



# Information and General Services Department

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*Information Systems  
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## NEVADA COUNTY BOARD OF SUPERVISORS Board Agenda Memo

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**MEETING DATE:** April 27, 2021

**TO:** Board of Supervisors

**FROM:** Steve Monaghan, Chief Information Officer

**SUBJECT:** Last-Mile Broadband Grant Program, Round 2

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### **RECOMMENDATION:**

Approve the Last-Mile Broadband Grant Program Award Recommendations for FY 20/21 and direct staff to prepare contracts with the following internet service providers, listed below, in the amount of \$500,000:

- Northern Sierra Broadband, in the amount of \$120,000
- Nevada County Fiber, Inc., in the amount of \$113,000
- Exwire, Inc., dba Oasis Broadband, in the amount \$62,000
- Spiral Fiber, Inc., in the Amount of \$205,000

### **FUNDING:**

At the January 2021 Board Workshop, the Nevada County Board of Supervisors approved \$250,000 to fund the second round of the Last-Mile Broadband Grants Program and allocated an additional \$250,000 from the PG&E Settlement Funds for a total of \$500,000 for FY 20/21.

### **BACKGROUND:**

Expediting access to the internet for all residents is the goal of the County's "Last-Mile Broadband Grant Program." The Board established the program in 2019 with Transient Occupancy Tax (TOT) dollars intended to promote economic development. In April 2020, the Board awarded \$52,900 to Exwire, Inc. (dba Oasis Broadband), and \$124,209 to Nevada County Fiber, in the grant's initial round, and both projects are on schedule to be completed by June 2021.

The County's Broadband Work Group, working with the Sierra Business Council (SBC), the County's designated partner to provide comprehensive economic development services and promote the expansion of rural broadband, sought applications from internet service providers (ISP) to support distance learning, remote working, and tele-medicine. SBC and County staff conducted a competitive application process, which included the development of the Request for Application (RFA) guidelines and application, solicitation for grant submissions, facilitation of pre-application Q & A conference, interviewing of final applicants, scoring of all applicant

submissions, and providing award recommendations for the Board's consideration.

SBC received a total of five applications from Nevada County Fiber, Inc., Northern Sierra Fiber, Exwire, Inc. dba Oasis Broadband, Spiral Fiber, Inc., and Sierra Commons. The Sierra Commons submission did not meet the application eligibility requirements.

Each of the remaining four submissions offer a unique and innovative approach to expanding broadband in areas challenged by both the geographic infrastructure challenges and the low population density. These grants encourage affordable services and a community serving approach.

Upon reviewing and scoring the submissions, SBC and the Workgroup is pleased to recommend the Board award four Broadband Grant applications for FY20/21, as outlined below.

**Northern Sierra Broadband (NSB)**

Project Name: Nevada County Last Mile Broadband Grant Application -- Buck Mountain-Oak-Adrianna FTTH Project

Location and community support: The project will connect service to 35 homes, including 10 in-home businesses, in the area of Buck Mountain Rd., Oak Drive, Arianna Court, Mountain View Court, Sunset Court, and Mountain Park Court, in unincorporated Grass Valley. The project area will scale into adjacent neighborhoods as demand dictates. Community support is substantial with a conservative estimated take rate of 80% of the 35 homes.

Project Technology: The project technology consists of 75% underground fiber optic with fuel backup power at the Point of Presence and distribution center. The underground portions utilize existing cable conduit, minimizing the permitting process. Only five homes will require the addition of new conduit to the home. The remaining 25% above-ground fiber will be placed in areas where existing underground conduit does not exist and is being engineered by AT&T.

Resilience and Sustainability: The business model provides for an open access fiber-to-the-premise broadband network. The open access business model is significant as it encourages customer choice and affordability. This project is based on a community owned cooperative network, giving homeowners a stake in the decision making processes. Additionally, NSB, is offering fixed wireless services to 20 homes on the perimeter of the service area, utilizing the same backhaul provider. This benefits the entire network as it lowers the infrastructure build cost and further reduces each homeowner's liability. In addition, their federal 501(c) 12 utility non-profit status enables full transparency. Speeds will be offered at 100mbps down/100 mbps up, with no data caps, and future ready speeds of 1GB/1GB. In addition, underground fiber is less prone to destruction from extreme weather events or wildfire.

Funding: The applicant project funding request is \$120,000

**Nevada County Fiber, Inc.**

Project Name: Community of Oak Ridge & Bear Claw Ct.

Location: The project will connect 22 homes in the Community of Oak Ridge and Bear Claw Court neighborhood, in unincorporated Nevada City. This will be an extension of the 16-home,

Banner Mountain project, funded through the 2019/2020 Last-Mile Grant.

Project Technology: Project incorporates 100% underground fiber optic to the home. The network is designed for future open access capability, which would allow the customer to have a choice of services and lower subscriber costs.

