote.

9. **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:

The project is a new fiber-to-the-premise deployment connecting currently unserved and underserved locations in Greenville County.

This project is "shovel ready" as planning and preliminary engineering are completed. Each segment of this project has maximized MEC/EMPOWER's overall fiber network "tree and branch" design which includes substation network hardware, fiber splitting, and fiber loops. Additionally, this project leverages existing main line pole infrastructure to minimize time-consuming and costly make-ready work, i.e., pole replacement.

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Fiber deployed will follow the MEC electric distribution system, where applicable, and will be installed on, or adjacent to, existing facilities within the right-of-way; both overhead and underground deployment will be utilized to gain the most cost-effective resolution. This allows the use of MEC's Geographic Information System (GIS) for the determination of required fiber length along with classification as Distribution, Access, or Drops to determine the fiber count utilized for each route or section. Typically, the MEC/EMPOWER system uses 144 count fiber for Backbone, 48 and 24 count fiber for Distribution, and 12 count for routes deemed as Access. Additionally, similar opportunities will be exercised utilizing Dominion's middle mile fiber within its service area, and through the executed MOU.

Regarding the Dominion/MEC/EMPOWER MOU, as the Commonwealth of Virginia has sought to expand broadband services into unserved areas of the Commonwealth, a pilot statute, Virginia Code § 56-585.1 :9, became effective July 1, 2019. The statute permits electric utilities to pursue pilot programs with broadband providers and local counties and municipalities to facilitate such expansion. For this application, Dominion Energy and MEC/EMPOWER have executed an agreement for Dominion to deploy middle mile service to facilitate MEC/EMPOWER extending last-mile service to previously unserved and underserved populations. Both Parties believe their partnership can dramatically expand broadband access to presently unserved areas throughout Greensville County. Maps of Dominion's middle-mile build are included in this application. See Attachment 1-Project Area Map

Dominion Energy is deploying new backbone and middle-mile fiber through Greensville County in order to connect its critical devices and related infrastructure. Subject to the SCC's approval, Dominion will locate its backbone and middle-mile fiber in a manner that enables MEC/EMPOWER to build last-mile fiber to serve unserved and underserved locations, while also supporting Dominion's grid-management objectives. MEC/EMPOWER will lease strands from Dominion's backbone and middle-mile fibers in the County to provide a continuous fiber-optic connection between end users and an upstream demarcation point in each respective area. At this demarcation point, traffic will connect to third party middle-mile fiber, connecting the network to MEC/EMPOWER's network core, where MEC/EMPOWER traffic is routed to key internet peering points and upstream transit providers.

Subject to the ongoing design coordination process underway between Dominion and MEC/EMPOWER, the network is anticipated to include 367 miles of fiber, of which 294 miles will be backbone and 73 miles will be last-mile distribution infrastructure. The final network configuration and fiber mileage will be contingent upon SCC approval and is subject to modification during the SCC Petition process and as field modifications are made during construction. Dominion's mainline fiber will be 144-count ADSS fiber with appropriate slack span and coil brackets to adequately manage its electrical grid and to support its current and future needs. Dominion's middle-mile laterals will be 72-count ADSS fiber.

Dominion will provide MEC/EMPOWER access to the Dominion fiber at strategically located splice points throughout the network, which will enable MEC/EMPOWER to connect its last-mile infrastructure in the project area to its network core. Pursuant to the requirements of the Middle Mile Statute, Dominion's infrastructure will not be used to provide service to presently served locations outside of the project area.

Additionally, MEC/EMPOWER has executed and maintains agreements with Mid-Atlantic Broadband to utilize their middle mile network to enable MEC/EMPOWER to expand last mile network plans, saving time and money.

Upon notice of grant award, engineers will begin executing the tasks outlined within the project timeline. This includes confirming the final design layout and field technicians will commence field design and collecting related field data. Residents benefiting from the successful grant application will be notified through social media and press release. Additionally, a comprehensive schedule will be developed, and each respective community will be notified of the pending FTTP deployment.

While construction crews install fiber, field technicians will visit each scheduled subscriber's location to plan for and stake the drop installation. Crews will then perform the drop installation to the premises and inside contractors will install and test the NID (Network Interface Device) and the Router/ONT for each subscriber.

See Attachment 23 for additional Network Design narrative.

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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:

This project is a unique county-wide initiative between the County of Greenville and the City of Emporia, a last-mile ISP, and two electric utilities. In order to achieve universal coverage, MEC/EMPOWER will utilize its own already constructed fiber backbone, utilize Dominion Energy who will deploy new backbone and middle-mile fiber. Additionally, EMPOWER maintains agreements with Mid-Atlantic Broadband to utilize their facilities, which will assist with the construction of middle-mile fiber in areas outside MEC's service territory.

The project is designed to achieve universal broadband throughout the county. This project does not take an incremental, "cherry picking" approach, and will leave no remaining unserved areas. The project is the county's plan to achieve universal, high quality, fiber-to-the home broadband to every presently unserved and underserved location through a single, county-wide coordinated initiative involving multiple vested partners. Achieving universal broadband access throughout the County significantly leverages the coordination of efforts of Dominion Energy, and MEC/EMPOWER through ongoing fiber and facilities deployment.

The project maximizes MEC/EMPOWER's existing network core and related data-center infrastructure, as well as MEC/EMPOWER's customer service, support, and billing capabilities. MEC currently serves as a substantial electric service provider to this county area and has the infrastructure currently in place to continue the fiber network to achieve universal coverage to the unserved and underserved residences, businesses, and CAI's. This project presents a once-in-a-generation opportunity to provide universal access to high quality broadband throughout this county representing one of Virginia's most struggling regions. Additionally, further expansion of this network is included through corresponding applications and partnerships with the Southside Planning District Commission (SPDC), MEC/EMPOWER, and, the Counties of Brunswick, Halifax, Mecklenburg, and Charlotte, in partnership with Dominion Energy, Mid-Atlantic Broadband, and Southside Electric Cooperative to create a super-regional approach.

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 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 20 points)

Answer:

This project's next step will be the final design phase as planning and preliminary engineering are completed. A considerable portion of the system's first phase (Backbone) is complete, and this application focuses more on the deployment of Distribution Class (FTTP Mid-Mile) fiber, along with the required Access Class fiber (last mile) and drops. Where required, MEC/EMPOWER has agreements in place to utilize middle-mile fiber from Dominion Energy and Mid-Atlantic Broadband in order to expand last-mile fiber deployment.

MEC/EMPOWER and Dominion Energy have executed a MOU and are currently finalizing the fiber lease providing for MEC/EMPOWER's access to Dominion's network elements. Upon execution, the lease will be submitted to the SCC for its approval. See Attachment 18-MOU Dominion Empower

Dominion has scoped the mainline route throughout the project area. Dominion is presently preparing environmental permits for the mainline route. Dominion's fiber construction will commence promptly upon the SCC's Final Order on the SCC Petition. Accordingly, Dominion Energy anticipates completing the construction of the proposed mainline fiber within 18 months of SCC approval. Dominion will begin construction of its middle-mile infrastructure concurrently with mainline construction and projects completion of middle-mile construction within 28 months of SCC approval. MEC/EMPOWER will commence construction of its last-mile infrastructure concurrently with Dominion's construction.

MEC/EMPOWER will deploy and light last-mile fibers in conjunction with Dominion's construction schedule so that end

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users can be connected to the last-mile network as soon as upstream middle-mile and backbone fiber are in place. To ensure the network is successfully and effectively used by unserved locations, EMPOWER will market the network to potential subscribers as soon as the SCC has ruled on the submitted petition.

It should be noted that MEC/EMPOWER has secured nearly 500 miles of fiber cable for the first year of construction; subsequently, mitigating potential delays as supply chain issues increase. Similarly, MEC/EMPOWER is consulting with contractors to ensure workforce availability to complete this large-scale project. Additionally, EMPOWER is preparing an RFP for contract labor to commence the project in a cost effective and timely manner.

Within 30 days of the notice of Grant award, MEC/EMPOWER will commence the completion of the final fiber design and execution of contracts with contractor to lay out in the county project area. This will include GPON fiber splits, splice can location, and final material list to proceed with purchase orders. VDOT and railroad crossings have been identified and permit requests will be filed and substantially completed through the project timeline. Premises benefiting from an awarded grant will be notified by letter of the pending deployment and the use of construction crews to complete the work throughout the construction project.

MEC/EMPOWER's Senior Field Engineering Team will confirm the final design layout and workforce agreements to commence the project. As a part of the confirmation process, MEC/EMPOWER will assign contract field engineers to visit all phase one construction areas to confirm required permits, material requirement, material acquisition, and designate pending make ready work. As a result of the field review, technicians will detail all make ready work including associated poles requiring replacement. This final layout will be assigned to contracted construction crews to complete all make ready followed by distribution and access class fiber installation. Make ready and fiber installation activities will be scheduled for all phase one work within 20 weeks.

Both 144-count fiber and distribution class lower count cables will be spliced by contractors and with quality control managed by MEC/EMPOWER's fiber technicians. While construction crews perform overhead make ready work or complete directional boring for underground sections of the line; contractors with MEC/EMPOWER's supervision will visit each subscriber's location and plan the drop installation. Crews will then perform the drop installation to the premise. Contractors will then install the NID (Network Interface Device) and the Router/ONT.

MEC/EMPOWER's last-mile infrastructure will primarily be located within existing public rights of way and on the property of end-customers that have requested service, MEC/EMPOWER's easement requirements are anticipated to be minimal.

Given the size and scope of the project, it is anticipated that 36 months (about 3 years) will be required to achieve substantial universal completion. A work plan has been developed to guide the 36 months (see Attachment 7 – Timeline/Project Management Plan)

The County of Greenville, the City of Emporia, and MEC/EMPOWER share the mission of serving the citizens of Greenville County. We share the objective to resolve the complication and plight of the massive digital divide between Southside Virginia and other areas of the Commonwealth. Collectively, we have heard from residents calling for resolution to this significant dilemma; our teams, including the County Administrators, the Board of Supervisors, the County's Broadband Committee, MEC/EMPOWER CEO, Board of Directors, and staff have elected to work together to deliver a needed solution. Accordingly, MEC created EMPOWER Broadband to effect just such a change.

As MEC/EMPOWER are jointly applying with the County of Greenville, and the City of Emporia, the County of Greenville shall administer the grant and serve in a project oversight role to accomplish the grants goals and objectives. Included as an attachment is a copy of the draft agreement between the County of Greenville, the City of Emporia and EMPOWER Broadband. The terms of the existing agreement will be expanded with approval of the proposed 2022 VATI grant.

The County and City of Emporia's Board of Supervisors have also approved this grant application; see their letters of support included with this application.

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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:

Yes, the co-applicant, MEC/EMPOWER Broadband, has received several VATI grants which are listed below:

2020 VATI Grant with Halifax County (\$2,896,709)

The 2020 VATI grant partnering with the County of Halifax in the amount of \$2,896,709 is completing the construction of fiber to the premises passing 679 homes and businesses. This grant has an expiration date of September 9, 2021, and by the time this application is filed, MEC/EMPOWER anticipates meeting that schedule by constructing 37 miles of fiber and passing the 679 locations included in the grant agreement.

2021 VATI Grant with Mecklenburg County (\$449,381)

The 2021 VATI grant partnering with the County of Mecklenburg in the amount of \$449,381 will build fiber to the premise passing approximately 425 homes and businesses and deploying 22.35 miles of fiber. This grant is still under the contract negotiations phase between the County and the DHCD.

2021 VATI Grant with Halifax County (\$313,628)

The 2021 VATI grant partnering with the County of Halifax in the amount of \$313,628 will build fiber to the home passing approximately 200 homes and businesses. This grant is still under the contract negotiations phase between the County, and the DHCD, as it was recently impacted by the default of an RDOF award.

13. Matching funds: Complete the funding sources table indicating the cash match and inkind 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. Label Attachments: Attachment 9 - Funding Sources Table; Attachment 10 – Documentation of Match Funding

Answer:

The total cost of the proposed project area is \$28,485,649.34 to pass 2,691 locations. For this project, the applicant and co-applicant are requesting \$12,818,542.20 in VATI grant monies which constitutes 45% of the total project cost and breaks down to \$4,763 per location passed. The co-applicant, MEC/EMPOWER, are contributing \$5,970,850.67 of in-kind funds towards the project to be used for network equipment and towards construction efforts to complete the project build-out. Additional matching funds will be Dominion Energy's middle-mile fiber build in the amount of \$7,137,320.47, the City of Emporia will provide \$105,000, and Greensville County will provide \$2,453,936.00. The total amount of matching funds constitutes 55% of the total project cost in the amount of \$15,667,107.14.

The applicant, County of Greensville, is contributing with the assistance of data collection, consulting services and grant administration.

See Attachment 9-Funding Sources Table and Attachment 10-Documentation of Match Funding

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:

A significant component of MEC/EMPOWER's universal fiber coverage plan comes via Virginia Code § 56-585.1 :9, effective July 1, 2019 (the "Pilot Statute"), as the Commonwealth of Virginia sought to expand broadband services into unserved areas of the Commonwealth. This statute permits electric utilities to pursue pilot programs with broadband providers, local counties, and municipalities to facilitate such expansion. Under this legislation, Dominion and MEC/EMPOWER have agreed to a deployment plan where Dominion constructs middle mile service to facilitate MEC/EMPOWER extending last-mile service to unserved populations throughout the communities of Virginia.

MEC/EMPOWER and Dominion recognize this partnership will dramatically expand broadband access to presently

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unserved areas across Southside Virginia.

Dominion has also participated in the regional planning process at no cost to the project and has provided internal analysis and results of previous broadband planning studies in support of the project's development. Dominion will also incur the expenses of easement acquisition and other related permitting necessary to bring the overall project to completion ...these costs are not reflected in project construction costs.

In a similarly important partnership, MEC/EMPOWER also has an agreement with Mid-Atlantic Broadband to utilize their middle-mile fiber facilities when and where needed. Perhaps more importantly, the two entities have a fiber sharing/trading agreement which has saved MEC/EMPOWER \$5 million dollars. MEC and MEC/EMPOWER have worked in coordination over the last few years to leverage the middle mile fiber network made possible by investments from the Commonwealth of Virginia.

The project will leverage MEC/EMPOWER's existing network core and related data-center infrastructure, as well as MEC/EMPOWER's customer service, support, and billing expertise.

Additionally, MEC/EMPOWER Broadband was awarded \$3,722,360 in Federal funds received as part of the RDOF auction for Greensville County, that will be paid out over the next 10 years to support the buildout as revenues and subscribers grow to become self-sustaining. The RDOF blocks awarded to MEC/EMPOWER are strategically located in areas adjacent to its foundational fiber backbone.

MEC/EMPOWER has established a strong and valuable partnership with its current contractors and supply chain vendors, all of whom will play a critical role in this project. Discussions with these partners, as well as other potential providers, are ongoing with regards to this comprehensive buildout and deployment. MEC/EMPOWER is also stockpiling materials and has placed fiber orders for year one of the universal coverage plan for Brunswick, Charlotte, the City of Emporia, Greenville, Halifax, and Mecklenburg. Accordingly, MEC/EMPOWER is ahead of the game by placing large fiber orders to mitigate lead time.

Several other factors play a vital part in the selection of the proposed project area and should be considered beneficial to the project. Pre-existing resources that have already been built by MEC and its subsidiaries EMPOWER Broadband and EMPOWER Telecom constitute a major factor in this project. These proposed project areas can be easily expanded from the pre-existing fiber backbone that includes a 135-mile fiber backbone funded in partnership with MEC/EMPOWER and the Virginia Tobacco Region Revitalization Commission (TRRC). This round of VATI funding creates the opportunity to "fill in the gaps" and deliver service to all portions of the county considered unserved or underserved.

Other factors that led to our decision to pursue additional construction in these areas were the direct support of Greensville County staff and representatives on the Board of Supervisors. These requests converged with numerous requests from those within our communities... both Cooperative Members and those representing inadequately served individuals. Mecklenburg Electric Cooperative is recognized as a community leader and has demonstrated the ability to deliver on the construction and maintenance of large capital projects. Additionally, EMPOWER has followed in the footsteps of its parent company and is delivering a needed service and on its commitments.

The County of Greensville and the City of Emporia have provided personnel at no cost, including GIS staff and resources to support the application process. That support will continue through final design and construction. They will also participate in joint marketing events and public meetings to inform our region and encourage adoption by our residents.

Furthermore, EMPOWER fiber subscribers provide additional leverage as they share the news of their newly installed robust broadband service with their neighbors. To date, we have written commitments from a substantial number of those living in these areas, who have agreed to take the service once the project gains approval. MEC/EMPOWER utilizes a business principle of reinvesting revenue generated from those receiving services to further expand broadband expansion in other areas. This community commitment means revenue will be readily available to expand broadband services in other areas yet to receive funding of any type.

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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. (up to 10 points)

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. The original feasibility study was conducted by Pulse Broadband for the entire MEC area, based on national statistics from rural cooperative areas, much like Southside Virginia, with similar service offerings, estimated the take rate (number of homes expected to subscribe for services) for the entire EMPOWER serving area to be 45 percent within two years of project completion. This expected take rate is also based on research conducted and adopted by the Pew Research Institute. Accordingly, from the 2,691 locations passed, an estimated 1,211 would take service within 24 months. However, after Broadband discussions with the citizens and businesses in the proposed area and the interest generated by our deployment, that subscribers will exceed the 45 percent take rate. Cooperatives in other regions have witnessed averages closer to 60%.

EMPOWER is already collecting premise interest from locations within the project area and has prepared a targeted marketing campaign to ensure that subscribers are promptly connected to the network and begin receiving service as soon as it is available

Once field engineering and construction begin in a designated zone, potential EMPOWER customers will be notified by direct mail that fiber internet services are under construction. Once fiber deployment begins, potential customers will receive another direct mail letter, including pricing structures and a contract for early sign-up. All members who sign up early will receive free installation, a \$100 value for bundled services (Phone and internet) or \$50 off for those subscribing to the internet only. Additionally, postcard reminders will be mailed three weeks following the second direct mailer. Once installations begin, door hangers will be placed on all doors at those accounts not already signed up for service and, where allowed, yard signs will be displayed at the properties already receiving EMPOWER services.

In addition to the above direct marketing activities, EMPOWER will participate in local community functions to educate potential customers, as well as the public, and will distribute brochures and promotional items. Social Media platforms for EMPOWER as well as its website and local printed materials (newspapers and magazines), will be used to notify potential customers.

Information regarding EMPOWER, its services and construction progress is also available at each district location or by telephone.

Please see Attachment 18 – for a summarized version of EMPOWER's Marketing Plan and marketing materials to be utilized.

b. Currently, the County's public libraries utilize programs such as basic computer skill classes, promotion of online resources (i.e., videos) through social media pages and the use of e-books and audio books to promote digital literacy within the community. The County Cooperative Extension Offices are also early in the development of their own digital literacy programs that will be available to county residents. Unfortunately, many of these efforts have been greatly hindered by the effects of COVID-19.

To help mitigate lack of resources; MEC/EMPOWER staff have already worked to create their own digital literacy tool kit to help educate those in the community about access to the world of resources provided by broadband. One of these programs is a simple, yet effective open house in which members of the community are invited to join the staff at one of MEC/EMPOWER's facilities, or a selected location within the community, where staff demonstrate how broadband service can be used to enhance everyday life. Attendees can also speak with staff about any issues/questions they may have about the many uses and improvements to their digital lives.

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Social media is another platform in which staff is using to increase digital literacy; brief, informative videos are being created that highlight certain aspects of the construction process and the ways that the service can be put into use via VoIP services, television streaming, etc. Since the changes brought on by COVID-19, staff members have created a Virtual Town Hall meeting be open to the public to educate residents on the process involved in the actual construction of fiber-to-the-premise, but also use it as a tool to explain that broadband is more than just the internet and can be used in numerous daily activities.

Another program under development is "Seniors helping Seniors." This is a program that will utilize volunteers from the local high school senior class who would pair up with a senior citizen from the community. In this program, students serve as teachers and help explain how to use basic programs not only on a computer, but also on devices such as Firesticks, Roku, etc. that can be utilized with access to broadband.

Virginia Tech also hosts Digital Literacy Symposiums with the most recent having participants exploring online identities through the many roles as students, educators, scholars and more. Resources such as this, though not directly associated with either the applicant or co-applicant, can be easily promoted through the local Cooperative Extension Offices to notify county residents.

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. 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 11 – Letters of Support.

Answer:

Dr. Charlotte Woolridge, Greenville County Administrator-Project Liaison- Project Oversight on behalf of the County.

John C. Lee, Jr. President and CEO, Mecklenburg Electric Cooperative (MEC) and EMPOWER Broadband-Corporate Management-Manager of Overall Project.

Dwayne Long, Vice President of Information Technology, MEC and COO EMPOWER Broadband-Project Manager-Monitor overall progress of project.

David Lipscomb, Vice President of Member and Energy Services, MEC and EMPOWER Broadband-Project Marketing-Advance Project Marketing Program.

Michele Taylor, Vice President of Business Development, EMPOWER Broadband-Project Milestone Manager-Liaison for Task Advancement.

Carol Ann Jones, Vice President of Finance and Accounting, MEC- Grant Accounting-Tracks grant expenses and prepares reports.

Sherry Harris, Administrative Assistant, EMPOWER Broadband, INC.-Administrative -Performs administrative tasks as necessary.

Brian Woods, Director of Engineering, MEC-Engineering Coordinator-Coordinates engineering plans of fiber infrastructure for project.

Robert Lankford, Director of Operations, MEC-Construction Coordinator-Coordinates construction of fiber infrastructure for project.

B. J. Seamans, Vice President of Engineering and Operations, MEC- Engineering & Construction Manager-Oversees all engineering and construction duties for project.

The executive team at MEC/EMPOWER Broadband is responsible for the management of all grant related projects. This team is experienced, well-positioned, capable, and eager to implement, manage, operate, and maintain the

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services proposed. The Project Management Team will meet on a regular and as needed basis to ensure the effective and timely management of the project. The team will review project activities and propose adjustments to the project management plan, as needed, to ensure the project is professionally designed, built within budget, and is tracking to meet the agreed upon schedule. Any significant revisions to the project activities or budget will be shared as appropriate and/or necessary. Processes for overall project management, including financial management, design, and construction, have already been implemented and are more than sufficient to accommodate this effort.

Mecklenburg Electric Cooperative and EMPOWER Broadband Inc. are currently administering two grants for the TRRC's R&D Last-Mile Broadband Project, one sponsored by Mecklenburg County, and another sponsored by Pittsylvania County. MEC/EMPOWER were also a recipient of a 2020 VATI grant in partnership with Halifax County and 2021 VATI grant funds in partnership with Halifax and Mecklenburg Counties.

Mecklenburg Electric Cooperative has extensive experience in managing projects similar in scope to the project being proposed in this application. MEC, EMPOWER's parent company, was formed in 1938, over 80 years ago. Currently, we operate and manage \$211 Million in utility plant here in Southside Virginia. That represents services to over 34,000 premises with 4500 miles of electric line. As a current borrower in good standing with USDA's RUS (Rural Utilities Service), MEC is required to maintain detailed records and is held accountable for proper data management and project management. MEC/EMPOWER will implement the same degree of accountability standards, and due diligence measures, for the DHCD grant program as well. MEC has also received Federal Communication Commission (FCC) Connect America Funds (CAF) to provide service to 848 residents and businesses in southern Brunswick County; and a USDA Reconnect loan to build fiber-to-the-premise passing approximately 844 homes and businesses in portions of Brunswick County.

MEC/EMPOWER has also received a RUS Reconnect Grant that will provide two underserved areas within southcentral Brunswick County, and northern Halifax County, with fiber-to-the-premise access. This project also ties in with current funding MEC/EMPOWER received from the CAF II auction, last year's low interest ReConnect loan, and the 2020 VATI grant. MEC/EMPOWER also partnered with all four counties and was awarded CARES funding to continue the deployment of fiber-to-the-premise that expanded into added areas where fiber had been previously deployed.

MEC/EMPOWER was also awarded RDOF census block groups in the county that can be used as leverage towards the VATI grant. Collectively, these projects represent the commitment of both MEC, and EMPOWER Broadband, to provide affordable, reliable high-speed broadband service to residents of Southside Virginia.

Today, MEC and its subsidiary, EMPOWER Broadband, are building and deploying hundreds of miles of new fiber. MEC/EMPOWER is committed to providing high-speed internet and voice services to unserved areas with its extensive experience in the design, installation, and maintenance of electric and broadband infrastructure. Today, EMPOWER has approximately 2,725 access lines, over 1,900 DSL internet subscribers, and 1,180 fiber internet subscribers.

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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:

The funds requested by both the applicant and co-applicant for VATI funds will be utilized for the total costs of both aerial and underground mainline construction and drop construction of the proposed fiber system in the county to provide universal coverage for a total amount of \$12,818,542.20. MEC/ EMPOWER, Dominion Energy, the County of Greenville, and the City of Emporia will provide matching funds in the amount of \$15,667,107.14, that will be used for the remaining construction costs, as well as the following:

Outdoor Wall Mount Labor
Outdoor Wall Mount Materials
Splicing Labor
Splicing Materials
Staking Labor
ONT (router) labor
ONT (router) materials
E7-2 Package Chassis
GPON SFP OIM, Class B+ 1490/1310nm
E7-2 8 Card PON Unit

These costs are listed in detail in the derivation of costs that is attached and labeled Attachment 12 and supported by Attachment 13 documenting the supporting cost estimates.

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:
- Total VATI funding request
 - Number of serviceable units
(up to 125 points)

Answer:

- State Share for total project cost: \$12,818,542.20 / Total project cost: \$28,485,649.34
- 2,691 serviceable units passed = \$4,763 per unit passed

19. Commonwealth Priorities (Up to 40 points)

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

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

- If this universal coverage project is approved, ALL unserved and underserved passings will receive access to broadband with speeds of 25/3 Mbps and higher. The project area is overwhelmingly residential and accordingly, is the

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most challenging and least financially viable areas for broadband deployment. Economic development within the project area has unquestionably been hindered by the lack of broadband access. Completion of this project will support economic development in these areas and encourage both the expansion of existing businesses, as well as attracting new businesses and industries, and prompt the development of additional community anchor institutions.

Being a rural community, access to high-speed broadband will also allow for economic opportunities for many of the family run agricultural farms to market their products and services. Broadband availability in these areas will also promote increased residential development as more families will be able to stay or move into the rural county of Greensville County because they will have access to opportunities that previously have been unavailable. This lack of opportunity has been one of the leading factors that has led to a decrease in population over the years as families have moved to more urban areas to gain access to educational and business opportunities and technologies that were nonexistent in Greensville County.

B. Both the applicant and co-applicant recognize this project will require strong partnerships to accomplish and fulfill universal coverage in Virginia. Since the Commonwealth of Virginia is seeking to expand broadband services into unserved areas of the Commonwealth, a Pilot Statute, Virginia Code § 56-585.1 :9, became effective July 1, 2019. The Pilot Statute further permits electric utilities to pursue pilot programs with broadband providers and local counties and municipalities to facilitate such expansion. For this application, Dominion Energy and MEC/EMPOWER have executed an agreement for Dominion to deploy middle mile service to facilitate MEC/EMPOWER extending last-mile service to unserved populations. Both parties understand this partnership can dramatically expand broadband access to presently unserved areas throughout Greensville County.

MEC/EMPOWER will utilize Mid-Atlantic Broadband (MBC) facilities to deliver service, outside of MEC's existing service territory, and the relationship includes a fiber trading agreement that represents \$5 million in savings to MEC/EMPOWER. MBC and MEC/EMPOWER have worked in close coordination over the past few years to leverage the middle mile fiber network made possible by investments from the Commonwealth of Virginia.

The VMD Association of Broadband Cooperatives partnership is allowing a large group of Cooperative affiliated broadband providers to take advantage of economies of scale for services and equipment and to secure significant resources to promote large fiber network builds.

Partnerships with Cooperative Finance Cooperation, CoBank, and the USDA Rural Utility Services will provide immediate sources of matching funds for MEC/EMPOWER Broadband to utilize for this application.

Critically important to a project of this magnitude is the confidence and support of the localities served by MEC/EMPOWER, all of whom have expressed their trust in MEC/EMPOWER's demonstrated ability to build and maintain a world-class fiber network. We value our long-term partnership with Greensville County which serve as the foundation for this application and facilitate their full support and assistance. The county has also executed a MOU with Dominion Energy, who is another partner in this project.

C. The project will provide universal broadband in excess of the current 25/3 standard, with 50 Mbps / 50 Mbps plans starting at \$69.99 per month. The monthly cost of this high-quality network will be considerably below what many of the serviceable locations are today paying for sub-standard satellite service, and therefore provide higher quality broadband at a cost that is a net reduction from what unserved residents are paying today. If the project is approved, the County will engage in extensive community outreach, targeting low- to moderate-income households, to ensure they are aware of and take advantage of access to this affordably priced, high-quality broadband. The project will ensure that all residents of the participating County have the ability to telework and participate in distance learning, so that no child or family is disadvantaged by lack of broadband.

In addition to providing community hotspots throughout the county, EMPOWER is also an active participant in the USAC Lifeline program. Lifeline is a federal program that lowers the monthly cost of phone and internet for consumers, intended to make communications services more affordable for low-income consumers. Lifeline provides subscribers with a discount on monthly telephone or internet service purchased from participating providers in the marketplace. EMPOWER also participates in the FCC's Emergency Broadband Benefit program that offers qualifying households up to \$50 a month towards internet service. Information on both programs is made available on EMPOWER's website.

Additionally, Southside Virginia is perhaps the Commonwealth's most economically disadvantaged region; this project

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promotes both education and economic development, of which both are required to deliver desperately needed jobs. It should be further noted that in a 2014 Weldon Cooper study, Virginia's Southside Region was the only region to lose population. Regretfully, our region also demonstrated the highest levels of poverty. Subsequently, the value of delivering fiber distribution facilities into the rural areas of Southside Virginia cannot be overstated.

