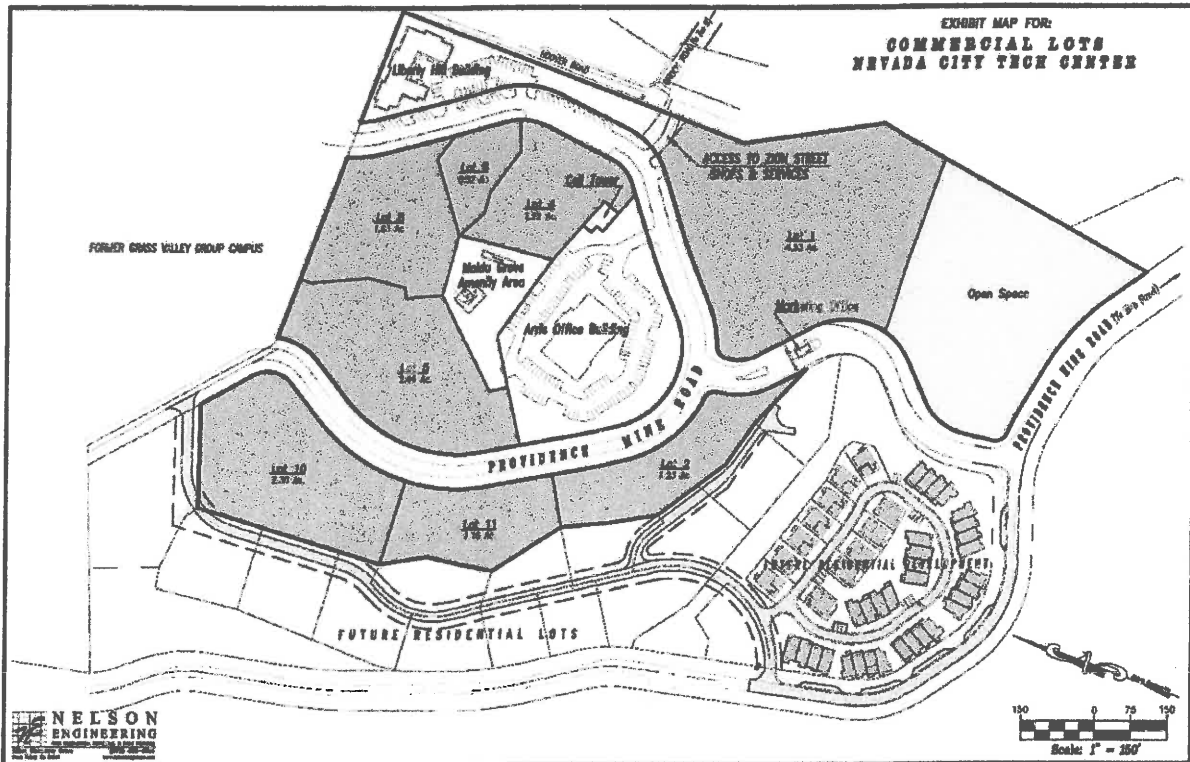


Nevada County Last-Mile Broadband Grant Application

A Proposal to bring democratically-controlled last-mile fiber transport to the business technology and residential area located on Providence Mine Road in Nevada City California



1. Applicant Information

1.1. Applicant Contact Information

Name: Michael P. Anderson

Company: Clientworks, Inc.

Title: President

Email: [REDACTED]

Phone: [REDACTED]

1.2. What is the name and what type of legal entity is the applicant?

The Northern Sierra Fiber Broadband Coop, a Utility Cooperative

1.3. Describe applicant's history with other Broadband deployment projects

- Founder and President of Clientworks, Inc., an IT managed services company based in Nevada City that provides broadband consulting to business clients in Nevada, Sierra, Plumas, Placer, El Dorado, and Sacramento counties
- CIO of Bright Fiber Network (formerly Spiral Internet) from April 2014 to December 2017
- Network Engineer and Project Manager for the Sierra Vista gated community FTTH project in El Dorado county

2. Project Overview

2.1. Project Name

Nevada City Fiber Hub for Base Industry & Opportunity Residential

2.2. Project Technology

What type of technology will the applicant use to provide broadband?

