California Advanced Services Fund Infrastructure Grant Application

West Sonoma County:
Annapolis, Timber Cove, Jenner, and Hacienda

May 2020

PROJECT SUMMARY

Applicant's Name:	WiConduit
Eligible Applicant Title:	Non-Telephone corporation that is a full facilities based provider
Co-Applicants:	WebPerception Alexander Valley ISP (AV Wireless Inc. dba AVISP / Alexander Valley ISP)
Project Title:	West Sonoma County
Named Project Location:	Sonoma County – Annapolis, Greater Timber Cove, Jenner, and Hacienda (including other surrounding communities)
Project Type:	Last Mile
CASF Grant Funding Request:	$ 81,886,094.67
Project Cost:	$ 81,886,094.67
Contact Person:	Calvin Sandeen President and Founder WiConduit (707) 396-2478 csandeen@wiconduit.org

UNSERVED HOUSEHOLDS INCLUDED IN GRANT REQUEST			
Community	**Estimated Population 2019**	**Estimated Households 2019**	**Estimated Housing Units 2019**
ANNAPOLIS	309	124	169
HACIENDA	583	271	427
JENNER	217	118	249
TIMBER COVE	679	282	497
TOTAL	**1788**	**795**	**1342**

CURRENT MAXIMUM DOWNSTREAM AND UPSTREAM SPEEDS (MBPS)	
COMMUNITY	**PROVIDER AND SPEEDS** - (As reported in the official 2019 CPUC Data Availability and Mapping Report)
ANNAPOLIS	NO-SERVICE
HACIENDA	NO-SERVICE
JENNER	NO-SERVICE
TIMBER COVE	NO SERVICE
Median Household Income:	$63,855.73
Estimated Number of Businesses, anchors and Public safety locations:	The project area is estimated to contain 335 business or other non-residential addresses. This includes several priority anchor and public safety locations including: 1 Native American Tribe, 3 school districts, 3 county facilities, 1 community center, 1 post office, 2 monasteries, 1 church, 5 fire stations, 4 cell towers, and 1 fire lookout station.
Description of major infrastructure to be deployed: The project provides high-speed Internet, delivered over 332 miles of fiber optic cable, including the total drop fiber connecting the distribution cable to the premise. The fiber design calls for deploying underground as much as possible to preserve infrastructure during wildfires and other unforeseen disasters. The infrastructure will require general equipment used for last mile fiber to the premise (FTTP) connectivity, including: Fiber optic cable, conduit, cabinets, equipment for interconnection, generators, hand holes, and headend equipment.	
Breakdown of Aerial and Underground installation:	100% percent of the households are estimated to be connected via underground fiber installation, pending more detailed design after the grant award.

