

Bay Springs Telephone Company, Inc.

Jasper County Community Connect Project

Request for Proposal

Materials for a fiber construction project

1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool

(multiple sizes and quantities)

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 Jim Shelton at JShelton@tec.com. Final RFP due by May 3rd, 2023.

Description of Project: The Jasper County Community Connect project proposed funded service area covers approximately 104 square miles of rural Mississippi. This project will bring approximately 79.6 miles of core fiber to some of the most rural areas of Mississippi and make high speed broadband available to approximately 1,066 locations through fiber to the home technology.

Detailed Description of Existing Operations: Standards based, RUS approved, technology is used, and the network has been constructed using RUS standard construction practices. BST currently has 131 remote concentrators (Adtran TA5000) positioned throughout its network. BST is serving all of these remotes with fiber to the node (FTTN).

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 10 Gbps or Point to Point 10 Gbps 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.

The middle mile architecture for this project will utilize high-capacity transport rings and redundant link aggregation interfaces for a highly scalable and redundant network. The network will utilize a redundant 100 Gbps (scalable to higher speed on some links and lower on others) transport ring comprised of carrier grade ADTRAN and Cisco Ethernet aggregation switches (or equivalent) with full layer 2.5 and MPLS capabilities. Each optical light terminal is connected in a redundant fashion to different parts of the transport ring(s). Redundant core routers, in physically diverse locations, will provide the paths out of the local and middle mile network to the external IXP network. This diverse and redundant pathing of the transport to the interexchange points delivers a robust network that will ensure maximum uptime and minimal latency.

The middle mile / backhaul architecture leverages existing networks, using primarily a Layer 2 architecture. All transport is fiber-based. In the access aggregation portion of the network, individual 10 to 100 Gbps links are aggregated using 802.1ax Link Aggregation and G.8032 Ethernet Ring Protection Switching (ERPS) to interconnect the RTs and connect them to the core network. 100G transport links connect the access rings to the LecNet headend in Jackson, MS. A centralized network operations center (NOC) is located in Jackson, MS and operated by a TEC subsidiary, LecNet. TEC has 100 GB redundant transport routes from the company to the NOC. TEC's Internet peering connections and routers are monitored by the NOC personnel and two upstream providers, Cogent and AT&T, to ensure redundancy and adequate bandwidth and IP addresses are available to our broadband customers. TEC also peers at 350 East Cermak (Chicago) and 56 Marietta (Atlanta) via multiple CSpire 10 Gbps transit links. Additionally, TEC hosts Netflix and Akamai catching servers at the NOC in order to minimize streaming congestion on the network. In total, TEC 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.

Detailed description of the proposed purchase:

Bay Springs Telephone Company, Inc. requests a quote for:

1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool listed on the chart below, for its USDA RUS - Jasper County Community Connect project.

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				
Project	Requirements	Friendly Name	Quantity Needed	Comments
Jasper County Community Connect	American Made	300ft 1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool	72	Must be Delivered by 6/09/23
Jasper County Community Connect	American Made	500ft 1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool	157	Must be Delivered by 6/09/23
Jasper County Community Connect	American Made	750ft 1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool	48	Must be Delivered by 6/09/23
Jasper County Community Connect	American Made	1000ft 1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool	44	Must be Delivered by 6/09/23
Jasper County Community Connect	American Made	1500ft 1 fiber flat drop single mode tone able Opti-tap to blunt (Opti tap to deploy first) on spool	21	Must be Delivered by 6/09/23