

United States Forest Service (USFS)

From: Apodaca, Margie [mailto:maapodaca@fs.fed.us]
Sent: Friday, October 07, 2011 1:25 PM
To: Lynn Zonge
Cc: Phillips, Stephanie; Wilmot, Kevin
Subject: NV Hospital Association Fiber Optic cable
Importance: High

Lynn, I will be the contact person for the Humboldt-Toiyabe. Would you like to meet in person to talk through any details for this or do you think we can do this over the phone? I apologize for the delay in getting going on this. I intend to give this whatever attention is needed to help you get this done in a timely way. Can you email me the NEPA work that was done for this? Thanks!! Margie

Margie Apodaca
maapodaca@fs.fed.us
Special Uses Program Leader
Humboldt-Toiyabe National Forest
1200 Franklin Way
Sparks, NV 89431
775-352-1252



UNITED STATES DEPARTMENT OF COMMERCE

National Telecommunications and
Information Administration

Washington, DC 20230

March 3, 2011

Mr. Jim Peña
Deputy Regional Forester
U.S. Forest Service
Pacific Southwest Region
1323 Club Drive
Vallejo, CA 94592

Re: National Environmental Policy Act (NEPA) Consultations Regarding Broadband
Technology Opportunities Program (BTOP) Grant Recipient #7648, Nevada Hospital
Association, Fiber Optic Network Infrastructure Project

Dear Mr. Peña,

The National Telecommunications and Information Administration (NTIA) has awarded a grant to Nevada Hospital Association, through the Broadband Technology Opportunities Program (BTOP), as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the project completed within 3 years. This timeline is driven by the laws and regulations governing the use of this ARRA grant funding. In order to meet the ARRA timeline and expedite the review process, NTIA is sending this project notification letter to the U.S. Forestry Service seeking their timely cooperation in reviewing and responding to this NTIA ARRA funded project.

The funding for this project in Nevada will use existing broadband capacity where possible and install 10 new fiber segments to each of the targeted anchor institutions throughout the state. The project area will include activities within the Humboldt-Toiyabe National Forest. A project description and maps are attached.

As a result of the review of the information provided with the grant application, NTIA determined that the proposed activities should be reviewed by the U.S. Forest Service. Special Award Conditions (SAC) in the NTIA grant require Nevada Hospital Association to consult with all Federal agencies involved in the development and/or construction of their project. The grant recipient may not commence project implementation (including demolition, construction, ground disturbance, etc.) on US Forest Service lands, until they have obtained a permit to do so.

The grant recipient, Nevada Hospital Association, is being copied with this letter. They will contact the responsible National Forest office to apply for the required permit(s); seek review and comment on their proposed use; and complete all required analysis and plans in order to receive the requested land use permit(s). If this project involves other Federal land, a

simultaneous application will be made to that agency to facilitate coordination among the federal agencies.

If any issues or questions arise during this consultation please contact Genevieve Walker at (202) 482-2345, or gwalker@doc.gov. NTIA is prepared and willing at any time to participate directly in the review process as needed. As monitoring the progress of each of these projects is vital to their success, I would appreciate that you copy Ms. Walker on any correspondence you have in the future with the grant recipient regarding this project. Please do not send any return correspondence via US Mail since most mail is irradiated and will take extra time for delivery. All correspondence should be either by e-mail, fax (202-501-8009), or by express mail services (FedEx or similar carrier).