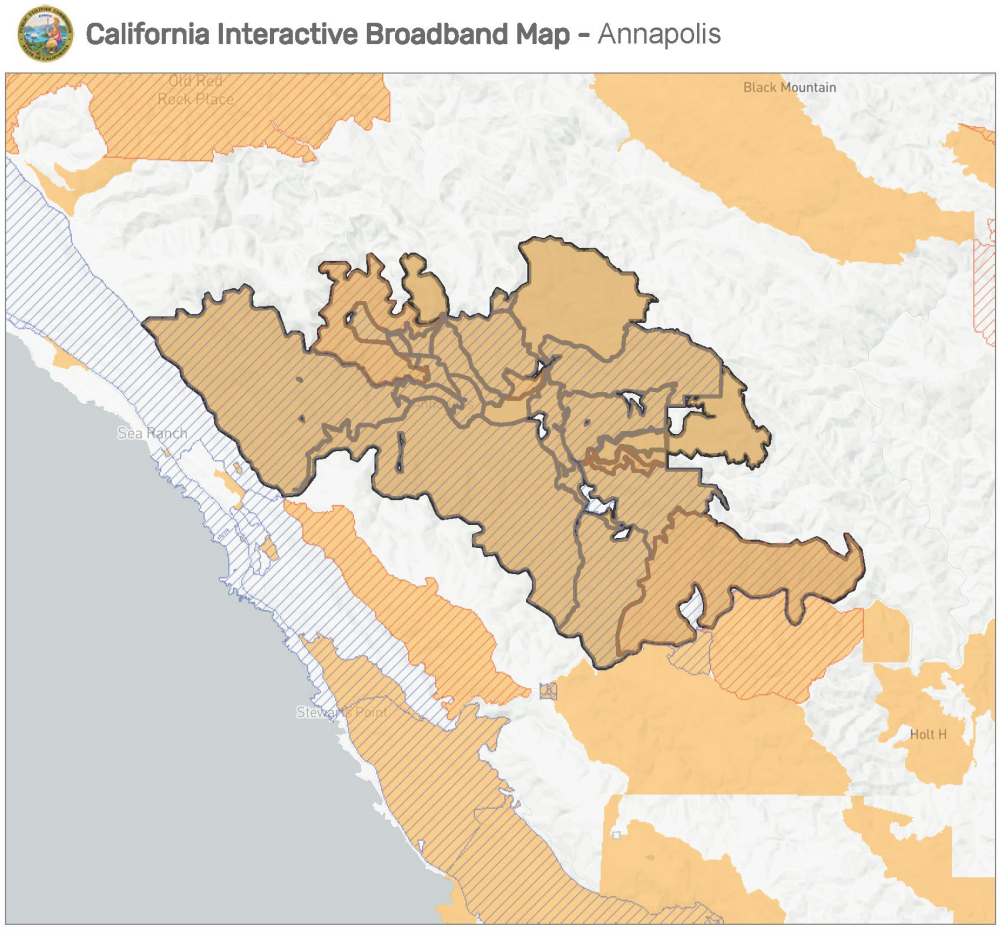
Major Equipment-Number and Expenses:	**Material** / **Quantity** Mule Tape 1,751,943 ft. 96 fiber 1,944,657 ft. Splice Trays 701 Splice Cases/ NAP 1,131 Handholes 2,336 #`12 Tracer Wire 1,751,943 ft. Ground Rods 1,131 Marker Post 1,659 Marker Post with Test Station 415 (1) 2" Duct 1,751,943 ft. Cabinets equipped with generator 2 4u Fiber Panel - Loaded 144 port panel 4 XGS PON ONT/router 1,131 1500VA UPS Battery Backup 1,131 The estimated cost for all of this material is $ 8,810,682.18
Estimated construction timeline:	The deployment schedule assumes a start date of December 2020 and a completion date of December, 2021, or a total of 12 months from start to finish, including permitting.

Description of proposed broadband project plan:
WiConduit's approach is to provide up to 1 Gbps symmetrical Internet connectivity to homes, plus small businesses, anchors, and other institutions in the four areas of Annapolis, Timber Cove, Jenner, and Hacienda via a robust fiber Open Access network. These project areas also include the Kashia Band of Pomo Indians at the Stewart's Point Rancheria and the unincorporated areas of Russian River Terrace, Foresthills, Hollydale, Martinelli Road, Gravenstein Highway, Mount Jackson, Muniz Ranch, Bridgehaven, Goat Rock, Wright's Beach, Toners Place, Brain Ridge, Creighton Ridge, Wild Hog Canyon, Stewart Ridge, Seaview, Ocean Cove, Fort Ross, Kruse Ranch, Stewart's Point, and others.

