

Attachment A, Project Description

1. A discussion of the area served including boundaries, number of households, businesses, and any community anchors (libraries, schools, police and fire stations, hospitals, etc.). This response shall also identify if the project area is located within an unincorporated area and provide information regarding how the area meets the definition of rural (US Census data).

The Marshall County project falls within the following census blocks – 010950304021035, 010950304021041. While a number of these census blocks are shown as being served, this is an overstatement of Charter Communications’ service area. While Charter is the provider in a portion of the subject census blocks, the remainder of the census blocks that comprise the Project Area of this Application, remain unserved by Charter. The Project Area will encompass 20 passings. This Project Area falls under the definition of rural by being within the unincorporated limits of Marshall County.

2. A discussion of the technology to be deployed (fiber, cable, DSL, etc.). Additionally, include a discussion of future usage projections and the ability to upgrade.

Charter Communications system is comprised of a full duplex, multi-gigabit capable hybrid fiber-coax for residential services, including WiFi capabilities – a technology that contributed to Charter’s Spectrum residential internet service earning the 2017 J.D. Power award for overall customer satisfaction in the South Region. Charter’s commitment to service quality has also resulted in Multichannel News naming Charter as Operator of the Year for 2020. Charter’s unparalleled commitment to service quality was especially evident in response to the pandemic. On October 9, 2018, Charter Communications launched GIG (940 Mbps download) service across the Alabama footprint. And any resident within a Charter service area has access to a minimum broadband speed of 200mbps/10mbps. In addition, Charter’s DOCSIS network is highly scalable to meet the speed/bandwidth requirements of its customers. Charter’s network also permits speeds of up to 10 GIGs for dedicated/customized Enterprise builds.

Bringing Spectrum Internet Gig to our customers enables them to connect their homes to the Internet of Things (IoT), stream video and enjoy enhanced gaming and other entertainment simultaneously on multiple devices. This is especially important as the coronavirus pandemic has swept the country. The need for a fast internet connection enables our customers to work, learn, and receive health care. Unfortunately, and despite significant ongoing efforts, millions of Americans are still without adequate service to engage in these activities. Companies like ours play an important role in bridging this digital divide.

3. A discussion of internet speeds, service tier and pricing levels, data caps, etc.

Charter Communications does not currently have data caps, throttle speeds or usage-based billing. The rates below are for residential customers at the submission of this grant application. All speeds, rates and terms of services listed herein are subject to change.

Spectrum Internet 200/10	\$74.99
Spectrum Internet 200/10 with Wifi	\$79.99
Spectrum Internet Ultra 400/20	\$94.99
Spectrum Internet GIG 940/35	\$134.99
Spectrum Internet Assist 30/4*	\$17.99
Spectrum Internet Assist 30/4 with Wifi*	\$22.99

***Spectrum Internet Assist (SIA) provides qualified households with a 30Mbps/4Mbps broadband service with no data caps for \$17.99/month. To qualify for Spectrum Internet Assist, a member of the household must be a recipient of the National School Lunch Program (NSLP) - free or reduced cost lunch, the Community Eligibility Provision (CEP) of the NSLP, or Supplemental Security Income (SSI) (≥ age 65 only).**

4. A preliminary technical evaluation of the project that is certified by an engineer. This evaluation should document the ability of the proposed infrastructure to provide the minimum speeds required to all potential customers in the project area. The evaluation shall also include a project cost estimate, project schedule and timeline to include a completion date of no more than two years, and maps showing the proposed project area. Furthermore, the evaluation should demonstrate how promised speeds will be delivered consistently to the project area, show how the network will work using the proposed equipment, and demonstrate how the backhaul will be provided. Maps shall be in .shp, .kml, or .kmz formats.

Cost estimate – \$74,188.00

Project schedule/timeline – the project will be completed within 2 years of grant agreement execution, subject to access and timely receipt of all applicable permits.

Map of proposed project – .kmz file attached below



In advance of this grant application submission, on-site walk-outs were performed in this area to review the current broadband infrastructure and service provider network availability. These walk-outs were followed by cross-checking the homes-passed with Charter's marketing data to determine what, if any, level of broadband service is provided in the application area. As a result of these efforts, it was determined that no service provider offers broadband service at a 25/3 level.

Initial assessments (including construction costs analysis based on review of the physical plant) were completed in furtherance of providing substantive input for this application. Charter expects to begin construction quickly following approval of funding for this application. Charter will manage construction for this effort utilizing similar timelines, processes and resources as all of our other projects in the state. The new network will be integrated into Charter's current network plant portfolio.

Additionally, maps shall clearly show area eligibility (unserved areas and rural areas). Generally, applicants may establish that an area is unserved by using the ADECA Broadband map showing unserved areas (<http://adeca.alabama.gov/broadband>). However, applicants are strongly encouraged to conduct a field review. If an area shown as unserved on ADECA's map but becomes served prior to the execution of the grant agreement, the project may not be eligible for funding. An applicant will be required to receive approval from ADECA for methodology prior to submitting an application. Generally, the methodology will include testing or documentation at both ends of a street in question. A map showing all test sites must be included in the application.

In following our pre-approved methodology, please see attached for an affidavit from our VP of Regional Engineering.

Also attached is the Serviceability Review done as pre-approved by ADECA.

5. A discussion of the operator's technical and managerial capabilities to complete the project within two years of the effective date of the grant award. Please be aware that grants shall be conditioned on project completion within two years of awarding of the grant. If a recipient fails to complete a project within the two-year deadline due to reasons other than delay caused by a government entity, ADECA may revoke the grant in its entirety.

Charter's network includes three components: the national backbone, regional/metro networks and the "last-mile" network. Both Charter's national backbone and regional/metro network components utilize a redundant Internet Protocol ("IP") ring/mesh architecture with the capability to

differentiate quality of service for each residential or commercial product offering.

Charter's last-mile network utilizes a hybrid fiber coaxial cable (or "HFC") architecture, which combines the use of fiber optic cable with coaxial cable. In our Alabama system, we deliver our signals via fiber optic cable from the head end to a group of nodes, and use coaxial cable to deliver the signal from individual nodes to the homes served by that node. For our fiber Internet, Ethernet, carrier wholesale, SIP and PRI commercial customers, fiber optic cable is extended from the individual nodes all the way to the customer's site. We believe that this hybrid network design provides high capacity and excellent signal quality. The design also provides two-way signal capacity for the addition of further interactive services and scalability. HFC architecture benefits include: bandwidth capacity to enable traditional and two-way video and broadband services; dedicated bandwidth for two-way services, which avoids signal interference problems that can occur with two-way communication capability; and signal quality and high service reliability. Charter's network and broadband service is vastly superior in terms of quality of service, speed, reliability, scalability and sustainability to any provider's service that requires line-of-sight access to customers in these rural areas that have very challenging topography for such services.

Charter's HFC network currently utilizes DOCSIS to offer residential speeds as high as 940Mbps for downloads and 35Mbps for uploads. In the future, DOCSIS will allow for significant increases with speeds as high as 10Gbps download and 1Gbps upload available at the residential level. DOCSIS will also further improve network latency by mandating that "Active Queue Management" be included in the DOCSIS upgrade. Active Queue Management is a technology that will allow networks like Charter's to reduce transient buffering latencies by hundreds or thousands of milliseconds, which translates into reductions of load times, delays, and glitches in network applications.

Charter usually completes projects within a 12 month timeframe subject to timely access and receipt of applicable permits. In Alabama, Charter completed 207 projects consisting of over 275 new plant miles in 2020.