Grant Request Number	GRN-000978
Funding Program Name	Middle Mile Broadband Infrastructure Grant Program
Funding Request Name	Concho Valley Electric Cooperative, Inc. - Middle Mile - GRN-000978
Applying Organization	Concho Valley Electric Cooperative, Inc.
Applicant Name	Jonathan Cutrer

Primary Applicant Type

Identify the primary applicant type:

Single Entity

———

Primary Entity Type

Type of entity: Primary entity type, (A) a State, political subdivision of a State, Tribal government, technology company, electric utility, utility cooperative, public utility district, telecommunications company, telecommunications cooperative, nonprofit foundation, nonprofit corporation, nonprofit institution, nonprofit association, regional planning council, Native entity, or economic development authority; or (B) a partnership of two (2) or more entities described in (A).

What is the primary applicant's entity type?

Utility Cooperative

———

Is parent/owner of applicant a foreign entity?

No

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Brian Lindsey; [redacted] Senior Director of Engineering Design; [redacted]
KeyPersonnel_Resume_Brian_Lindsey

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Isai Garcia; Concho Valley Electric Cooperative, Inc.; Manager of Finance and Accounting; [redacted]
KeyPersonnel_Resume_Isai_Garcia

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Jonathan Cutrer; Concho Valley Electric Cooperative, Inc.; Director of Information Technology; [redacted]
KeyPersonnel_Resume_Jonathan_Cutrer

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Kelly Lankford; Concho Valley Electric Cooperative, Inc.; Chief Executive Officer;
[redacted]
KeyPersonnel_Resume_Kelly_Lankford

———

Managerial Capability

Applicants shall submit to the Assistant Secretary one-page resumes for (a) all key management personnel and (b) all key personnel of subcontractors or other entities that will play substantial roles in building, managing, or operating the middle mile network built using Middle Mile Grant (MMG) Program funding.

Key Personnel - Milan Todorovic; [redacted]; Director, Network Engineering;
[redacted]

KeyPersonnel_Resume_Milan_Todorovic
———
Organizational Charts

Each applicant shall submit any necessary organizational chart(s) detailing all of its parent companies, subsidiaries, and affiliates.
This upload section should also be used for any letters of support from the organizations that will be involved in the project as a community stakeholder.

Concho Valley Org Chart-09-25-2022 11-19-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf
———
Organizational Details

Each applicant must also provide a narrative describing the applicant's readiness to manage a middle mile broadband network. This narrative should describe the experience and qualifications of key management set to undertake this project, the applicant's experience undertaking projects of similar size and scope, recent and upcoming organizational changes including mergers and acquisitions, relevant organizational policies, and ownership information consistent with 47 CFR § 1.2112.

This narrative shall denote who will own the assets at the end of award period. This response is limited to 6000 characters as an open field narrative.

Concho Valley Electric Cooperative Inc.'s (CVEC, Inc.'s) management team members that will supervise this project have more than 59 years of collective industry experience. Like all CVEC, Inc. employees, members of CVEC, Inc.'s executive leadership team have a passion for service. Accountable to the member-owners, the executives who lead CVEC, Inc.'s daily operations have extensive experience in the utilities industry.
CVEC, Inc. was formed in 1940 under the Rural Electrification Act and was allotted [redacted] which allowed the cooperative to build approximately [redacted] miles of line and service approximately [redacted] homes. In the 82 years since that time, CVEC, Inc. has grown to serve [redacted] members over [redacted] miles of electric line, adding fiber internet connectivity to their service offerings in 2021. Today, CVEC, Inc. employs over 65 full-time employees and provides electricity, internet connectivity, and renewable electric generation products to its members.
The management team is capable and experienced in delivering a world-class network while keeping their finances strong. The executive team consists of:

Kelly Langford, Executive Vice President and CEO, who has been with CVEC, Inc. for over 20 years and has led the Co-op since 2008. In addition to leading CVEC, Inc.'s day-to-day activities, Mr. Langford is a respected industry leader, having served many different functions on Boards of Directors over the years, and currently serves as the Chairman of both the Golden Spread Electric Cooperative Board of Directors and the Texas Electric Cooperatives Board of Directors. Mr. Lankford holds a Bachelor's

Degree of Business Administration from Abilene Christian University.

Jonathan Cutrer has been the Director of Information Technology since 2019 and previously held the title of CVEC, Inc.'s Manager of Information Technology since 2011. Prior to coming to CVEC, Inc. he held Senior Network Engineer, Network Administrator, Principle Software Architect and Network Engineer titles at CalTech, Central Texas Telephone Cooperative, MyMail Technologies and Verizon Business, respectively. Mr. Cutrer will oversee the ISP operations for this proposed project and is certified in several telecom industry-recognized certifications including Cisco, MikroTik, SonicWall, Microsoft, and is a graduate of the Nebraska Rural Electric Association Manager Development Program.

Isai Garcia has served as Manager of Finance and Accounting for CVEC, Inc. since February of 2019. Prior to being promoted to this position, he held Accounting Supervisor and Accountant titles and has been employed with CVEC, Inc. since 2008. He holds a Bachelor of Business Administration degree in Accounting from Angelo State University.

This team has a demonstrated track record of success in delivering needed services to their members. CVEC, Inc. does not anticipate any changes to this team's makeup in the near future.

In addition to CVEC, Inc.'s own capable team, they have procured the services of two professional engineers at [redacted]. with decades of combined experience in designing and maintaining broadband networks; Milan Todorovic and Brian Lindsey.
Milan Todorović joined [redacted] (now [redacted] in 2006 as a network engineer and now directs [redacted] network engineering team. He has implemented multi-carrier all IP/MPLS transport and Internet backbone networks, engineered Ethernet transport networks for wireless systems of major national carriers, and consulted on the deployment of NFV and SDN solutions in telecommunication networks. Milan's focus and expertise include the engineering of switching, routing, transport, and access networks, as well as the integration of voice, data, and video services for IP network environments. Milan has designed distributed IPv4/IPv6 core and edge routing systems, Metro Ethernet and MPLS transport networks and is directly involved in detailed network designs and defining specifications and requirements for broadband systems. Milan holds a Master of Science in Computer Science from Texas Tech University and a BBA in Computer Information Systems from Lubbock Christian University.
Brian Lindsey is a licensed Professional Engineer (P.E.) in 11 states and has been working in the telecommunications industry since 1997. Brian has a long history of assisting clients with preparing fiber and wireless network designs and engineering budgets. Brian's team is responsible for preparing detailed construction drawings, analyzing pole loading calculations for placing fiber cable on existing utility poles, and coordinating with utility pole owners and city engineering staff to oversee adherence to implementation guidelines during the installation process. Brian obtained his Bachelor of Science Degree in Electrical Engineering in 1992 from the University of California at Santa Barbara.
CVEC, Inc. and or any related companies as identified on the supplied organizational chart, is not a foreign entity nor is it owned or controlled by a foreign entity. In accordance with 47 C.F.R. §1.2112 (a),

(1), CVEC, Inc. would like to disclose applicable ownership information. CVEC, Inc. is a cooperative and as such is owned by its members on a one-member, one-vote basis, governed by a Board of Directors who are also co-op members and elected by a vote of their fellow members. These Board members are as follows: Tom Carter, Board Secretary-Treasurer, of Irion County, TX; Wayne Klattenhoff, Board Vice President, of Tom Green County, TX; Jeff Copeland, Board President, of Sterling City, TX; Daryl Schniers of Tom Green County, TX; Will Wiggins of Tom Green County, TX; David Kempen of Tom Green County, TX; and Ralph Willberg of Paint Rock, Texas. CVEC, Inc. further attests that the following sections are not applicable, 47 C.F.R. §1.2112 (a) (2), (3), (4), (5), (6), (7), and as a result has no data to provide. Upon successful completion of the middle mile grant project, CVEC, Inc. will own the assets.

———

Form CD-511 (Certification Regarding Lobbying)

The applicant must upload a completed form that certifies that Federal funds have not and will not be used for lobbying in connection with this request for Federal financial assistance. A fillable Form CD-511 can be found in the MMG ZIP folder.

Executed Form 511-09-25-2022 02-31-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

SAM.gov Registration

Applicants are asked to upload a screenshot of their SAM.gov registration.

SAM-09-25-2022 12-17-Concho Valley Electric Cooperative, Inc.-GRN-000978.GOV EntityInformation-20220816-031938.pdf, Concho Valley sam-04-11-2023 04-02-Concho Valley Electric Cooperative, Inc.-GRN-000978.gov registration 2023.pdf

———

Executive Summary

Please describe how the applicant's proposal will advance the objectives of the MMG Program, as well as the specific objectives of outlined in the Notice of Funding Opportunity (NOFO);

An overview of the proposed route or service area(s), including information regarding rurality and socio-economic indicators in the area to be served by the proposed project.
This response is limited to 12000 characters as an open field narrative.