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20. Additional Information

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

Answer:

Mecklenburg Electric Cooperative (MEC)/EMPOWER Broadband, Inc. (EMPOWER), the County of Greenville, and the City of Emporia are pleased to submit this application for universal coverage that includes a comprehensive plan for the construction and expansion of broadband infrastructure, and the delivery of high speed, profoundly reliable, access to the internet to those living and working in our communities. Under this plan, utilizing the absolute best technology, fiber-to-the-premise, MEC/EMPOWER will offer affordable, world class broadband access to residents and businesses in unserved and underserved areas throughout Greenville County. Moving forward with this proposal would result in universal coverage for the County included in the plan and represent a substantial leap forward in leveling the playing field for education and economic prosperity with our urban neighbors.

MEC/EMPOWER share a common mission with Greenville County to empower Southside Virginians by improving the region's infrastructure and providing reliable broadband capacity to all who call our rural areas home. Doing so benefits all by facilitating remote learning, telemedicine, and telework, for the betterment of our citizens, and in support of economic growth. EMPOWER is the wholly owned subsidiary of MEC, a member-owned utility that has been proudly and successfully serving its members for over 80 years. To date, MEC/EMPOWER has constructed and deployed over 500 miles of fiber, and passes within 1000 feet of nearly 8000 locations, along with providing phone and DSL service to another 2,800 subscribers, the vast majority of which are located in the counties covered by this proposal.

The MEC/EMPOWER team has put together a comprehensive solution that will competently meet the immediate and future infrastructure requirements described in your application conditions. In your evaluation of speed, expandability, reputation, and delivery, we would appreciate your strong consideration to partner with a vested, locally owned, and locally controlled company, with existing fiber infrastructure, and the expertise to complete and maintain a fiber-to-the-premise solution that results in universal coverage.

Our region, our counties, our communities, and our Cooperative, must do everything possible to support existing employers, and attract new ones, to enhance our region's economic viability and provide our area's young people, who utilize broadband to expand their knowledge and skills, with career options here at home.

Thank you in advance for your consideration of our application.

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Attachments:

Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMap9142021102605.pdf

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

Attachment2DocumentationonFederalFundingArea19142021102620.pdf

RDOF Awarded Areas included in VATI Application (Use template provided)

Attachment3RDOFAwardedAreasincludedinVATIRDOFPassingsForm9142021104810.pdf

Documentation that proposed project area is unserved based on VATI criteria

Attachment4DocumentationUnservedAreaVATICriteria19142021102654.pdf

Passings Form (Use template provided)

Attachment5PassingsForm9142021102745.pdf

Timeline/Project Management Plan

Attachment7TimelineProjectManagementPlan19142021102826.pdf

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

Attachment8MOUAttachment18MOU9142021112201.pdf

Funding Sources Table (Use template provided)

Attachment9FundingSourcesTable9142021102932.pdf

Documentation of Match Funding

Attachment10DocumentationofMatchFunding19142021113925.pdf

Letters of Support

Attachment11LettersofSupport9142021125708.pdf

Derivation of Cost/Project Budget (Use template provided)

Attachment12DerivationofCosts9142021103110.pdf

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Documentation of Supporting Cost Estimates

Attachment13DocumentationofSupportingCostEstimates19142021103146.pdf

Two most recent Form 477 submitted to the FCC or equivalent

Attachment14TwomostrecentFrom477submittedtotheFCC19142021103221.pdf

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

Attachment15PointandPolygonShapefilesGreensvilledesignlines9142021103253.zip

Optional

Attachment17Mapof10Mbps1up19142021103343.pdf

Optional

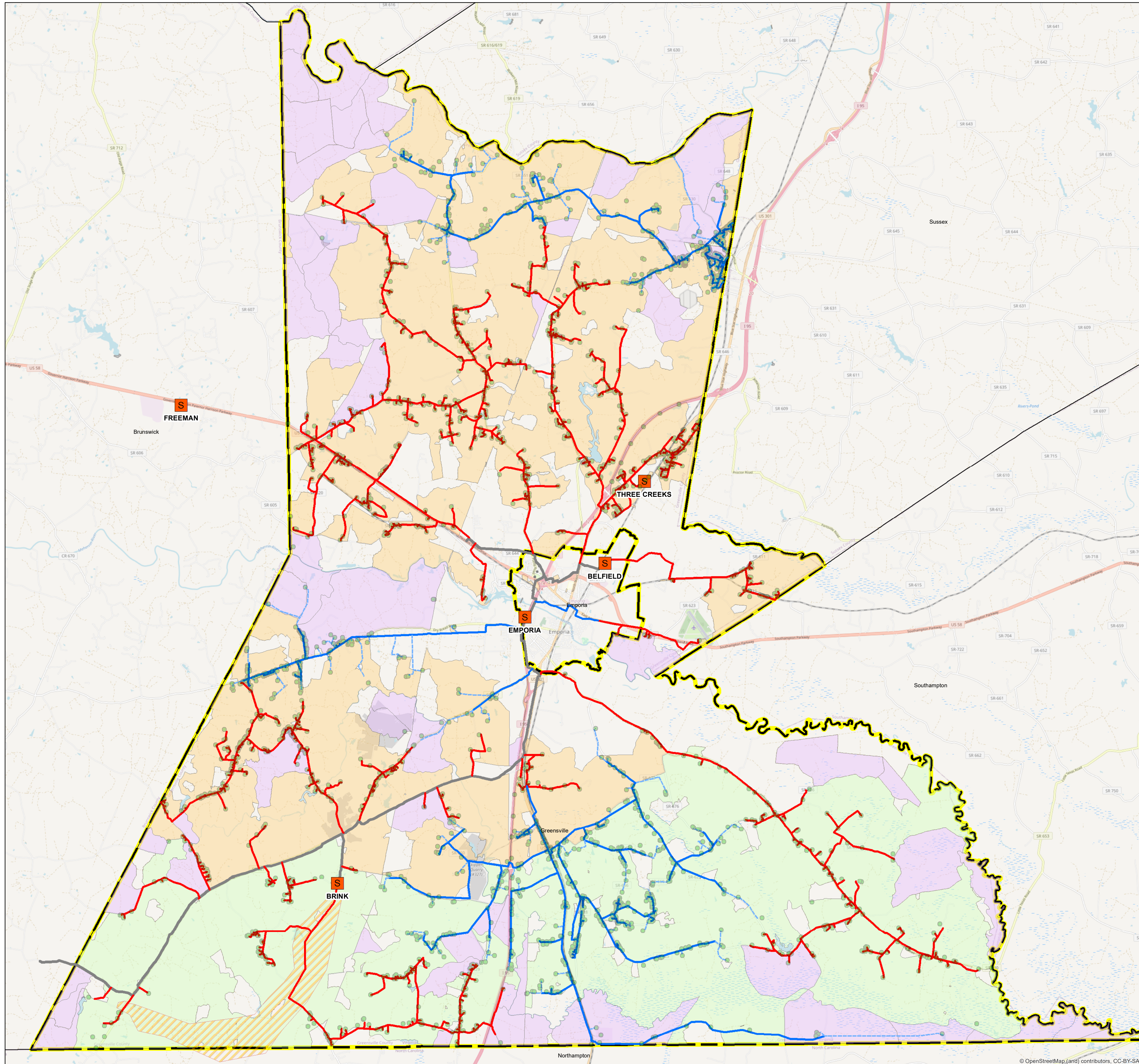
Attachment19MarketingPlan19142021103600.pdf

Optional

Attachment20AwardedGrantFundingMap9142021103651.pdf

Optional

Attachment22Attachment23AddINarrative9142021104514.pdf



Project Scope: Create High-Level FTTH Design for Eligible Areas in Greensville County.

Greensville County Review Report

4,765 Total 911 Address
297 Total Sq.Mi.

High-Level Design Estimates

- 2,691 Address' Passed (56% of County Listing)
- Estimated 284+ Route Miles (Estimated 45 Drop Miles for Dominion)
- Census Block Groups Covering Approx. 243 Square Miles (81% of County)

High-Level Design Route Legend

- Proposed Path (along Ex. MEC Network) Est. 197.5 Miles
- Proposed Path (along Ex. Dominion Network) Est. 86.4 Miles
- Proposed Path (along Ex. Dominion Network) Est. 45.1 Miles

Premise Breakdown by Electric Utility Provider

MEC Premises Est. = 1,294 48% of Total
Dominion Premises Est. = 1,397 52% of Total

Designed Area Legend

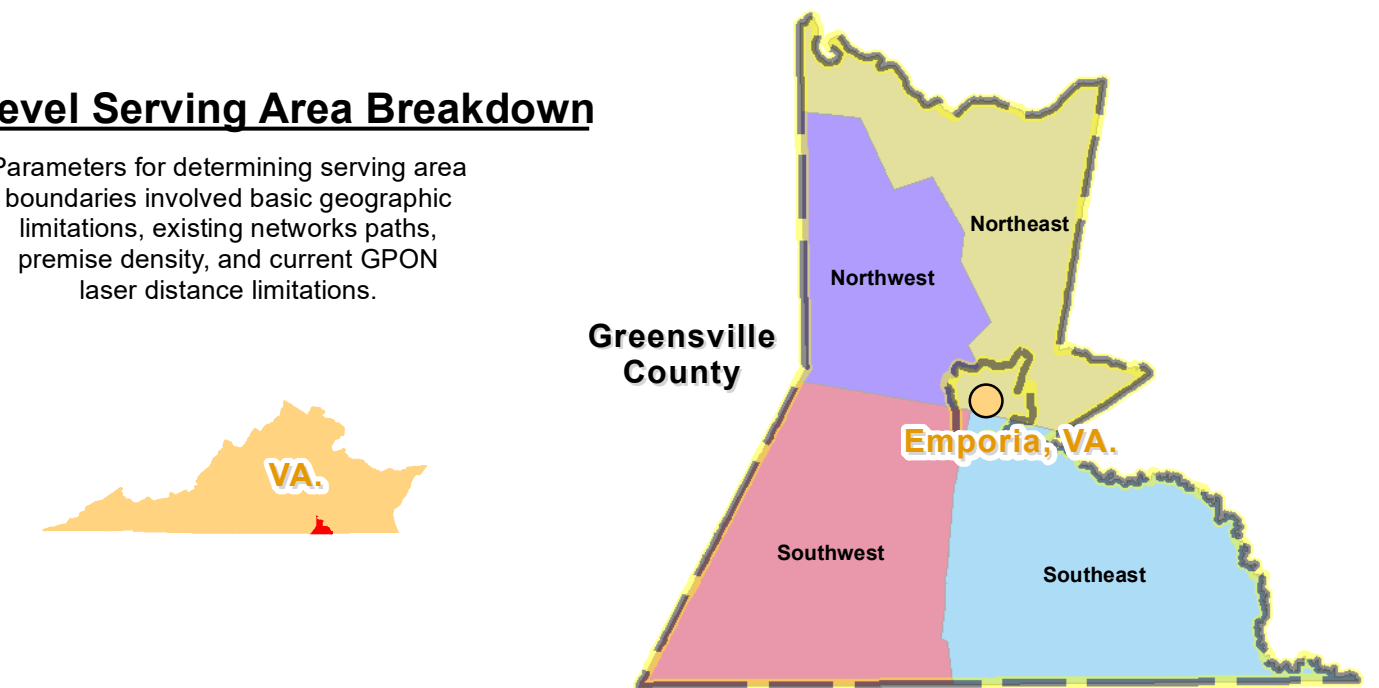
- Eligible Area (under 25/3) 379 Address at 52 Sq.Mi.
- RDOF - MEC 1,597 Address at 106 Sq.Mi.
- RDOF - CCO Holdings 715 Address at 85 Sq.Mi.

Typical Legend

- MEC Substations
- MEC Ex. Fiber Backbone
- CARES - MEC (Beef Rd)

High Level Serving Area Breakdown

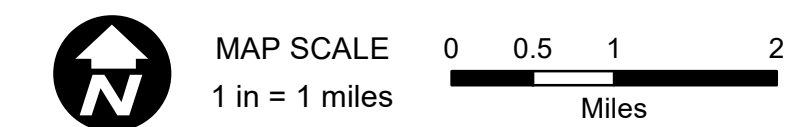
Parameters for determining serving area boundaries involved basic geographic limitations, existing networks paths, premise density, and current GPON laser distance limitations.



Measurements are calculated per Linear Footage. Does NOT include Loop Estimates.

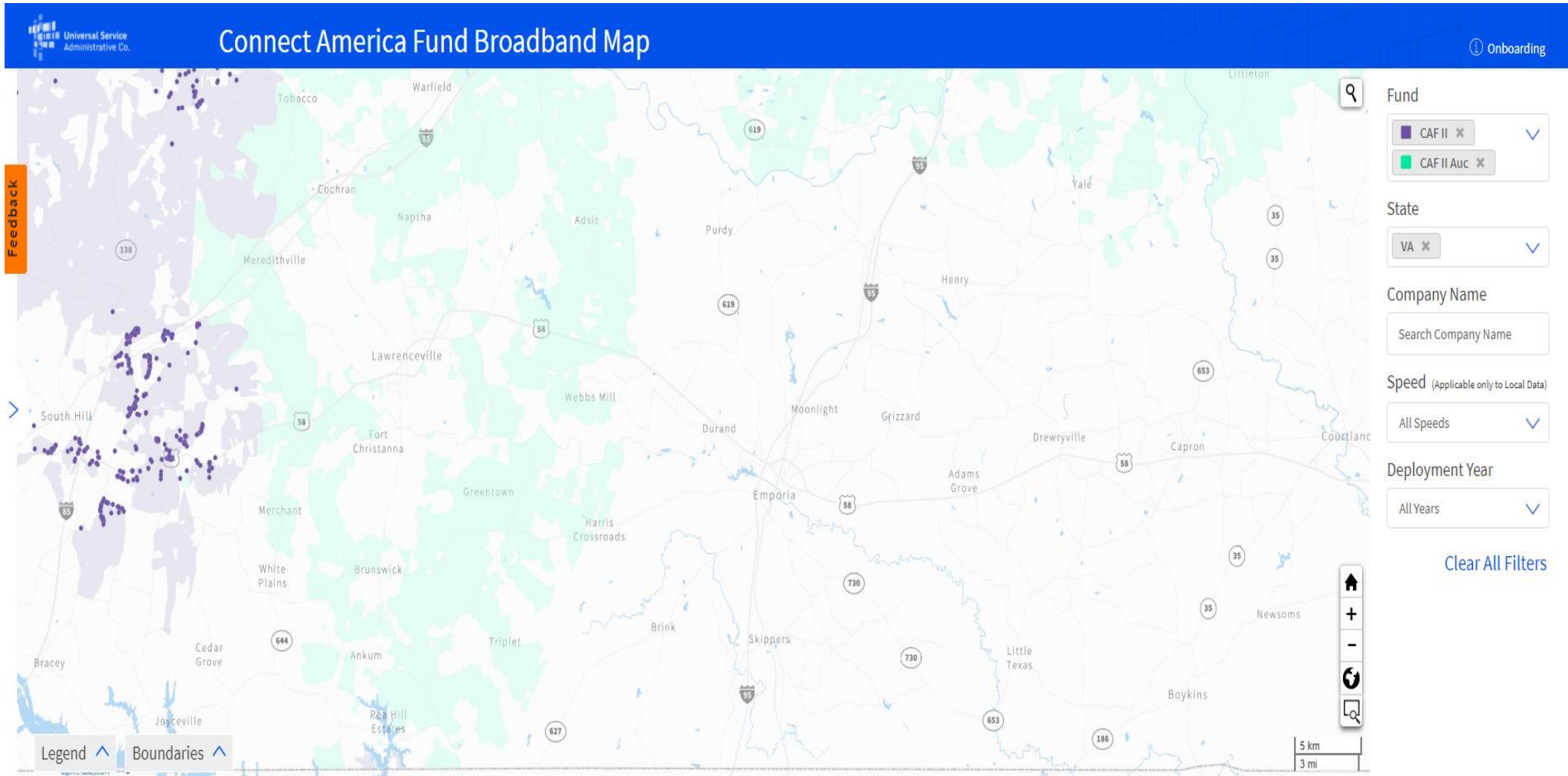
Serving Area Name	Area Sq Miles	Total Premises Passed	288 Split Hubs Estimated at 1:1	Total Est Rte Footage	Est. Route Miles	Premises Per Route Mile
Northeast	70	1,016	5	444,615	84	12.1
Northwest	52	356	2	304,819	58	6.1
Southeast	91	633	3	484,747	92	6.9
Southwest	91	686	5	503,040	95	7.2
	304	2691	15	1,737,221	329	

Includes 45 miles of drop



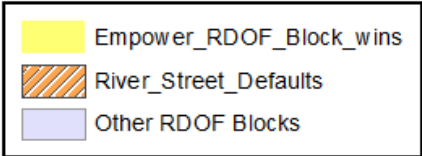
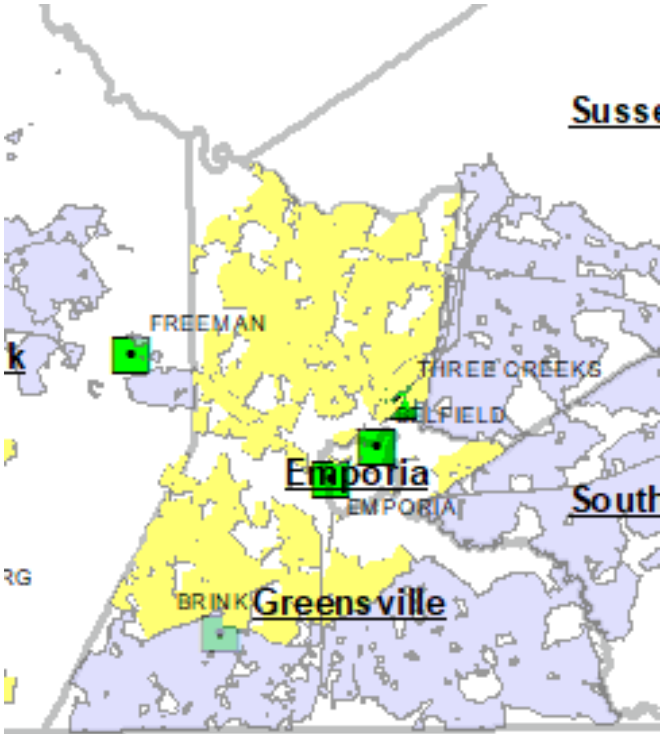
Attachment 2 – Documentation on Federal Funding Area.

No CAF II funding is available throughout Greenville County



Source: <https://data.usac.org/publicreports/caf-map/>

RDOF Map



The other RDOF blocks were awarded to CCO Holdings

Source: Internal ArcMap Engineering Map

Rural Digital Opportunity Fund Phase I Results

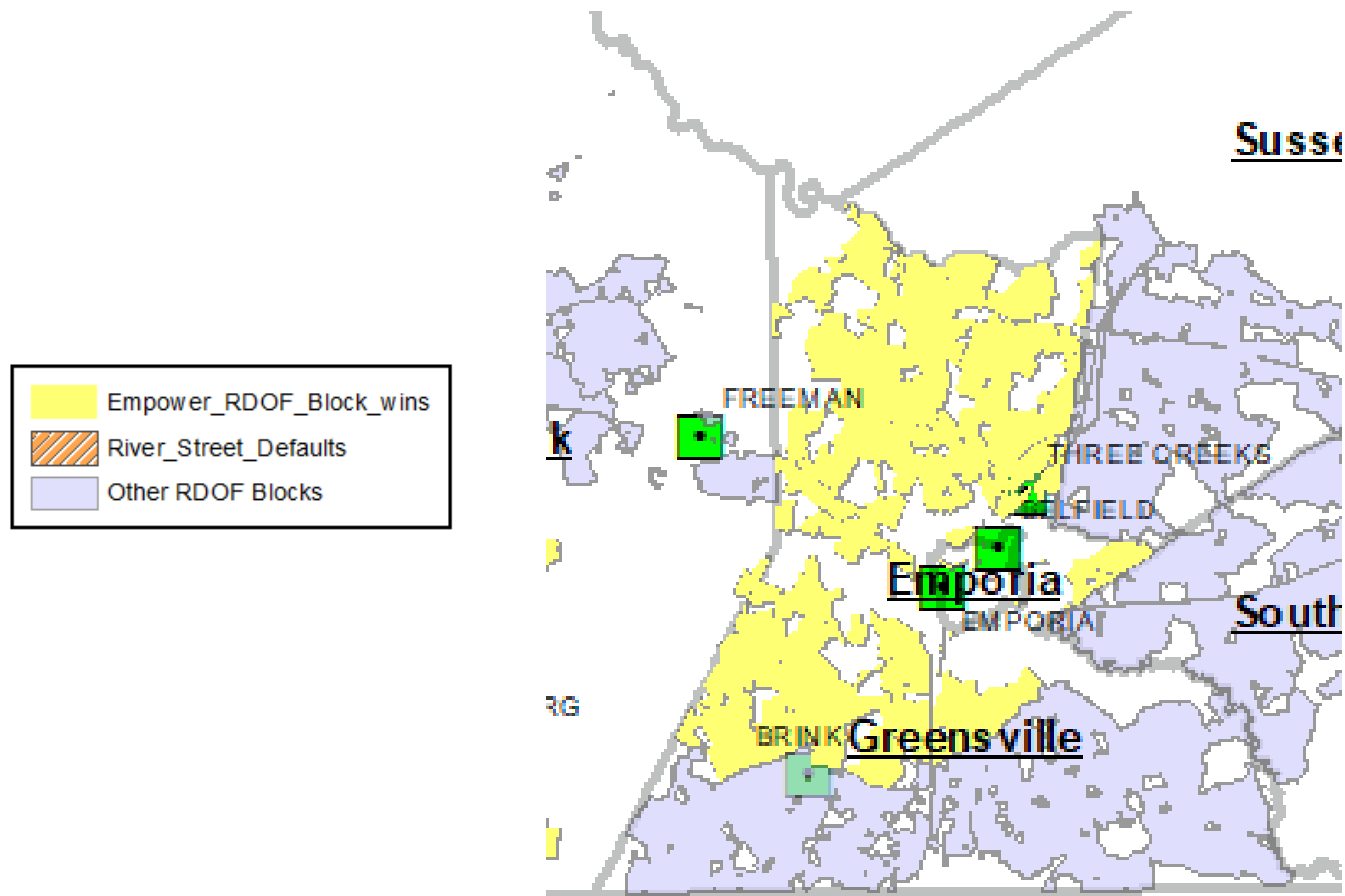
Data as of 12/07/20



Source: <https://www.fcc.gov/reports-research/maps/rdof-phase-i-dec-2020/>

Attachment 3-RDOF Awarded Areas included in VATI Application

RDOF Blocks



Source: Internal ArcMap Engineering Map, data from <https://www.fcc.gov/reports-research/maps/rdof-phase-i-dec-2020/>

2022 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 ¹
Residential	1,481
Businesses (non-home based)	35
Businesses (home-based)	65
Community Anchors	6
Non-residential	10
Total Number of RDOF Passings	1,597

*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.

Attachment 4-Documentation Unserved Area VATI Criteria



Virginia Broadband Availability Map and Integrated Broadband Planning and Analysis Toolbox



Home About Sponsors News



Show Results

ON ?

Coverage Query Results

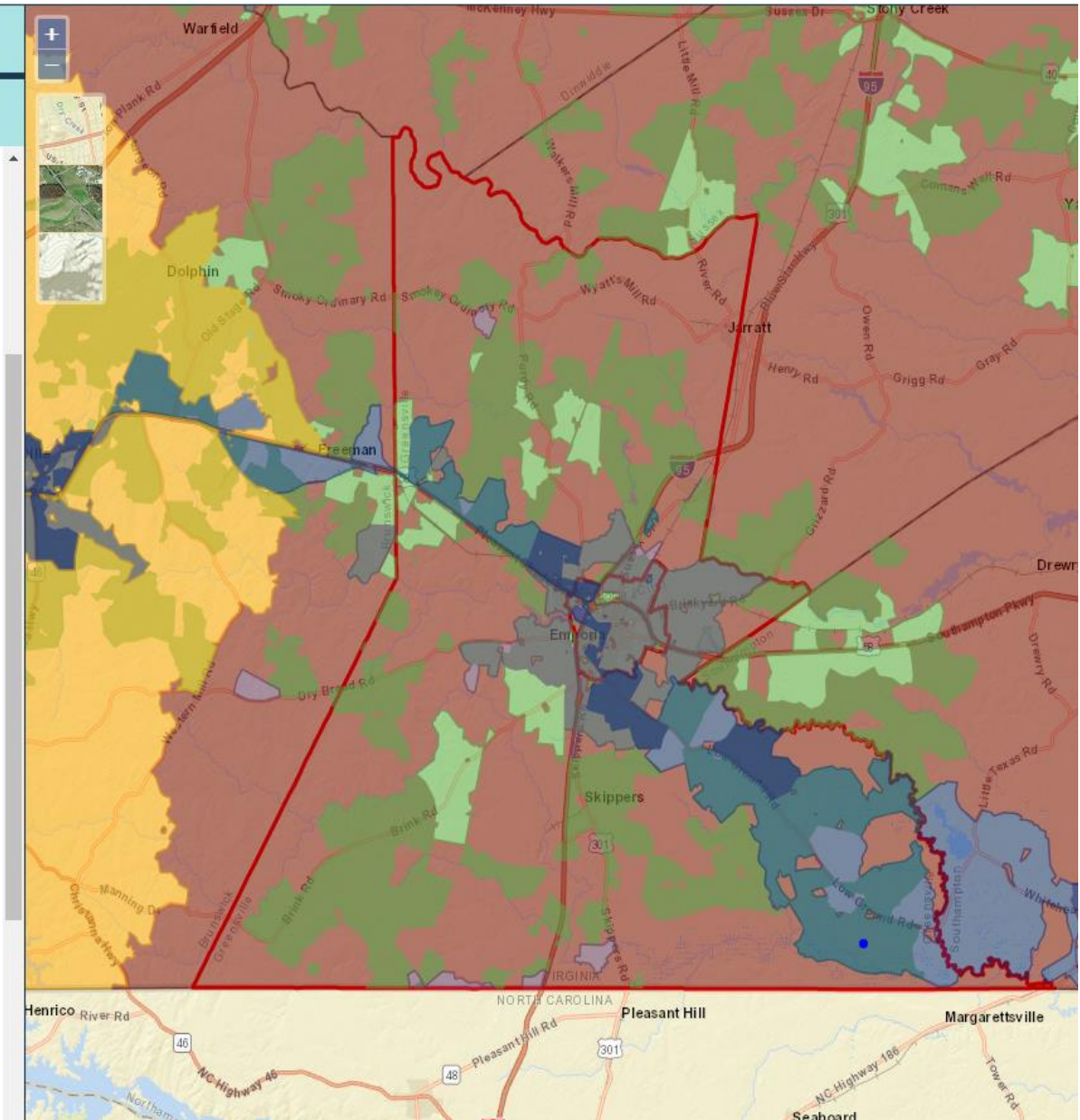
Provider	Technology	Consumer Upload Speed	Consumer Download Speed	Business Upload Speed	Business Download Speed
Crown Castle Fiber	Fiber	Unavailable	Unavailable	1000 Mbps	1000 Mbps
Verizon Virginia LLC	DSL	Unavailable	5 Mbps	Unavailable	Unavailable

Va. Funding Query Results

County	Partner	Year	Award Amount	Units Contracted to Pass	Funding Program
No results found					

Broadband Layers [Export to Image](#)

- Cable Wireline Coverage (June 2020)
- DSL/Copper Coverage (June 2020)
- Fiber Optic Coverage (June 2020)
- Fixed Wireless Coverage (June 2020)
- Mobile Wireless Coverage (Dec. 2018)
- 4G/LTE Wireless Coverage (Dec. 2018)
- Satellite Coverage (Dec. 2018)
- Virginia Telecommunication Initiative (VATI) Funding
- Tobacco Region Revitalization Commission (TRRC) Funding
- Underserved Areas (June 2020)
Greater than 10 Mbps download and 1 Mbps upload and less than 25 Mbps download and 3 Mbps upload.
- Unserved Areas (June 2020)
Below or equal to 10 Mbps download and 1 Mbps upload.



2022 Virginia Telecommunication Initiative (VATI) Attachment 5-Passing Form

Type of Passings	Total Number of Passings in the Project Area ¹	Passings in the Project Area, without Special Construction Costs Required ²	Passings with Special Construction Costs budgeted in the Application ³	Number of Passings with Speeds at 10/1 or below in Project Area ⁴
Residential	840	840	0	377
Businesses (non-home based)	64	64	0	0
Businesses (home-based)	55	55	0	0
Community Anchors	6	6	0	2
Non-residential	20	20	0	0
Total	985	985	0	379

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.

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

²The 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.

³The 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.

⁴The number of structures in the project area that do not have access to internet at speeds of at least 10 mbps download and 1mbps upload.

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.

Attachment 7-Timeline/Project Management Plan

Greensville

Project Objectives and Activities	2021				2022				2023				2024				2025			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Finalize Design				Phase 1			Phase 2			Phase 3			Phase 4							
Obtain Permits																				
OSP Construction Middle Mile																				
Electronics Construction Middle mile																				
OSP Construction last mile																				
Electronics Construction last mile																				
Test and Turn up																				
DROP and ONT install																				
Customer Install																				
Estimated Number of Locations Past						189	189	189	189	189	189	189	189	189	189	189	189	216	207	2691
% Buildout Achieved						7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	8%		100%

**Memorandum of Understanding
Regarding VATI Funding**

THIS MEMORANDUM OF UNDERSTANDING (“Agreement”) is entered as of this ____ day of _____, 2021, by and between GREENSVILLE COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia (the “COUNTY”), and EMPOWER BROADBAND, INC., (“EMPOWER”), a wholly owned subsidiary of the MECKLENBURG ELECTRIC COOPERATIVE, a Virginia consumer utility services cooperative (each a “Party” and collectively the “Parties.”)