The project will utilize single-mode Fiber to the Premise technology

2.3. Describe the proposed network design

The project will be 100% underground, with an Active Ethernet topology and fuel cell backup power to provide multi-day uptime capability. The POP (point of presence) will be located in a vault at the corner of Reward and Zion Street in the Seven Hills District of Nevada City, with a mini-NOC (network operation center) located in the Liberty Hill Building.

2.4. Proposed Service Area

Boundary streets for the project are Zion Street to the east, the service loop road for the old Grass Valley Group buildings to the west, Reward Street to the north, and Providence Mine Road to the south. The map on Page 1 shows the first lots to be passed and serviced.

2.5. Project Permitting

The project will need to be submitted to the Nevada City Planning Commission, and then probably also approved by the Nevada City City Council. Submission to the planning commission and/or city council will be contingent on whether the

project is eligible for the Nevada County Last-Mile Broadband Grant. Once approved by Nevada City, construction permits will need to be submitted to the Nevada City Building Department. No permits have been pulled at this time.

2.6. Service and Pricing Levels

Provide the service and pricing levels to be offered in the grant project area:

Service Level/Tier	Pricing
100/100 Residential	\$60 per month
1G/1G Residential	\$90 per month
300/300 Business	\$90 per month
1G/1G Business	\$160 per month

2.7. Project Schedule

- Engineering & Planning – Early Spring 2020
- Nevada City approval – Late Spring to Late Summer 2020
- Construction Begins – Fall 2020
- Project Complete – Summer 2021

3. Level of Service Verification

3.1. Provide evidence of current service levels:

- No new DSL connections are available in the service area
- Satellite service is mostly available but only useful at the most basic consumer level
- Liberty Hill Building has AT&T only, no Comcast
- AT&T dedicated fiber in the service area costs \$300 to \$900 per month
- Fixed wireless is mostly unavailable due to terrain and trees
- Cellular is available but with <12/2 and data caps
- Some buildings in the service area have Comcast but those broadband connections do not work during power outages
- Comcast business service in the service area costs \$200 to \$500 per month and the download/upload is not synchronous

3.2. List in the box below the total number of passings proposed in your project by type of location:

PASSINGS TALLY SHEET	HOUSEHOLDS	BUSINESSES	COMMUNITY INSTITUTIONS
<u>Currently UNSERVED</u> Number of passings expected to improve to at least 25/3 as a result of the project	--	--	--
<u>Currently UNDERSERVED</u> Number of passings expected to improve from between 25/3 & 100/20 to 100/20 and above as a result of the project	0 (The Grove residential development, a mix of single-family homes and affordable MDUs totaling 71 units, was approved by the Nevada City Planning Commission and the NC City Council in 2016	20 (8 business lots currently undeveloped, 210,000 sq. ft. total proposed)	5

3.3. Describe the methodology used to determine the number of locations:

Plot map and onsite client knowledge (Clientworks has several IT clients in the service area)

3.4. With respect to density, what is the average number of homes, businesses and institutions per square mile within the proposed service area?

~100 business (proposed), ~75 residential (approved), 5 anchor

3.5. In terms of infrastructure installation, explain why this area was chosen for the grant and is unlikely to be served without grant funding. Include an explanation of terrain, population density, or other factors contributing to the overall cost of the project:

This area was chosen for the grant as a way to kick-start economic development within the Nevada City city limits. Tax revenue to the city has not recovered since the Grass Valley Group (GVG) left the Providence Mine Road business park. Since GVG left in the early 2000s, AT&T and Comcast have provided paltry broadband in the service area. The area is zoned for a significant increase in both static and transient population density. One residential project has already been approved.