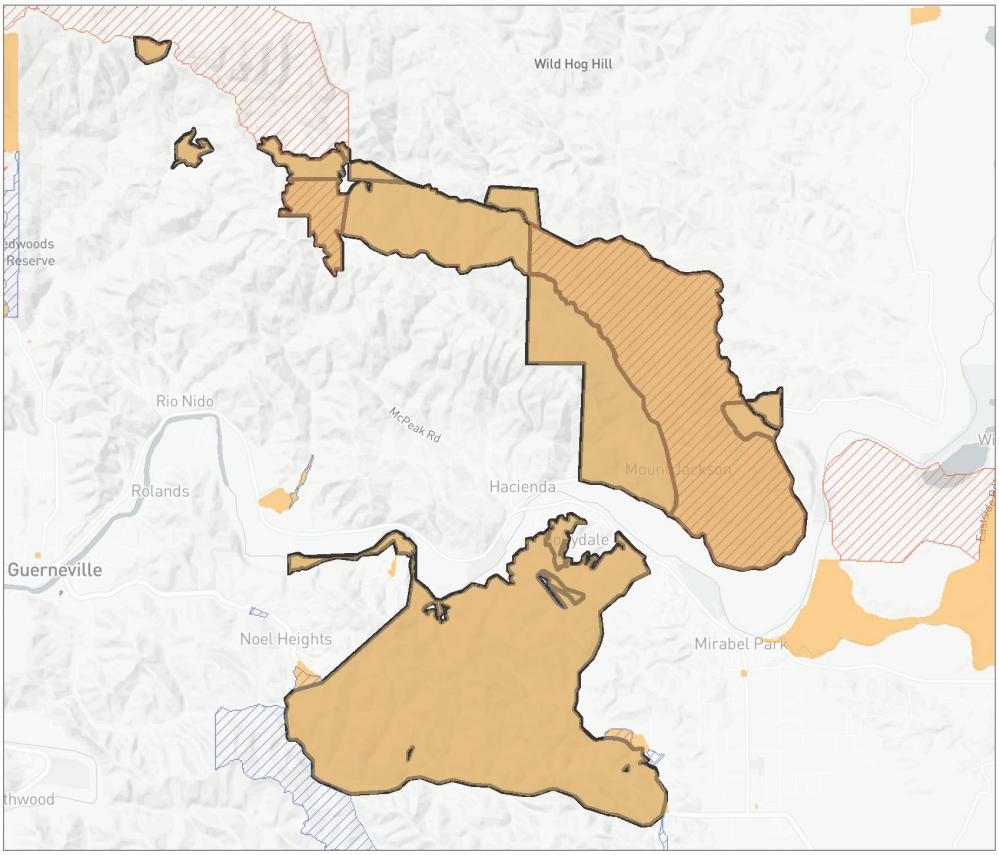
WiConduit has designed and will build, manage, and maintain the network by providing all the necessary equipment so that its partnering internet service providers, Alexander Valley ISP and WebPerception, can light the network with internet services, provide quality

customer service, and manage billing. Our primary goal is to provide a reliable high-speed Open Access Internet network to all potential users in the communities at competitive prices, encouraging economic development, providing excellent customer service and doing so in a manner that minimizes risk.	
Download speed capabilities of proposed facilities:	The maximum residential service download speeds customers may subscribe to are: 1000 Mbps.
Upload speed capabilities of proposed facilities:	The maximum residential service upload speeds customers may subscribe to are: 1000 Mbps.
Preliminary indication of need for CEQA review: WiConduit has contacted the Commission's Energy Division CEQA section in advance of filing this application and has consulted with CEQA Staff regarding the process of developing and filing a Proponent's Environmental Assessment (PEA) or other CEQA documents. WiConduit has also contacted Permit Sonoma and CalTrans to begin coordinating on the project. WiConduit is aware of its responsibilities if this proposed project is not exempt from CEQA. WiConduit anticipates the project will not require CEQA review as construction is planned to occur primarily in previously disturbed soil.	
Identification of leveraging existing available facilities:	WiConduit intends to leverage existing backhaul facilities in each community for interconnection purposes in order to provide last mile connectivity.
Disputing the Broadband Map:	Yes, WiConduit is disputing the Broadband Map depiction of served status for a cluster of census blocks that are marked served; however, the community has claimed they are unserved by conducting speed tests showing their current DSL service does not receive the minimum level of service of 6 Mbps download and 1 Mbps upload.
Seeking Ministerial Review:	No