On _____, 2021, the Virginia Department of Housing and Community Development (“DHCD”) announced that it had offered GREENSVILLE COUNTY a total of \$_____ in funding under the Virginia Telecommunication Initiative (VATI) program in response to the joint application of the COUNTY and EMPOWER. Pursuant to the program guidelines and statutory authority, the primary objective of the VATI 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. The grant agreement. between DHCD and the COUNTY (the “DHCD Agreement”) will impose certain responsibilities on the Parties in accepting the VATI grant. As anticipated in the joint application for funding submitted by COUNTY and EMPOWER, 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:

EMPOWER shall perform all work described in the DHCD Agreement and VATI# _____ Special Conditions, the submitted application, project management schedule and budget, Specifically, EMPOWER shall complete all Grant Activities described in the DHCD Contract Documents on or before _____ as long as all construction materials, which could have a 6-week lead time, are received and implemented in the network. At which time, DHCD has stated it will extend the completion date until _____ with no penalties or repercussions, if applicable. EMPOWER shall indemnify, defend and hold the COUNTY harmless for any failure(s):

(a) to complete any Grant Activities described in the DHCD Contract Documents on or before the date of Grant Expiration and/or

(b) to achieve any project Outcomes by the estimated date of Construction Conclusion per Contract.

EMPOWER will provide information of subscribers and speed package selected, as well as speed validation data to ensure that the proposed Outcomes have been met and that broadband speeds meet VATI criteria. EMPOWER will submit invoices for payment upon completion of the work. No VATI funds shall be distributed unless and until:

- (a) EMPOWER has submitted all requested documents and
- (b) the COUNTY has verified that pre-construction and/or construction work has been completed or equipment has been ordered and received.

In their application, the Parties estimated that 2691 serviceable units will have access to the required broadband speeds. COUNTY and EMPOWER 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 the Department of Housing and Community Development is that the Parties exercise due diligence and best efforts and that no funds will be returned to the Commonwealth nor retained by COUNTY so long as the Parties exercise due diligence and best efforts to reach the program goals.

IN WITNESS WHEREOF:

GREENSVILLE COUNTY, VIRGINIA:

Name: _____

Title: County Administrator

EMPOWER BROADBAND, INC.

John C. Lee, Jr., President and CEO

PHASE ONE MEMORANDUM OF UNDERSTANDING

This Phase One Memorandum of Understanding (this “Memorandum”) is made effective as of July 6, 2021, (the “Effective Date”), by and among Virginia Electric and Power Company d/b/a Dominion Energy Virginia, a Virginia public service corporation (“Dominion”), Empower Broadband, Inc., a Virginia corporation (“Empower”), and a wholly-owned subsidiary of Mecklenburg Electric Cooperative, a Virginia electric cooperative (“MEC”), and each of the participating counties who subsequently join this Memorandum in the manner set forth herein (“Participating Counties”). Dominion and Empower are collectively referred to as the “Organizing Parties.” The Organizing Parties and the Participating Counties are each a “Party” and are collectively referred to as the “Parties”.

RECITALS

- A. Pursuant to the Virginia Code § 56-585.1:9, effective July 1, 2019 (the “Pilot Statute”) the Commonwealth of Virginia is seeking to expand broadband services into unserved areas of the Commonwealth. The Pilot Statute further permits electric utilities to pursue pilot programs with broadband providers and local counties and municipalities to facilitate such expansion.
- B. Dominion and Empower have explored the feasibility of Dominion deploying middle mile service to facilitate Empower in extending last-mile service to unserved populations throughout the communities of Virginia and have identified several counties as viable candidates based on the legislative requirements for such a pilot program.
- C. The Organizing Parties believe their partnership as set forth herein (the “Initiative”) can dramatically expand broadband access to presently unserved areas throughout Virginia and are inviting Brunswick, Charlotte, Greensville, Halifax, Mecklenburg and Pittsylvania Counties (“Invited Counties”), to join this Memorandum and become Participating Counties.
- D. The Parties will pursue a relationship whereby: (i) pursuant to the Pilot Statute, Dominion would construct a fiber route that maximizes the number of unserved areas to be served by Empower within each Participating County, (ii) Dominion will leverage the additional fiber installed along the route to connect devices that may not have had fiber connectivity under the original plan pursuant to the Grid Transformation and Security Act, (iii) Empower will collaborate with and invest in each Participating County and use the additional Dominion fiber capacity to serve broadband end users in unserved locations in each Participating County, and (iv) each Participating County will share relevant information with the Organizing Parties and collaborate with the Organizing Parties to advance the Initiative. The efforts of the Parties herein in each such Participating County shall be referred to as a “Project”, and collectively the “Projects”).
- E. It is the intention of the Parties that the Initiative will result in the deployment of a fiber-to-the-premises last-mile broadband network to offer service to all locations within each Participating County that are unserved as of the date hereof. The Parties acknowledge and agree that the specific details and characteristics of each Project will be analyzed and refined as the Initiative proceeds.
- F. The Organizing Parties have divided the Initiative into three phases.

NOW, THEREFORE, the Parties hereby agree as follows:

1. PROCEDURE TO BECOME A PARTICIPATING COUNTY

Any county that is invited to join the Initiative by the Organizing Parties shall have until July 15, 2021 to return a counterpart signature page to this Memorandum to the Organizing Parties; provided the Organizing Parties may extend this deadline for good cause if such extension will not materially delay the Initiative. Upon acceptance of the counterpart signature page by the Organizing Parties, such county shall become a Participating County.

2. INFORMATION SHARING AND COORDINATION; NON-SOLICITATION

- a) Each Participating County and each Organizing Party agrees to share with the Organizing Parties such information as it has in its possession related to broadband deployment and availability that may be useful to the Organizing Parties in conducting their analysis or otherwise facilitate the Initiative.
- b) Empower will serve as the central conduit for all information sharing activities and will be responsible for overall coordination of the Initiative.
- c) The Parties will coordinate any communication releases to the public, and all announcements are subject to the prior written consent of Dominion and prior written or verbal consent of all Parties with the final release being handled by Empower.
- d) Notwithstanding anything to the contrary hereunder, in no event does this sharing of information agreement require any Party to disclose confidential or proprietary information not otherwise authorized for release to any Party or Parties.
- e) Dominion shall not actively market any use of its additional fiber in unserved areas of the Participating Counties directly to a known competitor of Empower for the entire term of this Memorandum, plus a period of three (3) years after the effective date of the Definitive Agreements.

3. PHASE ONE TIMEFRAME AND ACTIVITIES

- a) The Parties anticipate that Phase I of the Initiative will continue until approximately September 14, 2021.
- b) During Phase I:
 - i. The Organizing Parties will conduct community and stakeholder engagement activities in each Participating County.
 - ii. The Organizing Parties will collaborate to develop preliminary plans and design criteria that: (i) are consistent with the Pilot Statute, and (ii) facilitate the extension of broadband availability to as many presently unserved locations as reasonably possible.
 - iii. Empower will perform a last-mile feasibility study (“Initial Feasibility Study”) for the Project within each Participating County.
 - iv. Empower will prepare a preliminary financial analysis for the Project within each Participating County.
 - v. The Participating Counties, and each Organizing Party, as applicable, will agree to support an application for one or more grant programs (“Phase I Grants”) to partially offset the cost of the Initial Feasibility Study and financial analysis. Empower will coordinate and oversee the development and submission of applications for Phase I Grants. The Parties anticipate that the Phase I Grants will not require any local matching of funds, However, such matches are encouraged to aid in the overall advancement of Phase I and all following Projects.
- c) At the Conclusion of Phase I:
 - i. Empower, in coordination with Dominion, will present the results of the Initial Feasibility Study and financial analysis to each Participating County.
 - ii. Empower will identify the cost of Proceeding to Phase II for each Participating County and identify grants and other sources of potential funding to reduce or eliminate each Participating County’s out-of-pocket costs to proceed.

- iii. Each Participating County will decide whether or not to continue to Phase II. Counties that elect to withdraw from the Initiative at the conclusion of Phase I will have no further rights or obligations under this Memorandum.

4. PHASE TWO TIMEFRAME AND ACTIVITIES

- a) The Parties anticipate that Phase II of the Initiative will commence upon the conclusion of Phase I and continue until approximately July 1, 2022.
- b) During Phase II:
 - i. Dominion will prepare a petition (the “Petition”) under the Pilot Statute to the Virginia State Corporation Commission (the “Commission”) seeking approval of the Projects that are then included in the Initiative. Empower will serve as the nongovernmental internet service provider pursuant to the Pilot Statute. Empower and each of the other Parties will provide such information and assistance to Dominion as it may reasonably request to advance the Initiative and will commit to continuing to be involved in the Petition until and after approval of the Petition is received. The Parties agree that implementation of each Project shall be contingent upon Commission approval of such Project on terms and conditions approved by Dominion that are not materially adverse to Dominion.
 - ii. Empower will complete preliminary last-mile designs for each Project based upon the proposed Dominion middle-mile infrastructure. Such last-mile designs will be tailored to maximize each Project’s eligibility for all available state and federal grant, loan, loan guarantee, and other support mechanisms (collectively, “Public Support Mechanisms”).
 - iii. Empower will prepare detailed financial plans for each Project. Each financial plan will address initial capital investment and ongoing operational expenses, and will provide more than one indicative approach for funding each Project through a combination of private capital, Public Support Mechanisms and contributions from Participating Counties.
 - iv. The Participating Counties, and each Organizing Party, as applicable, will agree to support an application for one or more grant programs (“Phase II Grants”) to partially offset the cost of the activities to be conducted during Phase II. Empower will coordinate and oversee the development and submission of applications for Phase II Grants.
 - v. Empower will coordinate and oversee the development and submission of applications for all available Public Support Mechanisms to fund each Project within the Initiative.
- c) At the Conclusion of Phase II:
 - i. Empower will present the last mile design and financial plans to each Participating County.
 - ii. Each Participating County will decide whether or not to continue to Phase III. Counties that elect to proceed to Phase III will enter into negotiations with Empower for one or more binding mutual definitive agreements (“Definitive Agreements”), setting forth their respective commitments and obligations and such particulars as the parties thereto may deem appropriate. Counties that elect to withdraw from the Initiative at the conclusion of Phase II will have no further obligations under this Memorandum.

5. EXPENSES

The Parties understand that various costs will be incurred in relation to activities contemplated herein. The Parties understand that regardless of which Party incurs such costs, none of the Parties herein shall be responsible for reimbursement of expenses to any of the others, unless such reimbursement is to be funded by a Phase I Grant or Phase II Grant, or otherwise agreed to in the Definitive Agreements.

6. GOOD FAITH COMMITMENT TO INITIATIVE

- a) Each Participating County agrees that, for so long as it is a Party to this Memorandum, it shall not participate in any activity or course of conduct that is

inconsistent with or competitive to the Initiative, and that it will devote its broadband-related attention and resources to the Initiative.

- b) The Parties understand and agree that, except as provided in the next sentence, this Memorandum (i) constitutes only a statement of intentions, (ii) does not reflect all matters upon which Definitive Agreements must be reached in order for the transactions contemplated hereby to be consummated, (iii) binding obligations with respect to a Project will only result from the execution of one or more Definitive Agreements and subject to the terms and conditions stated therein, and (iv) does not obligate the Parties to enter into any Definitive Agreement relating to any Project. This Memorandum is not intended to be binding, other than Paragraphs 5, 6, 8 and 9(a) and (e).

7. TERMINATION

Any party may terminate its participation in this Memorandum at any time, with or without cause, upon written notice to the other Parties with at least ten (10) days prior notice. In addition, this Memorandum shall terminate and be of no further force and effect if the Commission rejects the petition.

8. LIMITATION OF LIABILITY

No Party shall be liable to the others in contract, tort, or otherwise, for any claims, liabilities or losses arising out of this Memorandum or alleged to result from the failure of the other Party to enter into any Definitive Agreements. The Parties hereby waive, in advance, any claims (whether such claims are based on breach of contract, tort, equity or any other theory) for the failure for any reason to enter into the Definitive Agreements. In no event shall any Party be liable to the other for any incidental, indirect, special, punitive or consequential damages (including without limitation damages for lost profits).

9. GENERAL

a) Governing Law.

This Memorandum shall be governed in all respects by the laws of the Commonwealth of Virginia.

b) Amendments.

No modification, amendment or waiver of any of the provisions of this Memorandum will be binding without the written consent of the Parties hereto.

c) Binding Effect; Assignment.

This Memorandum will inure to the benefit of and be binding upon each of the Parties hereto and their respective successors and permitted assigns to the extent provided in Section 6, but in no respect shall give rise to any third-party beneficiary rights or claims. No Party may assign any of its rights, interests, or obligations hereunder without the prior written consent of the other Parties, except that any of the Organizing Parties may assign this Memorandum to an affiliated entity upon written notice to the other Parties.

d) Counterparts.

This Memorandum may be executed in counterparts, all of which for all purposes shall be deemed to be an original and all of which shall, taken together, constitute one and the same instrument.

e) Relationship of Parties.

Nothing in this Memorandum shall be deemed to constitute, create, give effect to, or otherwise recognize a joint venture, partnership, or formal business entity of any kind.

f) Notices.

All notices, requests and other communications hereunder shall be in writing and delivered by hand, by nationally-recognized delivery service that guarantees overnight delivery, or by first-class registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to Dominion:

Dominion Energy Virginia
600 Canal Street
Richmond, Virginia 23219
Attention: Director, Electric Distribution Grid Solutions

with a copy to:

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219
Attention: Deputy General Counsel – State Regulatory
Fax: (804) 819-2677

If to Empower:

Empower Broadband
Attention: President and CEO
P.O. Box 325
Chase City, VA 23924

If to a Participating County, to the address set forth on such Participating County's counterpart signature page to this Memorandum.

Any Party may change its address at any time upon notice to the other Parties.


IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the Effective Date.

**VIRGINIA ELECTRIC AND POWER COMPANY
D/B/A DOMINION ENERGY VIRGINIA**


Augustus Johnson IV (Jul 6, 2021 16:51 EDT)

Name: Augustus Johnson
Title: Director – Electric Distribution Grid Solutions

EMPOWER BROADBAND, INC.


John C. Lee, Jr. (Jul 6, 2021 18:01 EDT)

Name: John C. Lee, Jr.
Title: President and CEO

[SIGNATURE PAGE TO PHASE ONE MEMORANDUM OF UNDERSTANDING]

IN WITNESS WHEREOF, the Counties named below have executed this Memorandum as of the Effective Date.

CITY OF EMPORIA

William E. Johnson, III
William E. Johnson, III (Jul 23, 2021 14:56 EDT)

Name: William E. Johnson, III, MBA
Title: City Manager
City of Emporia
201 South Main Street
Emporia, Virginia 23847

MECKLENBURG COUNTY

H. Wayne Carter III
H. Wayne Carter III (Jul 20, 2021 09:18 EDT)

Name: H. Wayne Carter, III
Title: County Administrator
Mecklenburg County, Virginia
P.O. Box 307
Boydton, VA 23917

GREENSVILLE COUNTY

Gary L. Cifers
Gary L. Cifers (Jul 20, 2021 12:41 EDT)

Name: Gary L. Cifers, M.S. Ed.
Title: Acting County Administrator
Greensville County
1781 Greensville County Circle
Emporia, Virginia 23847

HALIFAX COUNTY

Scott R. Simpson
Scott R. Simpson (Aug 5, 2021 17:52 EDT)

Name: Scott R. Simpson, P.E., MPA
Title: County Administrator
Halifax County, VA
1050 Mary Bethune Street
Halifax, VA 24558

IN WITNESS WHEREOF, the Counties named below have executed this Memorandum as of the Effective Date.

BRUNSWICK COUNTY

Leslie Weddington

Name: Leslie Weddington
Title: Interim County Administrator
228 N. Main St
PO BOX 399
Lawrenceville, Va 213868

Attachment 9-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	\$ 12,818,542.20	45%	Pending
DOMINION ENERGY	\$ 7,137,320.47	25%	APPROVED
EMPOWER CASH MATCH	\$5,970,850.67	21%	APPROVED
CITY OF EMPORIA	\$105,000.00	.004%	APPROVED
GREENSVILLE COUNTY MATCH	\$2,453,936.00	.086%	Pending Board Approval
TOTAL	\$ 28,485,649.34	100%	



CITY OF EMPORIA

September 10, 2021

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

Dear Dr. Holmes,

The Emporia City Council at its regular meeting on Tuesday, September 7, 2021, adopted Resolution No. 21-05 in support of EMPOWER Broadband's joint VATI application for the City of Emporia and Greensville County.

This letter serves to notify DHCD that the City has approved a total of \$105,000 in matching contributions for this project. Accordingly, funds will be appropriated in three annual installments over the construction period.

We thank you in advance for your strong consideration of this project as it provides a much-needed service for our residents and communities.

Respectfully,

William E. Johnson, III
City Manager

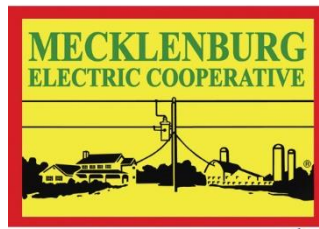
Cc: Honorable Mayor and City Council

HEADQUARTERS

P. O. Box 2451
 Chase City, VA 23924
 Phone: 434-372-6100/Fax: 434-372-6101

CHASE CITY DISTRICT

P. O. Box 2451
 Chase City, VA 23924
 Phone: 434-372-6200/Fax: 434-372-6201



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www.meckelec.org

SAFETY FIRST!

EMPORIA DISTRICT

P. O. Box 427
 Emporia, VA 23847
 Phone: 434-634-6168/Fax: 434-348-7100

GRETNA DISTRICT

P. O. Box 617
 Gretna, VA 24557
 Phone: 434-656-1288/Fax: 434-656-9200

September 10, 2021

Dr. Tamarah Holmes
Director, Office of Broadband
Virginia Department of Housing and Community Development
ATTN: Virginia Telecommunications Initiative
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Dr. Holmes,

This letter is to document Mecklenburg Electric Cooperative's (MEC)/EMPOWER Broadband's in-kind match for the Virginia Telecommunications Initiative Last Mile Grant Application submitted by MEC and our affiliate EMPOWER Broadband, INC in partnership with the County of Greenville.

MEC and EMPOWER Broadband, INC. will provide funding to expand our fiber optic network; this investment is being presented for the in-kind match for universal coverage in this Greenville County application. The project area, MEC's match, and the VATI request are listed below.

<u>Project Areas</u>	<u>MEC/EMPOWER Match</u>	<u>VATI Request-45%</u>
Greenville County	\$5,970,850.67	\$12,818,542.20

The Cooperative has approved this expenditure as in-kind matching funds upon a successful grant award.

Respectfully,

John C. Lee, Jr.
 President and CEO
 Mecklenburg Electric Cooperative

This institution is an equal opportunity provider and employer.

INSTRUCTION LETTER

August 19, 2020

Ms. Carol Jones,
Mecklenburg Electric Cooperative
11633 Hwy. 92 West
Chase City, Virginia 23924

Dear Ms. Jones:

First, we want to thank you for your continued business and support of CoBank. We appreciate the opportunity to serve the financing needs of Mecklenburg Electric Cooperative (the "Borrower"). As discussed in your Credit Agreement with CoBank, this instruction letter will provide details, in the form of a checklist that will assist you in managing the closing process. This instruction letter constitutes a "Loan Document." Capitalized terms used and not defined in this letter have the meanings given to them in the Credit Agreement or any other Loan Document.

Signing instructions for documents that need to be signed are provided below. Please return all signed documents, and other documents to be delivered, to the attention of Loan Processing Closing at your earliest convenience, but no later than September 9, 2020. A Federal Express label has been included for your use. You are welcome to expedite the processing of this transaction by e-mailing the signed documents to riclosing@cobank.com or by faxing the signed documents to Loan Processing Closing Fax No. (877) 222-1603, provided that all documents bearing the original ink signatures are mailed promptly to 6340 S. Fiddlers Green Cir., Greenwood Village, CO 80111.

CONDITIONS PRECEDENT. CoBank's obligation to extend credit pursuant to the documents listed below is conditioned upon the receipt of the following items, all of which must be acceptable in form and substance to CoBank in its sole discretion and in compliance with the requirements of the Loan Documents.

SIGNING AUTHORITY OF BORROWER

- Incumbency Certificate (Update as Needed).** Complete the new incumbency certificate only if authorized signers have changed since the last incumbency certificate was submitted to CoBank. If there are changes, obtain the signatures of all officers authorized by the resolution, and have the Secretary or Assistant Secretary complete the certification at the bottom of the form. If we do not receive a new incumbency certificate, we will rely on the enclosed last incumbency certificate we received from you.

It is important that the documents listed below are executed by an officer authorized by your resolution and who has signed the most recent incumbency certificate (a copy with authorized titles and signatures circled is included).

BORROWER ITEMS TO BE DELIVERED OR COMPLETED

- This Letter.**
- Credit Agreement Amendment No. 12514935SLA-A.** This document amends your existing **Credit Agreement No. 12514935SLA.**
- Promissory Note No. 12514935S01-A.**
- Beneficial Ownership Certificate.** A Beneficial Ownership Certificate may be required to be completed prior to closing. You will receive this form directly from your Relationship Manager. Instructions for completing and returning the Beneficial Owner Certificate are included with the form. Please contact your Relationship Manager with any questions.

COBANK DISCLOSURE MATERIAL

- **Notice Regarding Electronic Signatures.**

When all condition precedent documents have been delivered, and CoBank has determined that all closing conditions have been met and the loan closes (the “Closing Date”), we will send you a copy of the signed document(s) that are countersigned by CoBank for your records.

The Borrower hereby represents that nothing in the Borrower Organizational Documents has changed since such documents were last submitted to CoBank and the Borrower remains in good standing in the jurisdiction of its incorporation or formation.

By signing this letter, Borrower hereby affirms and/or reaffirms each and every representation and warranty set forth herein and in any other Loan Documents.

This Instruction Letter, each Promissory Note and any other Loan Document may be executed in counterparts, each of which will constitute an original, but all of which when taken together will constitute a single contract. Delivery of an executed counterpart of a signature page of this Instruction Letter, each Promissory Note and any other Loan Document by facsimile or other electronic means will be as effective as delivery of a manually executed counterpart of each such agreement.

If you have any questions, contact one of your CoBank team members:

CoBank Associate	Specialty	Phone Number	E-mail Address
Gabriel Labastida	Relationship Manager	(770) 618-3222	glabastida@cobank.com
Chelsey Mayabb	Closer	(800) 542-8072 Ext. 04109	cmayabb@cobank.com
Quin Bowman	Documentation	(800) 542-8072 Ext. 06533	qbowman@cobank.com
John Olson	Responsible Attorney	(800) 542-8072 Ext. 04102	JoOlson@cobank.com

Sincerely,



Quin Bowman

SIGNATURE PAGE FOLLOWS

SIGNATURE PAGE TO INSTRUCTION LETTER

IN WITNESS WHEREOF, the parties have caused this Instruction Letter to the Agreement to be executed by their duly authorized officer(s).

MECKLENBURG ELECTRIC COOPERATIVE

By: _____



Name: _____

John C. Lee, Jr.

Title: _____

President + CEO

APPROVED

By Chelsey at 7:42 am, Sep 01, 2020

SIGNATURE PAGE TO INSTRUCTION LETTER

IN WITNESS WHEREOF, the parties have caused this Instruction Letter to the Agreement to be executed by their duly authorized officer(s).

COBANK, ACB

By: *Fidel Escalante*

Name: Fidel Escalante

Title: Assistant Corporate Secretary



Amendment No. 12514935SLA-A

AMENDMENT TO CREDIT AGREEMENT

THIS AMENDMENT is entered into as of August 19, 2020, between **MECKLENBURG ELECTRIC COOPERATIVE**, Chase City, Virginia, a cooperative (the "**Borrower**"), and **COBANK, ACB**, a federally-chartered instrumentality of the United States ("**Lender**"). Capitalized terms used and not defined herein will have the meanings assigned to such terms in the Agreement (as defined below).

RECITALS

The Borrower and Lender are parties to Credit Agreement Number 12514935SLA dated as of September 3, 2019 (such agreement, as may be amended, is hereinafter referred to as the "**Agreement**"). The Borrower and Lender now desire to amend the Agreement. For that reason, and for valuable consideration (the receipt and sufficiency of which are hereby acknowledged), the Borrower and Lender agree as follows:

1. Section(s) 7.1 under Article 7 of the Agreement is amended and restated to read as follows:

ARTICLE 7 Financial Covenants. Unless otherwise agreed to in writing by Lender, while this Agreement is in effect:

7.1 Debt Service Coverage Ratio. The Borrower and its consolidated subsidiaries, if any, will have at the end of each fiscal year of the Borrower, a Debt Service Coverage Ratio (as defined below) for such year of not less than 1.25 to 1.00. Such ratio will be determined by averaging the two highest annual ratios achieved by the Borrower during the most recent three fiscal years. For purposes hereof, the term "**Debt Service Coverage Ratio**" means the ratio of: (a) net income (after taxes and after eliminating any gain or loss on sale of assets or other extraordinary gain or loss), plus depreciation expense, amortization expense, and interest expense, minus non-cash patronage, and non-cash income from subsidiaries and/or joint ventures; to (b) all principal payments due within the period on all Long-Term Debt (as defined below) plus interest expense (all as calculated on a consolidated basis for the applicable period in accordance with the Accounting Standards). For purposes hereof, "**Long-Term Debt**" means, for the Borrower, on a consolidated basis, the sum of (1) all indebtedness for borrowed money, (2) obligations that are evidenced by notes, bonds, debentures or similar instruments, and (3) that portion of obligations with respect to capital leases or other capitalized agreements that are properly classified as a liability on the balance sheet in conformity with Accounting Standards or that are treated as operating leases under regulations applicable to them but that otherwise would be required to be capitalized under Accounting Standards, in each case having a maturity of more than one year from the date of its creation or having a maturity within one year from such date but that is renewable or extendible, at the Borrower's option, to a date more than one year from such date or that arises under a revolving credit or similar agreement that obligates the lender(s) to extend credit during a period of more than one year from such date, including all current maturities in respect of such indebtedness whether or not required to be paid within one year from the date of its creation.

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Amendment No. 12514935SLA-A of Agreement No. 12514935SLA

2. Except as expressly amended hereby, all of the representations, warranties, terms, covenants and conditions contained in the Agreement and each other Loan Document will remain unamended and otherwise unmodified and in full force and effect.

3. This Amendment, each Promissory Note and any other Loan Document may be executed in counterparts, each of which will constitute an original, but all of which when taken together will constitute a single contract. Delivery of an executed counterpart of a signature page of this Amendment by facsimile or other electronic means will be as effective as delivery of a manually executed counterpart of this Amendment.

SIGNATURE PAGE FOLLOWS

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Amendment No. 12514935SLA-A of Agreement No. 12514935SLA

SIGNATURE PAGE TO AMENDMENT TO CREDIT AGREEMENT

IN WITNESS WHEREOF, the parties hereto, by their duly authorized officers, have executed this Agreement.

MECKLENBURG ELECTRIC COOPERATIVE

By: 

Name: John C. Lee, Jr.

Title: President + CEO

APPROVED
By Chelsey at 7:42 am, Sep 01, 2020

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Amendment No. 12514935SLA-A of Agreement No. 12514935SLA

SIGNATURE PAGE TO AMENDMENT TO CREDIT AGREEMENT

IN WITNESS WHEREOF, the parties hereto, by their duly authorized officers, have executed this Agreement.

COBANK, ACB

By: *Fidel Escalante*

Name: Fidel Escalante

Title: Assistant Corporate Secretary

AMENDED AND RESTATED REVOLVING CREDIT PROMISSORY NOTE

THIS AMENDED AND RESTATED REVOLVING CREDIT PROMISSORY NOTE (this “**Promissory Note**”) to the Credit Agreement dated September 3, 2019 (such agreement, as may be amended, hereinafter referred to as the “**Credit Agreement**”), is entered into as of August 18, 2020 between **COBANK, ACB**, a federally-chartered instrumentality of the United States (“**Lender**”) and **MECKLENBURG ELECTRIC COOPERATIVE**, Chase City, Virginia, a cooperative (together with its permitted successors and assigns, the “**Borrower**”). Capitalized terms not otherwise defined in this Promissory Note will have the meanings set forth in the Credit Agreement.

RECITALS

(A) This Promissory Note amends, restates, replaces and supersedes, but does not constitute payment of the indebtedness evidenced by, the promissory note set forth in the Amended and Restated Revolving Credit Promissory Note numbered 12514935S01, dated as of September 3, 2019, between Lender and the Borrower.

SECTION 1. REVOLVING CREDIT COMMITMENT. On the terms and conditions set forth in the Credit Agreement and this Promissory Note, Lender agrees to make loans to the Borrower during the period set forth below in an aggregate principal amount not to exceed \$9,000,000.00, at any one time outstanding (the “**Commitment**”). Within the limits of the Commitment, the Borrower may borrow, repay and re-borrow.

SECTION 2. PURPOSE. The purpose of the Commitment is to finance interim capital expenditures and the operating needs of the Borrower.

SECTION 3. TERM. The term of the Commitment will be from September 12, 2020, up to and including September 10, 2021, or such later date as Lender may, in its sole discretion, authorize in writing (the “**Term Expiration Date**”). Notwithstanding the foregoing, the Commitment will be renewed for an additional 364-day period only if, on or before the Term Expiration Date, Lender provides to the Borrower a written notice of renewal for an additional 364-day period (a “**Renewal Notice**”). If on or before the Term Expiration Date, Lender grants a short-term extension of the Commitment, the Commitment will be renewed for an additional 364-day period only if Lender provides to the Borrower a Renewal Notice on or before such extended expiration date. All annual renewals will be measured from, and effective as of, the same day as the Term Expiration Date in any year.

SECTION 4. LIMITS ON ADVANCES, AVAILABILITY, ETC. The loans will be made available as provided in Article 2 of the Credit Agreement.

SECTION 5. INTEREST. The Borrower agrees to pay interest on the unpaid balance of the loan(s) in accordance with the following interest rate option(s):

(A) **Weekly Quoted Variable Rate.** At a rate per annum equal at all times to the rate of interest established by Lender on the first Business Day of each week. The rate established by Lender will be effective until the first Business Day of the next week. Each change in the rate will be applicable

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Promissory Note No. 12514935S01-A

to all balances subject to this option and information about the then current rate will be made available upon telephonic request.