Introduction
Texas has one of the fastest-growing populations in the country, adding nearly 4 million people in the 10 years between the 2010 and 2020 census reports. Concho Valley Electric Cooperative, Inc.'s (CVEC, Inc.'s) proposed application area is no exception, seeing a growing population as new residents come to the area from other states or from the Texas metropolitan areas to more rural areas. The population of San Angelo, Texas, which is the largest population center in the proposed application area and is

where the proposed routes originate to carry middle-mile infrastructure to more rural areas of the state, grew over 7% from 2010 to 2020, increasing from 93,200 to 99,893 in that ten-year timeframe. The population of Tom Green County rose by almost 9% over this same period. This population influx is increasing the demand for fast, reliable broadband connectivity across the state. New and existing customers require more middle mile bandwidth to provide access to true broadband speeds as they rely on the internet to work from home, attend virtual classes, shop, participate in telehealth services, use next-gen 911 services, and in all the other ways a stable, fast internet connection has become a necessity to modern life. Existing middle-mile infrastructure is not meeting this demand in the area, providing substandard speeds, network congestion, and very little redundancy.

CVEC, Inc.'s proposed network in this grant application is part of a larger overall initiative to provide a world class, fiber-to-the-home broadband connection to all of their [redacted] rural electric cooperative members spanning 5 counties in rural west Texas. As such, CVEC, Inc. has designed new routes to add bandwidth to and extend middle-mile service from the San Angelo Metropolitan Area in urban Tom Green County to several rural communities in rural Tom Green and Coke Counties, including the small rural municipalities of Robert Lee, and Bronte. To date, these communities have been overlooked by other carriers as too small or too remote in which to invest. The proposed fiber construction will consist of a total of [redacted] miles of new fiber routes. The construction of the fiber is planned to be placed primarily along existing, pre-disturbed road rights-of-way. Under CVEC, Inc.'s plan, construction will be completed and the project operational by the end of the second year after receiving the grant.

Advancement of NTIA Key Priorities

The proposed routes in this application were designed to directly align with the key priorities of this Middle Mile grant program by adhering to its two key objectives; the first being to reduce the cost of connecting unserved and underserved areas to backbone of the internet. This proposed network reduces that cost by bringing the backbone of the internet directly into the un-and underserved areas of West-Central Texas, particularly Coke and Tom Green counties, where few options currently exist. Other middle-and last-mile providers will benefit from this network by being able to utilize it to provide these areas with modern broadband connectivity without having to take on construction costs to supply their own middle mile network or having to provide long, costly routes to far away middle mile facilities that ultimately will be slower and more expensive due to distances involved. These benefits will be passed on to consumers in the form of much faster, more stable last-mile connections, and the resulting competition this will foster among last-mile providers will lower costs. The network will initially be provisioned for [redacted]

The second key priority, to promote broadband connection resiliency through the creation of alternative network connection paths that can be designed to prevent single points of failure on a broadband network, is met by adding redundancy to the existing middle and last mile networks that span the rural landscape in this region and to provide new routes where none currently exist. CVEC,

Inc. has identified only two current commercial middle mile providers in the application area, mostly centered on serving San Angelo as opposed to its more rural neighbors.

This lack of infrastructure in the area has created a service gap that affects the rural population of the counties surrounding San Angelo, particularly in Coke and rural Tom Green counties in Texas, putting the network in the area at increased risk of failure to large numbers of customers from a single fiber cut. This project addresses that gap by designing architecture that is a completely physically diverse ring, with 100% redundant facilities so there will be no loss of throughput capacity even if a fiber cut were to take place.

Overview Of the Proposed Route or Service Area

According to the FCC's Fixed Broadband Data Map, accessed on September 11, 2022, 12.48% of residents of Coke County have no access at all to broadband speeds of 25/3mbps, excluding two satellite providers. Satellite service generally has higher latency, extremely low data caps, and more weather-related problems than terrestrial fiber connections, making satellite service more of a last resort for internet connectivity and not comparable to a terrestrial fiber connection in terms of speed, reliability, or performance. At higher speeds, the level of need for Coke County is even more apparent, as 96% of residents don't have access to a single terrestrial provider that offers a 100/10mbps connection, and no one (0% of the population) has access to even one provider that offers service at speeds of 1 Gbps/1000mbps. The entire county is underserved at best.

The Fixed Broadband Data Map also shows that in San Angelo, which has a population of almost 100,000 people, over 66% of those residents lack more than two ISPs in the area that provide non-satellite 100/10 service, and roughly 69% of residents have no access to 1Gbps/100mbps connections at all.

CVEC, Inc.'s proposed routes will enable last-mile transitions from DSL, fixed wireless, and unserved areas to speeds in excess of 1G, helping to foster continued growth in the region and overcoming these shortfalls by enabling 1Gbps symmetrical connections over its entire footprint. CVEC, Inc. has designed these routes as the most efficient means to address the unmet needs of the area and to provide dedicated 1 Gbps symmetrical service to as many community anchor institutions as possible, which include three rural fire stations, five law enforcement facilities, and four schools.

Again using Census information, the median household income for Tom Green County, Texas is $57,670, and for Coke County is $45,072. Compared to the average median household income for the state at $63,826, residents of Tom Green County make almost 10% less than their counterparts in the rest of the state and residents of Coke county make almost 30% fewer dollars than the statewide average. CVEC, Inc. is aware that income in the application area is lower than state and national averages, and the poverty level is higher. Therefore, increasing the affordability of broadband service is an important aspect of CVEC, Inc.'s middle-mile project.

The proposed fiber construction will consist of [redacted] miles of buried plant design and [redacted] miles of aerial fiber design for a total of [redacted] miles of fiber routes. This will provide the best protection for the fiber and extend its useful life well beyond its depreciable life. The construction of the fiber is planned to be placed primarily along existing, pre-disturbed road rights-of-way. Aerial fiber will be constructed on Concho Valley's existing electrical poles.

Key Partners/ community support

As with other important network expansion projects, Concho Valley Electric Cooperative, Inc. (CVEC, Inc.) has reached out to federal, state and local governments and the proposed communities in the application area when planning this project.

CVEC, Inc. began the community outreach by contacting the Texas Broadband Development Office. CVEC, Inc. communicated their plan specifics to the Office, including the proposed middle mile routes and funding amounts for this project. Gregory Conte, Director of the Texas Broadband Development Office replied, thanked CVEC, Inc. for their communication, and promised to reach out if they had any questions.

CVEC, Inc. has also coordinated with several local government agencies through meetings facilitated by the business school at Angelo State University. Entities present at this meeting included officials from Tom Green County, the City of San Angelo, Region 15 School District, Angelo State University, Concho Valley Council of Governments (representing Concho, Coke, Sterling, and Irion Counties), and other internet providers including Conterra and the Central Texas Telephone Cooperative.

CVEC, Inc. has worked closely with Tom Green County to identify unserved residents and formulate plans to serve as many of those residents as possible with fiber internet service. As a result of this coordination, CVEC, Inc. has received a letter of support for this grant application signed by Tom Green County Commissioners Hoelscher, Bacon, Farmer, and Ford, as well as Tom Green County Judge Stephen C. Floyd. That letter of support has been included with this application.

CVEC, Inc. also enjoys support for this project from two Texas Congressmen; Drew Darby and August Pfluger. Both Representatives have provided support letters for this proposed project. In his letter, Representative Darby, a native of San Angelo, states that he is “pleased to support this project because the lack of accessible, affordable middle-mile fiber in Texas has prevented the expansion of fiber to the premise services.” Representative Pfluger, in his letter, notes that “Many homes in rural Texas still have inadequate or no access to high-speed broadband services. Investment is required to bridge the technological divide and promote long-term economic growth in the region,” and that “As the United States Representative for this region of Texas, I am thrilled to support this project to help CVEC, Inc. bridge this technological divide.”

Financial Viability

This project will support itself long term with the revenue produced by providing last-mile service to its existing members in the area, as well as by procuring revenue produced by providing last mile providers wholesale bandwidth to expand their presence in the area. Cognizant of their use of public funds, CVEC, Inc. has put up a 51.01% match of the funds to be provided by the grant. The total cost of the project is $6,688,442.75, of which $3,27,667.98 is the requested federal share and CVEC providing in-kind and cash matches totaling $3,411, 774.77. The NTIA Middle Mile Grant funding is needed to implement the proposed project because Concho Valley Electric Co-op (CVEC) cannot support the cost of the proposed project for the full amount of the capital. The middle mile grant makes this project feasible and is cash flow (EBITDA) positive in 2023.

———

Level of Need

A description of the level of need in the proposed service area(s), including but not limited to communities considered unserved and/or underserved in the proposed service area(s), discussion of the competitive landscape in the area, variations among service areas if there are any, or the general economic conditions in the proposed funded service area.

This response is limited to 12000 characters as an open field narrative.