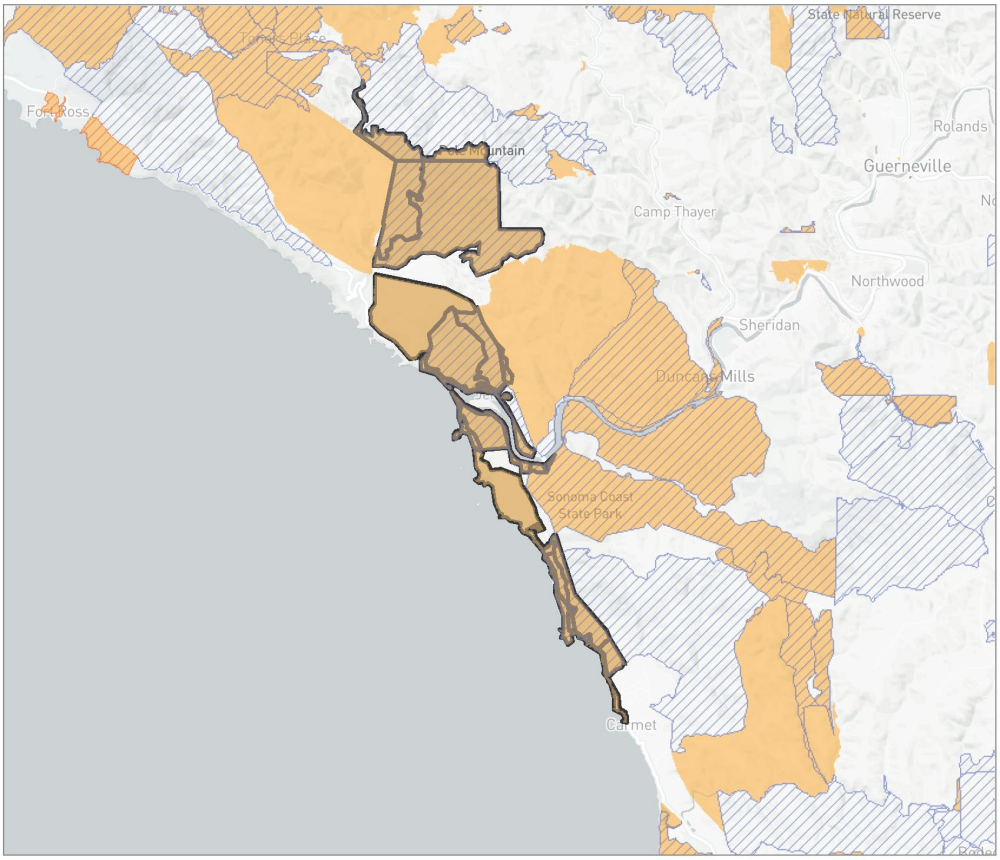
MAPS OF THE PROPOSED PROJECT AREAS



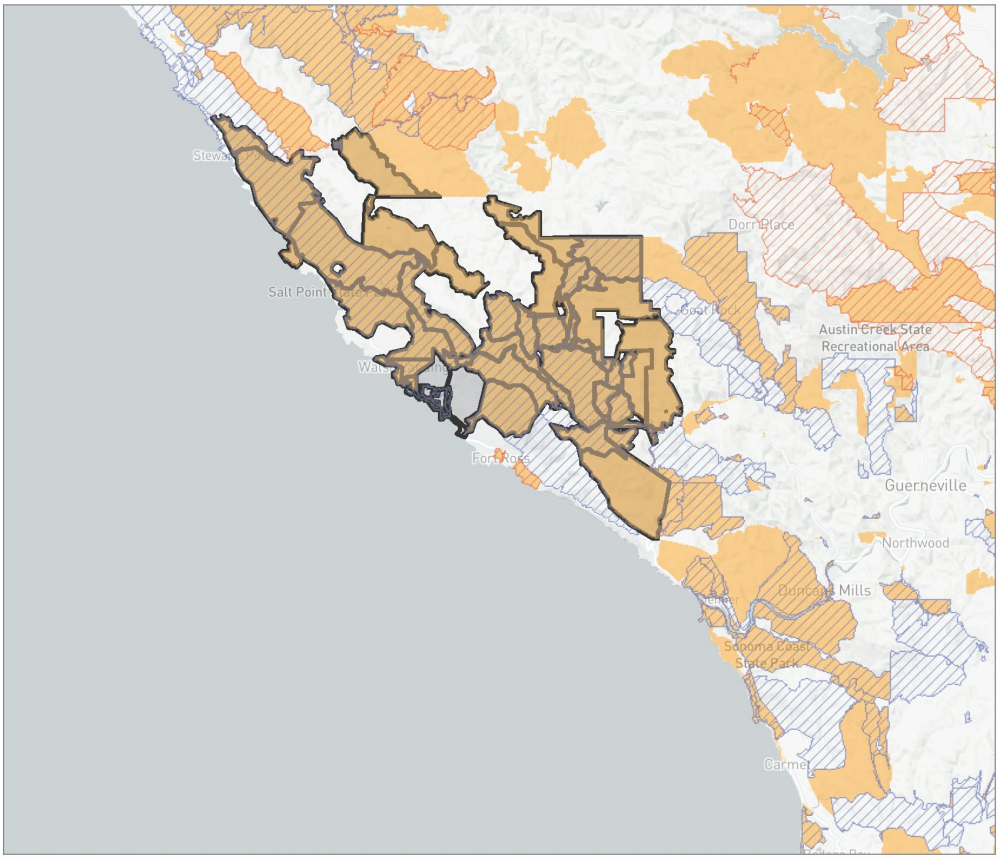
California Interactive Broadband Map – Hacienda



California Interactive Broadband Map – Jenner



California Interactive Broadband Map – Timber Cove



Benefits of Project

In addition to providing internet access to 1,131 households, businesses, and anchor institutions, this project supports economic resiliency by giving rural regions access to essential broadband services that are necessary to survive in today's society. This project will improve public safety communications during emergency notifications and wildfires, create resilient infrastructure with adequate backup power to sustain power outages, and allow students to attend school remotely from home during mandatory shelter in place orders and pandemics. The project will also: connect the Kashia Band of Pomo Indians of Stewart's Point Rancheria, connect unserved school districts, provide farms and wineries the opportunity to utilize AgTech and precision agriculture methods, support telehealth access for aging communities, improve communications for state and regional parks' visitors and tourists, allow water districts to monitor services more effectively, enable local businesses to provide better experiences for customers, give residents the ability to work from home and telecommute, and so much more.

EDUCATION

WiConduit plans to connect the Kashia Elementary School District located in Stewart's Point Rancheria, the Horicon Elementary School District in Annapolis, as well as the Fort Ross School District in Timber Cove. In a recent article published by the Press Democrat that highlighted free internet services offered by multiple internet service providers during the coronavirus pandemic, the editor wrote,