Interest will be calculated on the actual number of days each loan is outstanding on the basis of a year consisting of 360 days and will be payable monthly in arrears by the 20th day of the following month or on such other day as Lender will require in a written notice to the Borrower ("**Interest Payment Date**").

SECTION 6. PROMISSORY NOTE. The Borrower promises to repay the unpaid principal balance of the loans on the Term Expiration Date, as the term may be extended from time to time.

In addition to the above, the Borrower promises to pay interest on the unpaid principal balance of the loans at the times and in accordance with the provisions set forth herein.

SECTION 7. SECURITY. Except for Lender's lien on the Borrower's equity in Lender, the Borrower's obligations hereunder and, to the extent related hereto, under the Credit Agreement, will be unsecured.

SECTION 8. FEES. INTENTIONALLY OMITTED.

SECTION 9. LETTERS OF CREDIT. If agreeable to Lender in its sole discretion in each instance, in addition to loans, the Borrower may utilize the Commitment to open irrevocable letters of credit for its account. Each letter of credit will be issued within a reasonable period of time after Lender's receipt of a duly completed and executed copy of Lender's then current form of Application and Reimbursement Agreement or, if applicable, in accordance with the terms of any CoTrade Agreement between the parties, and will reduce the amount available under the Commitment by the maximum amount capable of being drawn under such letter of credit. The Borrower agrees to pay to Lender any fees, administrative expenses, and other customary charges that Lender may charge or incur from time to time in connection with the issuance, maintenance, amendment (if any), assignment or transfer (if any), negotiation, and administration of the letter of credit. Any draw under any letter of credit issued hereunder will be deemed a loan under the Commitment and will be repaid in accordance with this Promissory Note. Each letter of credit must be in form and content acceptable to Lender and must expire no later than the maturity date of the Commitment.

SIGNATURE PAGE FOLLOWS

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Promissory Note No. 12514935S01-A

SIGNATURE PAGE TO PROMISSORY NOTE

IN WITNESS WHEREOF, the parties have caused this Promissory Note to the Credit Agreement to be executed by their duly authorized officer(s).

MECKLENBURG ELECTRIC COOPERATIVE

By: _____

Name: John C. Lee, Jr.

Title: President + CEO

APPROVED
By Chelsey at 7:42 am, Sep 01, 2020

MECKLENBURG ELECTRIC COOPERATIVE
Chase City, Virginia
Promissory Note No. 12514935S01-A

SIGNATURE PAGE TO PROMISSORY NOTE

IN WITNESS WHEREOF, the parties have caused this Promissory Note to the Credit Agreement to be executed by their duly authorized officer(s).

COBANK, ACB

By:



Name:

Fidel Escalante

Title:

Assistant Corporate Secretary



December 9, 2019

Mrs. Sally Hutcherson
Office Manager
EMPOWER Broadband, Inc.
PO Box 2451
Chase City, VA 23924

Re: Line of Credit # VA401-R-5101

Dear Mrs. Hutcherson:

Your cooperative has executed and returned all required NCSC documents and supporting papers in connection with the Line of Credit designated above. These documents have been reviewed and found legally acceptable and satisfactory to NCSC and thus constitute a binding agreement between NCSC and your cooperative.

Enclosed, for your records, is a copy of the fully executed Line of Credit Agreement. Line of Credit funds may now be requisitioned in accordance with the terms of the Line of Credit Agreement.

We at NCSC appreciate the opportunity to serve your system and look forward to our continued business relationship.

Sincerely,

A handwritten signature in black ink that reads "Elaine MacDonald".

Elaine MacDonald
Associate Vice President

Enclosure

REVOLVING LINE OF CREDIT AGREEMENT

REVOLVING LINE OF CREDIT AGREEMENT (this "Agreement"), dated as of 11-20-2019, between EMPOWER Broadband, Inc. ("Borrower"), a corporation organized and existing under the laws of the State of Virginia, and NATIONAL COOPERATIVE SERVICES CORPORATION ("NCSC"), a cooperative association organized and existing under the laws of the District of Columbia.

RECITALS

WHEREAS, the Borrower has applied to NCSC for a line of credit for the purposes set forth in Schedule 1 hereto, and NCSC is willing to extend such a line of credit to the Borrower on the terms and conditions stated herein.

NOW, THEREFORE, for and in consideration of the premises and the mutual covenants hereinafter contained, the parties hereto agree and bind themselves as follows:

ARTICLE I

DEFINITIONS

Section 1.01 For purposes of this Agreement, the following capitalized terms shall have the following meanings (such definitions to be equally applicable to the singular and the plural form thereof). Capitalized terms that are not defined herein shall have the meaning as set forth in the Security Instruments.

"Advance" shall mean each advance of funds by NCSC to the Borrower pursuant to the terms and conditions of this Agreement.

"Business Day" shall mean any day that both NCSC and the depository institution NCSC utilizes for funds transfers hereunder are open for business.

"Collateral" shall mean any and all "Collateral" as defined in any Security Instrument.

"Debt Service Coverage Ratio" or "DSC" for any fiscal year shall mean: (i) total net income of the Borrower, as determined in accordance with GAAP plus Depreciation and Amortization Expense, and interest on Long-Term Debt for such year, plus any cash equity contributions from Guarantor for such year, divided by (ii) the sum of all scheduled payments of principal and interest required to be made during such fiscal year on Long-Term Debt; provided, however, that in the event that any Long-Term Debt has been refinanced during such year the payments of principal and interest required to be made during such year on account of such Long-Term Debt shall be based (in lieu of actual payments required to be made on such refinanced Long-Term Debt) upon the larger of (a) an annualization of the payments required to be made with respect to the refinancing debt during the portion of such year such refinancing debt is outstanding or (b) the payment of principal and interest required to be made during the following year on account of such refinancing debt.

"Default Rate" shall mean a rate per annum equal to the interest rate in effect for an Advance plus two hundred (200) basis points.

"Depreciation and Amortization Expense" shall mean an amount constituting depreciation and amortization of the Borrower computed pursuant to GAAP.

"Distribution" shall mean, with respect to Borrower and its Subsidiaries, any dividend, purchase, redemption, retirement, defeasance or other acquisition for value of any equity interests now or hereafter outstanding, return of any capital to stockholders, partners or members or account debtors as such, any distribution of assets, equity interests, obligations or securities to stockholders, partners, members or account holders as such, or any other cash distribution or any general cancellation or abatement of charges for services furnished, or any equity distribution in kind.

"Effective Date" shall mean the date designated as such by NCSC on the signature page hereof.

"Environmental Laws" shall mean all federal, state and local laws, rules and regulations, now or hereafter in effect, and all judicial and administrative judgments, opinions and interpretations thereof, issued or promulgated by any Governmental Authority, relating in any way to the use, treatment, discharge, storage, management, handling, manufacture, generation, processing, recycling, distribution, transport, release of or exposure to any Hazardous Material, as such laws and other items recited above have been or may be amended from time to time.

"Equity" shall mean the aggregate of Borrower's equities and retained earnings computed pursuant to GAAP

"Equity Ratio" shall mean Equity divided by Total Assets.

"Event of Default" shall have the meaning as described in Article VI hereof.

"GAAP" shall mean generally accepted accounting principles in the United States of America as in effect from time to time.

"Governmental Authority" shall mean the government of the United States of America, any other nation or government, any state or other political subdivision thereof, whether state or local, and any agency, authority, instrumentality, regulatory body, court or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government.

"Guarantor" shall have the meaning ascribed to it in Schedule 1 hereto.

"Guaranty" shall mean the guaranty entered into by the Guarantor for the benefit of NCSC pursuant to Section 4.01.C hereof, as such guaranty may be amended or modified from time to time.

"Hazardous Material" shall mean any (a) petroleum or petroleum products, radioactive materials, asbestos-containing materials, polychlorinated biphenyls, lead and radon gas and (b) any other chemicals, materials or substances designated, classified or regulated as hazardous or toxic or as a pollutant or contaminant under any Environmental Law.

"Intangible Assets" shall mean assets which provide future economic benefit but have no physical substance, i.e., goodwill, patents, copyrights, etc.

"Lien" shall mean any statutory or common law consensual or non-consensual mortgage, pledge, security interest, encumbrance, lien, right of set off, claim or charge of any kind, including, without limitation, any conditional sale or other title retention transaction, any lease transaction in the nature thereof and any secured transaction under the Uniform Commercial Code.

"Line of Credit" shall mean the line of credit extended by NCSC to Borrower, pursuant to this Agreement, in an aggregate principal amount outstanding at any time not to exceed the NCSC Commitment.

"Loan Documents" shall mean this Agreement, the Security Instruments and all other documents or instruments executed, delivered or executed and delivered by Borrower and evidencing, securing, governing or otherwise pertaining to the Line of Credit or the Obligations.

"Long-Term Debt" shall mean any amount constituting long-term debt of the Borrower computed pursuant to GAAP.

"Maturity Date" shall mean the date set forth in Schedule 1 hereto.

"NCSC Commitment" shall have the meaning ascribed to it in Schedule 1 hereto.

"NCSC Line of Credit Rate" shall mean the rate published by NCSC from time to time, by electronic or other means, for similarly classified lines of credit, but if not published, then the rate determined for such lines of credit by NCSC from time to time.

"Obligations" shall mean any and all liabilities, obligations or indebtedness owing by the Borrower to NCSC, of any kind or description, irrespective of whether for the payment of money, whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter arising.

"Organizational Documents" shall mean, with respect to a corporation, the articles or certificate of incorporation and bylaws and with respect to other Persons, the comparable organizational and governing documents.

"Permitted Encumbrances" shall have the meaning ascribed to it in the Security Instruments.

"Person" shall mean natural persons, sole proprietorships, cooperatives, corporations, limited liability companies, limited partnerships, general partnerships, limited liability partnerships, joint ventures, associations, companies, trusts or other organizations, irrespective of whether they are legal entities, and Governmental Authorities.

"Public Organic Record" shall have the meaning set forth in the Uniform Commercial Code of the jurisdiction of organization of the Borrower.

"Security Instrument" shall mean each agreement, instrument or document that creates or purports to create a Lien in favor of NCSC as more particularly described on Schedule 1 hereto.

"Subsidiary" as to any Person, shall mean a corporation, partnership, limited partnership, limited liability company or other entity of which shares of stock or other ownership interests having ordinary voting power (other than stock or such other ownership interests having such power only by reason of the happening of a contingency) to elect a majority of the board of directors or other managers of such entity are at the time owned, or the management of which is otherwise controlled, directly or indirectly through one or more intermediaries, or both, by such Person. Unless otherwise qualified, all references to a "Subsidiary" or to "Subsidiaries" in this Agreement shall refer to a Subsidiary or Subsidiaries of the Borrower.

"Tangible Net Worth" shall mean Borrower's Equity less Intangible Assets.

"Total Assets" shall mean an amount constituting the total assets of the Borrower computed pursuant to GAAP.

ARTICLE II

REPRESENTATIONS AND WARRANTIES

Section 2.01 The Borrower represents and warrants to NCSC that as of the date of this Agreement:

A. Good Standing. The Borrower is duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, is duly qualified to do business and is in good standing in those states in which it is required to be qualified to conduct its business.

B. Subsidiaries and Ownership. Schedule 1 hereto sets forth a complete and accurate list of the Subsidiaries of the Borrower showing the percentage of the Borrower's ownership of the outstanding stock, membership interests or partnership interests, as applicable, of each Subsidiary.

C. Authority; Validity. The Borrower has the power and authority to enter into this Agreement and the Security Instruments; to make the borrowing hereunder; to execute and deliver all documents and instruments required hereunder and to incur and perform the Obligations provided for herein and in the Security Instruments, all of which have been duly authorized by all necessary and proper action; and no consent or approval of any Person, including, as applicable and without limitation, stockholders, members and partners of the Borrower, which has not been obtained is required as a condition to the validity or enforceability hereof or thereof.

Each of this Agreement and the Security Instruments is, and when fully executed and delivered will be, legal, valid and binding upon the Borrower and enforceable against the Borrower in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting creditors' rights generally and subject to general principles of equity.

D. No Conflicting Agreements. The execution and delivery of the Loan Documents and performance by the Borrower of the obligations thereunder, and the transactions contemplated hereby or thereby, will not: (i) violate any provision of law, any order, rule or regulation of any court or other Governmental Authority, any award of any arbitrator, the articles of incorporation, by-laws, partnership agreement, articles of organization or operating agreement of the Borrower, as applicable, or any indenture, contract, agreement, mortgage, deed of trust or other instrument to which the Borrower is a party or by which it or any of its property is bound; or (ii) be in conflict with, result in a breach of or constitute (with due notice and/or lapse of time) a default under, any such award, indenture, contract, agreement, mortgage, deed of trust or other instrument, or result in the creation or imposition of any Lien (other than contemplated hereby) upon any of the property or assets of the Borrower.

The Borrower is not in default in any material respect under any agreement or instrument to which it is a party or by which it is bound and no event or condition exists which constitutes a default, or with the giving of notice or lapse of time, or both, would constitute a default under any such agreement or instrument.

E. Taxes. The Borrower, and each of its Subsidiaries, has filed or caused to be filed all federal, state and local tax returns which are required to be filed and has paid or caused to be paid all federal, state and local taxes, assessments, and Governmental Authority charges and levies thereon, including interest and penalties to the extent that such taxes, assessments, and Governmental Authority charges and levies have become due, except for such taxes, assessments, and Governmental Authority charges and levies which the Borrower or any Subsidiary is contesting in good faith by appropriate proceedings for which adequate reserves have been set aside.

F. Licenses and Permits. The Borrower has duly obtained and now holds all licenses, permits, certifications, approvals and the like necessary to own and operate its property and business that are required by Governmental Authorities and each remains valid and in full force and effect.

G. Litigation. There are no outstanding judgments, suits, claims, actions or proceedings pending or, to the knowledge of the Borrower, threatened against or affecting the Borrower, its Subsidiaries or any of their respective properties which, if adversely determined, either individually or collectively, would have a material adverse effect upon the business, operations, prospects, assets, liabilities or financial condition of the Borrower or its Subsidiaries. The Borrower and its Subsidiaries are not, to the Borrower's knowledge, in default or violation with respect to any judgment, order, writ, injunction, decree, rule or regulation of any Governmental Authority which would have a material adverse effect upon the business, operations, prospects, assets, liabilities or financial condition of the Borrower or its Subsidiaries.

H. Financial Statements. The balance sheet of the Borrower as at the date identified in Schedule 1 hereto, the statement of operations of the Borrower for the period ending on said date, and the interim financial statements of the Borrower, all heretofore furnished to NCSC, are complete and correct. Said balance sheet fairly presents the financial condition of the Borrower as at said date and said statement of operations fairly reflects its operations for the period ending on said date. The Borrower has no contingent obligations or extraordinary forward or long-term commitments except as specifically stated in said balance sheet or herein. There has been no material adverse change in the financial condition or operations of the Borrower from that set forth in said financial statements except changes

disclosed in writing to NCSC prior to the date hereof. The Borrower has heretofore furnished to NCSC true and complete copies of its financial reports for each of the fiscal years identified in Schedule 1 hereto.

I. Borrower's Legal Status. Schedule 1 hereto accurately sets forth: (i) the Borrower's name on its Public Organic Record, (ii) the Borrower's organizational type and jurisdiction of organization and (iii) the Borrower's place of business or, if more than one, its chief executive office as well as the Borrower's mailing address if different.

J. Required Approvals. No license, consent or approval of any Governmental Authority is required to enable the Borrower to enter into this Agreement and the Security Instruments, or to perform any of its Obligations provided for in such documents, except as disclosed in Schedule 1 hereto, all of which Borrower has obtained prior to the date hereof.

K. Compliance With Laws. The Borrower and each Subsidiary is in compliance, in all material respects, with all applicable requirements of law and all applicable rules and regulations of each Governmental Authority.

L. Disclosure. To the Borrower's knowledge, information and belief, neither this Agreement nor any document, certificate or financial statement furnished to NCSC by or on behalf of the Borrower in connection herewith (all such documents, certificates and financial statements, taken as a whole) contains any untrue statement of a material fact or omits to state any material fact necessary in order to make the statements contained herein and therein not misleading.

M. Environmental Matters. Except as to matters which individually or in the aggregate would not have a material adverse effect upon the business, operations, prospects, assets, liabilities or financial condition of the Borrower or its Subsidiaries, (i) the Borrower is in compliance with all Environmental Laws, (ii) the Borrower has obtained all permits, licenses and other approvals required under any Environmental Law and all such permits, licenses and approvals are in full force and effect, (iii) there have been no releases from any underground or aboveground storage tanks (or piping associated therewith) that are or were present at the Mortgaged Property, (iv) the Borrower has not received written notice of, or claim or liability related to, any violation of any Environmental Law (v) there is no pending investigation of the Borrower in regard to any Environmental Law and (vi) to the best of the Borrower's knowledge, there has not been any release, or contamination resulting from the presence, of Hazardous Materials by, or otherwise related to the actions of the Borrower, or on property owned, leased or operated by the Borrower.

ARTICLE III

LOAN

Section 3.01 Advances. NCSC agrees to advance funds to the Borrower pursuant to the terms and conditions hereof, provided, however, that the principal amount at any time outstanding under this Agreement shall not exceed the NCSC Commitment. The Borrower may borrow, repay and reborrow funds at any time or from time from the Effective Date up to, but not including, the Maturity Date, at which time all principal amounts outstanding, and accrued, but unpaid interest thereon, shall be due and payable in full.

Section 3.02 Payment and Interest Rate. The Line of Credit shall be payable and bear interest as follows:

A. Interest Rate and Payment. The Borrower unconditionally promises and agrees to pay, as and when due, interest on all amounts advanced hereunder from the date of each Advance and to repay all amounts advanced hereunder with interest on the Maturity Date, if not sooner paid. Interest shall be due and payable in accordance with NCSC's regular billing cycles as may be in effect from time to time. As of the date hereof, interest shall be due and payable on the last day of each of March, June, September and December. NCSC shall provide reasonable prior written notice to the Borrower of any change to the billing cycle or due dates for the payment of interest. NCSC shall invoice the Borrower at least five days prior to the due date of any interest payment, provided, however, that NCSC's failure to timely send an invoice with respect to any interest payment shall not constitute a waiver by NCSC or be deemed to relieve the Borrower of its obligation to make such payment as provided for herein or to repay all amounts advanced hereunder in full with accrued interest as provided for herein. All amounts shall be payable at NCSC's main office at 20701 Cooperative Way, Dulles, VA 20166 or at such other location as designated by NCSC from time to time. The interest rate on all Advances will be equal to the NCSC Line of Credit Rate in effect from time to time. Interest will be computed on the basis of a 365 day year for the actual number of days that any Advance is outstanding. The effective date of an interest rate adjustment will be determined from time to time by NCSC, and shall remain in effect until any subsequent change in the interest rate occurs.

B. Application of Payments. Each payment shall be applied first to any fees, costs, expenses or charges other than interest or principal then due on the Borrower's indebtedness to NCSC, second to interest accrued and the balance to principal.

Section 3.03 Paydown Requirement. For each 12-month period while this Agreement is in effect, Borrower shall, for a period of at least five consecutive Business Days, pay down the entire outstanding principal balance on this line of credit ("Paydown"). Borrower shall make the initial Paydown within 360 days of the first Advance hereunder, and shall make each subsequent Paydown within 360 days of the date of the first Advance following each Paydown.

Section 3.04 Default Rate. If the Borrower defaults on its obligation to make a payment due hereunder by the applicable date payment is due, and such default continues for thirty (30) days thereafter, then beginning on the thirty-first (31st) day after the payment is due and for so long as such default continues, Advances shall bear interest at the Default Rate.

ARTICLE IV

CONDITIONS OF LENDING

Section 4.01 Conditions Precedent to Closing. The obligation of NCSC to make Advances hereunder shall not become effective until the date on which the following conditions precedent have been satisfied:

A. Legal Matters. All legal matters incident to the consummation of the transactions hereby contemplated shall be satisfactory to counsel for NCSC.

B. Representations and Warranties. The representations and warranties contained in Article II shall be true on the date hereof.

C. Closing Deliverables. NCSC shall have been furnished with the following, in form and substance satisfactory to NCSC:

(i) Borrower Documents. (a) the executed Loan Documents, (b) certified copies of all such organizational documents and proceedings of the Borrower authorizing the transactions hereby contemplated as NCSC shall require, (c) an opinion of counsel for the Borrower addressing such legal matters as NCSC shall reasonably require, and (d) all other such documents as NCSC may reasonably request.

(ii) Guarantor Documents. (a) the Guaranty executed by each Guarantor, (b) certified copies of all such organizational documents and proceedings of each Guarantor authorizing the transactions contemplated by the Guaranty as NCSC shall require, (c) true and correct copies of all certificates, authorizations, consents, permits and licenses from Governmental Authorities necessary for the execution or delivery of each Guaranty and performance by the Guarantor of the obligations thereunder and (d) an opinion of counsel for each Guarantor addressing such legal matters as NCSC shall reasonably require.

(iii) Government Approvals. True and correct copies of all certificates, authorizations, consents, permits and licenses from Governmental Authorities necessary for the execution or delivery of the Loan Documents, performance by the Borrower of the obligations thereunder and for Borrower to conduct its business.

(iv) Insurance. NCSC shall have received evidence of the Borrower having obtained the insurance identified in Section 5.01.K hereof.

D. UCC Filings. Uniform Commercial Code financing statements (and any continuation statements and other amendments thereto that NCSC shall require from time to time) shall have been duly filed, recorded or indexed in all jurisdictions necessary (and in any other jurisdiction that NCSC shall have reasonably requested) to provide NCSC a first priority, perfected security interest, subject to Permitted Encumbrances, in the Collateral which may be perfected by the filing of a financing statement, all in accordance with applicable law, and the Borrower shall have paid all applicable taxes, recording and filing fees and caused satisfactory evidence thereof to be furnished to NCSC.

E. RESERVED

F. Special Conditions of Closing. NCSC shall be fully satisfied that the Borrower has complied with all special conditions of closing identified in Schedule 1 hereto.

Section 4.02 Conditions to Advances. The obligation of NCSC to make each Advance hereunder is additionally subject to satisfaction of the following conditions:

A. Requisitions. Borrower will requisition each Advance by submitting its written requisition to NCSC in form and substance satisfactory to NCSC no later than 12:00 noon local time at NCSC's offices in Dulles, Virginia on the Business Day prior to the Business Day Borrower seeks to have funds advanced. Such request shall be in the form attached as Exhibit A hereto and shall be made only for the purposes set forth in Schedule 1 hereto.

NCSC may require the Borrower to submit such additional information as it may reasonably require prior to funding the Advance request.

B. Representations and Warranties; Default. The representations and warranties contained in Article II shall be true on the date of the making of each Advance hereunder with the same effect as though such representations and warranties had been made on such date; no Event of Default and no event which, with the lapse of time or the notice and lapse of time would become such an Event of Default, shall have occurred and be continuing or will have occurred after giving effect to each Advance on the books of the Borrower; there shall have occurred no material adverse change in the business or condition, financial or otherwise, of the Borrower or any Guarantor; and nothing shall have occurred which in the opinion of NCSC materially and adversely affects the Borrower's ability to perform its obligations hereunder or Guarantor's ability to perform its obligations under the Guaranty.

C. Special Conditions of Advances. NCSC shall be fully satisfied that the Borrower has complied with all special conditions to advance identified in Schedule 1 hereto.

ARTICLE V

COVENANTS

Section 5.01 Affirmative Covenants. The Borrower covenants and agrees with NCSC that until payment in full of the Line of Credit and performance of all obligations of the Borrower hereunder:

A. Financial Ratios. The Borrower agrees that it will operate and manage its business to achieve and maintain the financial ratios set forth in Schedule 1 hereof.

B. Use of Proceeds. The Borrower shall use the proceeds of this Line of Credit solely for the purposes identified on Schedule 1 hereto.

C. Eligibility. The Borrower will remain an eligible borrower of NCSC.

D. Notice. The Borrower shall promptly notify NCSC in writing of:

- (i) any material adverse change in the business, operations, prospects, assets, liabilities or financial condition of the Borrower or its Subsidiaries;
- (ii) the institution or threat of any litigation or administrative proceeding of any nature involving the Borrower, any Subsidiary or any Guarantor which could materially affect the business, operations, prospects, assets, liabilities or financial condition of the Borrower, any Subsidiary or any Guarantor; and

- (iii) the occurrence of an Event of Default hereunder, or any event that, with the giving of notice or lapse of time, or both, would constitute an Event of Default.

E. Default Notices. Upon receipt of any notices with respect to a default by the Borrower or any Subsidiary under the terms of any evidence of any indebtedness with parties other than NCSC or of any loan agreement, mortgage or other agreement relating thereto, the Borrower shall, and shall cause each Subsidiary to, deliver copies of such notice to NCSC.

F. Financial Books; Financial Reports; Right of Inspection. The Borrower will at all times keep, and safely preserve, proper books, records and accounts in which full and true entries will be made of all of the dealings, business and affairs of the Borrower, in accordance with GAAP. The Borrower will prepare and furnish NCSC within 30 days of the close of each fiscal quarter of the Borrower, financial reports on its condition and operations for the previous fiscal quarter. When requested by NCSC, the Borrower will prepare and furnish NCSC from time to time, not later than the last day of each month, financial reports on its condition and operations for the previous month. All of such reports shall be in such form and include such information as may be specified by NCSC, including without limitation a consolidated and consolidating balance sheet and the related consolidated and consolidating statements of income and cash flow for such quarter and for the period from the beginning of the then current fiscal year to date and for the corresponding budget period year to date. Borrower shall also provide such other reports describing the operations and financial condition as NCSC may request, such as operating statistics including but not limited to, customer or subscriber counts, penetration, additions, and deactivations for the current period and the corresponding period of the previous fiscal year. The Borrower will cause to be prepared and furnished to NCSC from time to time, within one hundred twenty (120) days of the end of each of its fiscal years, a full and complete consolidated and consolidating report of its financial condition and of its operations as of the end of such fiscal year in form and substance satisfactory to NCSC, audited and certified by independent certified public accountants nationally recognized or otherwise satisfactory to NCSC and accompanied by a report of such audit in form and substance satisfactory to NCSC. NCSC, through its representatives, shall at all times during reasonable business hours and upon prior notice have access to, and the right to inspect and make copies of, any or all books, records and accounts, and any or all invoices, contracts, leases, payrolls, canceled checks, statements and other documents and papers of every kind belonging to or in the possession of the Borrower or in any way pertaining to its property or business.

The Borrower shall furnish to NCSC, as soon as available, copies of all management reports provided to the Borrower or any Subsidiary by its independent public accountants.

G. Compliance With Laws. The Borrower and each Subsidiary shall remain in compliance, in all material respects, with all applicable requirements of law and applicable rules and regulations of each Governmental Authority.

H. Taxes. The Borrower shall pay, or cause to be paid all taxes, assessments or Governmental Authority charges lawfully levied or imposed on or against it and its properties prior to the time they become delinquent, except for any taxes, assessments or charges that are being contested in good faith and with respect to which adequate reserves as determined in good faith by the Borrower have been established and are being maintained.

I. Further Assurances. The Borrower shall execute any and all further documents, financing statements, agreements and instruments, and take all such further actions (including the filing and recording of financing statements, fixture filings, mortgages, deeds of trust and other documents), which may be required under any applicable law, or which NCSC may reasonably request, to effectuate the transactions contemplated by the Loan Documents or to grant, preserve, protect or perfect the Liens created or intended to be created thereby. The Borrower also agrees to provide to NCSC, from time to time upon request, evidence reasonably satisfactory to NCSC as to the perfection and priority of the Liens created or intended to be created by the Loan Documents.

J. Environmental Covenants. The Borrower shall:

- (i) Comply in all respects with all applicable Environmental Laws, and the Borrower shall have sole responsibility for any and all costs and expenses associated with such compliance;
- (ii) Conduct and complete, at its sole cost and expense, any investigation, study, sampling, monitoring and testing and undertake any cleanup, removal, remedial, corrective, mitigation, response or other action necessary to comply with applicable Environmental Laws; and
- (iii) Within ten (10) Business Days after receiving any written communication alleging any potential or actual violation of, or claim or liability related to, any Environmental Law, the Borrower shall provide NCSC with a copy thereof. With respect to any matter as to which it has received such notice, the Borrower shall immediately take any and all appropriate actions to remedy, cure, defend, or otherwise affirmatively respond to the matter in full compliance with all applicable Environmental Laws.

K. Insurance. In addition to the insurance required under the Security Instruments, the Borrower will maintain insurance with responsible and reputable insurance companies or associations in such amounts and covering such risks as is usually carried by companies engaged in similar businesses and owning similar properties similarly situated.

L. Maintenance of Existence; Licenses, Permits, etc. The Borrower will, and will cause each Subsidiary to, do or cause to be done all things necessary to preserve, renew or replace and keep in full force and effect its legal existence and rights, privileges, licenses, franchises and permits. The Borrower will qualify and remain qualified as a validly existing entity in good standing in each jurisdiction in which such qualification is necessary under applicable law.

M. Special Covenants. The Borrower agrees that it will comply with any special covenants identified in Schedule 1 hereto.

Section 5.02 Negative Covenants. The Borrower covenants and agrees with NCSC that until payment in full of the Line of Credit and performance of all obligations of the Borrower hereunder, the Borrower will not, directly or indirectly, without NCSC's prior written consent:

A. Limitation on Indebtedness. Create, incur, assume, become or be liable in any manner in respect of, any indebtedness, or cause or permit the Subsidiaries of the Borrower to

create, incur, assume, become or be liable in any manner in respect of, any indebtedness except: (i) the Obligations, (ii) accounts payable to trade creditors for goods or services incurred in the ordinary course of business, as presently conducted, and paid within the specified time, unless contested in good faith and by appropriate proceedings, (iii) indebtedness of the Borrower or any Subsidiary with respect to Permitted Encumbrances, and (iv) loans to the Borrower from the Guarantor.

