Project Narrative

1. Project Description and Timeline

1.1. The nature of the improvements
WANRack, in conjunction with Coconino County and City of Flagstaff, will deploy new fiber-optic infrastructure along major corridors creating middle-mile network that will connect County facilities and anchor institutions, which among them are schools, city and county facilities and key utility and transportation facilities. This middle-mile fiber infrastructure will pass through North Arizona University all the way to North Fort Valley and will be made available for use by internet service providers, via an open access network, to provide last-mile services to residents and businesses by eliminating a variety of barriers to entry in this specific market. By using the open access middle mile network, internet service providers will be building last-mile connections that will connect residents in each of the communities that the middle-mile fiber runs through.

WANRack will provide access to the middle mile network on a non-discriminatory basis. WANRack will be marketing accessibility to providers who intend to provide 100/1000 mbps symmetrical service. At the very least companies will be required to provide a minimum of 100/25 mbps service and to participate in low-cost internet programs such as the Affordable Internet Connectivity Program recently enacted by Federal agencies.

WANRack is proposing two potential options for consideration. Option 1 is a 17.4-mile project, and the requested grant funding would be [redacted]. Option B is a smaller build out that would be 12.8 miles. The requested funding for that option is [redacted]. The route for both options can be found in Appendix D and E respectively.

1.2. How the proposed project addresses the broadband needs of the area(s) that it serves
This network will create more served areas across the City and County, while addressing other integral broadband needs in the County.

In Fort Valley, an area that has long struggled with getting served from a broadband standpoint, we aim to provide service adequate to FCC standards. According to County officials, most residents continue to see speeds hovering around 10/1, which is woefully inadequate at a time where so many kids rely on educational needs at home, with the increase of reliance on telehealth in middle of a pandemic and the needs to provide health services from a remote location whether it be tied directly to COVID or other diseases. With the fluctuation in services that can be provided in person, directly correlated to COVID outbreaks, it is critical every resident have the capability to access telehealth services at a moments notice.

This also has the opportunity to bring further access along I-17, by adding an additional 8 miles to the current ADOT project, which started in October 2021.WANRack will be placing a vault near I-17, as part of our project, which will allow ADOT's project to be extended an additional 8 miles north up to Fort Valley. In the Governor’s state broadband initiative, the partnership between ADOT and ACA is meant to bring more broadband opportunities to rural communities across the State of Arizona. In addition to rural broadband connectivity, ADOT’s plans to use the

fiber to provide “smart highway” technology is critical for future development. Key features such as overhead message boards, traffic cameras, weather stations and wrong way driving detection technology, are all part of this critical investment. The infrastructure also will help lay the groundwork for emerging technology like connected and automated vehicles. Further extending this service is critical to the affected communities and this proposal will extend this critical project.

When you have a project that not only will bring more connectivity and redundancy across Coconino County and the City of Flagstaff, but also help extend a key state project focused on broadband needs of those unserved and underserved, that is the definition of truly serving a community’s broadband needs.

1.3. Number of community anchor institutions served: 23
According to the Federal Communications Commission (FCC), community anchor institutions are, “schools, libraries, medical and healthcare providers, public safety entities, community colleges, and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, the unemployed, and the aged.” **Appendix A** has a list of all the anchor institutions that will be served in the full project, or the narrower scope.

1.4. Number of households served: 28,020
The proposed project will potentially serve 28,020.

1.5. Number of businesses served:
Number is not available at time of submission.

1.6. Total population served: 47,594
At least 47,594. This does not include any numbers from NAU.

1.7. The anticipated economic development benefit achieved by construction of such improvements
Economic Development is a critical function of any community. Whether it be the needs of mom-and-pop shops on main street, data centers serving as a hub to corporations and/or anchor institutions, or bandwidth requirements to serve an entire community, broadband and economic outputs are tied together. The proposed project will significantly benefit the local economy by addressing unserved and underserved areas by increasing connectivity, redundancy, and affordability of broadband service.

Among the economic development achievements achieved by this project include:

- Providing fiber services to our primary business corridor down Milton Ave.
- Providing fiber services to our Historic Downtown district.
- Providing fiber services to our Business Accelerator and Incubator and supporting economic development in the region.

- Providing fiber services to the Ft Valley region just outside Flagstaff City limits which historically has had speeds of less than 10 Mbps available.
- Possibly providing fiber services to the US Geological Survey.
- Possibly providing fiber services to the local hospital and further supporting telehealth opportunities.
- Possibly providing fiber services to multiple schools and Northern Arizona University. Providing fiber infrastructure for current City of Flagstaff Smart City initiatives

1.8. Total miles of fiber to be installed:
The middle-mile backbone will be 17.4 miles of new fiber at full build out (Please see Appendix D). If awarded for Option B, the backbone will be 12.8 miles (please see Appendix E). Based on our preliminary routes, 35% of the build will be aerial and 65% will be underground.