> "That's not an option for the Kashia or Horicon school districts in the northernmost reaches of the county where a cell signal is unreliable, therefore students can't go online using free internet services offered during the pandemic."[1]

Prior to the coronavirus pandemic and shelter in place requirements, rural broadband was already a major issue that impacted students' ability to learn, and now due to the crisis and schools closing, rural students are left at even more of a disadvantage when they don't have anywhere nearby to go to access the Internet. This project aims to close the gap in education by providing three of Sonoma County's remaining unserved school districts with high speed broadband access.

COMMMUNITY NEED

In 2019, the Sonoma County Coastal Municipal Advisory Council issued a survey titled ***Timber Cove Community Broadband Survey*** seen in **Attachment F**, where 97.27% of 110 survey

[1] https://www.pressdemocrat.com/news/10885373-181/digital-divide-leaves-rural-and

respondents said they want fiber optics installed to their home; and, 98.15% of 108 respondents said they would subscribe to fiber optics internet. In addition, the survey discovered residents are spending an unreasonable amount of their monthly income for inadequate internet service provided over satellite, and/or unreliable fixed wireless; in some cases, residents are paying $400/month for internet access. The survey data and open ended responses shows the impact the Digital Divide has on rural communities in West Sonoma County, which also highlights the benefit of this project - to bring economic and social vitality to rural communities by providing them access to high speed internet.