Sincerely,

Frank J. Monteferrante, Ph.D.
Environmental Compliance Specialist
National Telecommunications and
Information Administration
U.S. Department of Commerce
H.C. Hoover Bldg. Room 2830B
1401 Constitution Avenue, NW
Washington, DC 20230

Attachment

cc: Mr. Bill Welch
bill@nvha.net

Nevada Hospital Association

NEVADA BROADBAND TELEMEDICINE INITIATIVE

Executive Summary*

The Nevada Hospital Association (NHA) consisting of 33 acute care providers and 18 specialty hospitals and clinics throughout the state of Nevada proposes to construct a state-wide medical network, the primary purpose of which is to facilitate telemedicine applications and allow for the meaningful use of electronic medical records as is required under the HITECH Act enacted as part of the American Recovery and Reinvestment Act. Nevada lacks the broadband infrastructure necessary for the medical community to take full advantage of most telemedicine applications or the exchange of medical information among all health providers. All of Nevada's hospitals currently have some level of access to the internet, however, the quality of the connections varies dramatically and there is little or no reliability or redundancy. With the requirement that all medical providers demonstrate the meaningful use of electronic medical records by 2016, Nevada's medical community is faced with an insurmountable obstacle unless the network proposed in this grant application can be built. The current haphazard connectivity between those who have sufficient funding and information technology resources and those who can't afford or do not have access to a high-speed, high-capacity broadband network is likely to continue for some time. The community anchor institutions to be served by the proposed network are located throughout the state of Nevada. The service area of the network includes communities in 16 of Nevada's 17 counties. The project anticipates using existing broadband capacity where possible and deploying 10 new fiber segments offering both 100 Mb and 1 Gb of capacity to each of the targeted anchor institutions throughout the state. The NHA has titled this project the Nevada Broadband Telemedicine Initiative, (NBTI). The Nevada Hospital Association board has endorsed the application for BTOP funding and fully supports the establishment and operation of the NBTI. Members of the NHA have been partners in an existing telemedicine network using the NevadaNet since the mid-1990's. The NBTI seeks to follow in the footsteps of several other state medical networks, such as Washington State's NoaNet, which was awarded funding in Round 1. Utilizing the network of hospitals throughout the state as the platform for constructing a state-wide broadband network is a logical and efficient solution to the lack of adequate broadband service throughout the state. The applicant has worked to establish partnerships with key players throughout the state, including the Nevada System of Higher Education, the University of Nevada School of Medicine, several Native American Tribes, the Nevada Indian Health Board, the Nevada Rural Health Partners, and the Arizona Nevada Tower Corporation.

The network will provide direct access for 37 community anchor institutions from among Nevada's hospitals, however, 315 additional facilities including schools, community colleges, public safety entities, libraries, and other community organizations will benefit from the increase in bandwidth made available to Last Mile Service Providers. The NHA has secured letters from several public safety entities who also wish to utilize the middle mile network NBTI will provide. The NHA has reached out to all the Native American Tribes through a partnership with the Nevada Indian Health board to offer access to the network for the 23 tribes and their affiliated health facilities scattered throughout the state. Through NBTI's partnership with the University of Nevada School of Medicine and the Nevada Department of Higher Education, the network to be constructed will allow several community colleges and units of the Nevada University system broadband access to areas currently underserved. By focusing on the states acute care medical providers, the NBTI project will serve some of the most vulnerable populations in the state. Through a partnership with the Indian Health Board the project will improve access to medical care on reservations such as the Duckwater Shoshone in remote central Nevada. Key partners in our network include Renown Regional Medical Center in Reno and the University Medical Center in Las Vegas, a non-profit publicly owned hospital. UMC is the number one provider of medical services to the poor and uninsured in the state of Nevada. Renown Regional Medical Center in Reno also serves a large proportion of uninsured, poor and disadvantaged clients.

