

Technical capability statement: Applicants must include a statement relating to their experience providing broadband, whether they currently provide broadband at the minimum 100/100 Mbps speeds, the useful life of the facilities, and how the project will be resilient and sustainable in the long-term. This statement should also include the number of technical staff that will be dedicated to serving the project area once the project is complete, the level of technical ability of staff, the technological components used and which components may require more frequent repair or replacement, a detailed description of the proposed network architecture including homes passed, fiber miles, and the specific technology to be used to provide service to end users, a description of the applicant's technical capability to meet the requirement to provide a minimum 100/100 Mbps in all locations that receive grant funding, and their plans to meet the minimum statutory technical and speed requirements in place for the NBBP throughout the fifteen-year period, and how the service area will be maintained throughout the useful life of the facilities, and any other relevant technical expertise of the applicant. (Attachment Letter: E)

Quick Current-Nebraska LLC (QC-NE) is the applicant for Nebraska's Capital Project Fund grant. Quick Current-Nebraska LLC is a partnership, managed by The Omaha Tribe of Nebraska and Evolve Cellular Inc.

Supplemental Information April 24, 2023

The Applicant intends to file its registration as a service provider in June of 2023 at which time it will also file its application for an ETC and a CLEC in the State of Nebraska. The Applicant is an LLC owned 80% by Quick Current LLC (which is 100% tribally owned) and 20% by Evolve Cellular Inc. The Applicant is managed through an Operating Agreement where the Chairman of the Tribe (Leander Merrick) and the President/CEO of Evolve Cellular serves as LLC Managers. The Applicant also has a Master Services Agreement with Evolve Cellular under which Evolve Cellular shall perform the management roles of the Applicant until such time as new full-time employees of the Applicant can be trained and perform the needed technical functions of the Applicant. More current information can also be found at www.qcbroadband.com.

Experience & Technical Capability

The technical capability of Quick Current-Nebraska relies on the staff of Evolve Cellular Inc. Evolve Cellular has a long history of network operations in both broadband and wireless technologies. Evolve Cellular is an ETC (Eligible Telecommunications Carrier) in good standing in the state of Texas and is a partner in a State of Montana project to deliver 100X100 service to over 11,000 households.

The staff of Evolve Cellular has performed the detailed engineering for this proposed network, creating the design and budget proposed herein. Evolve Cellular personnel will be responsible for grant management, construction management, state regulatory compliance, network and core operation and procurement and initial installation of wireless assets. Over time, Quick Current-Nebraska will hire and train from the community and those employees will assume the long-term operations in this region.

Lowell Feldman is currently the Chairman and CEO of Evolve Cellular and serves as a board member & advisor to multiple high technology communications companies. His expertise spans business, communications and technology matters relating to law, products, markets, competitors, regulations, standards, specifications, innovation, and technology. He has extensive business experience with

broadband technologies and the wireless ecosystem. This includes founding and operating a large broadband CLEC in Texas that had over 1600 route miles of fiber in 4 major metro networks in Texas

Lowell has initiated or contributed to the foundation and growth of several new services, businesses, industry specifications and standards. He is routinely requested to participate as a speaker or panelist at industry events and is currently a member of the GSMA's North American CTO executive council.

Brian DeHaven is VP of Operation at Evolve Cellular and President at USFon Inc. USFon is a statewide not-for-profit communications provider, specializing in voice and broadband services for underserved rural communities, low-income residents, and educational and medical facilities. Under Brian's leadership, USFon delivered 1,000 fiber-strand mile network worth \$3.1M while securing and delivering on an additional \$5.2M in contracts for broadband services in rural central Texas; Developed and instituted operational processes and related databases for network operations, provisioning, order processing, and regulatory reporting. Brian oversaw the design and implementation of a redundant broadband network in rural Central Texas deploying wireless and fiber-based technologies including LTE and multi-wave DWDM and the deployment of 238 network miles providing up to 10 Gigabit Ethernet.

Richard Lewis, as CFO at Evolve Cellular, built and runs a customer driven operation which handles the onboarding, accounting, billing, and support for offered services. Rich led a team that grew the broadband voice and data customer base from launch to 12 markets within a mere 18 months. Rich has been able to structure and secure capital to purchase a tower company as well as buildout of internal assets.