B. Organizational Change. Change Borrower's type of organization, jurisdiction of organization or legal structure.

C. Notice of Change in Borrower Information. Change its (i) state of incorporation, (ii) legal name, or (iii) mailing address, unless the Borrower provides written notice to NCSC at least thirty (30) days prior to the effective date of any such change together with all documentation reflecting any such change as NCSC may reasonably require.

ARTICLE VI

EVENTS OF DEFAULT

Section 6.01 The following shall be "Events of Default" under this Agreement:

A. Representations and Warranties. Any representation or warranty made by the Borrower herein, or in any of the other Loan Documents, or in any certificate or financial statement furnished to NCSC hereunder or under any of the other Loan Documents shall prove to be false or misleading in any material respect.

B. Payment. The Borrower shall fail to pay (whether upon stated maturity, by acceleration, or otherwise) any principal, interest, premium (if any) or other amount payable under the Line of Credit and the Loan Documents within five (5) Business Days after the due date thereof.

C. Other Covenants.

(i) No Grace Period. Failure of the Borrower to observe or perform any covenant or agreement contained in Sections 5.01.A, 5.01.B, 5.01.C, 5.01.E, 5.01.F or 5.02 of this Agreement.

(ii) Thirty Day Grace Period. Failure of the Borrower to observe or perform any other covenant or agreement contained in this Agreement or any of the other Loan Documents, which shall remain unremedied for thirty (30) calendar days after written notice thereof shall have been given to the Borrower by NCSC.

D. Legal Existence, Permits and Licenses. The Borrower shall forfeit or otherwise be deprived of (i) its authority to conduct business in the jurisdiction in which it is organized or in any other jurisdiction where such authority is required in order for the Borrower to conduct its business in such jurisdiction or (ii) permits, easements, consents or licenses required to carry on any material portion of its business.

E. Other NCSC Obligations. The Borrower shall be in breach or default of any Obligation, which breach or default continues uncured beyond the expiration of any applicable grace period.

F. Other Obligations. The Borrower shall (i) fail to make any payment of any principal, premium or any other amount due or interest on any indebtedness with parties other than NCSC which shall remain unpaid beyond the expiration of any applicable grace period, or (ii) be in breach or default with respect to any other term of any evidence of any other indebtedness with parties other than NCSC or of any loan agreement, mortgage or other agreement relating thereto which breach or default continues uncured beyond the expiration of any applicable grace period, if the effect of such failure, default or breach is to cause the holder or holders of that indebtedness to cause that indebtedness to become or be declared due prior to its stated maturity (upon the giving or receiving of notice, lapse of time, both or otherwise).

G. Involuntary Bankruptcy. An involuntary case or other proceeding shall be commenced against the Borrower, Guarantor or any general partner seeking liquidation, reorganization or other relief with respect to it or its debts under bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property and such involuntary case or other proceeding shall continue without dismissal or stay for a period of sixty (60) consecutive days; or an order for relief shall be entered against the Borrower under the federal bankruptcy laws or applicable state law as now or hereafter in effect.

H. Insolvency. The Borrower, Guarantor or general partner, if any, shall commence a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, or shall consent to any such relief or to the appointment of or taking possession by any such official in an involuntary case or proceeding commenced against it, or shall make a general assignment for the benefit of creditors, or shall admit in writing its inability to, or be generally unable to, pay its debts as they become due, or shall take any action to authorize any of the foregoing.

I. Dissolution or Liquidation. The dissolution, liquidation or other termination of the existence of the Borrower, Guarantor or general partner, if any.

J. Validity of Documents. Any material provision of this Agreement or any other Loan Document shall at any time cease to be valid and binding on the Borrower, or shall be declared to be null and void, or the validity or enforceability thereof shall be contested by the Borrower.

K. Material Adverse Change. Any material adverse change in the value of the Collateral or the financial condition or operating results of the Borrower or any Guarantor.

L. Monetary Judgment. The Borrower shall suffer any money judgment not covered by insurance, writ or warrant of attachment or similar process involving an amount in excess of \$100,000.00 and shall not discharge, vacate, bond or stay the same within a period of sixty (60) consecutive days.

M. Nonmonetary Judgment. One or more nonmonetary judgments or orders (including, without limitation, injunctions, writs or warrants of attachment, garnishment, execution, distraint, replevin or similar process) shall be rendered against the Borrower that, either individually or in the aggregate, could reasonably be expected to have a material adverse effect upon the business, operations, prospects, assets, liabilities or financial condition of the Borrower.

N. Cease Business. The Borrower shall cease to conduct all or any material part of its business.

O. Guarantor Default. Default by any Guarantor of its obligations under the Guaranty.

ARTICLE VII

REMEDIES

Section 7.01 If any Event of Default shall occur after the date of this Agreement and shall not have been remedied within the applicable grace period therefor, then in every such event (other than an event with respect to the Borrower described in Section 6.01.G, 6.01.H or 6.01.I) and at any time during the continuance of such event, NCSC may:

- (i) Cease making Advances hereunder;
- (ii) Declare all unpaid principal outstanding on the Line of Credit, all accrued and unpaid interest thereon, and all other Obligations to be immediately due and payable and the same shall thereupon become immediately due and payable without presentment, demand, protest or notice of any kind, all of which are hereby expressly waived;
- (iii) Exercise rights of setoff or recoupment and apply any and all amounts held, or hereafter held, by NCSC or owed to the Borrower or for the credit or account of the Borrower against any and all of the Obligations of the Borrower now or hereafter existing hereunder or under the Line of Credit. The rights of NCSC under this section are in addition to any other rights and remedies (including other rights of setoff or recoupment) which NCSC may have. The Borrower waives all rights of setoff, deduction, recoupment or counterclaim;
- (iv) Pursue all rights and remedies available to NCSC that are contemplated by the Security Instruments in the manner, upon the conditions, and with the effect provided in the Security Instruments, including, but not limited to, a suit for specific performance, injunctive relief or damages;
- (v) Pursue any other rights and remedies available to NCSC at law or in equity.

If any Event of Default described in Section 6.01.G, 6.01.H or 6.01.I with respect to the Borrower shall occur after the date of this Agreement, then NCSC's commitment to make Advances hereunder shall automatically terminate and the unpaid principal outstanding hereunder, all accrued and unpaid interest thereon, and all other Obligations shall thereupon become immediately due and payable without presentment, demand, protest or notice of any kind, all of

which are hereby expressly waived. In addition, NCSC may pursue all rights and remedies available to NCSC that are contemplated by the Security Instruments and the other Loan Documents in the manner, upon the conditions, and with the effect provided in the Security Instruments and the other Loan Documents, including, but not limited to, a suit for specific performance, injunctive relief or damages and any other rights and remedies available to NCSC at law or in equity.

Nothing herein shall limit the right of NCSC to pursue all rights and remedies available to a creditor following the occurrence of an Event of Default. Each right, power and remedy of NCSC shall be cumulative and concurrent, and recourse to one or more rights or remedies shall not constitute a waiver of any other right, power or remedy.

ARTICLE VIII

MISCELLANEOUS

Section 8.01 Notices. All notices, requests and other communications provided for herein including, without limitation, any modifications of, or waivers, requests or consents under, this Agreement shall be given or made in writing (including, without limitation, by facsimile) and delivered to the intended recipient at the "Address for Notices" specified below; or, as to any party, at such other address as shall be designated by such party in a notice to each other party. All such communications shall be deemed to have been duly given (i) when personally delivered including, without limitation, by overnight mail or courier service, (ii) in the case of notice by United States mail, certified or registered, postage prepaid, return receipt requested, upon receipt thereof, or (iii) in the case of notice by facsimile, upon transmission thereof, provided such transmission is promptly confirmed by either of the methods set forth in clauses (i) or (ii) above in each case given or addressed as provided for herein. The Address for Notices of each of the respective parties is as follows:

The Borrower:

The address set forth in
Schedule 1 hereto

National Cooperative Services Corporation:
20701 Cooperative Way
Dulles, Virginia 20166
Attention: General Counsel
Fax # 866-230-5635

Section 8.02 Expenses. The Borrower shall reimburse NCSC for any reasonable costs and out-of-pocket expenses paid or incurred by NCSC (including, without limitation, reasonable fees and expenses of outside attorneys, paralegals and consultants) for all actions NCSC takes, (a) to enforce the payment of any Obligation, to effect collection of any Collateral, or in preparation for such enforcement or collection, (b) to institute, maintain, preserve, enforce and foreclose on NCSC's security interest in or Lien on any of the Collateral, whether through judicial proceedings or otherwise, (c) to restructure any of the Obligations, (d) to review, approve or grant any consents or waivers hereunder, (e) to prepare, negotiate, execute, deliver, review, amend or modify this Agreement, and (f) to prepare, negotiate, execute, deliver, review,

amend or modify any other agreements, documents and instruments deemed necessary or appropriate by NCSC in connection with any of the foregoing.

The amount of all such expenses identified in this Section 8.02 shall be secured by the Security Instruments and shall be payable upon demand, and if not paid, shall accrue interest at the then prevailing NCSC Line of Credit Rate plus two hundred basis points.

Section 8.03 Late Payments. If payment of any principal and/or interest due under the terms of the Line of Credit is not received at NCSC's office in Dulles, Virginia or such other place as NCSC may designate to the Borrower, within five (5) Business Days after the due date thereof, the Borrower will pay to NCSC, in addition to all other amounts due under the terms of the Loan Documents, a late payment charge equal to five percent (5%) of the delinquent amount.

Section 8.04 Non-Business Day Payments. If any payment to be made by the Borrower hereunder shall become due on a day which is not a Business Day, such payment shall be made on the next succeeding Business Day and such extension of time shall be included in computing any interest in respect of such payment.

Section 8.05 Filing Fees. To the extent permitted by law, the Borrower agrees to pay all expenses of NCSC (including the reasonable fees and expenses of its counsel) in connection with the filing, registration, recordation or perfection of any security interest or financing statements and instruments as may be required by NCSC in connection with this Agreement, including, without limitation, all documentary stamps, recordation and transfer taxes and other costs and taxes incident to execution, filing, registration, recordation or perfection of any document or instrument in connection herewith. The Borrower agrees to save harmless and indemnify NCSC from and against any liability resulting from the failure to pay any required documentary stamps, recordation and transfer taxes, recording costs, or any other expenses incurred by NCSC in connection with this Agreement. The provisions of this subsection shall survive the execution and delivery of this Agreement and the payment of all other amounts due under the Loan Documents.

Section 8.06 NCSC Accounts. Borrower agrees that the records of, and all computations by, NCSC (in whatever media they are recorded or maintained) as to the amount of principal, interest and fees due on the Line of Credit shall be conclusive in the absence of manifest error

Section 8.07 Waiver; Modification. No failure on the part of NCSC to exercise, and no delay in exercising, any right or power hereunder or under the other Loan Documents shall operate as a waiver thereof, nor shall any single or partial exercise by NCSC of any right hereunder, or any abandonment or discontinuance of steps to enforce such right or power, preclude any other or further exercise thereof or the exercise of any other right or power. No modification or waiver of any provision of this Agreement or the other Loan Documents and no consent to any departure by the Borrower therefrom shall in any event be effective unless the same shall be in writing by the party granting such modification, waiver or consent, and then such modification, waiver or consent shall be effective only in the specific instance and for the purpose for which given.

SECTION 8.08 GOVERNING LAW; SUBMISSION TO JURISDICTION; WAIVER OF JURY TRIAL.

(A) THE PERFORMANCE AND CONSTRUCTION OF THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE COMMONWEALTH OF VIRGINIA.

(B) THE BORROWER HEREBY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE UNITED STATES COURTS LOCATED IN VIRGINIA AND OF ANY STATE COURT SO LOCATED FOR PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY. THE BORROWER IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTIONS THAT IT MAY NOW OR HEREAFTER HAVE TO THE ESTABLISHING OF THE VENUE OF ANY SUCH PROCEEDINGS BROUGHT IN SUCH A COURT AND ANY CLAIM THAT ANY SUCH PROCEEDING HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

(C) THE BORROWER AND NCSC EACH HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

SECTION 8.09 VOLUNTARY WAIVERS. THE BORROWER ACKNOWLEDGES THAT IT HAS BEEN ADVISED BY ITS COUNSEL WITH RESPECT TO THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY, AND THE BORROWER ACKNOWLEDGES AND AGREES THAT (A) EACH OF THE WAIVERS SET FORTH HEREIN, WERE KNOWINGLY AND VOLUNTARILY MADE; (B) THE OBLIGATIONS OF NCSC HEREUNDER, INCLUDING THE OBLIGATION TO MAKE ADVANCES AND LEND FUNDS TO THE BORROWER IN ACCORDANCE HERewith, SHALL BE STRICTLY CONSTRUED AND SHALL BE EXPRESSLY SUBJECT TO THE BORROWER'S COMPLIANCE IN ALL RESPECTS WITH THE TERMS AND CONDITIONS HEREIN SET FORTH; AND (C) NO REPRESENTATIVE OF NCSC HAS WAIVED OR MODIFIED ANY OF THE PROVISIONS OF THIS AGREEMENT AS OF THE DATE HEREOF AND NO SUCH WAIVER OR MODIFICATION FOLLOWING THE DATE HEREOF SHALL BE EFFECTIVE UNLESS MADE IN ACCORDANCE WITH SECTION 8.07 HEREOF.

SECTION 8.10 INDEMNIFICATION. THE BORROWER HEREBY INDEMNIFIES AND AGREES TO HOLD HARMLESS, AND DEFEND NCSC AND ITS MEMBERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, ATTORNEYS AND REPRESENTATIVES (EACH AN "INDEMNITEE") FOR, FROM, AND AGAINST ALL CLAIMS, DAMAGES, LOSSES, LIABILITIES, COSTS, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, COSTS AND EXPENSES OF LITIGATION AND REASONABLE ATTORNEYS' FEES) ARISING FROM ANY CLAIM OR DEMAND IN RESPECT OF THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS, THE COLLATERAL, OR THE TRANSACTIONS DESCRIBED IN THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS AND ARISING AT ANY TIME, WHETHER BEFORE OR AFTER PAYMENT AND PERFORMANCE OF ALL OBLIGATIONS UNDER THIS AGREEMENT AND THE OTHER LOAN DOCUMENTS IN FULL, EXCEPTING ANY SUCH MATTERS ARISING SOLELY FROM THE GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF NCSC OR ANY INDEMNITEE NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN SECTION 8.13 HEREOF. THE OBLIGATIONS IMPOSED UPON THE BORROWER BY THIS SECTION SHALL SURVIVE THE REPAYMENT OF THE LINE OF

CREDIT, THE TERMINATION OF THIS AGREEMENT AND THE TERMINATION OR RELEASE OF THE LIEN OF ANY SECURITY INSTRUMENT.

SECTION 8.11 ENVIRONMENTAL INDEMNIFICATION. THE BORROWER HEREBY AGREES TO ASSUME, AND DOES HEREBY ASSUME, LIABILITY FOR, AND HEREBY AGREES TO INDEMNIFY, AND DOES HEREBY INDEMNIFY, AND HEREBY AGREES TO PROTECT, DEFEND, SAVE AND KEEP HARMLESS, NCSC AND ALL INDEMNITEES FROM AND AGAINST ANY AND ALL LIABILITIES, OBLIGATIONS, LOSSES, DAMAGES, PENALTIES, SETTLEMENTS, CLAIMS, ACTIONS, SUITS OR PROCEEDINGS OF ANY KIND AND NATURE, COSTS, EXPENSES (INCLUDING REASONABLE ATTORNEYS' AND CONSULTANTS' FEES AND DISBURSEMENTS) AND DISBURSEMENTS OF ANY KIND AND NATURE WHATSOEVER WHICH MAY BE IMPOSED ON, INCURRED BY OR ASSERTED AGAINST NCSC OR ANY INDEMNITEE IN ANY WAY RELATING TO OR ARISING OUT OF (I) THE PRESENCE, USE, GENERATION, TREATMENT, STORAGE, RECYCLING, MANAGEMENT OR RELEASE OF ANY HAZARDOUS MATERIAL FROM, AT, IN, ON OR UNDER, OR THE TRANSPORT TO OR FROM, ANY PROPERTY OWNED, LEASED OR OPERATED BY THE BORROWER, (II) THE VIOLATION OF OR NONCOMPLIANCE WITH ANY ENVIRONMENTAL LAW, OR (III) ANY LOSS OF OR DAMAGE TO ANY PROPERTY, NATURAL RESOURCES OR THE ENVIRONMENT, OR DEATH OF OR INJURY TO ANY PERSON, RESULTING FROM OR RELATING IN ANY WAY TO ANY HAZARDOUS MATERIAL THAT IS OR WAS PRESENT, USED, GENERATED, TREATED, STORED, RECYCLED, MANAGED, TRANSPORTED OR RELEASED BY OR ON BEHALF OF THE BORROWER OR AT, ON, IN, UNDER, TO OR FROM ANY PROPERTY OWNED, LEASED OR OPERATED BY THE BORROWER. THE OBLIGATIONS IMPOSED UPON THE BORROWER BY THIS SECTION SHALL SURVIVE THE REPAYMENT OF THE LINE OF CREDIT, THE TERMINATION OF THIS AGREEMENT AND THE TERMINATION OR RELEASE OF THE LIEN OF ANY SECURITY INSTRUMENT.

Section 8.12 Complete Agreement. This Agreement, together with the schedules and exhibits to this Agreement and the other Loan Documents, and the other agreements and matters referred to herein or by their terms referring hereto, is intended by the parties as a final expression of their agreement and is intended as a complete statement of the terms and conditions of their agreement. In the event of any conflict in the terms and provisions of this Agreement and any other Loan Documents, the terms and provisions of this Agreement shall control.

Section 8.13 Survival; Successors and Assigns. All covenants, agreements, representations and warranties of the Borrower which are contained in this Agreement shall survive the execution and delivery to NCSC of the Loan Documents and the making of Advances hereunder and shall continue in full force and effect until all of the obligations under the Loan Documents have been paid in full. All covenants, agreements, representations and warranties of the Borrower which are contained in this Agreement shall inure to the benefit of the successors and assigns of NCSC. The Borrower shall not have the right to assign its rights or obligations under this Agreement without the prior written consent of NCSC.

Section 8.14 Use of Terms. The use of the singular herein shall also refer to the plural, and vice versa.

Section 8.15 Headings. The headings and sub-headings contained in this Agreement are intended to be used for convenience only and do not constitute part of this Agreement.

Section 8.16 Severability. If any term, provision or condition, or any part thereof, of this Agreement or the other Loan Documents shall for any reason be found or held invalid or unenforceable by any court of competent jurisdiction or other Governmental Authority, such invalidity or unenforceability shall not affect the remainder of such term, provision or condition nor any other term, provision or condition, and this Agreement and the other Loan Documents shall survive and be construed as if such invalid or unenforceable term, provision or condition had not been contained therein.

Section 8.17 Binding Effect. This Agreement shall become effective when it shall have been executed by both the Borrower and NCSC and thereafter shall be binding upon and inure to the benefit of the Borrower and NCSC and their respective successors and assigns, except that the Borrower shall not have the right to assign its rights hereunder or any interest herein without the prior written consent of NCSC.

Section 8.18 Counterparts. This Agreement may be executed in one or more counterparts, each of which will be deemed an original and all of which together will constitute one and the same document. Signature pages may be detached from the counterparts and attached to a single copy of this Agreement to physically form one document.

Section 8.19 Security. This Line of Credit and the obligations of the Borrower hereunder are secured under the Security Instruments.

Section 8.20 Schedule 1. Schedule 1 attached hereto is an integral part of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

EMPOWER Broadband, Inc.

(SEAL)

By: [Signature]
Title: Chairman

Attest: [Signature]
Secretary

NATIONAL COOPERATIVE SERVICES CORPORATION

(SEAL)

By: [Signature] **Elaine MacDonald**
Assistant Secretary-Treasurer

Attest: [Signature] **Jennifer Mink**
Assistant Secretary-Treasurer

Loan Number: VA401-R-5101

Effective Date: December 9, 2019

SCHEDULE 1

1. The purpose of the loan is to provide funds for the Borrower's general corporate use, consistent with the Borrower's articles of incorporation, bylaws and applicable federal, state and local laws and regulations.
2. The aggregate NCSC Commitment shall mean \$1,000,000.00.
3. Maturity Date shall mean the date five (5) years from the Effective Date.
4. Guarantor shall mean: Mecklenburg Electric Cooperative
5. Security Instrument shall mean the Security Agreement, dated as of even date herewith, between the Borrower and NCSC, as it may be supplemented, amended, consolidated or restated from time to time.
6. The Subsidiaries of the Borrower referred to in Section 2.01.B are:

<u>Name of Subsidiary</u>	<u>% of Borrower's ownership</u>
N/A	

7. The date of the Borrower's balance sheet referred to in Section 2.01.H is December 31, 2018.
8. The fiscal years referred to in Section 2.01.H are 2017 and 2018.
9. The Borrower's exact legal name is: EMPOWER Broadband, Inc.
10. The Borrower's organizational type is: corporation
11. The Borrower is organized under the laws of the state of: Virginia
12. The place of business or, if more than one, the chief executive office of the Borrower referred to in Section 2.01.I is 11633 Highway #92, Chase City, VA 23924.
13. The Governmental Authority referred to in Section 2.01.J is: Virginia State Corporation Commission
14. The special conditions of closing referred to in Section 4.01.F are as follows: None
15. The special conditions of advance referred to in Section 4.02.C are as follows: None
16. The financial ratios referred to in Section 5.01.A are:

An annual DSC of not less than (a) 1.00 as of December 31, 2020, (b) 1.10 as of December 31, 2021, and (c) 1.25 as of December 31, 2022 and as of each December 31 thereafter, each measured based on Borrower's fiscal year-end results as reflected in its audited financial statements.

17. The special covenants referred to in Section 5.01.M are as follows:
- (a) Borrower shall provide NCSC with an annual budget, in form and substance satisfactory to NCSC, within thirty (30) days of the beginning of each fiscal year.
 - (b) Borrower shall not make, declare or pay, or permit any of its Subsidiaries to make, declare or pay, any Distribution except under the following conditions:
 - (i) The Borrower is in compliance with all covenants set forth in Article V hereof; and
 - (ii) After giving effect to the Distribution, the Equity Ratio will be not less than twenty percent (20%).

18. The address for notices to the Borrower referred to in Section 8.01 is:

If by personal delivery (including overnight mail or courier service):

EMPOWER Broadband, Inc.
11633 Highway #92
Chase City, VA 23924
Attention: General Manager

If by United States mail:

EMPOWER Broadband, Inc.
PO Box 2451
Chase City, VA 23924
Attention: General Manager

If by facsimile:

Fax: (434) 372-6101

EXHIBIT A



LOAN ADVANCE FORM

Borrower Name	Borrower ID #	Facility #	Advance Date	Advance Amount

Loan Advance Purpose

Interest Rate Selection
<i>Variable Rate (NCSC Associate)</i>

Banking Information		Correspondent Bank Information	
Bank Name:		Routing Bank Name	
City, State:		Routing Bank City, State	
Bank ABA #		Routing Bank ABA #	
Bank Account #			

CERTIFICATION

Acting on behalf of the Borrower, I hereby certify that as of the date below: (1) I am duly authorized to make this certification and to request funds on the terms specified herein; (2) the Borrower has met all of the conditions contained in the loan agreement governing the terms of this Advance that the Borrower is required to meet prior to an Advance of funds; (3) all of the representations and warranties contained in said loan agreement are true; (4) no Event of Default, as defined in said loan agreement, has occurred and is continuing; (5) I know of no other event that has occurred which, with the lapse of time and/or notification to NCSC of such event, or after giving effect to this Advance, would become an Event of Default; and (6) the funds requested herein will be used only for the purposes specified in said loan agreement.

I hereby authorize NCSC, for and on behalf of the Borrower, to make this Advance on the following terms, and hereby acknowledge and agree that such terms shall be binding upon Borrower under the provisions of the loan agreement governing this Advance:

Certified By:

Signature

Date

Title of Authorized Officer

**** FOR INTERNAL USE ONLY ****

Amortization Method _____ Principal Deferral _____

Advance Approved By: _____

Portfolio Manager

Copy: Glen
12/5/06



**National Rural Utilities
Cooperative Finance Corporation**

2201 Cooperative Way
Herndon, Virginia 20171-3025
703-709-6700 | www.nrucfc.coop

A Touchstone Energy® Cooperative

November 29, 2006

Mr. M. John Bowman
President and CEO
Mecklenburg Electric Cooperative
11633 Hwy 92
Chase City, VA 23924



Re: Line of Credit # VA031-P-5102

Dear Mr. Bowman:

Your cooperative has executed and returned all required CFC documents and supporting papers in connection with the Line of Credit designated above. These documents have been reviewed and found legally acceptable and satisfactory to CFC and thus constitute a binding agreement between CFC and your cooperative.

Enclosed, for your records, is a copy of the fully executed Line of Credit Agreement. Line of Credit funds may now be requisitioned in accordance with the terms of the Line of Credit Agreement.

We at CFC appreciate the opportunity to serve your system and look forward to our continued business relationship.

Sincerely,

A handwritten signature in cursive script that reads 'David Olah'.

David Olah
Associate Vice President

Enclosure

**National Rural Utilities Cooperative Finance Corporation
Perpetual Line of Credit Agreement
("Agreement")**

Name of Borrower: Mecklenburg Electric Cooperative

Address: PO Box 2451, 11633 Hwy 92, Chase City, Virginia 23924

National Rural Utilities Cooperative Finance Corporation ("CFC"), a District of Columbia corporation, has approved Borrower for a revolving line of credit loan in an amount not to exceed Nine Million Two Hundred Thousand Dollars (\$9,200,000.00) (hereinafter referred to as the "CFC Commitment"). Borrower hereby agrees that the terms and conditions herein, plus any additional terms and conditions agreed to in writing by the parties, shall constitute a valid and binding agreement between Borrower and CFC. In consideration of their mutual promises hereunder and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, CFC and Borrower agree to the following terms and conditions:

- 1. Revolving Credit and Term.** CFC agrees to advance funds to the Borrower pursuant to the terms and conditions hereof (each such advance of funds is referred to herein as an "Advance"), provided, however, that the amount at any time outstanding under this line of credit shall not exceed the CFC Commitment. The Borrower may borrow, repay and reborrow funds at any time or from time to time for a period up to twelve (12) months from the effective date hereof. This Agreement shall thereafter automatically renew for subsequent periods of twelve (12) months each. Either party may terminate this Agreement at the end of any period by providing written notice to the other party at least ninety (90) days prior to the expiration of such period.
- 2. Requisitions.** Requests for Advances shall be in such written form as CFC may reasonably require from time to time.
- 3. Interest Rate and Payment.** The Borrower unconditionally promises and agrees to pay, as and when due, interest on all amounts advanced hereunder from the date of each Advance and to repay all amounts advanced hereunder with interest on the date this Agreement terminates as provided herein. Interest shall be due and payable in accordance with CFC's regular billing cycles as may be in effect from time to time. CFC shall send a payment notice to the Borrower at least five days prior to the due date of any interest payment. All amounts shall be payable at CFC's main office at Woodland Park, 2201 Cooperative Way, Herndon, Virginia 20171-3025 or at such other location as designated by CFC from time to time. The interest rate on all Advances will be equal to the total rate per annum as may be fixed by CFC from time to time, which shall not exceed the Prevailing Bank Prime Rate (as defined herein), plus one percent per annum. Interest will be computed on the basis of a 365 day year for the actual number of days that any

Advance is outstanding. The effective date of an interest rate adjustment will be determined from time to time by CFC, provided that no such adjustment may be effective on a date other than the first or sixteenth day of any month, and any such adjustment shall remain in effect until any subsequent change in the interest rate occurs.

The "Prevailing Bank Prime Rate" is that bank prime rate published in the "Money Rates" column of the eastern edition of *The Wall Street Journal* on the publication day immediately preceding the day on which an adjustment in the interest rate hereof shall become effective. If *The Wall Street Journal* shall cease to be published, then the Prevailing Bank Prime Rate shall be determined by CFC by reference to another publication reporting bank prime rates in a similar manner.

4. **Mandatory Prepayment.** If (a) there is a change in the Borrower's corporate structure (including without limitation by merger, consolidation, conversion or acquisition), and (b) after giving effect to such change, Borrower (i) would not be eligible to receive a loan or commitment for a loan from the Rural Utilities Service or any successor agency, or (ii) would no longer engage in the furnishing of utility services to its members and patrons for their use as ultimate consumers, then upon the effective date of such change, the Borrower shall prepay the outstanding principal balance of all Obligations, together with any accrued but unpaid interest thereon, any unpaid costs or expenses provided for herein, and a prepayment premium prescribed by CFC pursuant to its policies of general application in effect from time to time.

"Obligations" shall mean any and all liabilities, obligations or indebtedness owing by the Borrower to CFC, of any kind or description, irrespective of whether for the payment of money, whether direct or indirect, absolute or contingent, due or to become due, now existing or hereafter arising.

5. **CFC Accounts.** CFC shall maintain in accordance with its usual practices an account or accounts evidencing the indebtedness of the Borrower resulting from each Advance and the amounts of principal and interest payable and paid hereunder. In any legal action or proceeding in respect of this Agreement, the entries made in such account or accounts (whether stored on computer memory, microfilm, payment notices or otherwise) shall be presumptive evidence (absent manifest error) of the existence and amounts of the Borrower's transactions therein recorded.
6. **Corporate and Regulatory Approvals.** Borrower represents and warrants that it has obtained any and all necessary corporate and regulatory approvals for Borrower to execute, deliver and perform its obligations under this Agreement.
7. **Reports.** During the term of this Agreement, Borrower agrees (a) to provide CFC, within 120 days of the end of Borrower's fiscal year, its annual financial statements, prepared in accordance with generally accepted accounting principles ("GAAP") and audited by an independent certified public accountant, or otherwise in form and substance satisfactory to CFC, and (b) to provide CFC with any other reports or information which CFC may from time to time reasonably request.
8. **Fees.** If any amount outstanding and due hereunder shall not be paid when due, Borrower agrees to pay on demand CFC's reasonable costs of collection or enforcement

of this Agreement, or preparation therefor, including reasonable fees of counsel. If payment of any principal and/or interest due under the terms of this Agreement is not received at CFC's office in Herndon, Virginia, or such other location designated by CFC within 5 business days after the due date thereof, then Borrower shall pay to CFC, on demand, and in addition to all other amounts due under the terms of this Agreement, any late-payment and additional interest charges as may then be in effect pursuant to CFC's then current policies without setoff or counterclaim. For purposes of this Agreement, a "business day" means a day that both CFC and the financial institution it employs for funds remittance are open for business.