3.6. Anticipated Improvements

Anticipated Improvements in Broadband Service Based on the Broadband Project Investments

# of Passings	Speed Now:	0/0	<10/1	0/0	<10/1	25/3	0/0	<25/3	<100/20
	Speed After Build:	25/3	25/3	100/20	100/20	100/20	1G/1G	1G/1G	1G/1G
Households		--	--	--	--	--	--	--	~75(0)
Businesses									~100(20)
Anchors									5
TOTAL									180

3.7. Include a description of the business model and plan to sustain operation of the network. Include estimated take-rate in the grant area:

The business model calls for an Open Access fiber-to-the-premise network, based upon the Ammon, Idaho model, with a 60% take-rate. The Physical Transport layer is democratically controlled by the utility coop, while the Operations & Maintenance (O&M) and Services layers are open to the free market. The proposal is to use EntryPoint Networks (<http://www.entpnt.com/>) to provision and manage the O&M and Services layers. The following EntryPoint technologies will be utilized:

- 1) The FlowOps Network Management Platform
- 2) The FlowOps Authentication Module
- 3) The Virtual Broadband Gateway (VBG)

The Northern Sierra Fiber Broadband Coop (NSFBC) is a regional member-based organization with no physical boundaries. Its bylaws are based largely

upon the bylaws currently used by the Plumas-Sierra Rural Electric Cooperative (PSREC) and Plumas-Sierra Telecommunications (PST).

Michael P. Anderson is the sole preparer of this grant application.

4. Project Cost Analysis

The project budget total is estimated to be \$924,800. A detailed budget is still in process, with many details to be worked out during and after the approval process with Nevada City government officials and agencies.

4.1. What are the total eligible project costs?

Eligible project costs are estimated to be 80% of the estimated total.

4.2. How much grant money are you seeking from the Nevada County Last-Mile Broadband Grant program for this project?

\$25,000

4.3. Fill out the PROJECT BUDGET TABLE below:

Sources and Uses of Broadband Grant Funds and Local Match for the Project

PROJECT BUDGET

Use of Funds (Activity-Category)	Amount	Costs Incurred (Y/N)	Date Incurred	Source of Funds (Local portion/ County grant)	Date Funds Committed
Eng. & Plan	\$50K	N	--	--	--
Const Hrdwr	\$300K	N	--	--	--
Hrdwr/Sftwr	\$30K	N	--	--	--
Labor & Equ	\$544,800	N	--	--	--

4.4. Attach all written funding commitments from all project funding partners, including public, private, and non-profit or philanthropic sources:

The utility cooperative will be providing the match. These funds are in development at this time, with no firm commitment as of yet.

4.5. If the grant request was approved for this project, is the remainder of the financing in place for building this project?

No

4.6. Are there additional costs related to this project that are not eligible costs that will be incurred as part of the overall project costs for deploying broadband in this area? If yes, what are those costs?

No

4.7. Is this project part of a larger build for which the applicant is not requesting grant funds? Is there any additional relevant information regarding the investment in the area surrounding the grant project area? If yes, please explain and/or attach proof of leveraged financing:

No

5. Financial and Governance Plan

This plan is still in development with the citizens who are working on the NSFBC.

6. Community & Economic Development Impact

Community and business leaders have been made aware of this project and it has been well-received as a key economic development project, not just for Nevada City but for the Nevada County region as a whole. This project will serve as a model for how to properly build broadband that is robust and affordable, with speeds that will scale well into the late 21st century.

Project Name: Nevada City Fiber Hub
For Base Industry & Opportunity Residential

Project by: The Northern Sierra Fiber Broadband Coop, a Utility Cooperative

Tech Center Project, Budget at a Glance

Scope of Work	Quantity	Price	Extension
	<i>Unit of Measure</i>		
Engineering – Underground Route Design, Make Ready, Plans	--	\$50,000	\$50,000
Permitting: Nevada City / Nevada County	--	\$20,000	\$20,000
Trench or Bore, Make Ready	13,200 FT.	\$45	\$594,000
Terminate Fiber at Premise	180 PREM.	\$600	\$108,000
Splice NOC Fiber, Test	5 EA.	\$850	\$4,250
Construction Material	13,200 FT.	\$1.25	\$16,500
72 Count Fiber	8,000 FT.	\$3.45	\$27,600
6 Count Drop Fiber	5,200 FT.	\$2.15	\$11,180
Fiber Management Splice Enclosure	4 EA.	\$550	\$2,200
MISC. LABOR & EQUIPMENT	--	--	\$91,070
Total	--	--	\$924,800

Source: HP Communications, EntryPoint Networks, Calix Inc.

This grant application is asking for 50% of the cost for **Engineering – Underground Route Design, Make Ready, Plans: \$50,000 / 2 = \$25,000**