

Broadband USA Applications Database

Applicant Name: Arizona Nevada Tower Corporation

Project Title: Rural Nevada Broadband

Project Type: Last Mile Remote

Executive Summary

Much of Nevada's population is situated in two metropolitan centers with the remaining citizenry scattered in small rural communities throughout the 110,000 square miles of the state. These smaller communities have evolved after years of mining & agriculture and often are far from modern services. These communities are typically underserved in areas of education, medical care, information access, and emergency services. These communities also lack access to convenient shopping, modern telecommunications, and nearly all the remaining amenities available in urban areas. Further, business and employment opportunities are hampered by the limitations to Internet access via dial up telephone services, and by the exorbitant rates charged by satellite providers. ANTC and LV.Net aim to rectify these iniquities with help from the RUS BIP Program. The rapid pace of innovation on the Internet has produced enormous benefits in information exchanges, entertainment, communications, political action, and life-quality services. Development of broadband data access in these areas will be an important factor in enhancing education opportunities, and creating further economic development for the community. School children will be able to access countless reference materials for research projects, enhancing their educational opportunities. All will have the opportunity to search for medical information that can be potentially life-saving. The education benefits for both young and old will enhance communities throughout Nevada. The 29 service areas covered by the proposed project include 33 communities north of Las Vegas along the 93, 95 and 376 highways; to Fallon, NV along the 95, to Ely and McGill, NV along the 93 and to Carlin, NV along the 376. The service areas fully cover 1,583 square miles, representing more than 96,000 in total population comprised of 25,105 households and 2,814 businesses: the 33 Nevada communities within the 29 service areas immediately benefited by this project will include: Alamo, Hiko, Amargosa Valley, Crystal, Austin, Beatty, Beowawe, Caliente, Carlin, Carvers, Hadley, Dyer, Ely, Eureka, Gabbs, Goldfield, Hawthorne, Kingston, Luning, Manhattan, McGill, Mina, Mountain Springs, Panaca, Pioche, Schurz, Silver Springs, Fallon, Tonopah, Walker Lake, Yerington, Weed Heights & Mason. A primary function of the services provided would be to serve as many as eight school districts, 28 community centers, 31 police stations, 32 fire stations (including volunteer) and 30 medical facilities (including clinics). We will donate one Internet connection in each of the 29 service areas to critical community organizations and will also provide discounted service to any additional critical facilities throughout the network. As an example, ANTC's broadband service provider partner, LV.Net, currently maintains a Private Wireless Metropolitan Area Network for White Pine County School District. This network could connect to the Internet through the new system and therefore be maintained, at a lower cost, in a more efficient manner both through virtual network monitoring and due to greater technician presence in the community. According to Kenneth Kuchno,

Director of Broadband Division of USDA Rural Development, in a presentation on July 14, 2007 (<http://www.narucmeetings.org/Presentations/RUS.ppt>) the average cost for broadband deployment is approximately \$2,150 per household and approximately \$990,000 per community. This proposed project will deploy broadband throughout these service areas at a much more reasonable price of approximately \$849 per household and approximately \$645,842 per community. Our approach to addressing the non-discrimination and interconnection obligations is simple. The project will provide a network free of any filtering of services and in addition to providing readily available 3.0Mbps last-mile service to end-users, the proposed network will provide wholesale middle-mile service to mobile communication users and other to other broadband providers to allowing end users further options for connectivity to the Internet. The broadband system to be deployed is a WiMax design and will operate on the 3.65Ghz range. Connections to this network will either be point-to-point or point-to-multi-point, depending on the level of service requested by the end-user with higher quality services (greater than 3.0Mbps download) provided over point-to-point connections and more affordable services (3.0Mbps and less) provided over point-to-multi-point connections. Both services will be of high quality. Each component of the microwave backbone system will consist of carrier grade radios in an environmentally stable facility. The proposed antennas are premium grade products with dehydration and pressurization systems in all antenna feed lines. Each site will have a battery float system that will support all radio functions in the event of a power failure and until the propane fired auxiliary power generation system takes over. Each link in the system is designed with a reliability factor of at least 99.9995% ensuring the highest quality backhaul. The sites will employ the highest standards of system grounding and lightning protection and all sites will be monitored for peak system performance. Arizona Nevada Tower Corporation ("ANTC") has engaged LV.Net for this project in order to leverage the abilities of two, well established organizations to ensure the highest quality of service to the end user. ANTC, incorporated in February of 2003, is an existing wireless communication service and infrastructure business based in Las Vegas, Nevada with strong ties throughout the state. ANTC specializes in providing wireless communications facilities in strategic locations throughout Nevada, including an existing network servicing 850 miles of the Highway 95 and Highway 93 NAFTA corridors leading out of Las Vegas. ANTC has expanded its operations by focusing on providing carrier grade backhaul service throughout its growing network, and by providing wireless broadband Internet access to select rural communities through collaboration with the USDA RUS Grant program. ANTC is dedicated to bringing broadband data access to communities identified as underserved & unserved. Coupled with its effort to deploy an ever growing network while ensuring a seamless carrier coverage footprint, this dedication will deliver the necessary infrastructure for greater broadband Internet access to many rural communities. LV.Net has the experience in building and operating advanced wireless networks required to complete a project of this magnitude. Since 2001 LV.Net has built three generations of wireless networks within the Las Vegas valley and is currently developing the fourth, self-funded generation of its wireless network. The company leverages several networking technologies to make its network as reliable as possible. Each of the major Points-of-Presence (POPs) in the Las Vegas valley are connected to at least two other POP sites and use OSPF to automatically reroute traffic in the event of an outage or congestion on the primary connection. This redundancy in conjunction with the use of advanced monitoring tools has allowed the company to make its networks as robust and redundant as possible creating a highly reliable network with over 99.9998% uptime over the past 3 years. The entire project is expected to cost

\$21,312,801. 25.16% of this budget, totaling \$5,362,801 will be contributed in cash and in-kind contributions. Utilizing penetration data from the Pew Internet and American Life project and considering the presence of competition, the project has been projected to generate approximately 7,300 residential and business subscribers during its first three years of service. This very reasonable estimate represents merely 26% of the current households and businesses within the service area; over time this number will certainly be significantly exceeded. This project will directly create thirty-one network jobs within the first three years of operation. These jobs will be made up of field and installation technicians, service coordinators, accounting positions, one network administrator, one radio-frequency expert, one sales manager and several sales staff. The tower development project is estimated to provide an additional 30 jobs over the first two years along with innumerable jobs created for local contractors. In addition to the jobs directly created by the project, the partnership plans to engage computer stores throughout the State of Nevada to help to promote the project and generate revenue for these existing businesses. Further, the availability of Internet access in these communities will stimulate growth and will provide residents access to telecommunication job opportunities they were previously ineligible to perform. This project provides an unparalleled scope of service to a significant portion of rural Nevada. The proposed Broadband service combined with the infrastructure and backhaul required to provide it, will radically enhance quality of life, public safety, and overall communications for nearly 100,000 residents and millions of travelers to a level that could never be accomplished without RUS BIP Federal funding.