9. **Limitation on Advances.** While an Advance is outstanding, CFC reserves the right to limit further Advances if the sum of (a) all Advances outstanding, (b) the amount of any further Advance requested, and (c) the total amount of Borrower's other unsecured outstanding debt, would exceed the CFC Commitment. CFC may also, in its sole discretion decline to make any Advance during any period when the Borrower is in default hereunder.
10. **Paydown Requirement.** For each 12-month period while this Agreement is in effect, Borrower shall, for a period of at least five consecutive business days, pay down the entire outstanding principal balance on this line of credit ("Paydown"). Borrower shall make the initial Paydown within 360 days of the first Advance hereunder, and shall make each subsequent Paydown within 360 days of the date of the first Advance following each Paydown.
11. **Credit Support.** With CFC's prior written approval, this Agreement may be used as credit support for other financings.
12. **Notices, Acceleration of Debt and Waivers.** While an Advance is outstanding, Borrower agrees to notify CFC in writing of (a) any delinquency or default on any of its financial obligations, (b) any material adverse change in its financial or business condition, and (c) if any representation or warranty made in this Agreement is no longer true in any material respect. If any delinquency, default, or any other event as a result of which any holder of indebtedness may declare the same due and payable shall occur and continue uncorrected for more than any applicable grace period, or any representation or warranty herein shall no longer be true, or Borrower shall fail to perform or to comply with any term of this Agreement, or if the financial condition of Borrower shall have changed to the extent that such change, in the reasonable judgment of CFC, materially increases CFC's risk of repayment hereunder, then CFC may declare at any time all outstanding principal, interest and other amounts due hereunder immediately due and payable in full with accrued interest, without presentment or demand, and may withhold Advances. The Borrower waives the defense of usury and all rights to setoff, counterclaim, deduction or recoupment.
13. **Survival of Representations and Warranties and Payment Obligations.** Borrower agrees that its obligation to repay principal, interest and all other amounts due hereunder, and the representations and warranties made herein, shall survive termination of this Agreement. Borrower further agrees that such repayment obligations shall be automatically reinstated if and to the extent that for any reason any payment by or on

behalf of the Borrower is rescinded, set aside or must be otherwise restored, whether as a result of any proceeding in bankruptcy or reorganization or otherwise.

14. Representations and Warranties. Borrower represents and warrants that as of the date of its application for this line of credit, and on the date of each Advance hereunder:

- a) the Borrower is not in default of any of its financial obligations;
- b) there has been no material adverse change in the Borrower's business or financial condition from that set forth in its most recent audited financial statements;
- c) no litigation is pending or, to the best of Borrower's knowledge, threatened against the Borrower which, if adversely determined, would have a material adverse effect on the Borrower's ability to perform under this Agreement;
- d) the information contained in Borrower's audited financial statements, its other financial reports and information otherwise submitted in connection with this Agreement is complete and accurate, and said financial statements and financial reports fairly represent the financial condition of the Borrower as of the dates reflected thereon;
- e) the execution, delivery and performance of this Agreement has been duly authorized by the Borrower, which authorization has not been rescinded or modified;
- f) all Advances hereunder will be used only for proper corporate purposes;

15. Conditions of Lending. As a condition to CFC making Advances hereunder, each of the following conditions shall be satisfied at the time of each Advance:

- a) CFC shall have received the Borrower's most recent annual financial statements, prepared in accordance with GAAP and audited by an independent certified public accountant, or otherwise in form and substance satisfactory to CFC;
- b) all representations and warranties set forth herein shall be true and correct; and
- c) the Borrower shall have obtained any and all necessary corporate, regulatory and governmental approvals for the Borrower to execute, deliver and perform its obligations under this Agreement.

16. GOVERNING LAW; SUBMISSION TO JURISDICTION; WAIVER OF JURY TRIAL.

- (a) **THE PERFORMANCE AND CONSTRUCTION OF THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE COMMONWEALTH OF VIRGINIA.**
- (b) **BORROWER HEREBY SUBMITS TO THE NONEXCLUSIVE JURISDICTION OF THE UNITED STATES COURTS LOCATED IN VIRGINIA AND OF ANY STATE COURT SO LOCATED FOR PURPOSES OF ALL LEGAL PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY. BORROWER IRREVOCABLY**

WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE ESTABLISHING OF THE VENUE OF ANY SUCH PROCEEDING BROUGHT IN SUCH A COURT AND ANY CLAIM THAT ANY SUCH PROCEEDING HAS BEEN BROUGHT IN AN INCONVENIENT FORUM.

- (c) **EACH OF THE BORROWER AND CFC HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.**
17. **Severability.** If any term, provision or condition, or any part thereof, of this Agreement shall for any reason be found or held invalid or unenforceable by any court or governmental agency of competent jurisdiction, such invalidity or unenforceability shall not affect the remainder of such term, provision or condition nor any other term, provision or condition, and this Agreement shall survive and be construed as if such invalid or unenforceable term, provision or condition had not been contained herein.
18. **Setoff.** Upon the occurrence and during the continuance of any default, CFC is hereby authorized at any time and from time to time without prior notice to the Borrower to exercise rights of setoff or recoupment and apply any and all amounts held, or hereafter held, by CFC or owed to the Borrower or for the credit or account of the Borrower against any and all of the obligations of the Borrower now or hereafter existing hereunder. CFC agrees to notify the Borrower promptly after any such setoff or recoupment and the application thereof, provided that the failure to give such notice shall not affect the validity of such setoff, recoupment or application. The rights of CFC under this section are in addition to any other rights and remedies (including other rights of setoff or recoupment) which CFC may have.
19. **Additional Terms and Conditions.** Additional terms and conditions as set forth herein or attached hereto are an integral part of this Agreement.
20. **Termination and Cancellation of Existing Agreement.** Borrower agrees that its existing line(s) of credit No(s). VA031-R-5101 with CFC, and any agreement(s) relating thereto shall be terminated and any outstanding principal, interest and other amounts outstanding thereunder shall be transferred to the line of credit established pursuant to this Agreement and deemed an Advance hereunder.
21. **Miscellaneous.** (a) This Agreement contains the entire agreement of the parties hereto with respect to the matters covered and the transactions contemplated hereby, and no other agreement, statement or promise made in connection with this line of credit by any party hereto, or by any employee, officer, agent or attorney of any party hereto which is not contained herein shall be valid and binding. (b) Any amendment to this Agreement must be in writing signed by both parties. (c) No failure or delay by CFC in exercising any right or remedy hereunder shall operate as a waiver or preclude the future exercise thereof or of any other right or remedy. (d) If any payment is due from Borrower on a day which CFC is not open for business, then such payment shall be made on the next succeeding day on which CFC is open for business.

- 22. Notices.** All notices, requests and other communications provided for herein including, without limitation, any modifications of, or waivers, requests or consents under, this Agreement shall be given or made in writing (including, without limitation, by telecopy) and delivered to the intended recipient at the "Address for Notices" specified below; or, as to any party, at such other address as shall be designated by such party in a notice to each other party. Except as otherwise provided in this Agreement, all such communications shall be deemed to have been duly given when personally delivered or, in the case of a telecopied or mailed notice, upon receipt, in each case given or addressed as provided for herein. The Address for Notices of the respective parties are as follows:

CFC:

National Rural Utilities
Cooperative Finance Corporation
2201 Cooperative Way
Herndon, Virginia 20171-3025
Attention: Senior Vice President - Member Services
Fax: (703) 709-6776

The Borrower:
Mecklenburg Electric Cooperative
PO Box 2451, 11633 Hwy 92
Chase City, VA 23924
Attention: President and Chief Executive Officer
Fax: (434) 372-6101

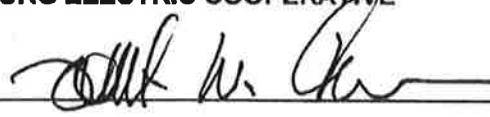
23. Additional Terms and Conditions.

- (a) Prior to and as a condition of making the initial Advance, CFC shall have been furnished with an opinion of counsel for Borrower addressing such legal matters as CFC shall reasonably require.
- (b) CFC hereby agrees to reserve \$90,000.00 hereunder to back potential obligations of Borrower to the Virginia Department of Transportation ("VDOT"). To access the reserved funds, Borrower will need to submit documentation in form and substance acceptable to CFC that confirms that proceeds of Advances from the reserved portion are to be used solely to make payment on its obligations to VDOT. Such documentation will include, but not be limited to the appropriate notification from VDOT that Borrower owes payment to VDOT which payment has not been made within a specified timeframe, that such non-payment default has not been cured within any applicable grace period and that VDOT has demanded payment to cure such default.

The reservation in availability will remain in place until Borrower submits a written request in form and substance satisfactory to CFC, confirming that it is no longer necessary for the reservation to remain in effect.

MECKLENBURG ELECTRIC COOPERATIVE

Signed By: _____



Title: Chairman of the Board

Date Signed: November 15, 2006

NATIONAL RURAL UTILITIES COOPERATIVE FINANCE CORPORATION

By: _____

David W. Olah
Assistant Secretary-Treasurer
DAVID W OLAH


Loan Number: VA031-P-5102

(To be filled in by CFC) The effective date of this Agreement is: _____

11/29/06

IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the Effective Date.

**VIRGINIA ELECTRIC AND POWER COMPANY
D/B/A DOMINION ENERGY VIRGINIA**


Augustus Johnson (7/16, 2021 16:51 EDT)

Name: Augustus Johnson
Title: Director – Electric Distribution Grid Solutions

EMPOWER BROADBAND, INC.


John C. Lee, Jr. (7/16, 2021 16:01 EDT)

Name: John C. Lee, Jr.
Title: President and CEO

[SIGNATURE PAGE TO PHASE ONE MEMORANDUM OF UNDERSTANDING]

IN WITNESS WHEREOF, the Counties named below have executed this Memorandum as of the Effective Date.

CITY OF EMPORIA

William E. Johnson, III
William E. Johnson, III (Jul 26, 2021 14:56 EDT)

Name: William E. Johnson, III, MBA
Title: City Manager
City of Emporia
201 South Main Street
Emporia, Virginia 23847

MECKLENBURG COUNTY

H. Wayne Carter III
H. Wayne Carter III (Jul 26, 2021 09:18 EDT)

Name: H. Wayne Carter, III
Title: County Administrator
Mecklenburg County, Virginia
P.O. Box 307
Boydton, VA 23917

GREENSVILLE COUNTY

Gary L. Cifers
Gary L. Cifers (Jul 26, 2021 17:27 EDT)

Name: Gary L. Cifers, M.S. Ed.
Title: Acting County Administrator
Greensville County
1781 Greensville County Circle
Emporia, Virginia 23847

HALIFAX COUNTY

Scott R. Simpson
Scott R. Simpson (Aug 3, 2021 17:52 EDT)

Name: Scott R. Simpson, P.E., MPA
Title: County Administrator
Halifax County, VA
1050 Mary Bethune Street
Halifax, VA 24558

IN WITNESS WHEREOF, the Counties named below have executed this Memorandum as of the Effective Date.

BRUNSWICK COUNTY

Leslie Weddington

Name: Leslie Weddington
Title: Interim County Administrator
228 N. Main St
PO BOX 399
Lawrenceville, Va 213868

Letters of Support

Greensville County and City of Emporia VATI Application

1. Virginia Delegate Roslyn Tyler
2. Crater Planning District Commission
3. Mid-Atlantic Broadband Communities Corporation
4. County of Greensville
5. Director of Economic Development for Greensville County
6. Mr. Ricky Hicks
7. Dominion Energy
8. Greensville County Board of Supervisors



COMMONWEALTH OF VIRGINIA
HOUSE OF DELEGATES
RICHMOND

ROSLYN C. TYLER
25359 BLUE STAR HIGHWAY
JARRATT, VIRGINIA 23867

SEVENTY-FIFTH DISTRICT

COMMITTEE ASSIGNMENTS:
EDUCATION (CHAIR)
APPROPRIATIONS
AGRICULTURE, CHESAPEAKE AND
NATURAL RESOURCES

September 9, 2021

Department of Housing & Community Development
C/O Dr. Tamarah Holmes, VATI Grant Administrator
600 east Main Street, Suite 300
Richmond, VA 23219

Dr. Tamarah Holmes,

I am writing this letter on behalf of EMPOWER Broadband in support of their application to the Department of Housing and Community Development Virginia Telecommunications Initiative grant in partnership with Mecklenburg, Brunswick, Charlotte, Greensville, Halifax Counties, and the Southside Planning District Commission. As the Delegate representing the 75th District in Virginia's House of Representatives which includes Greensville, and Brunswick Counties I would like to express my full support of this VATI grant application. This grant will help secure funding to build fiber-to-the-home in areas within EMPOWER Broadband's service footprint that struggle to receive broadband speeds of 10/1 Mbps and that to date, have not received any funding to provide such service. This grant would include approximately 17,198 locations to be served. This will also serve as a part of a regional project that includes serving an additional 2,691 locations in Greensville County and the City of Emporia. This project also includes a partnership with Dominion Energy to build out infrastructure to homes and neighborhoods outside of the Mecklenburg Electric Cooperative (MEC), EMPOWER Broadband's parent company, service territory that also lack access to high-speed broadband service.

With unserved areas within these Counties, we face many challenges including limitations in accessing medical resources relating to distance between patients, physicians, and specialists. Because of the rural nature of our areas, our students do not receive equitable broadband resources as other students in more urban learning centers. Even though we have made significant advancements in education with the advancement of our schools, we continue to lack in distance learning and other education opportunities that advanced broadband can bring to our students.

Therefore, it is extremely important that VATI grant funding be obtained to provide for much needed broadband service to our area. Additionally, this expansion brings needed broadband solutions to underserved and unserved businesses in this area.

Regards.

A handwritten signature in black ink, appearing to read "Roslyn C. Tyler".

Delegate Roslyn Tyler
VA House of Delegates
75th District

CRATER PLANNING DISTRICT COMMISSION

Monument Professional Building • 1964 Wakefield Street • Post Office Box 1808 • Petersburg, Virginia 23805
PHONE: (804) 861-1666 • FAX: 804-732-8972 • E-MAIL: info@craterpdc.org • WEBSITE: www.craterpdc.org

September 10, 2021

Mr. Linwood E. Pope, Jr.
Director of Planning
1781 Greensville County Circle
Emporia, Virginia 23847

Dear Mr. Pope,

I write you on behalf of the Crater Planning District Commission in support of Greensville County's application to VATI for funding of broadband implementation. We strongly support this project and the focus on infrastructure development.

Our mission is to strengthen the quality of life throughout the Crater District by serving as a regional forum of member local governments to address issues of regional significance, providing technical assistance to localities and promoting and enhancing the collective consensus on the economic, transportation, social, environmental and demographic interests of the region. This project closely aligns with our mission, by increasing community enhancement and development throughout Greensville County.

Ten small localities in southern Virginia comprise the Crater Economic Development District, home to 186,938 people according to the 2020 US Census. Population growth is stagnant with an increase shy of 7,000 since 2010. A lack of investment in modernization of infrastructure and services like broadband internet accompanies this lack of growth.

Unemployment rates in these ten localities range from 4.1% – also the rate for the Commonwealth as a whole – to 10.3%. Per capita income in the Crater Economic Development District was \$39,684, nearly \$20,000 less than Virginia's per capita income in 2019 according to the US Bureau of Economic Analysis.

Investment in broadband infrastructure is both an objective of Goal 4 and a performance measure under Goal 5 of the Comprehensive Economic Development Strategy of the Crater Economic Development District. These goals are to (4) encourage and facilitate the provision of well planned, state-of-the-art public infrastructure that will attract higher-wage employers and to (5) enhance the innovation/information technology ecosystem.

In conclusion, I fully support the efforts of Greensville County to seek federal VATI funding through the Virginia Telecommunication Initiative. We are committed to supporting this project and look forward to continuing our collaborative efforts to enhance the Crater Planning District.

Sincerely,



Alec Brebner
Executive Director



Mid-Atlantic Broadband Communities Corporation

September 9, 2021

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

Dear Dr. Holmes:

The Mid-Atlantic Broadband Communities Corporation (MBC) is pleased to offer this letter of support to Mecklenburg Electric Cooperative and their EMPOWER Broadband affiliate application for VATI funding.

MBC was formed in 2004, in part because of the strong support of the electric cooperatives in Virginia, who recognized the need to have an open-access fiber optic network that could serve as an economic development catalyst and help improve middle mile access throughout rural southern Virginia. In the last few years as the electric cooperatives took another leadership position and started to build new business ventures to supply critical last mile broadband connections, Mecklenburg Electric and their Empower subsidiary were first in line to partner with MBC once again to utilize the middle mile network to enable their last mile network plans and extend their critical services to more of our rural residents.

MBC and MEC/Empower have worked hand in hand over the last few years to leverage the middle mile fiber network made possible by investments from the Commonwealth of Virginia and MBC is delighted to be able to support the MEC/Empower VATI application.

MBC is proud to support MEC/Empower broadband project that will provide universal coverage in the region, and we appreciate all of your support to make this project a reality for the citizens of southern Virginia

Sincerely,

A handwritten signature in black ink, appearing to read "Tad Deriso", with a long horizontal flourish extending to the right.

Tad Deriso
MBC President & CEO



Dr. Charlette T. Woolridge
County Administrator

Gary L. Cifers
Assistant County Administrator

Natalie B. Slate
Director of Economic Development

Dr. Terrence Wood
Director of Human Resources

Russell O. Slayton, Jr.
County Attorney

Belinda D. Astrop
Vice-Chairman
Election District 1

James R. Brown
Chairman
Election District 2

William B. Cain
Election District 3

Tony M. Conwell
Election District 4

September 14, 2021

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

Dear Dr. Holmes:

I write this letter in full support of EMPOWER Broadband's application for a DHCD Virginia Telecommunication Initiative (VATI) broadband grant to secure funding to build a fiber network for all unserved and underserved areas within Greensville County and the City of Emporia. The residents and businesses in portions of each locality struggle to receive broadband speeds of 25/3 Mbps.

I am confident their aggressive strategy will provide highspeed broadband to the Emporia Greensville area and across Southside Virginia. We are also aware that EMPOWER's solution will immediately provide 100Megabits per second speeds as recommended by the Treasury Department in its most recent guidance on broadband. Accordingly, we enthusiastically support Mecklenburg Electric Cooperative and EMPOWER Broadband's long-term fiber solution.

EMPOWER's VATI application is a joint effort made in partnership with Greensville County and the City of Emporia where broadband capability is severely limited. Like you, we regularly hear of the impacts and limitations on educational opportunities, economic development, tourism, medical resources, as well as personal growth. Together, we must create lasting solutions to shatter the overwhelming digital divide experienced in this region of the Commonwealth.

In closing, I greatly appreciate your serious consideration in approving EMPOWER's grant application. Not only will the award of this funding sustain the future of advanced broadband services in the County and City's footprint, it will also promote future economic stability for their families and business.

Sincerely,

Linwood E. Pope, Jr.
Director of Planning

LEP,Jr./tcp

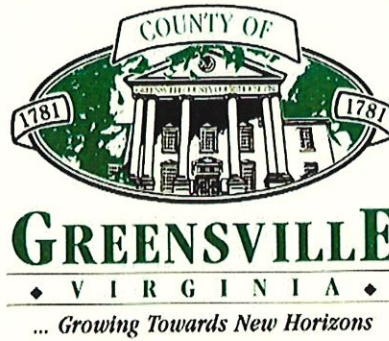
Dr. Charlette T. Woolridge
County Administrator

Gary L. Cifers
Assistant County Administrator

Natalie B. Slate
Director of Economic Development

Dr. Terrence Wood
Director of Human Resources

Russell Slayton
County Attorney



Belinda Astrop
Vice-Chair
Election District 1

James Brown
Chair
Election District 2

William Cain
Election District 3

Tony Conwell
Election District 4

September 10, 2021

Mr. Linwood E. Pope, Jr.
Director of Planning
1781 Greensville County Circle
Emporia, Virginia 23847
Dear Mr. Pope,

I write you on behalf of the Economic Development Department of Greensville County in support of Greensville County's application to VATI for funding of broadband implementation. We strongly support this project and the focus on infrastructure development.

Our goal is to attract business and industry to the community. Modernization of infrastructure and services like broadband internet are vital to attract clients. Broadband capabilities are essential for businesses and industries to compete in our community on a global level. This project will assist the community in bringing broadband access to a larger portion of the County.

Investment in broadband infrastructure is both an objective of Goal 4 and a performance measure under Goal 5 of the Comprehensive Economic Development Strategy of the Crater Economic Development District, of which Greensville County is a member. These goals are to (4) encourage and facilitate the provision of well planned, state-of-the-art public infrastructure that will attract higher-wage employers and to (5) enhance the innovation/information technology ecosystem.

In conclusion, I fully support the efforts of Greensville County to seek federal VATI funding through the Virginia Telecommunication Initiative. We are committed to supporting this project and look forward to ensuring potential clients have a robust broadband network available for their operations.

Sincerely,

A handwritten signature in black ink, appearing to read 'Natalie B. Slate', is written over a faint, light-colored background.

Natalie B. Slate
Director of Economic Development

To Greensville County Grant Letter of Support.

9/11/2021

Dear Dr. Holmes:

I write this letter in full support of Emporia Broadband's application for a DHCD Virginia Telecommunication Initiative (VATI) broadband grant to help secure funding to build a fiber –to-the-premise network for all unserved and underserved areas within Greensville County in order to achieve universal coverage. Greensville County's residents and businesses struggle to receives broadband speeds of 25/3 Mbps and to date, have not received any funding to provide such service. The application is being made in partnership with Greensville County and the City of Emporia in Southside Virginia where broadband capability is severely limited. The impacts includes limitation on educational opportunities, economic development, tourism, availability of medical resources, as well as personal growth.

I greatly appreciate your serious consideration in approving EMPOWER's grant application. Not only will the award of this funding help sustain the future of advanced broadband services in the county's footprint, it will also promote future economic stability of our communities.

Thank you,

Mr. Ricky Hicks

Ricky Hicks
434-594-2970



September 9, 2021

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: 2022 VATI Applications from Empower

Dear Ms. Holmes:

Dominion Energy Virginia ("Dominion") is pleased to be a party to several Memoranda of Understanding with EMPOWER Broadband, Inc., Mecklenburg Electric Cooperative, and the Counties of Mecklenburg, Halifax, Greensville, and Brunswick (each, a "Participating County").

Dominion, EMPOWER, and our electric cooperative partner 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 2022 Virginia Telecommunication Initiative to be submitted by EMPOWER 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.

Dominion is pleased to be part of these important County-wide and regional initiatives in the manner contemplated by the Utility Leverage Statute.

Sincerely,

A handwritten signature in black ink, appearing to read "DFW".

David F. Walker
Director, Rural Broadband

RESOLUTION #22-32 OF SUPPORT FOR EMPOWER BROADBAND'S UNIVERSAL SERVICE COVERAGE AND VATI APPLICATION

WHEREAS, a significant number of families, students, businesses and personnel working from home who live and operate in Greenville County are relegated to complete their respective responsibilities without the benefit of much needed broadband services. Accordingly, our rural citizens are disproportionately offered unacceptable broadband alternatives while 97% of the Commonwealth's population is offered true high-speed internet. Greenville County is in desperate need of full broadband coverage and addressing the plight of those with no broadband access.

WHEREAS, economic development often remains out of reach to portions of our County, and further to that of our region, as adequate broadband is not available for business or the homes of prospective employees. Furthermore, achieved growth is limited to areas where high speed broadband infrastructure is available and subsequently demonstrates the inequity and disadvantages of living and owning property in unserved areas.

WHEREAS, traditional communication providers nor corporate business plans have provided necessary and essential services to rural areas with lower population density.

WHEREAS, EMPOWER's parent company, Mecklenburg Electric Cooperative, has served rural residents for over 80 years and has vast experience in providing utility services to rural areas and accordingly has cultivated the financial expertise to operate in low density and limited profit areas.

WHEREAS, EMPOWER's staff retains centuries of experience in telecommunications and broadband experience to Competitive and Incumbent local exchange areas within our region.

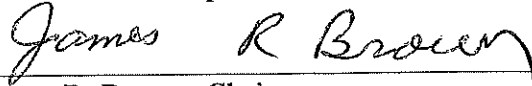
WHEREAS, EMPOWER has cultivated relationships to promote universal service coverage evidenced by those with Mid-Atlantic Broadband Communities Corporation, Dominion Energy, Southside Electric Cooperative, TRRC, USDA, DHCD, and many others.

WHEREAS, EMPOWER has demonstrated the experience and competency to manage and complete large utility infrastructure projects, including hundreds of miles of fiber optic cable, and delivered a network providing access to symmetrical speeds up to 1 Gigabit per second passing within 1000 feet of 7,196 premises across Southside Virginia.

BE IT THEREFORE RESOLVED, that this duly elected Board of Supervisors deems the delivery of Broadband of the utmost importance to serve the citizens of our County and its communities and to further remedy decades of population loss and the resulting loss of significant numbers of jobs. Additionally, as a part of Southside Virginia, which has experienced the contraction of population and revenues and accordingly requires an increased prorated share of Commonwealth investment to open our region and its substantial resources in people, infrastructure, and real estate to expand Virginia's comprehensive business environment.

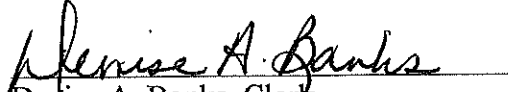
BE IT FURTHER RESOLVED, that this Board of Supervisors expresses its full support and confidence in EMPOWER Broadband through its partnership with the Southside Planning District Commission, to once and for all, provide a solution and deliver universal broadband coverage to Greenville County.

BE IT FINALLY RESOLVED, that this Board of Supervisors expresses its full support and confidence in EMPOWER in its application to the Department of Housing and Community Development's Virginia Telecommunications Initiative to complete this critical task.



James R. Brown, Chair
Greenville County Government Building

ATTEST:



Denise A. Banks, Clerk
Greenville County Board of Supervisors

Adopted this 7th day of September, 2021.

Attachment 12 - Derivation of Costs

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Customer Premise Costs	\$ -				8/31/2021
ONT (router) materials and installation	\$ 299,163		\$ 299,163	MEC based on 2018-21 projects	8/31/2021
Network Equipment (Electronics)					8/31/2021
OSP Electronic Cabinets	\$ 168,400		\$ 168,400	MEC based on 2018-21 projects	8/31/2021
E7-2 Package Chassis	\$ 16,200		\$ 16,200	MEC based on 2018-21 projects	8/31/2021
GPON SFP OIM, Class B+ 1490/1310nm	\$ 135,000		\$ 135,000	MEC based on 2018-21 projects	8/31/2021
E7-2 8 Card PON Unit	\$ 275,000		\$ 275,000	MEC based on 2018-21 projects	8/31/2021
Electronic Miscellaneous Equipment	\$ 124,711		\$ 124,711	MEC based on 2018-21 projects	8/31/2021
Electronic Installation Costs	\$ 62,356		\$ 62,356	MEC based on 2018-21 projects	8/31/2021
Aerial OSP Construction Costs	\$ 13,466,934	\$ 7,272,144	\$ 6,194,790	MEC based on 2018-21 projects	8/31/2021
Buried OSP Construction Costs	\$ 8,165,645	\$ 4,450,277	\$ 3,715,369	MEC based on 2018-21 projects	8/31/2021
Splitter Costs	\$ 363,750		\$ 363,750	MEC based on 2018-21 projects	8/31/2021

CDBG Derivation of Cost

Drop Construction and Installation Cost	\$ 2,243,597	\$ 1,096,121	\$ 1,147,476	MEC based on 2018-21 projects	8/31/2021
Transport Electronics and Installation	\$ 152,440		\$ 152,440	MEC based on 2018-21 projects	8/31/2021
Engineering-OSP and Electronics	\$ 3,012,453		\$ 3,012,453	MEC based on 2018-21 projects	8/31/2021
TOTAL	\$ 28,485,649	\$ 12,818,542	\$ 15,667,107		8/31/2021



HEADQUARTERS

P. O. Box 325
Chase City, VA 23924
Phone: 434-372-6244

BRACEY DISTRICT

P. O. Box 129
Bracey, VA 23919
Phone: 434-636-2274

September 8, 2021

Dr. 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: Cost Estimates for 2021 VATI Application for EMPOWER Broadband

Dear Dr. Holmes:

To develop the network design and associated cost estimates contained in the application for universal coverage to Greensville County, Empower Broadband engaged the expert resources available at a third-party company, Finley Engineering. Finley Engineering is a multi-disciplined organization offering professional engineering, surveying, mapping, environmental and right-of-way services to the telecommunications, electric power transmission and distribution, gas pipeline, cable television, fiber optics, and related industries.

The cost estimates contained in the application are derived using Finley's Cost estimate model which allows for detailed cost estimates and takes into account multiple expenses derived from multiple successful projects completed by EMPOWER and its parent organization Mecklenburg Electric Cooperative.

Sincerely,

A handwritten signature in black ink that reads "Dwayne L. Long". The signature is written in a cursive, flowing style.