Competitive Landscape
According to the U.S. Census, Texas has one of the fastest-growing populations in the country, adding nearly 4 million people in the 10 years between the 2010 and 2020 census reports. Concho Valley Electric Cooperative, Inc.'s (CVEC, Inc.'s) proposed application area is no exception, seeing a growing population as new residents come to the area from other states or from the Texas metropolitan areas to more rural areas. The population of San Angelo, Texas, which is the largest population center in the proposed application area and is where the proposed routes originate to carry middle-mile infrastructure to more rural areas of the state, grew by over 7% from 2010 to 2020, increasing from 93,200 to 99,893 in that ten-year timeframe. The population of Tom Green County rose by almost 9% over this same time period. This population influx is increasing the demand for fast, reliable broadband connectivity across the state. New and existing customers require more middle mile bandwidth to provide access to true broadband speeds as they rely on the internet to work from home, attend virtual classes, shop, participate in telehealth services, use next-gen 911 services, and in all the other ways a stable, fast internet connection has become a necessity to modern life. Existing middle-mile infrastructure is not meeting this demand in the area, providing substandard speeds, network congestion, and very little redundancy.

The U.S. Census also shows that the area is distressed financially, making the need for affordable broadband apparent. The median household income for Tom Green County, Texas is $57,670, and for Coke County is $45,072. Compared to the average median household income for the state at $63,826, residents of Tom Green County make almost 10% less than their counterparts in the rest of the state and residents of Coke county make almost 30% fewer dollars than the statewide average. CVEC, Inc. is aware that income in the application area is lower than state and national averages. Therefore, increasing the affordability of middle and last-mile broadband service in the region is an important aspect of CVEC, Inc.'s middle-mile project.

CVEC, Inc.'s proposed network in this grant application is part of a larger overall initiative to provide a world class, fiber-to-the-home broadband connection to all of their approximately [redacted] rural electric cooperative members spanning 5 counties in rural west Texas. As such, CVEC, Inc. has designed new routes to add bandwidth to and extend middle-mile service from the San Angelo Metropolitan Area in urban Tom Green County to rural communities in rural Tom Green, Coke, and Irion Counties, including

the small rural municipalities of Robert Lee, and Bronte. To date, these communities have been overlooked by other carriers as too small or too remote in which to invest.

According to the FCC's Fixed Broadband Data Map, accessed on September 11, 2022, 12.48% of residents of Coke County have no access at all to broadband speeds of 25/3mbps, excluding two satellite providers. Satellite service generally has higher latency, extremely low data caps, and more weather-related problems than terrestrial fiber connections, making satellite service more of a last resort for internet connectivity and not comparable to a terrestrial fiber connection in terms of speed, reliability, or performance. At higher speeds, the level of need for Coke County is even more apparent, as 96% of residents don't have access to a single provider that offers a 100/10mbps non-satellite connection, and no one (0% of the population) has access to even one provider that offers service at speeds of 1 Gbps/1000mbps. This makes almost the entire county underserved at best.

The Fixed Broadband Data Map also shows that in San Angelo, which has a population of almost 100,000 people, over 66% of those residents lack more than two ISPs in the area that provide non-satellite 100/10 service, and roughly 69% of residents have no access to 1Gbps/100mbps connections at all.

CVEC, Inc.'s proposed routes will enable last-mile transitions from DSL, fixed wireless, and unserved areas to speeds in excess of 1G, helping to foster continued growth in the region and overcoming these shortfalls by enabling 1Gbps symmetrical connections over its entire cooperative footprint. CVEC, Inc. has designed these routes as the most efficient means to address the unmet needs of the area and to provide dedicated 1 Gbps symmetrical service to as many community anchor institutions as possible, which include four rural fire-fighting facilities, five law enforcement facilities, three county offices, one city office, three medical facilities, and five schools.

CVEC, Inc. has identified two for-profit middle-mile providers currently operating in this region of Texas, [redacted] has built out in the region with a focus on commercial customers and cellular towers rather than on residential service. Due to lack of competition, leasing middle-mile facilities from this provider at market rates in the long-term is not financially feasible for rural FTTH projects as they are too expensive to provide an adequate return on investment, with some dark fiber leases requiring large deposits of up to [redacted] per lease and charging anywhere up to [redacted] per month depending on number of miles and length of term.

[redacted] so again the focus is not on providing residential service to the area.

Proposed Network

Due to these circumstances and the lack of competition in the area, CVEC, Inc. has determined that NTIA's Middle Mile Grant program is a good fit to meet this area's needs as they have a direct and immediate need to utilize the proposed middle mile network, not only to serve their own internet customers, but to enable competition and lower cost to consumers of existing middle mile providers and to attract more last-mile providers to the area, who will save thousands in construction costs to serve these underserved and unserved areas.

CVEC, Inc.'s middle mile grant application seeks to build a physical redundant route out of their facility

at 2530 Pulliam in San Angelo that traverses the San Angelo Industrial Park, then proceeds north and east to the rural towns in Coke and Tom Green counties such as Robert Lee and Veribest. West Central Net, a local internet provider, operates a central office that has organically grown to be the carrier meeting place for providers in San Angelo and the surrounding regions. As part of this grant application, CVEC, Inc. seeks to build a middle mile route into their facility and establish a redundant core router, which will provide redundancy as well as serve as an interconnect location between other middle mile providers in the region. A presence in the building will improve reliability and lower costs by procuring a second dedicated backbone connection to the internet along a diverse route. This facility would also be an on-ramp for the LEARN network, allowing CVEC, Inc.'s middle mile routes to be utilized by educational anchor tenants.

CVEC, Inc. will build this network using fiber-optic cable. CVEC, Inc. believes that fiber provides the most future-proof technology for middle mile because the cable is placed once and capacity can easily be increased with the addition of electronics as demand grows. The proposed network is designed so 1 G symmetrical service can be provided to all anchor institutions identified within 1000' of the fiber route. The architecture is designed as a completely physically diverse ring, and CVEC, Inc.'s electronics will be 100% redundant facilities so there will be no loss of thruput capacity even if there is a fiber cut.

Proposed Services and Pricing

Middle mile pricing is generally based on factors such as availability and distance, so costs are not as readily available as last mile. However, CVEC, Inc. has researched available middle mile connectivity in the state of Texas and has identified wholesale interconnection fees based on bandwidth and availability from middle mile providers in the state. Based on that research, CVEC, Inc. has secured a data response depicting that the current monthly competitor transport pricing in rural Texas typically ranges between [redacted] with an average monthly cost of [redacted] CVEC, Inc. believes that these high prices for transport are one of the main reasons that high-speed broadband is not priced more affordably in rural areas of the state, contributing to the largely unserved and underserved last-mile landscape.

In contrast, CVEC. Inc. has developed a wholesale middle mile product and pricing which allows middle mile and last mile providers to purchase 1 Gbps for [redacted] per month or 10 Gbps for [redacted] per month, which at the 10 Gbps pricing equates to [redacted] per 1Gbps, an [redacted] reduction from the state average. CVEC, Inc. believes that with this pricing, last mile providers will see lower bandwidth costs, resulting in a material reduction in end-user broadband pricing.

As a current last-mile internet provider, CVEC, Inc. will use the proposed middle mile routes to support the fiber-to-the-home residential internet services to their nearly [redacted] electric cooperative members in the proposed area. Last-mile monthly residential plans and pricing are below. [redacted]

Value: 100mbps symmetrical for [redacted]

Prime: 500 mbps symmetrical for [redacted]

Premier: 1gbps symmetrical for [redacted]

CVEC, Inc. will also sell wholesale access to this middle mile fiber network on a non-discriminatory basis to other internet service providers and last mile providers. CVEC, Inc. plans to offer the following

services and prices:
10 Gig Direct Internet Access Circuits: [redacted] per month
1Gig Direct Internet Access Circuits: [redacted] per month
Tower Connections: [redacted] per month
Dark Fiber Pricing: Due to variable factors such as length of contract and distance needed, CVEC Inc.'s Dark Fiber Pricing Structure begins at [redacted] per mile, per month for a [redacted] dark fiber lease with no bandwidth cap. CVEC will be honoring open access requirements and opening all [redacted] miles of the middle mile project to last mile providers seeking dark fiber leasing. Dark fiber by its very nature is not lit or provisioned by the leasing party; the actual connectivity or bandwidth throughput is dependent upon the electronics lighting the fiber. Additionally, there are various points of interconnection available within the proposed CVEC middle mile network project, driving changes in leased dark fiber lengths which ultimately dictate the monthly pricing. This means the pricing for dark fiber will start at [redacted] per month per mile but actual costs will vary depending on customer needs. CVEC Dark Fiber Lease Pricing Ranges from [redacted] monthly. Each Fiber strand is capable of 100Gbps equating to pricing of [redacted] per Gbps.

———

State Collaboration Acknowledgement

NTIA strongly encourages prospective non-state applicants to coordinate and consult with the State Broadband Office or other coordinating body located in the jurisdiction in which the eligible entity proposes to deploy middle mile infrastructure to ensure that the proposal is consistent with the state's broadband plan and priorities. Please confirm collaboration and consultation.

