Project Narrative

1. Project Description and Timeline

Nature of Improvements

Altice USA recognizes that the economic conditions and quality of life in rural Arizona can be significantly improved by expanded access to broadband services. The foundation of this proposal is to build a highly scalable, easily expandable network with future-proof technology that delivers speeds of up to 1 Gbps upload and download to the broadest geographic area possible, at the lowest cost, and as quickly as possible.

To that end, Altice USA has chosen a fiber design where multiple users in a small area (or cell) will share the same source fiber making the network much more affordable than point-to-point fiber. FTTH is often said to be "future-proof" because the data rate of the connection is usually limited by the terminal equipment rather than the fiber, permitting substantial speed improvements via equipment upgrades before the fiber itself must be upgraded. Additionally, future upgrades are non-intrusive to customers, as they are all managed at the headend and terminal devices.

Network Benefits:

- Low Latency – The FTTH platform is a digital-based layer 2 platform and requires no modulation / demodulation; this reduces latency by an order of magnitude.
- Lower operational cost with fiber, as it is an all-passive network
- Zero signal ingress in a fiber network
- Network Reliability
- An FTTH network requires power only at the OLT, resulting in a greater than 80% reduction in outages related to power.
- In an FTTH network, the unprotected distance is typically one to four miles from the OLT (which is dual connected into the network). This results in a greater than 85% reduction in outages.
- As the FTTH plant network is all passive, there are no actives on the network to fail, eliminating these types of outages.

See Section Below (Network Diagrams and System Designs) for more information.

Addressing the Broadband Needs of the Project Areas

To achieve this goal, Altice USA has specifically chosen the locations as provided in the maps. The Company is committed to bringing broadband to as many businesses, consumers, schools, and hospitals as possible. Altice USA plans to continue its long-standing commitment to bridging the digital divide through numerous initiatives, and will continue to expand programs

and initiatives to make connectivity more accessible in the proposed build areas in Mohave (District 1 P1) County. Our products and services bring people closer together and connect them to the things that matter most to them, faster and more easily than ever before.

The COVID-19 pandemic has made the need for broadband services clearer than ever before. With more people working from home and the increase in distance learning, customers require higher connection speeds and bandwidth than is presently offered in many rural areas. With the proposed broadband services, residents and businesses will have access to the speeds required for video conferencing, streaming, file sharing, and a multitude of other tools needed to live, work, and learn in today's world.

[redacted]

Anchor Institutions/Homes/Businesses/Population Served

This buildout will expand Altice USA's advanced fiber-to-the-home network to deliver high-speed fiber-to-the-home internet capable of symmetrical 1 Gbps internet service to 1,147 unserved locations (1,128 homes, 15 businesses, and 4 Community Anchor points) and lay a foundation for expansion in the future. With this coverage, Altice would be serving approximately 2,207 residents in Mohave (District 1 P1) County.

Economic Development Benefit

Altice USA will support the continued growth of Mohave County. Altice USA will build its middle mile to provide a fully redundant fiber ring with 10G capability which will attract large businesses, and anchor institutions to the area, and ensure that existing institutions have access to the same benefits. As residents continue to do more at home, having a redundant fiber ring will ensure that the residents and small to medium-sized businesses have access to quality, affordable broadband service that can meet their current and future needs, including online learning, remote work, and access to state-of-the-art telehealth.

Altice USA is an Emergency Broadband Benefits (EBB) authorized provider committed to working with the community, schools, and libraries to promote the program and ensure that eligible residents are aware of, and have access to the program. Furthermore, Altice USA recently enhanced its broadband product for eligible low-income households by increasing its base speeds for its Optimum Internet Advantage program which offer broadband speeds of

50/5 Mbps at a price of [redacted]. Altice USA is committed to bringing broadband to as many businesses, consumers, schools, and hospitals as possible.

[redacted]

[redacted]				
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

<u>Total Miles of Fiber to be Installed (if applicable):</u>

72 miles

Location of New Fiber (aerial, underground, or both)

This project will be constructed as a combination of aerial and underground fiber. The location of the fiber will be dependent on the topography of the fiber routes and the location and condition of existing utility poles.