1.9. Location of new fiber (aerial, underground or both?): Both
WANRack is proposing to build and maintain a Middle-Mile network that would serve the City of Flagstaff and Coconino County. The southern portion of this network would interconnect with ADOT's fiber project going up I-17. The northern portion of the network would be built up into Fort Valley which is an underserved area in the community. There are 17.41 miles of planned build to connect 23 anchor institutions. Based on our preliminary routes, 35% of the build will be aerial and 65% will be underground.

WANRack will begin construction on the southern portion of the network. The fiber routes ADOT is constructing do not provide value to the community until they are integrated into local fiber projects. Therefore, WANRack will begin construction here. The routes from the airport and Lake Mary Water Plant will be underground until they reach NAU's campus. WANRack will lay two conduits along this route. One conduit will be for the County, and another will be the city. The city will own their conduit and WANRack will also give the city 144 fibers.

WANRack will then have aerial routes near NAU's campus. WANRack will then interconnect with the City's current conduit on Butler Avenue. WANRack will pull new fiber for the County and city through this conduit. WANRack will then begin new underground construction once we hit Beaver St. This underground route will go North past City Hall. WANRack will lay two conduits along this route. One conduit will be for the County, and another will be the city. The city will own their conduit and WANRack will also give the city 144 fibers.

WANRack will then have a long aerial route after City Hall going North up 180. This aerial route will go all the way past the Flagstaff Arts & Leadership Academy. At this point, WANRack will then construct new underground routes the rest of the Northern route. This route will connect the Summit Fire Station and will run all the way up into Fort Valley. It was important to place conduit in this area so that Fort Valley can easily be served by future Last-Mile projects that WANRack and the County would like to pursue.

Finally, WANRack will construct a new underground route starting at the intersection of Beaver and Columbus Avenue. This route will pass the Flagstaff Medical Center and will run all the way up to NACET. WANRack will lay two conduits along this route. One conduit will be for the

County, and another will be the city. The city will own their conduit and WANRack will also give the city 144 fibers. Once construction nears the NACET facility, WANRack will tap into the city's existing conduit there. WANRack will pull new fiber for the County and city through this conduit.

This is an open access network. The goal of this network is to lower the barrier to entry for future last-mile projects and we have designed this project accordingly. Upon award, WANRack and the County will immediately begin exploring additional last-mile grant opportunities.

1.10. Stated commitment to operate and maintain the network for a minimum of five (5) years upon completion of the improvements
WANRack makes a commitment to operating and maintaining the proposed network for a minimum of five (5) years upon completion of the improvements.

1.11. The party or parties that will perform the infrastructure construction (if known)
WANRack will be subcontracting infrastructure construction with local crews and other companies located within the State of Arizona.

1.12. The intended uses of the ABDG Rural funds in respect to the construction or planning
The project's construction and detailed design engineering cost is estimated at [redacted]. AN ABDG Rural grant will provide partial funding to cover the cost. WANRack is proposing two potential options for consideration. Option 1 is a 17.4-mile project, and the requested grant funding would be [redacted]. Option B is a more condensed build out that would be 12.8 miles. The requested funding for that option is [redacted]. The route for both options can be found in Appendix D and E respectively.

1.13. The specific information required under Section 1.4 (to the extent relevant)
ABDG grant awards will be made in February/March 2022. Upon awarding of a contract, WANRack will communicate and coordinate with ACA to execute the contract within sixty (60) days. WANRack will manage ABDG grant funds in compliance with ABDG guidelines. WANRack along with Coconino County and City of Flagstaff will ensure no duplicative funding or "double dipping" issue.

1.14. A timeline for completion of the infrastructure improvements

- Project to be completed within 12 months respectively of permits received.

1.15. Description of the cash "match" contribution (amount, timing, etc.)
The City of Flagstaff has budgeted [redacted] to broadband infrastructure projects this fiscal year. The City of Flagstaff will provide at least a 10% match, up to [redacted] total, for this specific project. That funding will be made available at the time an agreement is executed with WANRack and ACA.

1.16. The intended uses of the match
Up to [redacted] from the City's funding will be used for the project's detailed design engineering and construction costs.

1.17. The identity of any sources other than the applicant who are responsible for such match or portions thereof
All match funds for the proposed project will come from the City of Flagstaff. In addition, funds from the project's network operator, WANRack, may contribute to the construction of additional middle mile or last mile connections.

1.18. The nature of the commitment by the Applicant or other parties to deliver the match including whether such commitment is in writing and binding in all circumstances
The City of Flagstaff has budgeted [redacted] to broadband infrastructure projects this fiscal year. The City of Flagstaff will provide [redacted] match, up to [redacted] total, for this specific project. That funding will be made available at the time an agreement is executed with WANRack and ACA. The City, the County and WANRack have an understanding on the required match and when it shall go into effect. With support from the ACA, the project will contribute to closing a broadband service gap between Coconino County, the City of Flagstaff and the state average.