Do you confirm collaboration and consultation with the appropriate organization?

Yes

———

State and Local Collaboration Narrative

Please provide information on the applicant's coordination with applicable State, Territory, Tribal, and local governments, including their awareness of the proposed project and any potential impact to respective service areas; and

Information regarding the applicant's involvement and coordination with community organizations or other relevant partners in the proposed service area.

This response is limited to 6000 characters as an open field narrative.

As with other important network expansion projects, Concho Valley Electric Cooperative, Inc. (CVEC, Inc.) has reached out to state and local governments as well as the proposed communities in the application area when planning this project. CVEC, Inc. surveyed the project area, documented the

locations of community anchors, and shaped the route so that as many as possible were within 1,000 feet of the proposed route to market 1 G symmetrical broadband service to these locations.

CVEC, Inc. began the community outreach by contacting the Texas Broadband Development Office. Per the BDO's request, CVEC, Inc. communicated their plan specifics to the Office, including the proposed middle mile routes and funding amounts for this project. Gregory Conte, Director of the Texas Broadband Development Office replied, thanked CVEC, Inc. for their communication, and indicated the BDO would reach out if they had any questions or concerns.

CVEC, Inc. has also coordinated with several local government agencies through meetings facilitated by the business school at Angelo State University. Entities present at these meetings included officials from Tom Green County, the City of San Angelo, Region 15 School District, Angelo State University, Concho Valley Council of Governments (representing Concho, Coke, Sterling, and Irion Counties), other internet and middle-mile providers (including Conterra, the Central Texas Telephone Cooperative, and VGI) and electric distribution and transmission providers AEP and LCRA. Reception from meeting participants was overwhelmingly positive regarding this project.

Working with other providers about the benefits of this project should it be awarded, CVEC, Inc. has had productive conversations with Conterra, a for-profit middle-mile provider in the area that primarily uses its network in San Angelo to serve school districts, about mutually beneficial IRU swaps and Conterra using CVEC, Inc.'s proposed middle mile paths to provide redundancy to their network. Central Texas Telephone Cooperative has also expressed interest in using this network to bolster their own service offerings and is willing to provide a letter of support and/or commitment encouraging the award of this grant. That letter of support is attached to this application.

CVEC, Inc. has worked closely with Tom Green County to identify unserved residents and formulate plans to serve as many of those residents as possible with fiber internet service. As a result of this coordination, CVEC, Inc. has received a letter of support for this grant application signed by Tom Green County Commissioners Hoelscher, Bacon, Farmer, and Ford, as well as Tom Green County Judge Stephen C. Floyd. That letter of support has been included with this application.

CVEC, Inc. also enjoys support for this project from two Texas Congressmen; Drew Darby and August Pfluger. Both Representatives have provided support letters for this proposed project. In his letter, Representative Darby, a native of San Angelo, states that he is "pleased to support this project because the lack of accessible, affordable middle-mile fiber in Texas has prevented the expansion of fiber to the premise services." Representative Pfluger, in his letter, notes that "Many homes in rural Texas still have inadequate or no access to high-speed broadband services. Investment is required to bridge the technological divide and promote long-term economic growth in the region," and that "As the United States Representative for this region of Texas, I am thrilled to support this project to help CVEC bridge this technological divide."

———

Will the project connect middle mile infrastructure to last mile networks that provide or plan to provide broadband service to households in unserved areas?

Yes

———

Is the project connecting non-contiguous trust lands?

No

———

Do you commit to offering wholesale broadband service at reasonable rates on a carrier-neutral basis?

Yes

———

The eligible entity adopts fiscally sustainable middle mile strategies. This strategy should be described in the Budget Narrative.

Do you attest to this?

Yes

———

The eligible entity commits to offering non-discriminatory interconnect to terrestrial and wireless last mile broadband providers and any other party making a bona fide request. This policy will be described in the Interconnect Policy.

Do you attest to this?

Yes

———

The eligible entity identifies specific terrestrial and wireless last mile broadband providers that have(i) expressed written interest in interconnecting with middle mile infrastructure planned to be deployed by the eligible entity; and ii) demonstrated sustainable business plans or adequate funding sources with respect to such interconnection. This may be demonstrated in the Level of Need narrative of the Exec Summary.

Do you attest to this?

No

———

The eligible entity has identified supplemental investments or in-kind support (such as waived franchise or permitting fees) that will accelerate the completion of the planned project. Such acceleration may be described in the Project Timeline narrative.

Do you attest to this?

No

———

The eligible entity has demonstrated that the middle mile infrastructure will benefit national security interests of the United States and the Department of Defense. The benefits may be explained in the Benefitting National Security Interests Narrative.

Do you attest to this?

No

———

Project Duration

Number of Years

2

———

Project Timeline Narrative

The narrative requires the Applicant to describe a project with critical path, including key milestones for implementation of the project, preparations, and risk factors; and a capital investment schedule evidencing that the applicant will complete build-out and the initiation of service within five years of the date on which the entity receives the grant and will meet interim buildout requirements set forth herein and in any other binding document.
If the project is able to be accelerated with supplemental investments or in-kind support to meet a statutory purpose, this should be explained.

This response is limited to 6000 characters as an open field narrative.

Under Concho Valley Electric Cooperative, Inc.'s (CVEC,Inc.'s) plan, construction will be completed and the project operational by the end of the second year after receiving the grant. The proposed two-year project involves the placement of [redacted] miles of middle-mile fiber. CVEC, Inc. will also purchase and install transport routers at 3 locations.
CVEC, Inc. intends to group all OSP project areas into a single contract to keep construction costs as low as possible and plans to have multiple construction crews working simultaneously to support the proposed timeline. Cost effectiveness of the project will be assured through a process of competitive bidding in which multiple contractors will prepare construction pricing against detailed Plans and Specifications prepared by CVEC, Inc.'s engineering consultant.
RUS standards will be utilized to design the fiber network and a unit-based approach to the staking

sheets/OSP design will minimize the prospect of cost overruns. Project activities will be performed on a parallel track; for example, the detailed OSP design will be prepared concurrently with coordination with agencies associated with environmental approval and construction permitting. Construction of the routes will begin in order that they are cleared for construction and will be built in parallel using multiple construction crews where feasible. As such, the proposed timeline reflects a single "window" within which all the routes are anticipated to be completed. As permitting, environmental studies and other rights-of-way activities can have a substantial impact on any OSP construction project, CVEC, Inc. understands the importance of maintaining close communication with relevant federal, state, and local entities to ensure that all necessary clearances are obtained in a timely manner.

Due to extended lead times caused by the current state of supply chains, electronics equipment and OSP materials will be selected and ordered early in the project. [redacted]

CVEC, Inc. has committed to providing two strands of dark fiber along [redacted] route miles to enable the establishment of this network as in-kind contributions. This in-kind support will accelerate the completion of this project by eliminating the problem of the nationwide fiber shortage for this aspect of the project and will help ensure this project will be completed on time.

In year one, CVEC, Inc. intends to use [redacted] of project funds ([redacted] the first year of the project on Pre-application Expenses, OSP Construction, OSP Right of Way/Permitting Costs, OSP Engineering, and Environmental Survey costs. The remaining [redacted] of the project [redacted] will be invested in year two in the same categories as year one except pre-application expenses, but also including Optical Transport Equipment, Optical Transport Engineering, Cabinet Equipment and Cabinet Engineering. With this capital investment strategy, CVEC, Inc. believes it will finish this project on-schedule and on-budget.

The attached project timeline file lists the major project activities, timelines, and key milestones.

———

Project Timeline File

Applicants are asked to upload a timeline which will denote key milestones for implementation of the project, including but not limited to field survey, network design, equipment/material procurement, environmental assessment, permitting, construction, network testing, network activation and completion.

Concho Valley NTIA MMG - Timeline-09182022 MT-09-25-2022 12-49-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx, Concho Valley NTIA MMG - Timeline-Updated 3-9-04-11-2023 04-14-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx

———

Is an extension being requested?

No

———

Special Rules for Tribal Governments and Native Entities

The Infrastructure Investment and Jobs Act permits the Assistant Secretary, in consultation with Tribal governments and Native entities, to waive, or specify alternative requirements, in connection with most directives governing the MMG Program if the Assistant Secretary finds that waiver or modification of the requirement is necessary for (a) the effective delivery and administration of middle mile grants to Tribal governments or (b) the construction, improvement, or acquisition of middle mile infrastructure on trust land.

Is a waiver or alternative requirements requested?

No

———

Fair Labor Practices

Applicants must have a demonstrated record of and plans to be in compliance with federal labor and employment laws as described in III.H in the NOFO. This will help ensure that projects are carried out in accordance with the law, assist NTIA in ensuring that a prospective awardee is capable of carrying out activities funded by an award in a competent manner in compliance with all applicable federal, state, and local laws; and promote the effective and efficient completion of high-quality middle mile broadband infrastructure projects by ensuring a reliable supply of skilled workers and minimizing disruptive and costly delays.