Commitment to Operate and Maintain the Network for a Minimum of Five (5) Years

Altice USA has extensive experience constructing communications networks and offering broadband and other communications services over those networks. Formed by the acquisition

of Suddenlink Communications in 2015, and Cablevision Systems Corporation in 2016, Altice offers broadband, pay television, and voice service in 21 states, with approximately 8.8 million homes passed. Altice's network experience includes both traditional hybrid fiberoptic-coaxial cable ("HFC") networks and fiber-to-the-home ("FTTH") technologies. Altice has been operating HFC broadband networks for over 40 years and began constructing FTTH in portions of its footprint in 2017.

In the State of Arizona, over 200,000 homes and over 15,000 businesses in five counties, including Mohave (District 1 P1), are capable of receiving Altice USA services today. Altice USA is committed to continuing to expand and maintain the networks in our service areas, not only for the next five years, but for many years to come.

Party or Parties that Will Perform the Infrastructure Construction (if known)

Altice USA employs local workforce and hires local contractors throughout the State of Arizona. It is the intent of the Company to continue to hire locally and utilize contractors that prioritize the hiring of local resources. While Altice USA has no formal agreement with any party to perform the infrastructure construction proposed, contractors will be selected based on proven timely performance, quality of build, and cost effectiveness.

Intended Uses of ABDG Funds

Altice USA intends to use funds awarded through the ABDG Grant Program to bring state-of-the-art broadband services to rural residents and businesses in Mohave (District 1 P1) County. The communities in the proposed project areas are currently not able to receive the broadband speeds offered in larger metropolitan areas. This initiative would help to bridge the gap and bring broadband speeds and services to the rural residents and businesses of Mohave (District 1 P1) County.

The intended use ABDG Funds, in respect to the construction and planning of this proposed project, would be to fund the acquisition of materials and electronics required to complete the construction, market competitive labor rates paid to contractors to design, build, and deploy the infrastructure, and any other eligible costs as designated by ACA Solicitation Number: 2022-28, Section 1.6.B.

Specific Information Required Under 1.4

The proposed project area consists of residents and businesses in Mohave (District 1 P1) County that are presently unable to receive broadband speeds of 100M/25M, including those who are underserved at less than 25M/3M, and those who are completely unserved. If awarded, this project would increase available speeds in these areas to a minimum of 100M/100M, with maximum available speeds of 1G/1G on the date of deployment. Altice USA will also build its middle mile to provide a fully redundant fiber ring with 10G capability.

Altice USA attests that no federal funding has been awarded or received for any portion of the project area defined in this application. Furthermore, Altice USA has no outstanding applications for federal funding in the State of Arizona that would overlap the project area defined herein.

Project Timeline

The proposed start date of the project is contingent on grant approval and contract execution. Construction would begin immediately after contract execution with project walkout and design. The estimated completion and deployment date, pending timely permit and local utility make-ready, would be 24 months from the date of contract execution.

[redacted]

Match Funding

[redacted]

[redacted]

[redacted]

Explanation of Why Project is Not Feasible without ABDG Grant Funding

Altice USA is committed to working toward overall community enhancement that includes residents, businesses, and community anchor institutions within the rural areas of Mohave (District 1 P1) county. Access to high-speed broadband service should be available to every resident regardless of whether they live in town or out in the rural areas.

The project locations included in Altice USA's application would be too costly to build without grant funding assistance. Due to the rural nature and relatively low population density of the project area, this project would be difficult to justify without financial assistance from the ABDG Grants Program. Therefore, the proposed Mohave (District 1 P1) County expansion will likely not move forward as presented without grant assistance.

2. Project Description and Timeline – Development

The Nature and Scope of the Project

The proposed network will be capable of minimum symmetrical speeds of 100 Mbps and up to 1 Gbps symmetrical service immediately upon deployment. This network will also be capable of supporting multi-gig service based on XGS-PON 10G technology. Placement of the redundant fiber ring and fiber backhaul described in this application is the foundation for future expansion in Mohave (District 1 P1) County and throughout the State of Arizona. As additional funds and opportunities become available, it is the intent of Altice USA to continue to expand the fiber network in Arizona and bring symmetrical 1 Gbps speeds to rural areas in Mohave (District 1 P1) County.

1 Gbps broadband services are available in the majority of our footprint and will continue to expand across our service areas throughout 2022 and beyond. Altice USA's broadband service provides a connectivity experience to support the most data-intensive activities, including streaming 4K ultra-high-definition ("UHD") and high-definition ("HD") video on multiple devices, online multi-player video game streaming platforms, video chatting, streaming music, high-quality virtual and augmented reality experiences, and downloading large files.