<u>2. Project Description and Timeline – Development</u>
2.1. The nature and scope of the project
WANRack intends to construct a total of 91,924.8 feet of fiber from the Flagstaff Pulliam Airport to Fort Valley. This Middle-Mile network will connect 23 anchor institutions and support affordable broadband options for the city and County. This network will be leveraged to lower the barrier to entry for last-mile service providers. Upon award, WANRack and the County would immediately begin pursuing last-mile grant opportunities. This project is "shovel ready". No additional grants are needed. WANRack will begin construction after we are awarded the grant. This network allows fiber providers in ADOT's conduit along I-17 to immediately serve the community.

2.2. Type of technology to be utilized
The middle-mile backbone from Flagstaff Pulliam Airport to Fort Valley will be composed of a 288-count fiber.

2.3. Type of construction to be undertaken (aerial or underground)
WANRack is proposing to build and maintain a Middle-Mile network that would serve the City of Flagstaff and Coconino County. The southern portion of this network would interconnect with ADOT's fiber project going up I-17. The northern portion of the network would be built up into Fort Valley which is an underserved area in the community. There are 17.41 miles of planned build to connect 23 anchor institutions. Based on our preliminary routes, 35% of the build will be aerial and 65% will be underground.

2.4. Qualifications of the vendors/contractors
WANRack provides high-bandwidth, fiber-based communications networks, and related services nationwide. WANRack specializes in custom-built private fiber networks. WANRack's executive management team has more than 160 years of combined experience in the telecommunications industry with a history of successful completion of large and complex fiber-optic construction projects for school districts, wireless carriers, and enterprise customers. The executive management team has helped over 200 school districts, counties, and enterprise

customers obtain the benefits of their own private fiber network. An example of the subcontractors we may use for this project are Wolverine Communication and ARC Construction. WANRack looks forward to working with the County and city to hear their inputs on which subcontractors should be used.

WANRack also brings special expertise to its customers in working with federal programs to achieve the construction of private fiber networks. WANRack is regulated by Public Service Commissions of each state in which it operates and by the Federal Communications Commission, which requires compliance with periodic reporting requirements and service standards. WANRack is a certified E-Rate service provider (SPIN # 143037316). Headquartered in Kansas City, WANRack's executive management team has been providing customer-focused communications solutions since 2005.

2.5. Engineering analysis
Not available at the time of submission.

2.6. Project approach

- Develop a County-owned middle-mile broadband network that enhances the speed, redundancy and reach of high-speed internet at reasonable cost in rural communities.
- Operate a middle-mile open-access network that provides redundancy and capacity to all locations along the proposed route, as well as serving as a key connection for regional networks.
- Partner with internet service providers, cities, and towns to develop last-mile connections.

2.7. Background of the project
Coconino County and the city of Flagstaff have been pursuing options to upgrade their broadband connectivity for years. In fact, the County, city, NAU, and Flagstaff Unified have even considered a consortium approach. WANRack has be in contact with both communities over the last few years. Historically, the problem has always been the build costs in this area. This is an extremely rocky area and the per foot costs for underground construction have made it difficult to find a feasible project.

One area that highlights these issues is Fort Valley. The Fort Valley region is just outside Flagstaff City limits but historically had has speeds of less than 10Mbps available. There are no aerial lines up 180 all the way to Fort Valley. Therefore, construction has to go underground. This grant allows this Middle-Mile network to interconnect with ADOT’s project along I-17 and provider high speed fiber connections all the way up to Fort Valley.

These routes will lower the barrier to entry for last-mile service providers. For example, towers could be strategically placed along these routes to quickly deploy a fixed wireless network to residents. Upon award of this grant, WANRack and the County are planning to immediately pursue additional last-mile grant opportunities. This grant makes closing the digital divide in these communities possible.

2.8. Population to be served: 47,594
At least 47,594. This does not include any numbers from NAU.

2.9. Number of households served: 28,020

2.10. Number of anchor institutions served: 23

2.11. Number of businesses served: Number is not available at time of submission

2.12. Ways in which the project will improve redundancy and reliability, if any:

- Providing fiber services to our primary business corridor down Milton Ave.
- Providing fiber services to our Historic Downtown district.
- Providing fiber services to our Business Accelerator and Incubator and supporting economic development in the region.
- Providing fiber services to the Ft Valley region just outside Flagstaff City limits which historically has had speeds of less than 10 Mbps available.
- Possibly providing fiber services to the US Geological Survey.
- Possibly providing fiber services to the local hospital and further supporting telehealth opportunities.
- Possibly providing fiber services to multiple schools and Northern Arizona University. Providing fiber infrastructure for current City of Flagstaff Smart City initiatives

State	County	Tract #	Long Form
04	005	22.01	04005002201
04	005	9802	04005980200
04	005	1	04005000100
04	005	2	04005000200
04	005	3.01	04005000301
04	005	3.02	04005000302
04	005	7	04005000700
04	005	8	04005000800
04	005	6.02	04005000602
04	005	9.01	04005000901
04	005	9.02	04005000902
04	005	10	04005001000
04	005	11.01	04005001101
04	005	11.03	04005001103
04	005	11.04	04005001104
04	005	12.01	04005001201