This response is limited to 6000 characters as an open field narrative.

Compliance with Federal Labor and Employment Laws
Concho Valley Electric Cooperative, Inc. ("CVEC, Inc.") is an Equal Employment Opportunity employer, actively committed to compliance with federal, state and local rights, labor and employment laws. CVEC, Inc. has an exemplary record and, although it has twice received complaints from former employees, those complaints were denied based on cause for denial.
[redacted]

[redacted]

CVEC, Inc. has had no other charges, complaints or violations of labor laws.
CVEC, Inc. has had very low employee turnover due to its competitive salary plan and many employees have spent their entire careers at CVEC, Inc. due to the competitive pay, benefits and working conditions.
CVEC, Inc. does not have union workers, and its contractors and subcontractors (collectively, contractors) are typically not unionized. However, CVEC, Inc. and its contractors provide competitive wages, benefits, and training to its employees.
For this NTIA middle mile project, CVEC, Inc. will use a bidding process to select a contractor for engineering, cable, and electronics construction. In the past for similar projects, CVEC, Inc. has used the Rural Utilities Service Form 515 bidding process to solicit bids after issuing a request for proposal, has evaluated the proposals, and then selected a winning bid. The bidders must include their wage scales, overtime payment practices, and safety protocols in their responses. CVEC, Inc.'s agreements with the contractors include clauses for prevailing wage, non-discrimination, qualified workers, EEO and training to ensure CVEC, Inc., and its contractors comply with federal and state law. The contractors submit all the prevailing wage documentation to NTIA. CVEC, Inc. will audit this documentation for each work order to ensure compliance with Federal Labor Laws. All CVEC, Inc.-approved contractors have implemented prevailing wages and comply with all safety requirements.
Upon receipt of the grant award, CVEC, Inc. will begin the bidding process for the proposed project. Because a contractor has not yet been selected, CVEC, Inc. cannot provide the contractor's record of compliance with federal labor and employment laws.

———

Officer Certification

In order for NTIA to evaluate an applicant's demonstrated record of and plans to be in compliance with federal labor and employment laws, each applicant must provide examples of items described in III.H in the NOFO. Applicants are asked to upload a Certification from an Officer/Director-level employee (or equivalent) of the applicant evidencing consistent past compliance with federal labor and employment laws by the applicant, as well as contractors and subcontractors.

Concho Valley-09-25-2022 12-59-Concho Valley Electric Cooperative, Inc.-GRN-000978.Certification of Compliance.pdf

———

Highly Skilled Workforce

To ensure that applicants have the technical and operational capacity to carry out the project, applicants must submit a plan for ensuring that the project workforce will be an appropriately skilled and credentialed workforce (including by the applicant and each of its contractors and subcontractors). The plan for a highly skilled workforce should include the information described in III.I in the NOFO.

This response is limited to 6
000 characters as an open field narrative.

Concho Valley Electric Cooperative, Inc. (CVEC, Inc.) is managed and operated by a highly skilled local workforce. The management workforce has, on average, 20 years work experience in building and maintaining the electric network, including time in the broadband business. CVEC, Inc. is committed to diversity in its workforce. Despite being based in a rural community, the company has a diverse representation in its work force regarding age, gender, race, disability, veterans and military status. CVEC, Inc. will continue its diversity efforts in advertising job openings on websites frequented by diverse groups to attract qualified individuals and with trainings in EDI (Equality, Diversity and Inclusion).

CVEC, Inc.'s non-management workforce is not unionized. The job titles expected to work on this project are:

Outside Plant Technical
Outside Plant Helper
Engineer
Network Engineer
Outside Plant Construction
Project Manager
Field Engineering Technician

Note, these job titles are not the same as Davis Bacon Job titles and different titles may be used for the wage determination. CVEC, Inc. and Contractors work with NTIA to determine the most appropriate prevailing wage category before starting a project or work order.

CVEC, Inc. has used [redacted] for splicing, cable placement, bore operator, basic equipment installation, maintenance, and OSHA-standard safety. CVEC, Inc. will solicit bids for this NTIA Grant project and select the lowest qualifying bid.

CVEC, Inc. has a safety committee and requires construction and technical workers to attend monthly safety meetings and obtain certifications for equipment installations, cable placement, splicing, data, and databases, if available. Equipment installers receive training from the vendor, but these are not certifications. CVEC, Inc. encourages training for employees based on position and years of experience. The Company covers employee trainings approved by the supervisor.

Employees attend formal trainings each year. CVEC, Inc. uses the National Rural Electric Cooperative Association (NRECA), Texas Electric Cooperatives (TEC), and any other trainings approved by the employee's supervisor. Technical employees in CVEC, Inc.'s broadband division attend relevant trainings such as:

Vendor Specific: Network Operations Training and Certification Programs:

[redacted]

[redacted]

Outside Plant Engineering and Construction Training and Certification Programs:
-FOA Certifications, detailed at https://www.thefoa.org/Certs.htm#list
-Fiber Splicing Training TFS https://thefiberschool.com/certifications/
O Intro
O Advanced (will attend in 2023)
-Telecom Bucket Training School
-Equipment Operator Training
-NEC and NESC training for Outside Plant Construction employees

CVEC, Inc. ensures quality in the final plant construction. Contractors are required to certify that each construction work order adheres to the bid specifications. CVEC, Inc. also employs such maintenance policies and procedures as "call before you dig" to identify technical issues with the plant to mitigate and prevent outages.
All of the Company's workforce is local. The Company is an equal employment opportunity employer, promotes employment diversity, and does not discriminate against employees based on any protected class status. CVEC, Inc. uses [redacted] to track employee wages, benefits, employment and labor law compliance.
———
Advancing Workforce Development

A skilled workforce is critical to meeting infrastructure buildout timelines under the Infrastructure Act and connecting households across the country to reliable, affordable, high-speed broadband. A well-trained workforce will also allow for the safe deployment of sustainable networks. To meet the workforce needs of the MMG Program, applicants must make appropriate investments to develop a skilled, diverse workforce. Each applicant must provide as part of its application examples of items described in III.J in the NOFO.

This response is limited to 6000 characters as an open field narrative.

1. Concho Valley Electrical Cooperative, Inc. (CVEC, Inc.) supports the development and use of highly skilled workforce in the area through its involvement in the career fair at San Angelo Central High School and with Lake View High School, which is bussed in to participate in the career fair. CVEC, Inc. uses the career fair as a way to get on the radar of graduating seniors and to promote coop jobs such as groundman, accounting, engineering and member services. For those that become employed, the company offers trainings that include Network Operations trainings, certification programs, Outside Plant Engineering and Construction training.
2. CVEC, Inc. believes fundamentally in working for the sustainable development of its community. The company offers four $2,000 scholarships: two go to graduating high school seniors and the other two go to other students of higher-learning. These scholarships were established to provide financial assistance for qualified individuals seeking a college, trade school or university education. The company offers trainings to employees that include Network Operations trainings and certification programs and Outside Plant Engineering and Construction training and certification programs.
3. CVEC, Inc. anticipates engaging in providing project-based learning opportunities including providing education and training for elected representatives, managers, and employees so that they can contribute effectively to the development of the Cooperative and community.
4. CVEC, Inc. is a true cooperative that has a voluntary and open membership. It serves the people in the service area, which primarily consists of rural communities. CVEC, Inc. does not discriminate against any member on the basis of race, gender, disability, age, national origin, religion, genetic information, military, or veteran status, or any other applicable protected class status. CVEC, Inc. is committed to diversity in its workforce. Despite being in a rural community, the company has a diverse representation in its work force, which consists of members from protected classes. CVEC, Inc. will continue its diversity efforts in advertising job openings on websites frequented by diverse groups to attract qualified individuals and with trainings in EDI (Equality, Diversity and Inclusion). CVEC, Inc. cares for all employees and tries to the best of its abilities to make it a safe and enjoyable place to work. Each year, the CEO, Kelly Lankford, goes over the sexual harassment policy and whistleblower policy. Lauren Trujillo, Manager of Administration/Human Resources goes over the chart of organization with new employees and encourages employees to come to her office at any time to discuss the labor policies.

———

Climate Resiliency

Please demonstrate that the applicant has sufficiently accounted for current and future weather- and climate-related risks to new MMG Program infrastructure projects. In particular, each applicant should clearly demonstrate how it is conducting the items listed in III.K in the NOFO.

This response is limited to 6000 characters as an open field narrative.