Dwayne L. Long
Empower Broadband COO
Mecklenburg Electric VP of IT

Attachment 13-Documentation of Supporting Cost Estimates

Greenville County Summary Version of Cost Estimates

Row Labels	Sum of Total Premises Passed	Sum of Total Subscribers	Sum of Estimated Total Route Mileage Including Loops	Sum of Estimated Total Drop Mileage Including Loops	Sum of Serving Area Total Cost	Sum of MEC-Total OSP Mainline Cost	Sum of MEC-Total OSP Drop Cost
☒ Dominion	1,397	559	147.16	37.84	\$ 11,606,602.47	\$8,752,826.37	\$1,164,736.06
RDOF904-MEC	678	271	35.64	18.36	\$ 3,231,667.70	\$2,119,769.24	\$565,276.34
Eligible-Unserved	264	106	11.53	7.15	\$ 1,132,992.42	\$685,524.80	\$220,107.60
Feeder	-	-	13.76	-	\$ 916,539.90	\$818,339.19	\$0.00
Drop Overall	-	-	49.61	-	\$ 3,304,545.93	\$2,950,487.44	\$0.00
RDOF904-CCO	455	182	36.63	12.32	\$ 3,020,856.52	\$2,178,705.70	\$379,352.12
☒ MEC	1,294	518	216.54	35.05	\$ 16,879,046.88	\$12,879,752.99	\$1,078,860.75
RDOF904-MEC	919	368	116.31	24.89	\$ 9,647,849.21	\$6,917,811.49	\$766,207.90
Eligible-Unserved	115	46	16.68	3.11	\$ 1,326,243.17	\$991,855.77	\$95,880.21
Feeder	-	-	32.57	-	\$ 2,169,806.68	\$1,937,327.39	\$0.00
RDOF904-CCO	260	104	50.99	7.04	\$ 3,735,147.81	\$3,032,758.34	\$216,772.64
Grand Total	2,691	1,076	363.70	72.88	\$ 28,485,649.34	\$21,632,579.36	\$2,243,596.81
					\$ 28,485,649.34		
	\$ 4,763.49	VATI Cost per Passing		45%	\$ 12,818,542.20	45% from VATI	
	\$ 11,606,602.47	\$ 4,469,281.99	Equals		\$ 7,137,320.47	Dominion Build minus drop	
					\$ 8,529,786.66	55% Remaining Match	

Row Labels	Sum of Total Premises Passed	Sum of Total Subscribers	Sum of Estimated Total Route Mileage Including	Sum of Estimated Total Drop Mileage Including	Sum of Serving Area Total Cost	Sum of Total OSP Cost	Sum of EMP - Access and Transport Costs	Sum of EMP - ONT and Service Installation Costs	Sum of MEC-L&B Cost	Sum of OA- Engineering Cost
Greenville Emporia - Dominion	0	0	2.62	0.00	\$174,221.19	\$155,554.64	\$0.00	\$0.00	\$0.00	\$18,666.56
Dominion	0	0	2.62	0.00	\$174,221.19	\$155,554.64	\$0.00	\$0.00	\$0.00	\$18,666.56
Feeder	0	0	2.62	0.00	\$174,221.19	\$155,554.64	\$0.00	\$0.00	\$0.00	\$18,666.56
Greenville Emporia - MEC	0	0	2.04	0.00	\$136,163.16	\$121,574.25	\$0.00	\$0.00	\$0.00	\$14,588.91
MEC	0	0	2.04	0.00	\$136,163.16	\$121,574.25	\$0.00	\$0.00	\$0.00	\$14,588.91
Feeder	0	0	2.04	0.00	\$136,163.16	\$121,574.25	\$0.00	\$0.00	\$0.00	\$14,588.91
Greenville Northeast	1016	406	90.49	27.52	\$7,528,604.06	\$6,353,787.52	\$236,574.30	\$108,946.10	\$35,000.00	\$794,296.13
Greenville Northwest	356	142	63.44	9.64	\$4,832,966.46	\$4,118,656.74	\$135,673.80	\$41,132.60	\$26,000.00	\$511,503.32
Greenville Southeast	633	253	100.89	17.14	\$7,749,966.39	\$6,604,321.04	\$224,458.40	\$72,436.80	\$29,000.00	\$819,750.14
Greenville Southwest	686	274	104.22	18.58	\$8,063,728.08	\$6,886,031.97	\$212,400.30	\$76,648.10	\$35,000.00	\$853,647.71
Grand Total	2691	1076	363.70	72.88	\$28,485,649.34	\$24,239,926.17	\$809,106.80	\$299,163.60	\$125,000.00	\$3,012,452.77

Legend			
Outside Plant			
Electronics			
Transport Electronics			
Land / Buildings			
Engineering			
The parameters listed below will feed into the cost estimate table. Any updates to these parameters will require the Pivot Table on the Data Summary tab to be refreshed.			
Cost Estimate Parameters			Value
Estimated % of Aerial Mainline Cable			64%
Estimated % of Buried Mainline Cable			35%
Estimated Aerial Premises Passed			70%
Estimated Buried Premises Passed			30%
Subscriber Take-Rate			40%
Estimated Aerial Drop Footage			350.0
Estimated Buried Drop Footage			175.0
Estimated Loop % Per Route Mile for Express Cable			6.0%
Boring Percentage			30.0%
Plowing Percentage			70.0%
Add Footage for Aerial Drop Loops			60.0
Add Footage for Buried Drop Loops			60.0
Estimated Loop % Per Route Mile for Mainline Cable			11.0%
Estimated Loop % Per Route Mile for Mainline Cable			11.0%
Aerial Cost Per Drop Mile		\$	30,784.28
Buried Cost Per Drop Mile		\$	30,784.28
Aerial Cost Per Mainline Route Mile		\$	57,276.61
Buried Cost Per Mainline Route Mile		\$	63,505.45
Fiber Distribution Panel for Feeder 1 Fibers		\$	1,750.00
OSP Splitter Cabinet Cost		\$	19,000.00
1x4 Splitter Cost		\$	105.00
1x8 Splitter Cost		\$	210.00
1x32 Splitter Cost		\$	1,050.00
Remote OSP Electronics Cost		\$	38,000.00
Polymer Vault Cost		\$	4,100.00
Fiber Frame Cost		\$	17,500.00
Fiber Distribution Panel Cost		\$	1,750.00
E7 Units Cost		\$	900.00
GPON-8 Cards Cost		\$	12,500.00
GPON OIM Class C+ Optics Cost		\$	1,800.00
ONT Cost		\$	220.00
Service Installation Costs (per Sub)		\$	508.63
Electronics Access Installation Cost			7.5%
Electronics Access Contingency Cost			15.0%
OIM 10G Transport Cost		\$	100.00
E7 10G Transport Cost		\$	2,800.00
Electronics Transport Installation Cost			7.5%
Electronics Transport Contingency Cost			15.0%
Remote Site Acquisition & Preparations Cost			Formula
Pre-Loan Engineering Cost			0%
Engineering OSP Cost			12.0%
Engineering Electronics Cost			8.0%

Form 477 Filing Summary

FRN:
0027843333

Data as of:
Jun 30, 2021

Operations:
Non-ILEC

Submission Status:
Original - Submitted

Last Updated:
Aug 11, 2021 02:15
PM

Filer Identification

Section	Field	Response
Filer Information	Company Name	Empower Broadband, Inc.
	Holding Company Name	Mecklenburg Electric Cooperative
	Filing Type	Non-ILEC
	SAC ID	199022
	499 ID	832934
Data Contact Information	Data Contact Name	Dwayne L Long
	Data Contact Phone Number	(434) 372-6125
	Data Contact E-mail	dlong@meckelec.org
Emergency Operations Contact Information	Emergency Operations Name	Dwayne L Long
	Emergency Operations Phone Number	(434) 372-6125
	Emergency Operations E-mail	dlong@meckelec.org
Certifying Official Contact Information	Certifying Official Name	Dwayne L Long
	Certifying Official Phone Number	(434) 372-6125
	Certifying Official E-mail	dlong@meckelec.org

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	BB_All.csv	Aug 10, 2021 09:22 AM	2,287
Fixed Broadband Subscription	477BBSpeeds063021R.csv	Aug 11, 2021 02:09 PM	67
Fixed Voice Subscription	Fixed Voice Subs 063021.csv	Aug 11, 2021 02:01 PM	14

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
-------	----------	------------	--------

State	DBA Name	Technology	Blocks
Virginia	EMPOWER BROADBAND, INC.	Asymmetric xDSL	598
		Optical Carrier/Fiber to the End User	1,507
		VDSL	182
Total			2,287

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
North Carolina	Asymmetric xDSL	2	2	0	2
	Optical Carrier/Fiber to the End User	5	80	0	80
Virginia	Asymmetric xDSL	19	559	10	569
	Optical Carrier/Fiber to the End User	41	729	44	773
Total		67	1,370	54	1,424

Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
3.000	3.000	51	3	54
5.000	5.000	91	3	94
10.000	10.000	419	4	423
50.000	50.000	654	22	676
100.000	100.000	121	14	135
300.000	300.000	22	0	22
1,000.000	1,000.000	12	8	20
Total		1,370	54	1,424

Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Asymmetric xDSL	3.000	3.000	51	3	54
	5.000	5.000	91	3	94
	10.000	10.000	419	4	423
Optical Carrier/Fiber to the End User	50.000	50.000	654	22	676
	100.000	100.000	121	14	135

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	300.000	300.000	22	0	22
	1,000.000	1,000.000	12	8	20
Total			1,370	54	1,424

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
North Carolina	0	0	11	11
Virginia	0	0	436	405
Total	0	0	447	416

Fixed Voice Subscription (iVoIP)

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

State	Total	Consumer	Business/Govt.
North Carolina	11	11	0
Virginia	436	405	31
Total	447	416	31

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
North Carolina	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0

Reminder: You must continue to use Census 2010 geographic codes in FCC Form 477.

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Form 477 Filing Summary

FRN:
0027843333

Data as of:
Dec 31, 2020

Operations:
Non-ILEC

Submission Status:
Revised - Submitted

Last Updated:
Apr 13, 2021 04:01
AM

Filer Identification

Section	Field	Response
Filer Information	Company Name	Empower Broadband, Inc.
	Holding Company Name	Mecklenburg Electric Cooperative
	Filing Type	Non-ILEC
	SAC ID	199022
	499 ID	832934
Data Contact Information	Data Contact Name	Dwayne L Long
	Data Contact Phone Number	(434) 372-6125
	Data Contact E-mail	dlong@meckelec.org
Emergency Operations Contact Information	Emergency Operations Name	Dwayne L Long
	Emergency Operations Phone Number	(434) 372-6125
	Emergency Operations E-mail	dlong@meckelec.org
Certifying Official Contact Information	Certifying Official Name	Dwayne L Long
	Certifying Official Phone Number	(434) 372-6125
	Certifying Official E-mail	dlong@meckelec.org

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	MecklenburgDeployment0321_update.csv	Apr 13, 2021 03:59 AM	1,619
Fixed Broadband Subscription	MecklenburgBBSpeeds09321.csv	Apr 13, 2021 03:58 AM	55
Fixed Voice Subscription	MecklenburgFixedVoiceSubs0321.csv	Apr 13, 2021 03:58 AM	11

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
-------	----------	------------	--------

State	DBA Name	Technology	Blocks
North Carolina	EMPOWER BROADBAND, INC.	Asymmetric xDSL	36
		Optical Carrier/Fiber to the End User	7
		VDSL	6
Virginia	EMPOWER BROADBAND, INC.	Asymmetric xDSL	1,029
		Optical Carrier/Fiber to the End User	344
		VDSL	197
Total			1,619

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
North Carolina	Asymmetric xDSL	2	2	0	2
	Optical Carrier/Fiber to the End User	3	75	0	75
Virginia	Asymmetric xDSL	20	365	9	374
	Optical Carrier/Fiber to the End User	30	411	34	445
Total		55	853	43	896

Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
3.000	3.000	39	3	42
5.000	5.000	65	2	67
10.000	10.000	262	5	267
25.000	25.000	1	0	1
50.000	50.000	417	21	438
100.000	100.000	55	11	66
300.000	300.000	10	0	10
1,000.000	1,000.000	4	1	5
Total		853	43	896

Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Asymmetric xDSL	3.000	3.000	39	3	42

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	5.000	5.000	65	2	67
	10.000	10.000	262	4	266
	25.000	25.000	1	0	1
Optical Carrier/Fiber to the End User	10.000	10.000	0	1	1
	50.000	50.000	417	21	438
	100.000	100.000	55	11	66
	300.000	300.000	10	0	10
	1,000.000	1,000.000	4	1	5
Total			853	43	896

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
North Carolina	0	0	7	7
Virginia	0	0	238	215
Total	0	0	245	222

Fixed Voice Subscription (iVoIP)

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

State	Total	Consumer	Business/Govt.
North Carolina	0	0	0
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/Govt.	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
North Carolina	7	7	0	7	0	7	0	0	0
Virginia	238	215	23	238	0	238	0	0	0
Total	245	222	23	245	0	245	0	0	0

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Attachment 17 – Map of 10 Mbps 1 Up



Virginia Broadband Availability Map and Integrated Broadband Planning and Analysis Toolbox



Home About Sponsors News

Va. Funding Query Results

County	Partner	Year	Award Amount	Units Contracted to Pass	Funding Program
No results found					

Broadband Layers [Export to Image](#)

- Cable Wireline Coverage (June 2020)
- DSL/Copper Coverage (June 2020)
- Fiber Optic Coverage (June 2020)
- Fixed Wireless Coverage (June 2020)
- Mobile Wireless Coverage (Dec. 2018)
- 4G/LTE Wireless Coverage (Dec. 2018)
- Satellite Coverage (Dec. 2018)
- Virginia Telecommunication Initiative (VATI) Funding
- Tobacco Region Revitalization Commission (TRRC) Funding
- Underserved Areas (June 2020)
Greater than 10 Mbps download and 1 Mbps upload and less than 25 Mbps download and 3 Mbps upload.
- Unserved Areas (June 2020)
Below or equal to 10 Mbps download and 1 Mbps upload.
- No Residential Broadband Reported (June 2020)
25 Mbps download and 3 Mbps upload.

Other Layers

- Cities/Counties
- Vertical Assets (updated daily)
- 2010 Census Population
 - 0 - 71
 - 71 - 307

Source: <https://broadband.cgivt.edu/IntegratedToolbox/>

EMPOWER



BROADBAND

MARKETING PLAN

2021

EMPOWER BROADBAND, INC.
11633 Hwy 92 West, Chase City, VA 23924
1833-RURALBB emopwermec.net

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I. Executive Summary

EMPOWER Broadband, Inc. (EMPOWER) is a wholly-owned subsidiary of Mecklenburg Electric Cooperative (MEC) created to bridge the digital divide in rural Southside Virginia by bringing ultra-high-speed broadband to those in unserved and under-served areas across EMPOWER's Southside Virginia service territory.

II. Marketing Plan Summary

1. The Business

Name: EMPOWER Broadband, Inc.

Structure: Wholly-owned subsidiary of Mecklenburg Electric Cooperative

Location: 11633 Hwy 92 West, Chase City, VA 23924

Established: 2018

Parent Company: Mecklenburg Electric Cooperative (MEC)

Experience: MEC was established in 1938, by the members, for the members, at a time when rural Southside Virginia had no access to electricity. For 80 years, MEC has provided power to the rural citizens across portions of nine southern Virginia counties, and five northern North Carolina Counties. MEC understands and recognizes the needs of rural citizens and knows how to operate a successful business with the limited funds associated with lower population density. MEC has the infrastructure in place to deploy fiber and a workforce that can capably design and implement a high-speed fiber network. MEC/EMPOWER's team has significant experience in line construction of both overhead and underground facilities— having already deployed fiber across our region. Additionally, MEC/EMPOWER's IT team has experience in network and high-speed broadband design and operation.

Products/Services: EMPOWER offers up to 1 Gigabit per second (1000 Megabit per second) ultra-high-speed broadband internet as well as telephone services to the members and communities served by EMPOWER. EMPOWER's fiber system currently passes nearly 8,000 premises within 1000 foot of deployed lines. We are seeing all areas, regardless of demographics, experiencing take rates approaching 45 percent.

2. **The Future**

Vision Statement:

“To further enhance the quality of life for the members and communities served by Mecklenburg Electric Cooperative and EMPOWER Broadband by providing high speed broadband well in excess of current minimum broadband definitions.”

EMPOWER’s short-term goal was to deploy a fiber backbone reaching 135 miles across MEC’s service territory – connecting all substations, the four offices (Emporia, Bracey, Chase City and Gretna) and the headquarters office together within 36 months by utilizing MEC’s employees to provide needed smart grid technology for MEC’s distribution system and to extend fiber-to-the-premise (FTTP) to MEC members, and citizens living within 1,000 feet of the backbone. To date, MEC/EMPOWER employees have installed the backbone and have initiated a solid foundation for the EMPOWER Broadband, Inc. subsidiary.

EMPOWER’s long-term goal is extending fiber throughout the Southside Virginia region and its communities based on a take-rate approach.

3. **The Market**

EMPOWER’s target market begins with the members of MEC; this includes nearly 3,000 premises within the initial 1,000-foot pilot project.

Following the initial pilot phase, EMPOWER has begun serving portions of the nearly 30,000 other MEC premises and countless other subscribers across six Virginia counties, currently served by EMPOWER.

EMPOWER has utilized cost-saving measures by soliciting to prospective customers throughout the backbone deployment and will continue to do so throughout a phased construction. Items such as direct-mail, brochures, yard signs, premise information bags and door hangers have been used to contact potential subscribers throughout each new expansion zone.

4. **The Finances**

Mecklenburg Electric Cooperative has invested \$2.6 million dollars to construct the fiber backbone across its utility infrastructure to connect its substations and district offices – creating a foundational fiber ring. In partnership with Mecklenburg County, the Virginia Tobacco Region Revitalization Commission (VTRRC) awarded Mecklenburg Electric Cooperative (EMPOWER Broadband) a matching \$2.6 Million grant to expand a fiber optic network to its members residing within 1,000 feet of the utility’s backbone fiber cable.

The cost to supply a high-speed fiber optic network to the entire region is estimated at \$210 million. To date, EMPOWER has received, or is currently under contract for, the following funds to assist in the continuation of high-speed broadband construction across its service territory:

GRANTS:

- VTRRC - \$375,549, EMPOWER matching \$382,512, to construct 9 miles of fiber, including drops, in Pittsylvania County.
- 2020 VATI - \$710,514, EMPOWER matching \$2,186,195, to construct 37 miles of fiber, including drops in Halifax County.
- ReConnect Grant - \$1,532,367, EMPOWER matching \$450,787, to construct 22.94 miles of fiber, including drops, in Halifax and Brunswick Counties.
- CARES Funding - \$4,133,974, EMPOWER matching \$743,000, to construct 77.38 miles of fiber, including drops, across portions of Mecklenburg, Halifax, Greenville and Brunswick Counties.
- 2021 VATI - \$515,157, EMPOWER matching \$1,202,034, to construct 26.81 miles of fiber, including drops, in Mecklenburg and Halifax Counties

LOANS AND OTHER FUNDS:

- ReConnect Loan - \$3,793,234, to construct 68.82 miles of fiber, including drops, in Brunswick County.
- CAF-II Support - \$1,868,320, to construct 132.59 miles of fiber, including drops, in Brunswick County.
- RUS Loan - \$9,811,757, to construct 339.47 miles of fiber, including drops, in Mecklenburg and Brunswick Counties.
- RDOF - \$15,542,180, support for fiber in Halifax, Mecklenburg, Brunswick, Greenville Counties

Supplemental funds will be pursued through additional means and sources, such as the Virginia Telecommunication Initiative (VATI), which will be utilized to fund installations of EMPOWER accounts across ALL of Brunswick, Greenville, Halifax, and Mecklenburg Counties, and the southern portion of Charlotte County.

III. The Business

1. Business Overview

Founded in 2018, EMPOWER Broadband is a wholly-owned subsidiary of Mecklenburg Electric Cooperative (MEC) located in Chase City, Virginia, which offers ultra-high-speed broadband and telephone services to the members, communities, and counties served by MEC/EMPOWER.

2. S.W.O.T. Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • MEC has the infrastructure to hang/bury fiber cables. • MEC used its employees and equipment for Pilot. • Few competitors in market. • Grant for \$2.6 Million received by TRTTC, foundational backbone. • Established reputation and network. • Established 500 miles of fiber lines across six counties. • Additional contractors have been secured and are being used to expedite deployment. • Growing experience with and expanding fiber optic network. • 	<ul style="list-style-type: none"> • Longer term payback/Investment Recovery • Limited Area income.
Opportunities	Threats
<ul style="list-style-type: none"> • To reach customers outside of the defined utility territory. • Build on customer loyalty/member satisfaction. 	<ul style="list-style-type: none"> • Interest by other service providers: Wireless and Low Earth Orbit Satellite.

3. S.W.O.T. Activity Sheet

Strengths

- Despite lower densities and longer-term investment recovery, EMPOWER has managed to surpass a break-even position and utilize margins to expand

service areas after only three years of operation. This posture has been achieved thanks to grant funding, and a disciplined, prudent financial model.

- Growing experience with an expanding fiber optic network:
 - MEC/EMPOWER's engineering and construction staff has installed hundreds of miles of fiber to the offices, MEC substations, and over 1,300 homes to date,
 - MEC/EMPOWER have trained, and certified, employees in pulling, splicing, and repairing damaged cables,
 - In 2020, EMPOWER Broadband acquired BIT Communications of Bracey, Virginia, which added additional resources including centuries of combined communication and broadband experience.

Weaknesses

- Longer term payback/investment recovery
 - Density seriously impacts investment recovery and rural Southside Virginia has some of the state's lowest population densities.
- Limited area income
 - EMPOWER has established pricing to accommodate the residents of Southside Virginia. At a base package rate of \$69.95 for 50 Mbps Upload/50 Mbps Download speeds, current internet subscribers will likely pay less to EMPOWER for faster, more reliable internet. Additionally, home telephone services can be bundled with fiber internet for only \$30.00 per month.
 - When promoted as having enough speed to easily accommodate low and no cost internet TV options, EMPOWER can save its subscribers upwards of \$100-\$200 per month.

Opportunities

- To reach customers outside of the defined utility territory.
 - Research indicates a significant opportunity to increase revenues and provide subsequent funding for capital investment through expanding EMPOWER's service area. More densely populated, yet still underserved and unserved, areas offer the opportunity to effectively reduce the average cost per passing and accommodate service to the remaining extremely rural premises.
 - MEC/EMPOWER has entered in to multiple MOU's to provide last mile coverage to Dominion Energy's unserved broadband areas in

Halifax, Mecklenburg, Brunswick, Greensville Counties as well as the City of Emporia.

- Dominion Energy Virginia (DEV) will construct the middle mile while EMPOWER constructs the FTTP. This joint construction effort effectively increases productivity and reduces the overall service delivery timeline.
 - Ultimately, DEV construction facilitates deploying broadband in rural electric service territories benefitting both DEV and MEC electric consumers.
- Build on customer loyalty/member satisfaction.
 - MEC, EMPOWER's parent company, has garnered the support of its membership for over 80 years and boasts Customer Service Indices well above the industry average. To date, this support has translated in solid take rates in completed fiber areas.
 - MEC members are willing to support this locally owned and led initiative. Once again, an effort by the residents ... for the residents.

Threats

- Increased interest by other service providers such as Peoples Mutual/RiverStreet (Gretna), Shentel and Lake Country Internet (Clarksville), SCS Wireless (Halifax), Hughes Net (Everywhere), and StarLink.
 - Although there is increased interest by other providers, the wireless market and LEO Satellite, StarLink, seek expansion. In order to combat this challenge, EMPOWER will keep its price points low while maximizing its strength to offering internet speeds above wireless, DSL, cable or satellite internet providers.
 - DSL, traditional wireless, and StarLink have tremendous exposure to over subscription. Accordingly, EMPOWER will inform rural residents of this pitfall.
 - Additionally, EMPOWER will market the strength of vastly superior upload speeds unavailable with most other technologies.

4. Products/Services

EMPOWER will offer affordable residential, small business and commercial pricing packages for broadband service, as well as telephone service, in the rural communities of Pittsylvania, Halifax, Charlotte, Mecklenburg, Brunswick and Greensville Counties in Virginia.

IV. The Future

1. Vision Statement:

EMPOWER will promote the enhancement of Mecklenburg Electric Cooperative's electric grid with a foundational communications and data network; this redundant fiber optic backbone will enable real-time metering, smart grid, distributed generation, and maximize the use of smart appliances.

Additionally, this deployment will further enhance the quality of life for the members and communities served by Mecklenburg Electric Cooperative and EMPOWER by providing ultra-high-speed broadband.

2. Mission

- To facilitate and encourage the offering of affordable world-class broadband by strategically deploying fiber to the communities we serve.
- Providing the local community with competitive broadband speeds and thus attract businesses to the area and result in increasing job opportunities.
- Education – Provide students, teachers and administration with the necessary internet speeds to transform remote instruction and learning.
- Healthcare – Attract physicians, enhance medical services, and bring state-of-the-art equipment to rural healthcare facilities across Southside Virginia.
- Economic Development – Delivering high-speed internet to rural Southside Virginia will initiate a hub for industry and growth. Additionally, fiber to the premises will enable each “home office” to support telework and home-based business.

3. Goals:

EMPOWER Broadband, Inc. plans the continued expansion of fiber service throughout MEC/EMPOWER's service territory and/or local communities based on a take-rate approach. With the award of universal coverage funding, EMPOWER will implement a deployment schedule maximizing existing facilities and expanding outward.

Long-Term Goal and Objective

EMPOWER Broadband will continue to pursue opportunities to provide fiber solutions to those communities in need of affordable, high-speed internet across Southside Virginia.

V. The Market

1. Unique Selling Position

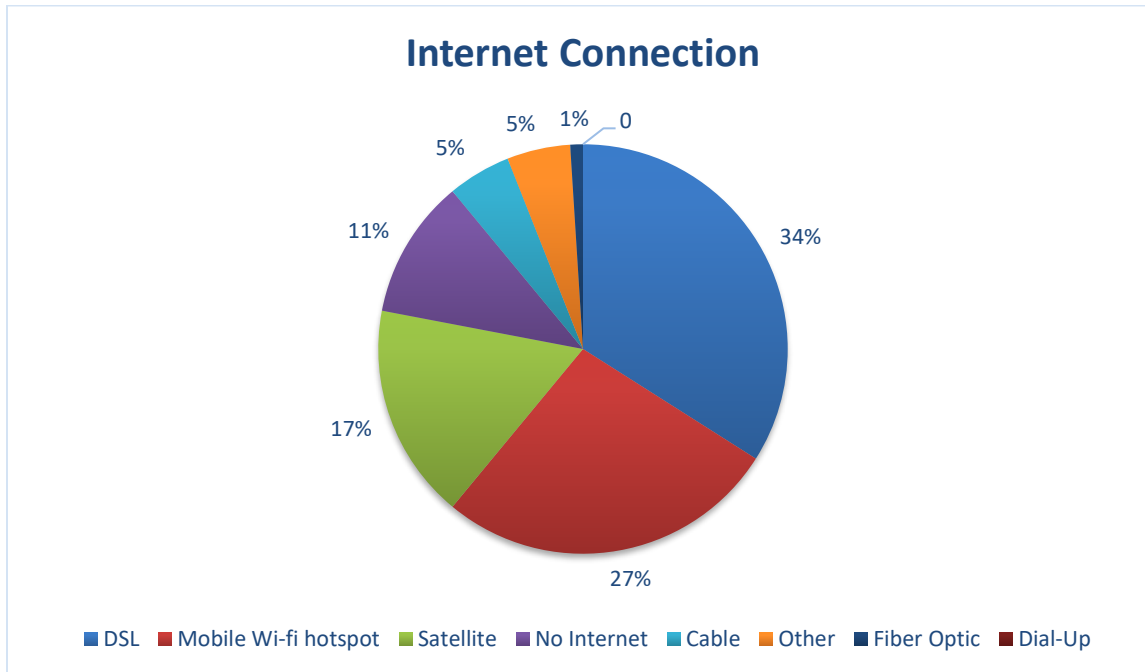
Established in 1938, Mecklenburg Electric Cooperative is a not-for-profit, member-owned electric cooperative formed by the community for the purpose of providing electricity to the rural citizens of Southside Virginia. Since that time, MEC has built a reputation of trust, commitment and service excellence with its membership.

Additionally, EMPOWER's fiber optic network has been deployed in many areas throughout its service territory, many members of MEC and surrounding rural areas still have no access to affordable and dependable high-speed internet.

Accordingly, EMPOWER is uniquely situated in the unserved and underserved areas of Southside Virginia where high-speed internet is overpriced, unreliable and/or unavailable. With existing infrastructure in place, an established broadband company with a trained and capable workforce, an established potential customer base, and an established reputation for service and commitment, EMPOWER is perfectly situated to provide retail internet services throughout the service territory of MEC and surrounding communities.

2. Market Research

Currently, over 400 electric cooperatives across the nation have, or are in the process, of providing their rural members with high-speed internet. According to MEC's most recent Residential Energy Survey conducted by Olson, 83% of MEC members use their PC/Laptop to connect to the internet with the following internet connections:



Internet service from satellite and dial-up are too slow and unreliable for modern applications, while DSL is oversubscribed. With only one percent of our members having access to fiber optic internet service, it is imperative that MEC share its fiber facilities with its membership and surrounding communities to deliver high-speed internet using the fiber optic cables installed across the utility's backbone.