FTTH is often said to be "future-proof" because the data rate of the connection is usually limited by the terminal equipment rather than the fiber, permitting substantial speed improvements via equipment upgrades before the fiber itself must be upgraded. Additionally,

future upgrades are non-intrusive to customer, as they are all managed at the headend and terminal devices. As market needs increase, these equipment upgrades would increase available speeds in the proposed build area, and any future expansion that benefits from it, to up to 10 Gbps symmetrical.

Type of Technology to be Utilized

As Altice USA continues to expand from the proposed network, the same technology will be deployed in all future builds from the network, providing new residents and businesses in Mohave (District 1 P1) County access to the same 1 Gbps symmetrical speeds as existing customers on the network. The technology deployed for new expansion will be the same as that which is proposed in this application. As the need for faster speeds and bandwidth increases in the future, this network is capable of being scaled up to XGS-PON, which would increase available speeds to up to 10 Gbps symmetrical.

Type of Construction (Aerial or UG)

Any expansion from this network would be constructed as a combination of aerial and underground fiber. The location of the fiber will be dependent on the topography of the fiber routes and the location and condition of existing utility poles.

[redacted]

Vendors and Partners. Altice USA has ongoing vendor and partners relationships by virtue of its extensive experience and expansive current service territory. Altice USA's vendors –for network equipment, routers, software, devices in customer homes, connections to Internet content, etc. - are established companies, including Cisco Systems, Arris Group, Harmonic, Oracle. In addition, Altice USA will also rely heavily on local vendors and resources to construct this network. Altice USA anticipates using network equipment from among the same vendors it uses in the rest of its 21-state footprint. Altice USA has established business relationships with a variety of established telecommunications companies; in particular, Altice USA has existing agreements with telephone companies to originate and terminate voice traffic.

Network Maintenance, Monitoring, Quality of Service. Altice USA employs a variety of protocols to monitor the health of the network, conduct proactive maintenance, and ensure quality of service. These include remote outage detection, backup power to the headend, and dynamic management of traffic to ensure a good quality of service for customers.

Engineering Analysis

Altice has been operating HFC broadband networks for over 40 years and began constructing and successfully deploying FTTH networks in 2017. If awarded, the proposed project areas would be designed using the same technology that we have deployed in similar markets. As market needs change and customers begin to require speeds in excess of 1 Gbps, field and headend equipment upgrades will allow the proposed network to scale to XGS-PON, capable of delivering up to 10 Gbps symmetrical. As that technology becomes more readily available and necessary, a thorough engineering analysis will be conducted prior to deployment.

Project Approach

The proposed project(s) will introduce Altice USA services into markets that previously had limited access to broadband technology. As a market in the Altice USA footprint, the Mohave (District 1 P1) County project areas would be marketed to, and any new build areas would be subject to Altice USA's active process of opportunity discovery, design, and construction. Any new build areas constructed from the proposed network, would be capable of the same speeds deployed with the network, including any future upgrades to XGS-PON technology.

Project Background

The project background of any future development depends on the approval and construction of the proposed network.

Households/Businesses/Anchor Institutions/Population

Future household, business, anchor institutions, and population counts will be determined on a per project basis as new developments are constructed or discovered.

Ways Project Will Improve Redundancy and Reliability

Altice USA will support the continued growth of Mohave (District 1 P1) County. Altice USA will build its middle mile to provide a fully redundant fiber ring to all residential neighborhoods that will offer up to 1G symmetrical broadband speeds. Additionally, circuits built with 100G capability will attract large businesses, and anchor institutions to the area, and ensure that existing institutions have access to the same benefits. As residents continue to do more at home, having a redundant fiber ring will ensure that the residents and small to medium size businesses have access to quality, affordable broadband service that can meet their current and future needs, including online learning, remote work, and access to state-of-the-art telehealth.

End Narrative

ADDENDUM NO. 1

February 8, 2022

Via Email Delivery

Teri Orman
terio@azcommerce.co

Reference: ABDG Application for Mohave County District 1 P1

This addendum has been submitted to address the following:

The following census tracts will be served by this project.

1	4015950402
2	4015954800
3	4015950704

Should you have any questions or would you like to discuss any aspect of our proposal, please feel free to contact me at [redacted] or via email, [redacted].

Sincerely,

[redacted]