The project area is located within the National Climate Assessment's Southern Great Plains region – specifically within Tom Green, Coke, and Sterling Counties, respectively; we will focus our initial hazard screening assessment on these areas. Temperatures in this region reach 100 °F about 18 times in a typical year. However, in 2011, the area recorded 100 days of 100 °F or higher, with the upward trend in temperatures continuing through subsequent years. This falls in line with NOAA's projected increase of ~70 days w/ 100 °F + temperatures for the region in the late 21st century. From August 1900 to July 2022, the average 12-month total precipitation was 22.2 inches. The 12-month total precipitation decreased 13.9 inches from August 1900 to July 2022. The average year has 50 days with lows below freezing. Though the region does experience snow and sleet, they occur only a few times a year. NOAA's weather and climate disaster statistics show that between 1950 and 2021, 8 wildfires, 44 months of drought, 162 days of hail greater than 1.00 inch in diameter, 3 severe storms, 5 high wind events (greater than 50 kts.), 1 flooding event, and 37 tornadoes have affected the project area. Concho Valley Electric Cooperative (CVEC, Inc.) has operated in the region for 86 years and has deep experience with the weather variations forecasted in NOAA's Climate Summaries.

The Summaries for the service region indicate that there are no new climate events new to the region/project area. CVEC, Inc. has incorporated NOAA's predicted extreme weather-related impacts into its network design to mitigate extent of impact on customers, community, and company:

CVEC, Inc. seeks to mitigate impacts of potential weather events as follows:

- Winter Storm: Proposed electronics cabinets include DC power systems with backup battery systems capable of running a minimum of 8 hours in the event of a commercial power failure. The cabinets also have backup generator connections in the event of extended power outages.
- Hail: Proposed infrastructure equipment is to be in hardened cabinets designed to protect the electronics equipment from hail events. In the event of an extreme hail scenario that damages electronics equipment, CVEC, Inc. maintains backup equipment to immediately replace damaged items to bring services back online.
- Tornado/Wind: In the event of a tornado damaging an electronics site, CVEC, Inc. will review any damage and use spare materials to bring the damaged site back online. CVEC, Inc. maintains spare construction materials including poles and has their own construction equipment/crews to repair damaged aerial line attached to their own pole line. CVEC, Inc. also seeks to utilize wind dampers, as applicable, on aerial construction to minimize cable/strand fatigue caused by wind events.
- Flooding: CVEC, Inc. seeks to place new electronics cabinets in areas outside of identified flood plains to minimize the potential impact of flooding on the proposed equipment. Fiber will be constructed using both buried and aerial construction techniques which both use watertight splice

cases that will not be impacted by flooding.

- Drought: Ongoing drought conditions will not impact the proposed electronics equipment or the fiber cable.
- Severe Thunderstorms: CVEC, Inc.'s proposed electronics equipment will be installed in environmentally controlled cabinets with DC power systems to provide backup power in the event of power failures. The cabinets also utilize grounding systems meeting NESC requirements to protect the equipment from lightning related power surges.

CVEC, Inc. closely monitors weather events and has included high-risk/high probability weather events in its disaster recovery plan, as well as contingencies for "black swan" events – major winter storms, or extreme flooding. Management will review and update the plan, as needed, annually. Additionally, Emergency Operations procedures will be put into effect during a triggering event to ensure triggering events are mitigated to the best of CVEC, Inc.'s abilities – i.e., keep service interruptions, primarily for anchor institutions, at a minimum. The Emergency Management team will hold a retrospective after every triggering event to discuss what went well and what needs to be improved upon, and that staff let aware of best practices. During or immediately following the event, CVEC, Inc. will survey equipment in the affected areas and complete necessary repairs. These actions ensure that the infrastructure built using capital awarded through NTIA's Middle Mile Grant program will remain usable for at least 20 years after completion.

———

Civil Rights and Nondiscrimination Law Compliance

Prior to distributing any MMG Program funding to a prospective awardee, NTIA will require the prospective awardee to agree, by contract or other binding commitment, to abide by the non-discrimination requirements set forth in III.J in the NOFO.

Do you agree to abide by the non-discrimination requirements?

Yes

———

Certification of Technical Capability

Each applicant must supply a certification attesting that it is technically qualified to complete and operate the proposed project.

CVEC Certification of Technical Capability Si-09-25-2022 01-10-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Interconnect Policy

The Applicant must describe in detail the nondiscrimination, interconnection, and network

management practices that would be adopted for the project facilities. The Applicant should describe how it will comply with nondiscrimination and interconnection obligations, particularly with connectivity to the public Internet and physical interconnection for the exchange of traffic. In addition to describing network management practices, the Applicant should disclose any practices in place to block access to illegal or harmful content.

This response is limited to 6000 characters as an open field narrative.

Concho Valley Electric Cooperative, Inc. (CVEC, Inc.) currently offers and commits to continue to offer wholesale transport and interconnection offerings to retail providers on a nondiscriminatory basis of internet access in those geographies it serves. CVEC, Inc.'s interconnection policy will be offered in perpetuity.

Interconnection

CVEC, Inc. will provide access to facilities at identified nodes and other negotiated locations that are economically and technically feasible. Traffic can be exchanged at Node locations. Rates and terms for interconnection shall be reasonable and nondiscriminatory. CVEC, Inc. shall negotiate in good faith with all requesting parties (i.e., public, private, non-profit, or other parties) making a bona fide request for interconnection or wholesale services. CVEC, Inc. is prepared to:

(a) provide transport services to a last mile provider that is serving the customer (e.g., backhaul, Internet access, voice interconnection, transit traffic).

(b) allow collocation by interconnecting parties, on a first-come, first-served basis, where and when possible.

(c) rates and terms for interconnection shall be reasonable and nondiscriminatory.

(d) provide transmission services to and between node locations and to a wholesale customer.

(e) provide service level agreements, service level guarantees, and standards, including service guarantees and standards related to jitter, latency, delivery ratio, and service availability.

(f) provide reasonable and nondiscriminatory provisioning and installation intervals; and

(g) deliver repair and maintenance timeframes that are consistent with industry standards and practices (CVEC, Inc. has established Mean Times to Repair for all offered services based on the nature of the service issue).

A list of standard terms and conditions, and network management policy, are on CVEC, Inc.s website at https://cvec.coop/legal/middle-mile-interconnection-policy.

CVEC, Inc. Standard Terms and Conditions

It is the policy of CVEC, Inc. to provide wholesale fiber services on the following bases:

1. Wholesale customers are entitled to access the lawful Internet content of their choice.
2. CVEC, Inc. provides standard interfaces.
3. Wholesale customer may use any electronics which meet the CVEC, Inc. Standard equipment that does not harm the network.

In addition to the above, CVEC, Inc. does not prioritize lawful Internet applications and content over

others. CVEC, Inc. does not manage, throttle, block or otherwise limit the content of communications traffic transiting CVEC, Inc.'s MMG-funded facilities, except to the extent necessary to maintain reliable service and prevent network harm.

CVEC, Inc.'s network management policies will be publicly available and are applied consistent with the above principles. CVEC, Inc.'s network management practices do not involve preferential routing of traffic on the basis of content or provider. CVEC, Inc. utilizes neutral traffic routing and enables connections to other carriers and to the public Internet. CVEC, Inc. displays its network management policies in a prominent location on its website and will provide notice of changes to these policies.

CVEC, Inc.'s Network Management Policy
CVEC, Inc. uses various tools and industry standard techniques to manage its network and deliver fast, secure and reliable Internet service. CVEC, Inc. believes in full transparency and conducts the following as part of its network management practices:

A. Congestion Management. CVEC, Inc. monitors the connections on its network in the aggregate on a daily basis to determine the rate of utilization. If congestion emerges on the network, CVEC, Inc. will take the appropriate measures to relieve congestion. CVEC, Inc.'s network and congestion management practices are 'application-agnostic,' based on current network conditions and are not implemented on the basis of customers' online activities, protocols or applications.

B. Network Security. CVEC, Inc. promotes the security of its network and patrons by protections from such threats as spam, viruses, firewall issues and phishing schemes. As its normal practice, CVEC, Inc. does not block any protocols, content or traffic for purposes of network management except that it may block or limit such traffic as spam, viruses, malware, or denial of service attacks to protect network integrity and the security of customers.

C. Device Attachment Rules & Application Specific Behaviors. Except as may be provided elsewhere herein, CVEC, Inc. does not currently engage in any application-specific behaviors nor does it employ device attachment rules for its network.

D. Monitoring Schedule. CVEC, Inc. employs a variety of industry-standard tools, applications and devices to monitor, secure and maintain its network, including one or more of the following:

- Network graphing solutions;
- Software to monitor SNMP network devices;
- Port monitors;
- Electronic alert notifications;
- Diagnostic protocols;
- Spam and virus protection on inbound & outbound email

———

Technical Overview

Please describe targeted last mile service objectives, including last mile service provider letters of commitment, agreements, or contracts; and a description of the proposed service offerings, including the pricing of the services to be offered over the proposed facility.

This response is limited to 6000 characters as an open field narrative.

