

Executive Summary

1 Project Overview

The ability to provide access to education to the residents in the proposed grant area is another primary benefit of Grand Mound Cooperative Telephone Association's Fixed Wireless Rural Broadband Expansion project. Educators within the proposed area deeply understand the digital divide existing between students in rural areas compared to their counterparts in metro areas of Iowa. The current COVID-19 pandemic is causing schools across the country to lean on online learning to keep their students on track. Students lacking access to high-speed broadband connections risk falling behind their counterparts in metro areas of Iowa. Having access to high school and college classes online help to educate low-income individuals and provide the tools to improve their financial well-being.

Access to better health care is a benefit of the proposed Fixed Wireless Rural Broadband Expansion project. Rural areas have unique challenges when it comes to having access to quality health care. Access to applications, such as telehealth, require a high-speed broadband connection. Telehealth services enable a patient to consult with their doctor without leaving the comfort of their home. In addition, the reliable high-speed broadband network will enable services that may allow aging adults or individuals living with disabilities to remain in their home instead of having to be moved to a healthcare facility, improving the overall quality of life for these individuals. Furthermore, the proposed broadband network of this application will provide distinct benefits to first responders, paramedics, and rural doctors to share medical information and start vital treatment to a patient while being transported to the hospital.

Countless benefits to the community will be seen by the proposed Fixed Wireless Rural Broadband Expansion project. The agricultural industry will be able to utilize new precision technology. The enhanced network will enable farms and residences of the proposed grant area to access applications and tools to make their operations more efficient and enhance their crop production, livestock monitoring, energy management and numerous other opportunities. The economic benefit these farmers are realizing while being more successful will trickle down to other businesses and individuals in and around the area. The state-of-the-art broadband deployment will provide opportunities for telecommuting, new employers and increasing populations in the proposed service area. Overall, a positive impact on economic growth and future population in this region could be realized by a high-speed broadband connection.

For this project, Grand Mound Cooperative Telephone Association is proposing to construct a Fixed Wireless infrastructure, utilizing Cambium equipment in the both the unlicensed 5 GHz and

Citizens Broadband Radio Service (CBRS) spectrum bands. The proposed architecture will allow the broadband services required to meet the services described in this NOFA.

Grand Mound has a proven reputation of deploying broadband services and is led by experienced key staff that can manage their established organization to successfully implement and operate the proposed broadband infrastructure.

The overall total cost of the project is \$669,811.49 with \$234,434.03 requested in grant funding.

2 Geographic Area

The Fixed Wireless Rural Broadband Expansion will include the construction of infrastructure in rural census blocks in the southern portion of Clinton County, Iowa.

As shown in Exhibit B, the target service area includes 98 census blocks which passes 379 households and 68 business units.

3 Deployment Model

Grand Mound Cooperative Telephone Association intends to utilize Cambium proprietary fixed wireless access equipment to serve the subscribers within the target service area. The proposed fixed wireless access electronics enables the provisioning of individual service offerings of 25/3 Mbps at a maximum of a 4:1 oversubscription ration on each sector, utilizing a combination of the unlicensed 5 GHz and the quasi-licensed, CBRS spectrum bands. The management system utilized for the proposed network provides Grand Mound Cooperative Telephone Association with visibility into both networks, including the total bandwidth utilization and Grand Mound Telephone Association will have the ability to update or augment the network to ensure that the end users do not experience congestion.

4 Timeline

The following is an overview of the preliminary timeline milestones.

Project Objectives and Activities	2020		2021			
	Qtr.3	Qtr.4	Qtr.1	Qtr.2	Qtr.3	Qtr.4
Network Design	x					
Order Wireless equipment	x					
Tower Crew install equipment	x					
Turn up new Wireless equipment		x				
Arista order			x			
Arista Install				x		
Allot order	x					
Allot install		x				
Upgrade CPE			x			
Order Buried Fiber	x					
Pre -Construction Meeting			x			
Fiber construction				x		
Fiber Splicing				x		
Fiber Backhaul turn up				x		