3. Competitors

Residential Competitors

ISP COMPANY	Provider Status	AREA	Pricing
Wilkes	Fixed Wireless	Southern Halifax	Up to 50M/3M - \$65.00
Shentel	Cable/DSL/Fiber	Mecklenburg (Clarksville-only), Brunswick (Lawrenceville & Alberta)	10Mbps - \$69.95
Comcast	Cable	Halifax, Mecklenburg (except for the town of Clarksville)	Up to 60Mbps - \$34.99
Charter	Cable	Southern Brunswick Only around lake	Unknown pricing
Century Link	Incumbent - ADSL	Halifax, Eastern Mecklenburg	25Mbps - \$45.00
Verizon	Incumbent - DSL	Western Mecklenburg, Brunswick	Up to 15 Mbps - starting at \$74.99
Lake Country Internet	Satellite	Mecklenburg County	12Mbps/50GB of Data - \$165

Additional Pricing Structures, Residential non-competitors, Cooperatives

Other Cooperatives		
Name	Speed	Price
BARC	50Mbps/10Mbps	\$60.00
	100Mbps/50Mbps	\$70.00
	250Mbps/125Mbps	\$80.00
	500Mbps/250Mbps	\$150.00
PGEC	50 Mbps	\$74.00
	100 Mbps	\$99.00
	1 Gig	\$179.00
Midwest Energy & Communications	25 Mbps/25	\$49.95 + \$5
	50 Mbps/50	\$59.95 + \$5
	100 Mbps/100	\$79.95
	1Gbps/1	\$119.95
Co-Mo Connect	100 Mbps/100	49.95 + \$4.95
	250 Mbps/250	59.95 + \$4.95
	1Gbps/1	79.95 + \$4.95
Elevate Fiber	100 Mbps/100	\$49.95
	1 Gig/1	\$79.95

Commercial Competitors

Small Business & Commercial		
Name	Speed	Price
Comcast	25Mbps	\$69.95
	75 Mbps	Call
	150 Mbps	Call
	300 Mbps	Call
	1 Gig	Call
Shentel	150	Call
	101	Call
	50	Call
	25	Call
	15	Call
	10	\$69.95
CenturyLink	Call	\$69.95 (lowest package)
TDS	Call	
Verizon	75Mbps	\$84.99 for one year/\$94.99
	up too 500Mbps	Call

Additional Pricing Structures, Commercial non-competitors, Cooperatives

Other Cooperatives		
Name	Speed	Price
BARC	100/100 - 10< users	\$125.00
	250/250 - 50< users	\$250.00
	500/500	Call
	1 Gig	Call
PGEC - Same as Residential	50 Mbps	\$74.00
	100 Mbps	\$99.00
	1 Gig	\$179.00
Midwest Energy & Communications	25 Mbps/25	\$49.95 + \$5 Wi-fi
	- Same for Small Business 50 Mbps/50	\$59.95 + \$5
	- Call for Commercial (10+Users) 100 Mbps/100	\$79.95
	1Gbps/1	\$119.95
Co-Mo Connect	10/10 Mbps	\$59.95
	100/100 Mbps	\$79.95
	250/250 Mbps	\$129.95
	1Gig Mbps	\$499.95
Elevate Fiber	100/100 Mbps	\$79.95
	300/300 Mbps	\$159.95
	1Gig	\$319.95

4. Target MarketMembers of MEC

MEC/EMPOWER has passed over 3,000 members with the initial 1,000-foot pilot project and now passes nearly 8,000 premises throughout six Virginia counties since 2018. At an estimated 45.4% take rate, EMPOWER expects to serve 3,266 of those customers within 36 months of fiber completion to each area.

MEC/EMPOWER has the potential to serve a minimum of 31,165 members across the following six counties, which MEC currently serves:

- * Pittsylvania – 6,565
- * Halifax – 6,054
- * Charlotte – 1,187
- * Mecklenburg – 10,858
- * Brunswick – 3,880
- * Greenville – 2,621

**Totals as of January 31, 20215*

5. Marketing Activity Table

Marketing Activity	Person Responsible	Date of expected completion	Cost (\$)
Direct Mail to 1,000 ft. members	Member & Energy Services Team	Each phase of installation	\$0.65 each
Door Hangers/Door to Door	Member & Energy Services Team	Each phase of installation	\$0.20 each
Emails	Member & Energy Services	Each phase of installation	Free
Post Cards	Member & Energy Services Team	Each phase of installation and follow-up marketing	\$.08 each
Yard Signs (100)	Member & Energy Services Team		\$1000.00
Brochures (1000)	Member & Energy Services Team		\$.014 each
Website	Member & Energy Services Team	Updated 2020	\$0
Giveaways	Member & Energy Services Team	Yearly Budget	\$10,000
Branding Materials (shirts, tent, table cover, display stand)	Member & Energy Services Team	December 2021	\$5,000

VI. The Finances

1. Price Structure

Residential and Commercial pricing structures are as follows:



Residential Pricing

Premium Package	Ultra Package	Super Package	Lightning Package
\$69. ⁹⁵ Month	\$119. ⁹⁵ Month	\$199. ⁹⁵ Month	\$269. ⁹⁵ Month
Add home phone for \$30.00 per month	Add home phone for \$30.00 per month	Add home phone for \$30.00 per month	Add home phone for \$30.00 per month
Total \$99.95	Total \$149.95	Total \$229.95	Total \$299.95
Up to 50/50 Mbps	Up to 100/100 Mbps	Up to 300/300 Mbps	Up to 1 GIG

Commercial Pricing

Small Business Premium Solution	Small Business Ultimate Solution	Customized Enterprise Solution
\$89. ⁹⁵ Month	\$139. ⁹⁵ Month	Call Today!
Speeds up to 50 Mbps	Speeds up to 100 Mbps	
Help your business reach new heights with premium speeds - 50 Mbps download/50 Mbps upload - and employees will no longer have to wait on that buffering symbol to get the job done.	With 100 Mbps internet service, the power is now in your hands. With ultimate speeds - 100 Mbps download/100 Mbps upload - your business will have the speeds it needs to accomplish more than ever.	In today's business world, you need the fastest, most reliable internet service. We understand that, and at EMPOWER, we can customize a network solution to meet your enterprise data and phone requirements. Call us today for a free quote.
Recommended for < 5 employees	Recommended 5-10 employees	Recommended for 10+ employees

Add a business telephone for only \$34.95 per line.

2. Projected Sales

EMPOWER began serving FTTP customers in September 2018, serves over 1,300 fiber subscribers in September 2021, and has over 700 pending connections in the queue. Current monthly fiber sales total some \$145,000 monthly.

With the addition of VATI funding to serve the full counties of Halifax, Mecklenburg, Brunswick, and Greenville, along with the southern portion of Charlotte, MEC/EMPOWER will pass nearly 20,000 homes. With a three-year, 40% anticipated take rate, EMPOWER projects sales to increase to \$6.6 Million annually by year-end 2024.

3. Marketing Budget

EMPOWER's marketing campaign consists of cost-effective measurements that include direct-sales to those within a given zone during its build out. Items including direct mailings, emails, door hangers, brochures, and yard signs at a marketing budget of \$10,000 per year. The budget will increase to accommodate any growth of the market area.

Additional items for branding recognition include giveaways, and branded apparel are used at festivals, neighborhood pop-ups and other events.

The limited marketing budget of \$10,000 per year has been set for the first three years and will be re-evaluated annually based on profit margins and increases of market area.

4. Monitoring/Measurement Activities

EMPOWER monitors the effectiveness of its marketing campaign in multiple ways:

- Monitor subscriber sign-ups per each zone of fiber cable installed. If forecasts are not met with the above marketing activities, EMPOWER will engage more aggressive measures to reach potential customers, i.e., door to door visits, phone calls, etc. It should be noted, to date, door to door visits have proven to deliver solid take rate increases.
- Google Analytics is utilized to monitor traffic to the EMPOWER website.
- Ensure zone installation meets minimum customer estimates to reach all grant and budget requirements. Additional activities include:

- To create additional revenue, EMPOWER Broadband will expand to areas of higher density including areas beyond MEC's service territory.
- EMPOWER will maximize its "crowd sourcing" data platform (LeadAgent) to pinpoint areas with the most interest for near term installation.



**Project
Code: AP430**

Dear Resident,

Your account at 3021 BOXWOOD RD is part of an EMPOWER Broadband construction project to install a state-of-the-art fiber optic cable network. Best of all... sign-up fiber in an internet and home phone package by April 30, 2021 and the \$100 installation fee will be waived!

The days of settling for obsolete phone and slow internet are over! EMPOWER Broadband will bring you -- not just fast -- but THE FASTEST internet available with residential internet speeds starting at 50 Mbps! Our **unlimited** internet plans start at \$69.95 a month and you can add feature-packed crystal-clear telephone, including **unlimited** long distance, for just \$30 a month!

DON'T GET LEFT BEHIND!

Let's get started! Go to www.EMPOWERMEC.net, click on the box "Get Started" under "Check Availability and Register Your Interest!" Follow the online instructions to setup a SmartHub account and then we'll email you a link to complete the 2-year agreement. If you elect to receive phone service, complete the online Phone Number Porting Authorization Form and you can keep your current phone number. You may also submit the paper document that is enclosed.

Submit your application by **April 30, 2021** and we'll proceed with building the fiber connection to your home while crews are working in the area. Fiber broadband construction is a multi-step process that will take several weeks to complete. Recognizing this, we want you to know that **the installation of main line fiber is scheduled for the end of third quarter, followed by drop construction and service to your home!**

Sign up today! Take advantage of these awesome new services! Don't hesitate to contact our business office at 833-787-2522 or e-mail empower@meckelec.org for more information.

Sincerely,

A handwritten signature in black ink, appearing to read "David Lipscomb".

David Lipscomb
VP Marketing and Communications

NEED SERVICE FOR YOUR BUSINESS?

Call 1 (833)-RURALBB, today for customized solution to fit your business' needs!

EMPOWER BROADBAND IS AVAILABLE IN YOUR NEIGHBORHOOD.

Save \$\$ Create your



Account today!



P.O. Box 129
Bracey, VA 23919
1-833-RURALBB
EMPOWER@meckelec.org

Residential Service Contract and Agreement of Terms & Conditions

Applicant Information: Date: Customer # (office use only):

Home Phone: Cell Phone: Billing Email:

Print Full Name: (As account is to be billed)

Service Location Address:

Street City, State, Zip County

Billing Address if different from Service Location:

If Owner of Service Location is other than Applicant, provide the following:

Owner(s)Name: Phone:

Address:

Street City, State, Zip

Service(s) Requested

Table with 2 columns: FTTP Internet Service and Add-On Telephone Service. Includes options for Premium, Ultra, Super, and Lightning packages, and Residential Telephone service.

***Please note, EMPOWER's standard bill is delivered, at no charge, through the SmartHub App which includes the option for email and text notification.

In addition to the standard electronic bill, I would like to receive a paper bill for an extra fee of \$15 per month.

YES NO

The undersigned hereby applies for service with EMPOWER Broadband per the terms and conditions. Please read the terms carefully, as they are legally binding.

(Initial) I have received, read and agree to the "Terms and Conditions of Service Agreement". Full "Terms and Conditions of Service Agreement" can also be found at https://www.empowermec.net/legal-information.

(Initial) I give my permission to EMPOWER Broadband to install Fiber Optic Cable and Equipment at my service address. I understand that this installation requires a fiber drop to be trenched, or aerially installed from the mainline to the home, a small box to be mounted on the outside of my home and wire(s) to be run in my home. I understand that I am responsible for marking and identifying all private underground facilities prior to installation. EMPOWER is not liable for any damages to any underground facilities not identified by me.

Signatures - - PLEASE SIGN FULL NAME

Applicant Signature: Date:

Co-Applicant Signature: Date:

Applicant's Signature - By signing this agreement, I agree to the terms of this application. I also confirm that I am the property owner, or I have permission from the property owner to have the Ordered Services installed.

SEE REVERSE SIDE FOR PHONE NUMBER PORTING AUTHORIZATION FORM (ONLY REQUIRED IF PHONE NUMBER NEEDS TO BE PORTED)



Phone Number Porting Authorization

Dear Customer,

Thank you for choosing EMPOWER Broadband, Inc., as your telephone network carrier. You may continue to use your existing telephone number with EMPOWER Broadband, Inc. In order to transition your current telephone number to the EMPOWER Broadband, Inc. network, EMPOWER Broadband, Inc. must work with your previous service provider to ensure that your service is uninterrupted, and where applicable, to ensure that your number is transferred.

Your current provider requires this letter as proof that you have explicitly authorized and requested that your service and current telephone number be transferred to EMPOWER Broadband, Inc. By filling in all the information requested below and signing and dating this letter, you provide us with the authorization to initiate the process of transferring your service and telephone number to EMPOWER Broadband, Inc. You will then be able to use your old number with the EMPOWER Broadband, Inc. network.

Please ensure the following information EXACTLY matches information on your current local phone bill to prevent possible delays.

***Note: The Service address cannot be a PO BOX, and it may be different from your account mailing address.**

Print Full Name: (As current phone account is billed)

Service Location Address:

Street	City, State, Zip	County
_____	_____	_____

Billing Address if different from Service Location:

Current Service Provider: _____

Telephone Number(s) to be Ported: ***Note that all Telephone Numbers listed below must be associated with this Name.**

Phone Number	Phone Number
_____	_____

PLEASE DO NOT PLACE ANY NEW SERVICE ORDERS OR DISCONNECTS WITH YOUR CURRENT SERVICE PROVIDER ON THIS ACCOUNT, AS THIS WILL CAUSE A DELAY IN PORTING YOUR NUMBERS. **EMPOWER WILL NEED A RECENT INVOICE COPY FROM YOUR CURRENT PROVIDER TO COMPLETE THE NUMBER PORTING PROCESS.**

By signing below, you authorize EMPOWER Broadband, Inc. to transfer your service from your current provider to EMPOWER Broadband, Inc. By signing below, you also authorize EMPOWER Broadband, Inc. to transfer your current telephone number used to provide service so that EMPOWER Broadband, Inc. may provide its network service to you. By signing below, you also authorize EMPOWER Broadband, Inc. to obtain billing information, customer service records, and other information required to provide you with service on the EMPOWER Broadband, Inc. network. Porting your current telephone number into the EMPOWER service area will require a one-time \$30.00 fee. If you are an existing EMPOWER telephone customer this fee will be waived. If a technician is required to come to the premise to connect phone lines additional fees will apply.

Note: Your current phone service provider will not allow the port of your numbers to EMPOWER Broadband, Inc. without authorized signature from an account owner or administrator shown in their records for this account. By filling in the Signature field above, you agree to use an electronic document and an electronic signature. You understand that electronic signatures are legally binding in the United States and other countries.

Signature	Date
_____	_____

OFFICE USE ONLY: Received Date: _____ By: _____

Installation Fee \$100 Other: _____ Phone Activation Fee: \$30 Other: _____

EMPOWER YOUR FAMILY WITH FIBER OPTIC INTERNET!

APPLY TODAY!

***Plans Starting at
\$69.95 per month
No Phone
Required***

EMPOWER

BROADBAND

833 - RURALBB (787-2522) • empowermec.net



EMPOWER

BROADBAND

AFFORDABLE, FAST, RELIABLE
UNLIMITED DATA

WITH EQUAL UPLOAD AND DOWNLOAD SPEEDS

Internet Plans



- 50/50 Mbps \$ 69.95
- 100/100 Mbps \$119.95
- 300/300 Mbps \$199.95
- 1/1 Gbps \$269.95

Add Digital Telephone Service



- unlimited long distance
 - caller ID (name & number)
 - call waiting
 - voicemail
 - and much more
- for just **\$30** monthly +tax

Visit empowermec.net and click Get Started
or call 1-833-RURALBB (787-2522)

Internet Construction Zone

EMPOWER

BROADBAND

1 (833) RURALBB

EMPOWER

BROADBAND

Building Our Way To You!



EMPOWER Broadband is building state of the art fiber infrastructure to serve your area with the most advanced network for your internet and home-phone needs!

- ✓ Get the Fastest internet!
- ✓ No data limits!
- ✓ Add feature rich telephone too!



SIGN UP TODAY!

Visit empowermec.net

PREMIUM INTERNET PLAN

\$69.95
50 Mbps

ULTRA INTERNET PLAN

\$119.95
100 Mbps

SUPER INTERNET PLAN

\$199.95
300 Mbps

LIGHTNING INTERNET PLAN

\$269.95
1 GIG

**Add clear digital telephone ...
including unlimited long distance, call
waiting, caller ID, and voicemail for only**

\$30
per month!

*plus taxes and fees

**If you need assistance please call
(833) RURALBB (787-2522) or (434) 636-2274.**

EMPOWER

BROADBAND

We're upgrading the system for you!

Sign Up Now Before the Old System Is Shut Down



***Get faster
speeds and
more features
for less!***

EMPOWER Broadband is replacing the old copper telephone and DSL system now serving your area with the most advanced fiber optic cable network!

- Get the Fastest internet!
- No data limits!
- Get feature rich telephone too!
- Act now for FREE installation!

UPGRADE TO FIBER

Visit empowermec.net

PREMIUM INTERNET PACKAGE

\$69.95
50 Mbps

ULTRA INTERNET PACKAGE

\$119.95
100 Mbps

SUPER INTERNET PACKAGE

\$199.95
300 Mbps

LIGHTNING INTERNET PACKAGE

\$269.95
1 GIG

Get clear digital telephone ...
including unlimited long distance, call
waiting, caller ID, and voicemail for only

\$30
per month!

*plus taxes and fees

If you need assistance please call
(833) RURALBB (787-2522) or (434) 636-2274.



EMPOWER *Delivers!*

**Crews are busy expanding the fiber network in the Bracey Area!
This Coronavirus Aid, Relief, and Economic Security (CARES)
project will extend high-speed fiber optic internet to homes along
Blackridge Road and Hall Road.**

To check availability, please visit our website at empowermec.net.

Building our way to your community!



EMPOWER *Delivers!*

EMPOWER crews continue to work long days constructing fiber in numerous areas that are part of Coronavirus Aid, Relief, and Economic Security (CARES) projects. The crews seen above have been busy pulling fiber throughout the Clays Mill, Bethel and Sydnor Jennings communities. To see if your area is eligible and to sign-up for services, visit empowermec.net today

Building our way to your community!

Fiber has been well worth the wait. No more monthly quotas, modem fees, or waiting "forever" for downloads. No more having to dread storms or high winds and putting up with highly variable transfer speeds. No more "congestion" from neighbors' use. Plus, "Team Empower" is fantastic!

”

~ M. Connell

EMPOWER

BROADBAND

“Having access to high-speed internet through the pandemic has been a life saver! For those who have not signed up — YOU WILL NOT BE DISAPPOINTED! GO FOR IT!”

***Amanda Roberson,
Nathalie, VA***



EMPOWER *Delivers!*



Experience Speed ... Check Availability at empowermec.net.

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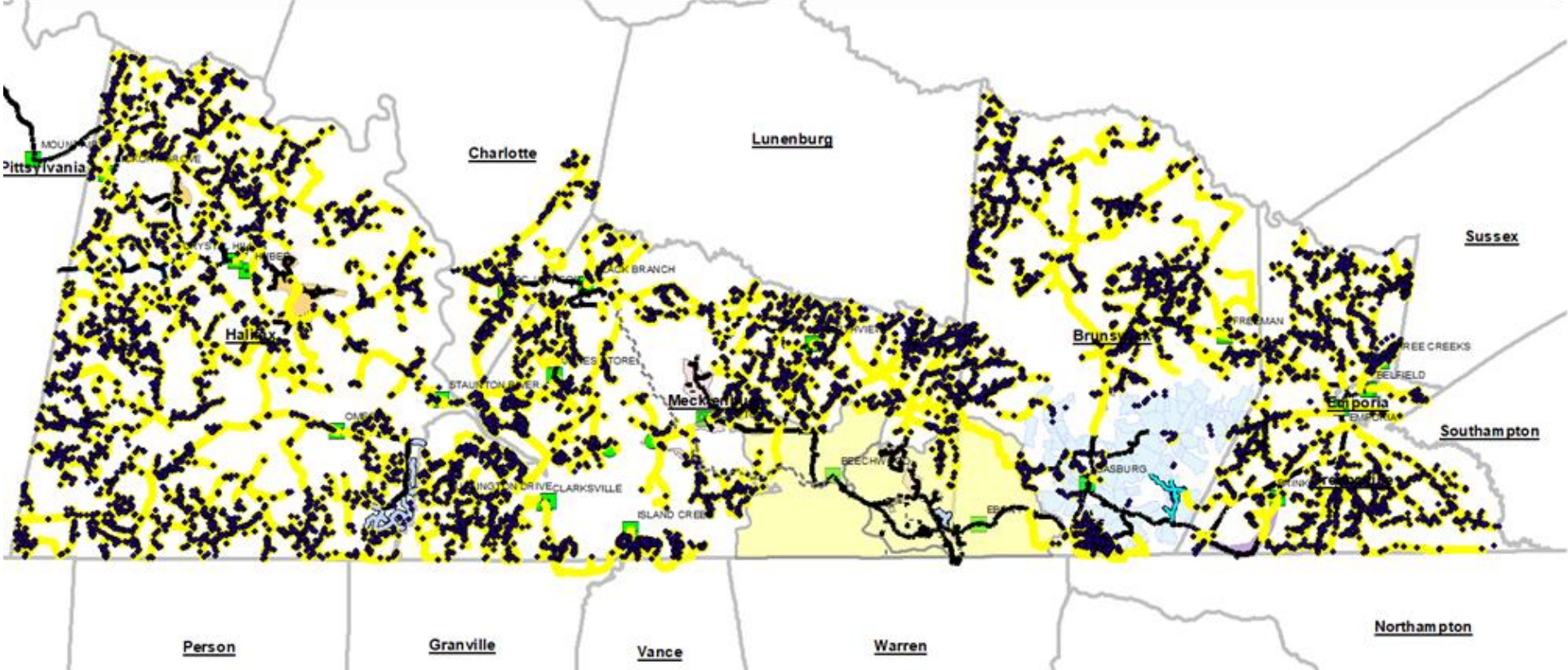
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BROADBAND
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INSTRUCTIONS
1. Peel off the top layer
EMPOWER
BROADBAND
Powered by MEC

Awarded Grant Funding Map

Empower Grant Map



Attachment 22

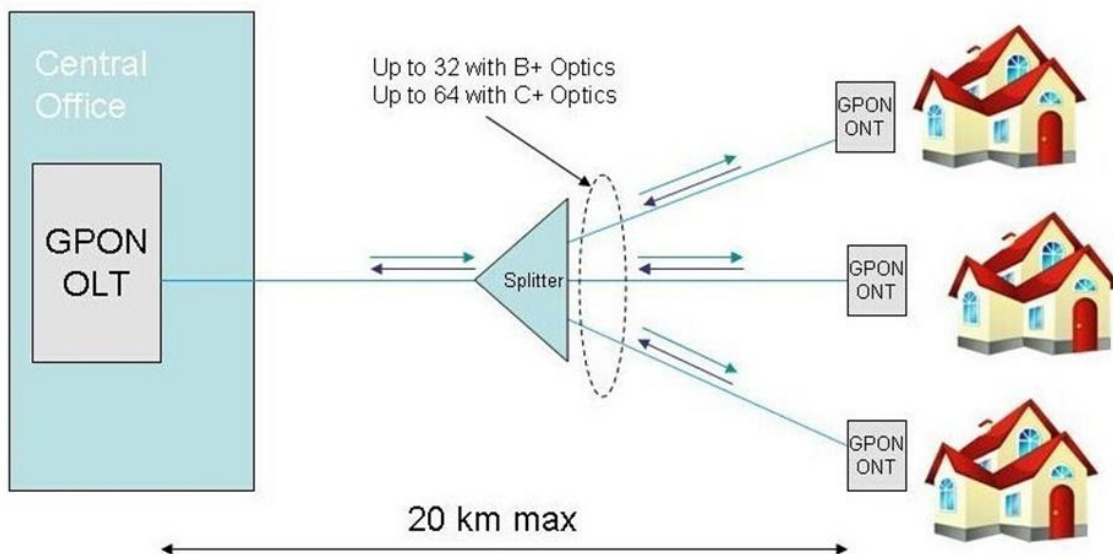
Narrative Information Tab

Question 8

Speeds:

Upstream 37.5 Mbit/customer = (1.2 Gbps)/(32 customers)
 Downstream 75 Mbit/customer = (2.4 Gbps)/(32 customers)

MEC/EMPOWER Broadband, Inc. is using the Calix implementation of Gigabit Passive Optical Network (GPON). GPON is a fiber-to-the-premises (FTTP) technology that implements point-to-multipoint architecture to serve residential and business customers and provide up to 1 Gbps service per subscriber. This technology utilizes fiber optic splitters to enable up to 64 customer locations to be served by a single optical line terminal (OLT) port. However, MEC/EMPOWER has opted to limit splitter assignment to 32.



Residential packages offered to subscribers within the proposed area are as follows:

- 50 Mbps/50 Mbps** - \$69.95/month (optional VOIP telephone service at \$30/month)
- 100 Mbps/100 Mbps** - \$119.95/month (optional VOIP telephone service at \$30/month)
- 300 Mbps/300 Mbps** - \$199.95/month (optional VOIP telephone service at \$34.95/month)
- 1 GB** - \$269.95/month (optional VOIP telephone service at \$30/month)

Business packages offered to enterprises within the proposed area are as follows:

- 50 Mbps/50 Mbps** - \$89.95/month (optional VOIP telephone service at \$34.95/month)
 - 100 Mbps/100 Mbps** - \$139.95/month (optional VOIP telephone service at \$34.95/month)
- All business packages larger than 100Mbps/100Mbps would require a consultation for a customized quote.

Attachment 23

Narrative Information Tab

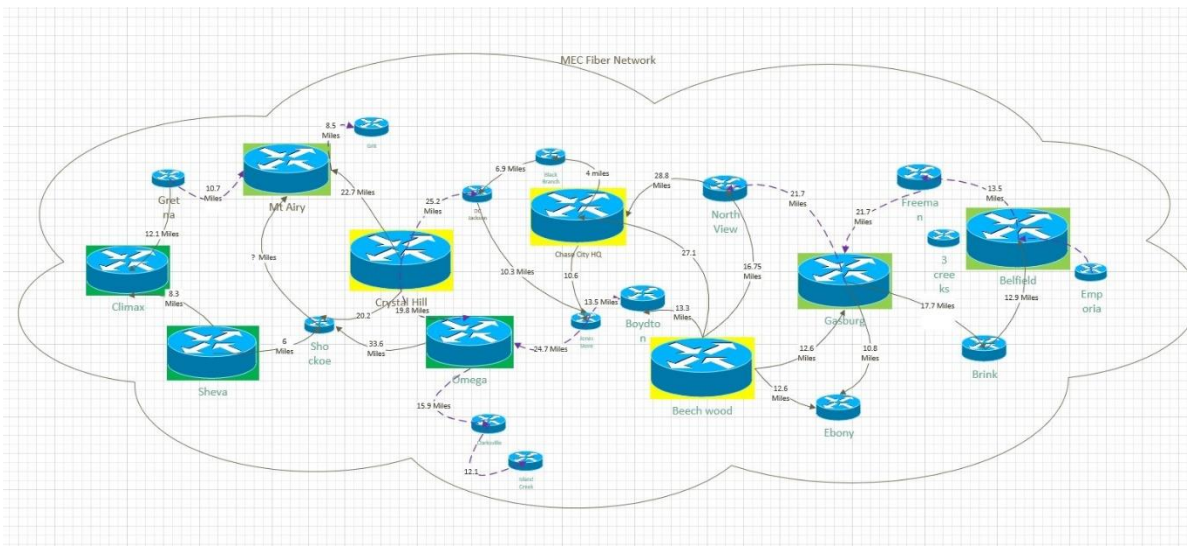
Question 9

Network Design:

Last Mile service delivery will use Calix Customer Premise Equipment (CPE). The fiber drop will terminate at the Network Interface Device (NID) outside the premises. From there, single-mode fiber with Angled Physical Connectors (APC) will be used to connect to a Calix 803G Optical Network Terminal (ONT) device inside the premises. The 803G in turn uses an Ethernet port with inside wiring of a standard Ethernet cable to connect the ONT to a Calix Model 844e Giga center. The 844e provides wired and Wi-Fi connections inside the premise for internet service. The Giga center's Wi-Fi service uses both 2.4 Ghz and 5.0 Ghz bands. An optional wireless mesh device, the 804 Mesh Extender, can be used in large homes or businesses to extend the range of the wireless service. The 803G ONT also contains a voice port, which provides digital telephone services through the optional Voice over IP (VoIP) service.

The ONT is powered from either a standard AC wall outlet, or also can be connected to an optional lithium-ion battery back-up unit. The last mile network uses an overall tree and branch design for the access network. Each end customer has a fiber connection in the premises terminating at the ONT/Router. Layer 2 switching connects the end user back to a Calix E7-2 access device which transmits light on the fiber with a GPON small form-factor plug (SFP). E7 C+ SFP's have a 32-way split capable of reaching 32km, which puts all accounts within range of the serving area and is also the location of the E7-2's and an edge router. Layer 2 segments are trunked up to the edge router and then one of the centralized aggregation routers. Aggregation routers are installed in Chase City and Gasburg.

Aggregation routers are connected to a redundant Internet Data Provider using multiple 10Gb connections across a Mid-Atlantic Broadband (MBC) open-access network. The diagram below provides the physical infrastructure and connectivity design, showing the location of all major network nodes, creating a highly redundant network. Each of the nine (9) larger highlighted substations contain a major network node with a Layer 3 router that is locally ringed together with 10Gb fiber uplinks.



MEC/EMPOWER Broadband currently provides the following tasks to construct fiber:

- Engineering Design
- Fiber Network Design and Make Ready Work Design
- Make Ready Construction
- Construction of Outside Plant
- Drops, NID, ONT Customer Premise Installation
- Marketing/Billing

MEC/EMPOWER Broadband’s network design makes **1Gbps down/1Gbps up** speed available to each home or business. By changing and adding electronics, sizeable gains in speed are obtainable for an incremental investment to accommodate the need of future families and businesses. This grant will serve as the foundational investment for current and future needs. It should be further noted that fiber technology has no rivals and supersedes speeds delivered by any other technology, creating tremendous future proof value for our communities.

In response to the exponential growth of consumer demand for bandwidth, MEC/EMPOWER’s existing electronics provider, Calix, delivers off the shelf next generation passive optical network (PON) technologies that provide 10Gbps symmetrical broadband over existing fiber cable. Additionally, Calix also produces NG-PON2 which can deliver 40 Gbps — with 80 Gbps possible in the future — all on a single fiber.

Considering required facilities, the following chart delineates the high-level design routes.

Utility Owner	Miles per Owner	Mainline Route %
MEC Estimated Route	198	70%
Dominion Estimated Route	86	30%