PUBLIC SAFETY

The dire necessity for this project is also represented in a report published by the North Bay/North Coast Broadband Consortium (NBNCBC) titled ***Telecommunications Outage Report: Northern California Firestorm 2017***[2] which is based upon data collected from an on-line Telecommunications Outage Survey launched in the aftermath of the 2017 Northern California wildfires. The stated purpose of the Telecommunications Outage Survey was "to assess and document the scope of the telecommunications outages that affected Mendocino, Napa and Sonoma Counties during the fires, both within and outside of burn areas." The survey received 3,705 total responses from the three counties and results showed that 66% of residents lost landline services, 78% of residents lost cellular services, and 69% of residents lost Internet services; the three-county average of service loss for these combined technologies is 71%. Many of these outages impacted residents that were geographically far from the actual burn areas. Recommendations from the report included:

- Continue to encourage investment in telecommunications infrastructure - both private and public, to address and close the "Digital Divide".
- Find effective and strategic ways to protect telecommunications infrastructure in areas where possible and necessary (e.g. undergrounding, joint-trenching, etc.)
- Maintain battery back-ups for VoIP and include a mobile charger and plug-in charger for cellular phones in your evacuation kit.

According to the CPUC Fire Maps, the project communities are all located in Tier 2 and Tier 3 Fire Threat areas which shows the greater importance to build resilient underground infrastructure in these communities to reduce the risk of damage from potential wildfires and telecommunications outages moving forward. In addition, WiConduit's project intends to

[2] http://www.mendocinobroadband.org/wp-content/uploads/1.-NBNCBC-Telecommunications-Outage-Report-2017-Firestorm.pdf

connect cell towers and partner with cellular providers in order to improve much needed cellular connectivity and fixed wireless solutions for unserved regions.