Resilience and Sustainability: The underground network is resilient to environmental disasters and future proof with 10GB capability. Electricity is supplied from a 30Kw solar array and is 100% renewable. The automatic battery backup will operate the network for multiple days and is expandable to over 13.6kWh back up power for prolonged outages. The project is designed for long-term scalability, with the vision of evolving into a community owned cooperative. Nevada County Fiber submitted a California Advanced Services Fund (CASF) application in 2020 for a 50-home extension, pending the CPUC decision, which is now delayed to December 2021. In addition, there are three homes outside of the Last-Mile Grant area which can be tied into the network, utilizing the CASF Low Income Line Extension program. Both of these CPUC CASF infrastructure grants would expand the network while utilizing non-County of Nevada grant funds.

Funding: The applicant's project funding request is \$113,000.

**Exwire, Inc. dba Oasis Broadband**

Project Name: Dog Valley Area

Location: Exwire, Inc. dba Oasis Broadband, has provided rural internet service in Nevada County for over 18 years. This project will offer fixed wireless broadband service to 103 permanent residents located in three of Eastern Nevada County's most remote unserved/underserved unincorporated sub-communities referred to as Dog Valley Area/Russell Valley/Klondike Flats. The project area has over 30 school age children and is in critical need of reliable high-speed broadband. The estimated take rate is 90% in Russell Valley, 80% in the Dog Valley/Hobart Mills area, and 50% in Klondike Flats, which has a higher retired population. These sub-communities are considered economically stressed due to their remote nature. There is a seasonal campground, which may add up to an additional 535 residents for five months of the year.

Project Technology:

Two wireless technologies will be deployed at the proposed access sites to ensure wireless coverage at the fastest speeds possible is available to each subscriber. Oasis Broadband will deploy: - 5Ghz Line-of-Sight high-performance technology and 3.65 LTE (Long Term Evolution), non-Line-of-Sight technology.

This technology combination is highly effective. The 5 Ghz technology can deliver speeds of 100 mbps down/20 mbps up to any resident with Line-of-Sight who chooses to purchase a subscription package at those speeds (this is enough bandwidth to stream 12-20 simultaneous HD broadcasts). For the few residents obstructed by trees, the 3.65 LTE technology is capable of penetrating dense trees over relatively short distances and subsequently providing a high level of service to customers that otherwise would not be able to receive service due to obstruction. This technology can deliver 30/3 speeds (this is enough bandwidth to stream 4-6 simultaneous HD broadcasts).

Resilience and Sustainability: The equipment Oasis Broadband uses to provide internet service to remote, underserved areas is weather hardened and designed to function in the harshest environments possible. Oasis has been using continually updated generations of this equipment at the top of Mount Lincoln, Tahoe Donner, and Squaw Valley, where there are routinely 100+ mph winds, daily frost cycles for half of the year and 30 feet of seasonal snowpack for more than a decade and has seen a failure rate of less than 0.1% (one-tenth of one percent). The equipment has no moving parts so there is nothing that can mechanically fail. Oasis relies on a relatively small number of redundant point transmitters, which means they have the ability to quickly upgrade local infrastructure in order to adapt to user demand, unlike other internet infrastructure that relies on cables or wires running individually from home to home, which cannot be updated as quickly or cost effectively. Furthermore, Oasis's networks are fed by fiber optic supply, which means they can increase the gross volume of data to any market area very quickly if demand should rapidly rise. It is anticipated that the Dog Valley Area/Russell Valley/Klondike Flats population will grow significantly once reliable broadband is available in the area, leading to a corresponding increase in demand for broadband service. The Dog valley Area project will leverage some of the infrastructure built using grant funds from the 2019/2020 Last-Mile Truckee Prosser Area grant.

Funding: The applicant project funding request is \$62,000.

**Spiral Fiber, Inc.**

Project Name: 95959 North Bloomfield - Lake Vera Purdon Fiber Project

Location: The 6.92 square mile service area is located north of the Nevada City limits in an unincorporated part of Nevada County. It will serve the communities and roadways that are located off of Lake Vera Purdon Road and North Bloomfield Road which are the main arteries in the project area. There are a total of 380 households and 10 businesses. Spiral assumes a take rate of 80%, serving 304 homes.

Project Technology: The project technology is 100% fiber optic open-access ready and 10 Gigabit ready network using XGSPON technology and Calix equipment. Spiral Fiber will provide one level of 1 GB symmetrical speed connectivity, providing a reduced service rate to low-income households (as determined by collaborating with the local schools and Nevada County). There are no data caps nor reduction of speed during times of network congestion. The Spiral Fiber network will also be built as an open-access ready network.

Resilience and Sustainability: Due to the Tier 3 wildfire danger status in this part of western Nevada County, the network will be built all-underground. XGS-PON technology coupled with the network's design will result in no electronics in the field which will result in no network outages during PSPS events or general power outages. This project is part of a larger build optimizing the Vast Networks middle-mile network and 41 miles of dark fiber. The 2021/2022 Last-Mile Grant funding is considered instrumental seed money in leveraging investment for the larger buildout of up to 12,000 home connections. This is an incredible opportunity for Nevada County. Spiral Fiber will be an active participant with local government, schools, and healthcare institutions in helping leverage its network for the public good, and to help promote and build the local economy.

Funding: The applicant project funding request is \$250,000, of which \$205,000 is available for this applicant.

**Item Initiated by:** Caleb Dardick, Projects Administrator, CEO's office

**Approved by:** Steve Monaghan, Chief Information Officer