The proposed middle mile routes presented in this grant application are part of a larger overall initiative to bring fiber optic internet service to Concho Valley Electric Cooperative, Inc.'s (CVEC, Inc.'s) approximately [redacted] rural electric cooperative members spanning 5 counties in rural west Texas. CVEC, Inc. will use this middle mile project to support the last mile fiber to the home connectivity to its existing members in Coke and Tom Green Counties, Texas. Last-mile monthly residential plans and pricing are below. [redacted]

Value: 100mbps symmetrical for [redacted]
Prime: 500 mbps symmetrical for [redacted]
Premier: 1gbps symmetrical for [redacted]
In addition to providing last mile service to its own members, CVEC, Inc. commits to offering this middle-mile network to other middle and last mile providers in the area on a nondiscriminatory basis where technically feasible. This increased bandwidth will allow last mile providers to increase upload speeds for end-users, strengthen the network against single points of failure, provide redundancy, and complete the fiber ring around Tom Green and Coke Counties. CVEC, Inc. has identified the following rates for a typical 36-month term.
10G Direct Internet Access Circuits: [redacted] per month
1Gig Direct Internet Access Circuits: [redacted] per month
Tower Connections: [redacted] per month
Dark Fiber Leases: Will vary, but CVEC, Inc. is pricing within the general range of [redacted] per mile per month.
Working with other providers about the benefits of this project should it be awarded, CVEC, Inc. has had productive conversations with Conterra, a for-profit middle-mile provider in the area that primarily uses its network in San Angelo to serve school districts, about mutually beneficial IRU swaps and Conterra using CVEC, Inc.'s proposed middle mile paths to provide redundancy to their network. Central Texas Telephone Cooperative has also expressed interest in using this network to bolster their own service offerings and has provided a letter of support encouraging the award of this grant. In their letter, CTTC notes that "CTTC and CVEC have worked hand-in-hand on many projects throughout both of our many years in operation, and we commit to continued mutual sharing of network infrastructure (where feasible), so as to reduce costs and overbuilding of networks, while also providing state-of-the-art, high-speed broadband to those currently without," and that "Being able to potentially leverage CVEC's middle mile facilities would allow CTTC to offer affordable services to end users in areas where

construction costs previously made offering services unaffordable." That letter is attached.

CVEC, Inc. certifies that project will, upon completion, be capable of supporting retail broadband service.

———

Applicants are encouraged to upload supplemental documentation.

Tom Green County Commissioners Court Support -09-26-2022 10-15-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, CVEC grant support letter (Rep Darby)-09-26-2022 10-15-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, CVEC grant support letter (Rep Pfluger)-09-26-2022 10-15-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, CTTC CVEC Support Letter-09-27-2022 04-20-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Competitive Landscape

The Applicant should describe existing middle mile offerings in the area, if any, including competitor data if applicable. This should include a description of the proposed service offerings, including the pricing and technology of the services to be offered over the proposed facility. Where possible, Applicant's project should be able to demonstrate a decline in middle mile costs that are likely to flow through to consumer broadband prices.

This response is limited to 6000 characters as an open field narrative.

The existing middle mile infrastructure in Concho Valley Electric Cooperative, Inc.'s (CVEC, Inc.'s) proposed application area is not robust enough to deliver modern broadband connectivity to the portion of West-Central Texas in which CVEC, Inc. operates. CVEC, Inc. has identified only two for-profit middle-mile providers currently operating in this region of Texas: [redacted] has built out in the region with a focus on commercial customers and cellular towers rather than on residential service. Due to lack of competition, leasing middle-mile facilities from this provider at market rates in the long-term is not financially feasible for rural FTTH projects as they are too expensive to provide an adequate return on investment, with some dark fiber leases requiring large deposits of up to [redacted] per lease and charging anywhere up to [redacted] per month depending on number of miles and length of term.
[redacted] so again the focus is not on providing wholesale broadband to other internet service providers to bolster residential service to the area.
CVEC, Inc. has determined that NTIA's Middle Mile Grant program is a good fit to meet these needs as they have a direct and immediate need to utilize the proposed middle mile network, not only to serve their own internet customers, but to encourage competition among existing middle mile providers. The increased bandwidth this new infrastructure will bring will allow providers to serve more customers and increase download and upload speeds for end-users, strengthen the network against single points

of failure, provide redundancy, and complete the fiber ring around Tom Green and Coke Counties. The proposed network will provide much-needed infrastructure in the area, lessening the distance and therefore the cost that other carriers will have to incur to serve their customers. CVEC, Inc. believes this decreased distance between homes and the backbone of the internet, coupled with the increased competition the middle mile network would bring to the area, will ultimately lower broadband rates in the region as a whole as more carriers are able to provide service.
As a current last-mile internet provider, CVEC, Inc. will use the proposed middle mile routes to build fiber-to-the-home residential internet services to their nearly [redacted] electric cooperative members in the proposed area. Last-mile monthly residential plans and pricing are below. None of these plans have a contract needed for service, and all offer unlimited data, free installation, and an included wi-fi 6 router at no additional cost:
Value: 100mbps symmetrical for [redacted]
Prime: 500 mbps symmetrical for [redacted]
Premier: 1gbps symmetrical for [redacted]
In addition to providing last-mile service to its own customers, CVEC, Inc. commits to offering this middle-mile network to other middle and last-mile providers in the area on a nondiscriminatory basis where technically feasible. CVEC, Inc. has proposed the following wholesale rates for a typical 36-month term:

10G Direct Internet Access Circuits: [redacted] per month
1Gig Direct Internet Access Circuits: [redacted] per month
Tower Connections: [redacted] per month
Dark Fiber Leases: Will vary, but CVEC, Inc. is pricing within the general range of [redacted] per mile per month.
———
Type of technology to be used in proposal:
Fiber Optic Technology
———
Each applicant of an award to build middle mile infrastructure using fiber optic technology shall certify that the proposed project, upon completion, will include direct interconnection facilities that will facilitate the provision of lit broadband service, at speeds not less than 1 Gigabit per second for downloads and 1 Gigabit per second for uploads to anchor institutions located within 1,000 feet of the middle mile infrastructure, as detailed in the Template CAI below.

Do you agree to certify to the above?

Yes
———
Upload Template CAI. Required for Fiber Optic Technology, optional for Wireless or Other.

Concho Valley Community Anchor Institution on-09-25-2022 01-38-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx

———

An eligible entity applying for a middle mile grant may seek, and the Assistant Secretary may grant, a waiver of the requirements set out in the previous paragraph, in full or in part, to the extent the eligible entity demonstrates that the requirement is not technically or economically feasible.

Do you plan to apply for a waiver? If yes, please attach the waiver application in the Application Workspace, the Application Information section, Required Documents under Required Document Question 4 "Additional Waiver Upload".

No

———

Network Route Maps

Applicants should provide a physical network map that includes the following (if applicable):

The Project Area and those unserved and underserved areas which it will enable.
Applicant‘s pre-existing service area that demonstrates current service levels.
The physical path of the network‘s transmission medium (e.g., backbone and lateral cable routes, microwave links), transmission type, technology, operating bandwidth, capacity (e.g., dark vs. lit strand count), and cable placement (e.g., aerial, burial) should be displayed.
Points of interconnection (purely passive and non-environmentally controlled nodes, e.g., splice points are optional):Provider Facilities
Collocation Facilities
Private Interconnection Points with partnering service provider/private network

Wireless towers and associated coverage areas.
Anchor institutions within 1,000 feet, if desired.
Additionally, the maps should delineate between network and facilities that are:Part of the Applicant's/key partners' existing network;
Proposed as part of this project;
Leased from a third party;
Utilized under some alternative arrangement; or
Relevant to interconnection with either Last Mile or Middle Mile service providers.

PLEASE NOTE: Only ESRI Shapefiles will be accepted and uploaded.

CVEC MM Proposed Route Miles-09-25-2022 01-42-Concho Valley Electric Cooperative, Inc.-GRN-000978.zip, CVEC MM Point of Interconnection-09-25-2022 01-42-Concho Valley Electric Cooperative, Inc.-GRN-000978.zip

———

Data Submission Specification

There is a template "Upload Template Data Submission Specification" which shall be uploaded. Applicants must complete the table with information for all interconnection points proposed for the network. This table has three required fields: Point Name, Latitude and Longitude. This should accommodate all of the points of interconnection (passive, non-environmentally controlled points of interconnection, e.g., splice points, may be excluded), collocation facilities, central offices, head ends, and other centralized facilities, network access points to Last Mile service providers, Internet peering points, and towers.

Concho Valley Data Submission Specification 0-09-25-2022 02-39-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx

———

Network Diagram

The Applicant must provide a high-level network diagram to be uploaded for the project that is a representation of the network, capacities, and facilities. The diagram must clearly denote which of the network elements already exist. The diagram should show:

The links between the network nodes. The types of facilities used in connecting the network elements (fiber, wireless microwave, etc.).

The points of interconnection and collocation facilities, including Internet peering points, access to local exchange carriers, central offices, or cable head ends.

