

TEC of Jackson, Inc., dba: TEC
TEC Community Broadband Project

Request for Proposal
Fiber Construction Project - Materials

Response: Respondents are not entitled to rely on any verbal clarification or response from anyone in connection with this RFP. Respondents should send inquiries or quotes for materials to Forrest Collier at fcollier@tec.com. Final RFP due by December 18, 2023.

Description of Project:

The proposed funded service areas cover approximately 335 square miles of Newton, Simpson, Lawrence and Copiah counties in central Mississippi. This project will bring approximately 170 miles of core fiber to some of the most rural areas of Mississippi and make high speed broadband available to approximately 4,857 locations and to over 10,082 people, per the desktop review and satellite imagery, through fiber to the home technology.

Note: This RFP is for phase 1 of the TEC Community Broadband Project located in Simpson County.

Detailed description of the proposed project:

The equipment strategy for this expansion project is to leverage existing fiber and continue it to deploy a Gigabit Passive Optical Network (GPON) Fiber to the Home (FTTH) solution using the Adtran TA5000 platform. Customers served via GPON have access to an aggregate of 2.4 Gbps bandwidth in the downstream direction and 1.2 Gbps upstream from the Optical Network Terminal (ONT) at their home through distributed optical splitters to the serving remote Optical Line Terminal (OLT). TEC will continue upgrading all existing network to the ADTRAN Combo PON solution that will allow 10GB XGS-PON and 2.4PON service in 2022-2024.

This GPON capacity will easily scale to provide Gigabit service for these customers. However, if more bandwidth were to be required, NG-PON2 or XGS-PON at 10Gbps or Point to Point 10Gbps connections or higher could be deployed on an as-needed basis over the proposed fiber optic cable. Latency within the proposed Adtran FTTH equipment ranges from microseconds to around 3-5ms, depending on location and distance from the master node.

A centralized network operations center (NOC) is located in Jackson, MS and operated by another wholly owned subsidiary (LecNet, Inc.) of TJX's parent company, Telephone Electronics Corporation (TEC) and has multiple 100 GB redundant transport routes from TJX through BST to the NOC. LecNet's Internet peering connections and routers are monitored by the NOC personnel and three upstream providers, Cogent, CenturyLink and AT&T, to ensure redundancy and adequate bandwidth and IP addresses are available to our broadband customers. LecNet also peers at 350 East

Cermak (Chicago) and 56 Marietta (Atlanta) via multiple CSpire 10 Gbps transit links. Additionally, LecNet hosts Netflix, Google and Akamai caching servers at the NOC in order to minimize streaming congestion on the network. In total, LecNet has 50 Gbps of internet transport and transit bandwidth, with the ability to scale it higher as bandwidth usage grows. This network facilitates excellent response times across the network with minimal latency. Overall latency from LecNet's network edge to our Internet peering locations is typically well below 20ms. A 100G upgrade order has been signed and TEC is awaiting delivery for Atlanta transport upgrade.

The TEC Community Broadband Project consists of three non-contiguous design areas. These areas will be grouped into 50-60 mile design areas for efficiency and effective project management for project completion in less than three years.

The Simpson service area consists of a 47 miles fiber build to serve FTTH to approximately 292 locations. For the purposes of this grant application, TJX is including fiber drops and CPE bundles to serve locations in the funded service area. The Simpson Funded Service Area consists of a 288 and 96 count fiber build to connect to the TJX existing fiber and will require deployment of Adtran TA5000 remotes equipped with OLTs to feed three local convergence points (LCP) cabinets distributed throughout the serving area. Remotes and LCPs will be pole mounted in existing previously disturbed right of ways. Additional 48 and 12 count fiber will be used in the distribution infrastructure.

Vendors must provide quotes on the entire quantity per material line item, must note expected delivery date, note if material is American made and if vendor is woman or minority owned (manufacturers noted are preferred, but other quality manufacturers will be considered):

Request for Proposal for Fiber Construction Materials					
Project	Manufacturer	Vendor Part No.	Requirements	Description	Quantity Needed
TEC Community Broadband Project	Corning Optical Communications LLC	288EUC-T4100D20	American Made	Reel - 288 - Loose Tube	107,070 ft