Scott Foster brings over twenty-seven (27) years of Telecomm, network, systems management, and experience to the team. Scott has performed the full range of implementation, integration, and operations for carrier-class 4G/5G LTE and NGN implementations. Recently projects include the design, implementation, operation and testing of full core including MME, SGW, PGW, ePDG (Virtualized WiFi Gateway), PCRF, AAA, HSS, P-CSCF, PCRF, PCEF, IMS, MMSC, and SMSC, as well as related RAN elements eNodeB, RRU (Remote Radio Units) and Antennas.

While the above are just a few of our key team members, all members of the staff at Evolve Cellular will have a role in this project while we build the staff of QC-NE. Our staff will provide the necessary industry experience across all aspects of communications required for this project.

Technology

We intend to deliver this service using a combination of fixed wireless with fiber backhaul. The last-mile architecture of this project utilizes a Fixed Wireless Access (FWA) topology utilizing dedicated "Faros" Massive MIMO systems from Skylark Wireless, LLC. An O-RAN compliant FWA base station, controllable by the core, with multiple coverage sectors of 90-degree (up to 4 sectors as needed) with 3 dB horizontal beamwidths, is installed at a design height unique to each tower, large pole or appropriate building. This FWA base station communicates via Point-to-Multi-Point (PtMP), Non-Line-of-Sight (NLoS) wireless channels to dedicated FWA Customer Premises Equipment (CPEs) installed at a subscriber's household or business. The class of service is controlled by the 3GPP Standard Core.

The Faros system utilizes a scaled, multi-user beamforming technology called Massive MIMO (mMIMO) in a modular form factor providing up to 252T x 252R topologies with up to 32 spatial streams (i.e. 32-layer) operating at mid-band frequencies. The system does not provide mobile wireless service. We plan to deploy this system in three sectors of approximately 120-degree horizontal bandwidth with a 42T x

42R configuration per sector, with each sector supporting 21 spatial streams on average. The deployed system will utilize BRS Licensed spectrum between 2.5-2.55 GHz, as determined to be available in the designed regions.

This proprietary physical layer utilizes a Global Positioning System (GPS) synchronized Time Division Duplexing (TDD) scheduled Media Access Controller (MAC) implementing Orthogonal Frequency Division Multiple Access (OFDMA) in a coherent “no-sector” topology with 100% frequency reuse. The system supports dynamic Modulation and Coding Scheme (MCS) selections with rates between $\frac{1}{2}$ BPSK and $\frac{3}{4}$ 256QAM and Automatic Repeat Request (ARQ) for low-latency loss recovery. The installation of service at a subscriber premises utilizes a 2T x 2R MIMO transceiver, with an external, directional antenna permanently mounted on a pole (distant sites) or side of the home (near sites) and pointed at the nearest base station location.

Each outdoor CPE unit provides an IP-rated 10/100/1000 Ethernet port for the LAN and implements 802.3at standard 25W power-over-ethernet (PoE+). CPE units contain active GPS receivers that enable the network operator to know the installation location of CPE units. Wi-Fi 6 routers will be made available for purchase at the time of installation, but their procurement is outside the scope of this network design.

Architecture

This project will build out last-mile connectivity and provide at a minimum low-latency symmetric 100/100 Mbps fixed wireless access to households without sufficient access near the tribal lands of the Omaha Tribe of Nebraska, where tribal members live.

This project consists of a new, 13.2-mile fiber construction with two (2) tower facilities to deliver broadband connectivity via fixed wireless using licensed Band 41 spectrum. We will deploy a 3GPP compliant core for operation of the wireless network and, as described in detail above, an O-RAN compliant radio network.

Our network coverage area includes an estimated 970 households, and we anticipate providing service to 484 of those households.

Full details on our proposed network, including the propagation and heat maps for our coverage, can be found in the Attachment K provided with this application.

Useful Life & Resiliency

The facilities that we are proposing as part of this build integrate and supplement other projects we have proposed in this region. These facilities consist of towers with fixed wireless broadband equipment, fiber routes with transport equipment, and a data center with Network Operations Center (NOC) where the network core routing and switching equipment will be maintained.

The useful life of these facilities is expected to be greater than twenty (20) years, and in our experience, with maintenance can last far longer. The equipment that will require the most frequent repair and replacement will be the customer premise equipment (CPE). As we bring on staff of QC-NE, these individuals will be trained in the repair and operation of CPE along with the rest of the overall network.