The proposed aggregation node facilities that will provide the egress point(s) from the broadband backbone to the networks of the selected service provider(s), named Last Mile service providers, and the selected named Internet Service Provider(s) in the new infrastructure.

The Applicant should show which technologies are used and include bandwidth capacity constraints.

CVEC MMG App_v6-09-25-2022 01-40-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Environmental Narrative

Any project-related activity that may adversely affect the environment must not be undertaken prior

to the completion of the environmental review process prescribed by NTIA. Doing so may jeopardize consideration of the application.

All Applicants for MMG projects must comply with the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act, and other applicable environmental regulations.

Please provide a service-area environmental description that describes the physical project area and its surroundings (e.g., disturbed or developed land vs. open space; adjacent natural resources, such as rivers, wetlands, or forestlands; and any protected lands or resources in or near the project area), including site photographs and aerial photographs (e.g., Google Earth or Google Maps images), if the project includes construction and/or ground disturbing activities.

This response is limited to 12000 characters as an open field narrative with image files to be uploaded.

The proposed projects consist of approximately [redacted] miles of fiber construction [redacted] and the placement of [redacted] new equipment cabinets. Proposed aerial fiber construction will follow previously disturbed routes on existing aerial pole line. Proposed buried construction will follow previously disturbed existing Rights-of-way (ROW). Buried fiber will be plowed in by a tractor using a ripper attachment. The ripper will open a narrow slot, up to 36" deep to insert, and then cover the fiber in previously disturbed existing right-of-way (ROW). The 2 equipment shelters will disturb approximately 10'x10' adjacent to proposed fiber construction routes in Bronte, TX and Robert Lee, TX.
The physical project area is in National Climate Assessment's Southern Great Plains region – specifically within Tom Green, Coke, and Sterling Counties. The project areas are not located adjacent to any wetlands except for one route crossing the Concho River.
The applicant will coordinate with the State Historic Preservation Office (SHPO) to comply with National Historic Preservation Act (NHPA) Section 106 requirements. Additionally, the applicant will utilize the U.S. Fish & Wildlife IPaC tool to review the project areas for impacts to endangered species and develop construction plans to minimize any impact. However, the applicant plans to utilize aerial and buried construction routes that are in previously disturbed areas to minimize additional environmental impact.
The applicant has included a pdf map as an attachment to this application of the individual proposed project areas and routes.
———
Upload Map Images:

CVEC NTIA MM Routes Map-09-26-2022 10-18-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf
———

Template Table of Funded Partners and Unfunded Collaborators

List all funded and unfunded project collaborators, including partners, subrecipients, match providers, major contractors/supplies, details on role/scope of work for project. A fillable Template of Funded Partners and Unfunded Collaborators can be found in found in the MMG ZIP folder.

CVEC Template Table of Funded Part-09-25-2022 02-28-Concho Valley Electric Cooperative, Inc.-GRN-000978. and Unfunded Collaborators Final.xlsx

———

Certificate of Operational Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting to the applicant's operational capability to complete and operate the proposed project.

If the applicant has provided a voice and/or broadband internet access service, it must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it has filed FCC Form 477s and the Broadband DATA Act submission, if applicable, to the extent required during this time period and otherwise complied with the Commission's rules and regulations. Alternatively, the applicant must explain any pending or completed enforcement action, civil litigation, or other matter in which it was alleged to have failed to comply with Commission rules or regulations.

If the applicant has operated only an electric transmission or distribution service, it must submit qualified operating or financial reports that it has filed with the relevant financial institution for the relevant time period along with a certification that the submission is a true and accurate copy of the reports that were provided to the relevant financial institution.

If applicable, the applicant must submit a certification from an officer-level employee (or individual of comparable rank) that is has operated a middle mile broadband network for at least two years or that it is a wholly owned subsidiary of such an entity and must specify the number of years the applicant or its parent company has been operating.

CVEC Inc-09-25-2022 02-28-Concho Valley Electric Cooperative, Inc.-GRN-000978. Certification of Operational Capability Signed.pdf

———

Certification of Financial Capability

Each applicant must supply a certification from an officer-level employee (or individual of comparable rank) attesting that it is financially qualified to meet the obligations associated with a project, that they will have available funds for all project costs that exceed the amount of the grant, and that they will comply with all MMG Program requirements, including service milestones.

CVEC Certification of Financial Capability Si-09-25-2022 02-44-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Letter of Credit

During the application process, each applicant must submit a letter from a bank meeting eligibility requirements consistent with those set forth in 47 C.F.R. § 54.804(c)(2) committing to issue an irrevocable stand-by letter of credit, in the required form, to the applicant. The letter shall at a minimum provide the dollar amount of credit offered and the issuing bank's agreement to follow the terms and conditions of NTIA's model letter of credit. NTIA shall publish on its website a model letter of credit substantially similar to the model letter of credit established by the Federal Communications Commission in connection with the Rural Digital Opportunity Fund (RDOF - Rural Digital Opportunity Fund Order, 35 FCC Rcd at 773-77, Appx. C.).

NTIA will ensure, prior to issuing a middle mile grant award, that each eligible entity obtains an acceptable, irrevocable standby letter of credit in a value of no less than 25 percent of the award amount.

Each eligible entity shall provide with its letter of credit an opinion letter from its legal counsel clearly stating, subject only to customary assumptions, limitations, and qualifications, that in a proceeding under Title 11 of the United States Code, 11 U.S.C. § 101 et seq. (the "Bankruptcy Code"), the bankruptcy court would not treat the letter of credit or proceeds of the letter of credit as property of the winning bidder's bankruptcy estate under Section 541 of the Bankruptcy Code.

Conho Valley NTIA Commitment Letter of Credit-09-27-2022 11-39-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Audited Financial Statement (Previous 3 Years)

Each applicant shall submit financial statements from the most recent fiscal year that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of audited financial statements.**

2019 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf,
2020 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf,
2021 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf,

CVEC Inc-04-11-2023 04-22-Concho Valley Electric Cooperative, Inc.-GRN-000978. 2019-2021 Audited FInancial Statements.pdf, CVEC Inc-04-11-2023 04-16-Concho Valley Electric Cooperative, Inc.-GRN-000978. 2020 Audited Financials.pdf, CVEC Inc-04-11-2023 04-16-Concho Valley Electric Cooperative, Inc.-GRN-000978. 2021 Audited Financials.pdf, CVEC Inc-04-11-2023 04-15-Concho Valley Electric Cooperative, Inc.-GRN-000978. 2019 Audited Financials.pdf

———

Historical Financial Statements (Previous 3 Years)

Each applicant shall submit financial statements from the three prior fiscal years that are audited by an independent certified public accountant. If the applicant is not audited in the ordinary course of business, in lieu of submitting audited financial statements it must submit unaudited financial statements from the three prior fiscal years and certify that it will provide financial statements from the three prior fiscal years that are audited by an independent certified public accountant by an NTIA specified deadline.

***You must provide 3 years of historical financial statements.**

2021 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, 2019 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, 2020 Audited Financials-09-25-2022 02-45-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf

———

Budget Narrative

Applicants will create and submit a budget narrative that adequately describes all proposed activities and costs for their grant-funded project. Applicants must complete the file template, fill in all required information, and upload the file
. The file must be uploaded as a Word file, and not converted to a PDF. You can find additional guidance in the MMG Application Guidance.

Concho Valley NTIA MMG - Budget Narrative - 0-09-27-2022 01-35-Concho Valley Electric Cooperative, Inc.-GRN-000978.docx, Concho Valley NTIA MMG - Budget Narrative - R-10-28-2022 05-41-Concho Valley Electric Cooperative, Inc.-GRN-000978.docx, Concho Valley NTIA MMG - Budget Narrative - R-04-11-2023 04-34-Concho Valley Electric Cooperative, Inc.-GRN-000978.docx

———

Template Detailed Budget Justification

The Detailed Budget Justification spreadsheet must reflect the cost categories that appear on the SF-424 and SF-424C and include itemized calculations for each cost placed under those categories. A fillable Template Detailed Budget Justification can be found in found in the MMG ZIP folder.

CVEC NTIA MMG Detailed Budget Justification 0-09-28-2022 12-39-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx, CVEC NTIA MMG Detailed Budget Justification R-04-11-2023 04-36-Concho Valley Electric Cooperative, Inc.-GRN-000978.xlsx

———

Any other funding provided for this project?

No

———

Template Pro Forma

Pro forma financial projection and analysis related to the project's sustainability, inclusive of subscriber (e.g., last mile network connections, other wholesale services), across an eight-year forecast period. A fillable Template Pro Forms can be found in the MMG ZIP folder.

CVEC - NTIA MMG - Proforma Packet-09-28-2022 02-28-Concho Valley Electric Cooperative, Inc.-GRN-000978.pdf, CVEC - NTIA MMG - Proforma Packet - v-04-11-2023 04-38-Concho Valley Electric Cooperative, Inc.-GRN-000978.2.pdf

———