

Glenwood Telecommunications, Inc.
Heartwell
Attachment E – Technical Statement

Glenwood’s Experience

Glenwood is a full-service telecommunications provider, serving residents and businesses in 14 Nebraska counties. We are a local company that delivers reliable solutions for home and business needs. Our Mission is “To provide exceptional customer service and high-quality, cost-effective telecommunications services, using the latest technology available, throughout Nebraska.” Since 2006, Glenwood has deployed fiber-to-the-home service to all its ILEC areas and numerous CLEC communities; all in the state of Nebraska. Glenwood currently serves over 5,000 fiber-to-the-home subscribers in Nebraska. Available services that we offer are voice, long distance, broadband and managed Wi-Fi. Broadband speeds offered are 300mb, 500mb, 700mb, 1gb, and 2.5gb.

In December 2022, Glenwood was awarded two Nebraska Broadband Bridge Grants, one in Franklin County and one in Phelps County. With the Phelps County grant Glenwood participated in a Public-Private Partnership with the County to come up with matching funds as well as identify the locations that would benefit the most from the grant. Franklin County was started on March 21, 2023, and Phelps County began construction on April 19, 2023. We have completed the construction of both projects and have certified the completion of the project with the PSC.

For the 2021 round of Nebraska Broadband Bridge, Glenwood was awarded one grant in Fillmore County. Again, Glenwood entered a Public-Private Partnership with the local County government as well as the village of Shickley. The project was a multi-phased plan to reach all the communities within the county as well as a full buildout of Shickley. Collectively, Glenwood can now provide service to 325 previously unserved/underserved residences of Fillmore County.

Useful Life

Glenwood expects to get up to 40 years of life out of the proposed fiber and 8-10 years on the electronics. We have technicians that manage and maintain our network. We have a planned maintenance schedule throughout the year and are always evaluating the lifespan and usefulness of our electronics.

Our plant technicians install marker posts and perform locates throughout the year to ensure that the fiber remains in good working order. Our central office technicians evaluate the state of the plant by monitoring light levels and maintaining alarm thresholds. They also continually evaluate the effectiveness of our electronics and plan for upgrades as needed to provide the customer with the best experience possible.

Long Term Resilience and Sustainability

Glenwood is constantly looking for opportunities to expand our footprint and to provide service to South Central Nebraska, which we have accomplished with the FTTH overbuilds in the communities of Superior (2018), Hebron (2019), Franklin (2020), Geneva (2021), and Shickley (2022) and are in the process of completing Holdrege (2023). Because of our experience in working outside of our traditional ILEC area, we are confident that our future projects will incorporate well into our service areas. Our staff vets every opportunity and makes the decision to proceed based on a proven model developed in house.

During the construction phase, we will utilize contractors to complete the backbone install as well as most drops to customers. We have an in-house Project Manager, an in-house GIS and network designer to manage any contractors or issues that may arise, and a Quality Assurance Technician to ensure the job is completed to Glenwood’s standards. Glenwood has an “all hands” approach to service and support, and

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staffing is constantly evaluated to determine the need for additional personnel. We currently have 8 plant technicians, 8 Central Office/IT staff, and 5 customer service representatives throughout our territories to provide service and support. Based on previous projects, we plan to have 2 teams of 2 technicians to complete the installation of service, as well as all the customer service representatives scheduling and dispatching the teams.

Glenwood strives to provide uninterrupted service for all our customers. We utilize several alarming and monitoring platforms as well as a Midwest based 24/7 helpdesk. Our technicians are on call after hours to provide support for our customers. Our outside plant technicians complete an in-house training curriculum, so that our service is ubiquitous no matter where in the Glenwood territory they may be needed. They are continually performing maintenance on our plant, pedestals, and Central Offices to ensure proper service. Our Managed Wi-Fi offering gives us insight on the customers experience and lets us proactively resolve issues.

Technology

Glenwood is proposing to build an entirely fiber network. The fiber itself will have a useful life of upwards of 40 years. Access electronics will be provided by Calix, a leader in the industry. We constantly evaluate the models that we implement and upgrade as necessary. Middle mile and distribution equipment will be provided by Cisco. With the upgrades that we will have performed to this equipment over this year will have a useful life of 8-10 years. Access equipment is the most susceptible to the upgrade cycle. We plan for replacement in 5-8 years and currently have an upgrade path that will allow us to move toward more bandwidth in the future.

Network Architecture

Glenwood specializes in fiber-to-the-home, and this project is no different. We intend to bring fiber optics to all 46 locations identified in the “Village of Heartwell” project. It will consist of burying approximately 3.3 miles of cable and will be incorporated into the existing Glenwood fiber network. The last mile connectivity will be provided through a 10 Gigabit Symmetrical Passive Optical Network (XGS-PON) and Active Ethernet.

Technical Capability

Glenwood has been providing FTTH to rural Nebraska for over 18 years and looks to expand our same great service. We are always looking towards the future of technology and how best to utilize it to augment our existing infrastructure. We have recently implemented a Routed Optical Network for our backbone, that provides us with a resilient 100 gb network, with the ability to upgrade this network to 400 gb when the need arises.

Utilizing our current access technology, we can provide up to 2.5 gb to our end user’s home. This will be more than sufficient to provide the minimum 100/100mbps for the foreseeable future.

Access to the public internet will be provided through multiple connections to Tier 1 providers including Zayo in Kansas City and Denver, Hurricane Electric in Omaha and we are peering at OmahaIX.

We will continue to work for our members and customers to provide the best, most reliable service in South Central Nebraska.