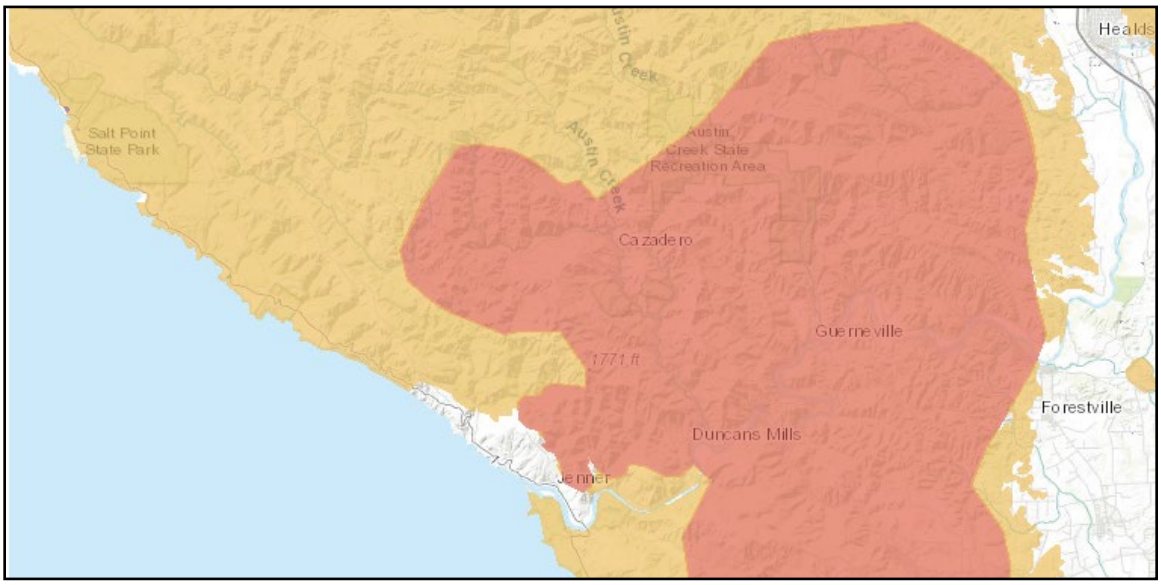


Figure 1: CPUC Fire Map - April 2020

ECONOMIC DEVELOPMENT

This project also aligns with ***Sonoma County's Broadband Strategic Plan.***[3] The Broadband Strategic Plan was funded in part by a grant from the California Public Utilities Commission, the Sonoma County Water Agency, Sonoma Clean Power and the County Economic Development Board. Magellan Advisors, a municipal broadband consultant, prepared the Broadband Strategic Plan which provided recommendations, including:

- Work proactively with telecom providers to construct high quality and resilient wireless communication systems to facilitate emergency communications throughout the County.
- Work collaboratively with telecom providers to expand and deploy broadband infrastructure to service rural and underserved areas.
- Consider options to fund broadband expansion to rural areas including grants, public private partnerships and special tax districts.
- Consider constructing a publicly-owned broadband infrastructure system connecting County and other municipal facilities as part of Recovery and Resiliency Programs.

[3] http://www.mendocinobroadband.org/wp-content/uploads/Sonoma-County-Broadband-Strategic-Plan.pdf

WiConduit's project promotes these recommendations by including non-connected cell towers in its deployment area, working with multiple telecom providers to partner to make deployment feasible, utilizing grants, and using a non-profit as a tool to deploy broadband infrastructure that is not publicly owned, but publicly governed by a Board of Directors that work in the public's best interests. This project also aims to deploy along part of the NBNCBC Strategic Broadband Corridors shown in the map in **Attachment G.**

OPEN ACCESS

What is Open Access? Open Access is choice. The Open Access model provides end users the choice to subscribe to multiple services from a variety of internet service providers operating on a single network owned and managed by a third party. The Open Access model is mutually beneficial to the ISP community and end users by providing ISPs with the convenience to enter new markets at a very low operational cost, and communities in all regions with the ability to choose from a variety of high quality services at competitive pricing. In addition to providing fast and reliable internet services, WiConduit's goal to achieve affordable internet will be accomplished by utilizing an Open Access model to create competition, drive pricing down, and increase affordability for end users.

CENSUS BLOCKS TO BE SERVED

60971543041093	60971540002022	60971543043081
60971543041030	60971537051010	60971543043135
60971543041047	60971537051016	60971543043065
60971543041049	60971537051015	60971543042054
60971543041103	60971537044002	60971543042059
60971543041110	60971537041004	60971543042022
60971543041112	60971537063022	60971543041347
60971543041089	60971537063014	60971543031059
60971543041114	60971537063013	60971543041319
60971543041102	60971537063021	60971543041331
60971543041086	60971537063016	60971543041328
60971543041109	60971538011041	60971543041318
60971543041224	60971543042070	60971543041314
60971543041227	60971543042048	60971543041333
60971543041108	60971543042046	60971543031063
60971543041068	60971543042062	60971543041326
60971543041067	60971543042017	60971543041320
60971543041079	60971543042082	60971543041324
60971543041116	60971543042081	60971543041325
60971543041088	60971543042074	60971543041323
60971543041087	60971543042079	60971543041270
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60971543041075	60971543043046	60971543041345
60971543041073	60971543043044	60971543041241
60971543041070	60971543043057	60971543031066
60971537051006	60971543043049	60971543041364
60971537051007	60971543043048	60971543041362
60971537051024	60971543043069	60971543031047
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60971543031075	60971543031073	60971543031068
60971543031072	60971543031061	60971543031064
60971543031039	60971543041330	60971543031044
60971543031062	60971543041264	60971543042018
60971543031065	60971543041340	60971543041261
60971543031050	60971543041341	60971543031025
60971543041309	60971543041363	60971543041265
60971543031009	60971543041367	60971543031089
60971543031010	60971543031074	60971543031090
60971543031016	60971543031071	60971543041303
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