The NHA will own and manage the network and provide service to health facilities in a manner that will provide the maximum level of data security and network reliability. As the owner and operator of the NBTI, the Nevada Hospital Association will determine the terms of use by its members and outside entities who desire access. The NHA has received a letter of interest from Pinpoint Holdings, LLC for \$7.3 million (related to non-federal cost match) to provide funding for the initial construction of the network and to serve as the network operator. Pinpoint has the depth of experience and financial stability necessary to guide the construction and operation of the network and establish the business functions necessary for a sustainable operation. A key component to financial success of the network will be the on-going wholesale leasing of excess capacity by Pinpoint. The NHA is made up of both public and private institutions some of whom have made considerable investments in broadband technology. The application anticipates using this existing infrastructure to complete components of the network. Nevada's existing network does not offer last mile fiber connectivity to the rural hospitals that will be participating in the NBTI. The NBTI project will provide a direct link to the existing NevadNet middle mile network. In communities such as Lovelock, Winnemucca, and Battle Mountain hospitals that currently rely on limited connectivity (Battle Mountain currently has 10Mb) will have 24/7 access to the NBTI 1 Gb network. This will be made possible through a partnership with the Nevada System of Higher Education and the University of Nevada School of Medicine. In areas where no fiber middle mile currently exists, such as Pahrump, Fallon, Hawthorne, Yerington and Gardnerville, the Nevada System of Higher Education will utilize middle mile fiber that will be built by the NBTI. Through a partnership with Arizona Nevada Tower Corporation high speed access will reach areas where a fiber build is not practical, such as Caliente, Nevada and the Duckwater Shoshone Tribe in central Nevada. The cost of the project is \$25.0 million to provide a semi-dedicated Healthcare Network, with enhanced security and increased capacity, in addition to a proposed new middle mile 48-count Fiber Optic cable that will be used for dedicated Nevada Healthcare participants and their sponsored partners. The approach is to light dark fiber as required for the existing locations that have alternative last mile connections and expand the fiber to reach those rural areas where alternative high speed data may not be available. The project includes a bundled Electronic Medical Records solution for the NHA members who have been unable to invest in their own EMR systems. Through use of a bundled application package NHA anticipates lower costs to member hospitals while generating operating income through the management fees charged to users of the system. This functionality is essential for success of the HITECH Act for meaningful use of electronic health records. The NBTI network will reach 6 communities that do not currently have access to a middle mile high speed broadband network: Pahrump, Boulder City, Fallon, Hawthorne, Yerington and Gardnerville. The long term viability of the network is dependent on the ability to connect to last mile providers in these communities and generate wholesale fees. NBTI has acquired letters of interest from last mile providers in several of these communities. NHA's partner, Pinpoint will manage the wholesale operations, the revenue of which will provide a return on their investment and assist in covering operational costs. The NHA believes that an investment in a state-wide medical network will help sustain and create jobs in one of the nation's hardest hit economies. Nevada and Clark County in particular has been severely impacted by the recent recession.

Unemployment rates have exceeded 18% in some areas, with the state-wide average now at 13.2%. The health sector in Nevada employed 94,070 individuals living in the state of Nevada in 2007. As one of the largest employment sectors in the state, the infusion of millions of dollars of investment should result in much needed job growth. Nevada's construction industry has been hit the hardest by the recession. We anticipate creating construction jobs in some of the hardest hit areas through the deployment of fiber plant in Douglas, Lyon, Mineral, Nye and Clark Counties. We estimate 100 direct jobs, 73 indirect jobs and 98 jobs induced.

The NBTI of the Nevada Hospital Association is designed to meet all the major objectives of the BTOP grant.

Counties affected by construction:

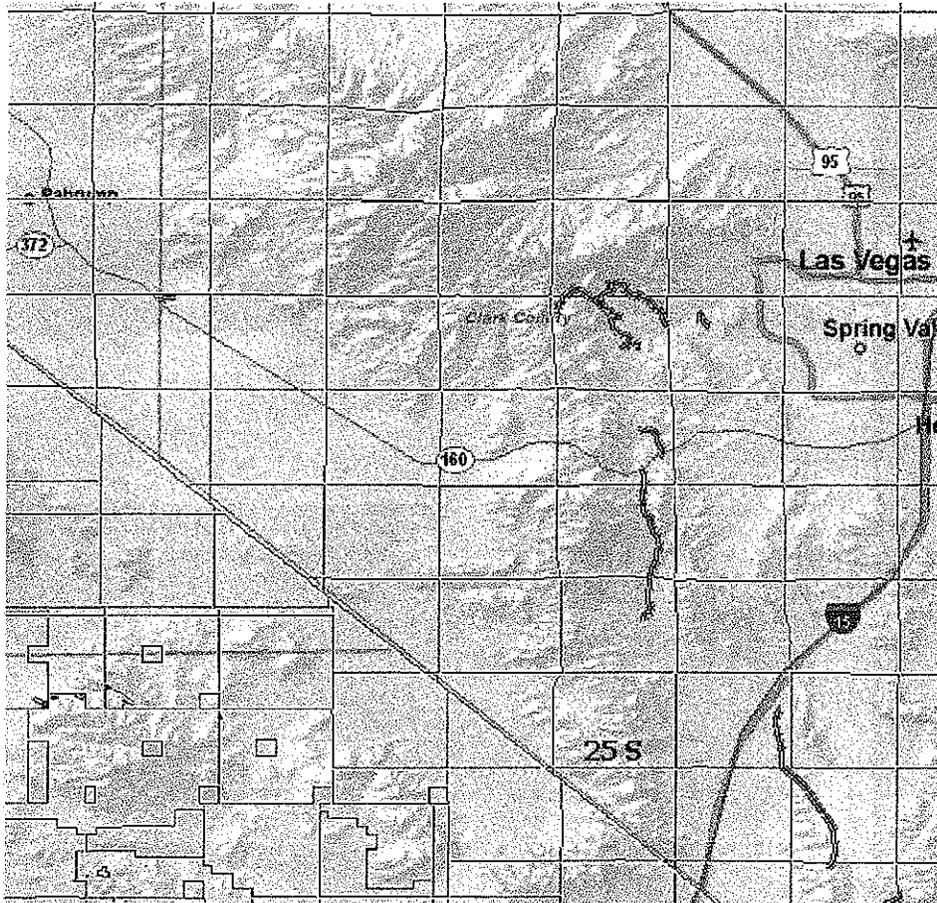
Carson City, Churchill, Clark, Douglas, Elko, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, White Pine

List of counties in which project activities will occur:

Carson City, Churchill, Clark, Douglas, Elko, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, Washoe, White Pine

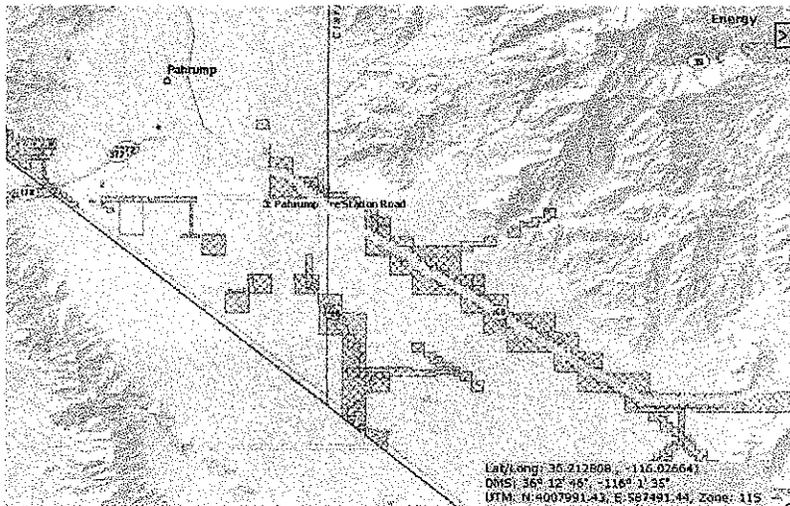
*It was determined that the Electronic Medical Records system was an ineligible cost, therefore the project does not include a bundled Electronic Health Records solution as part of this grant funding.

Pahrump Fiber Route

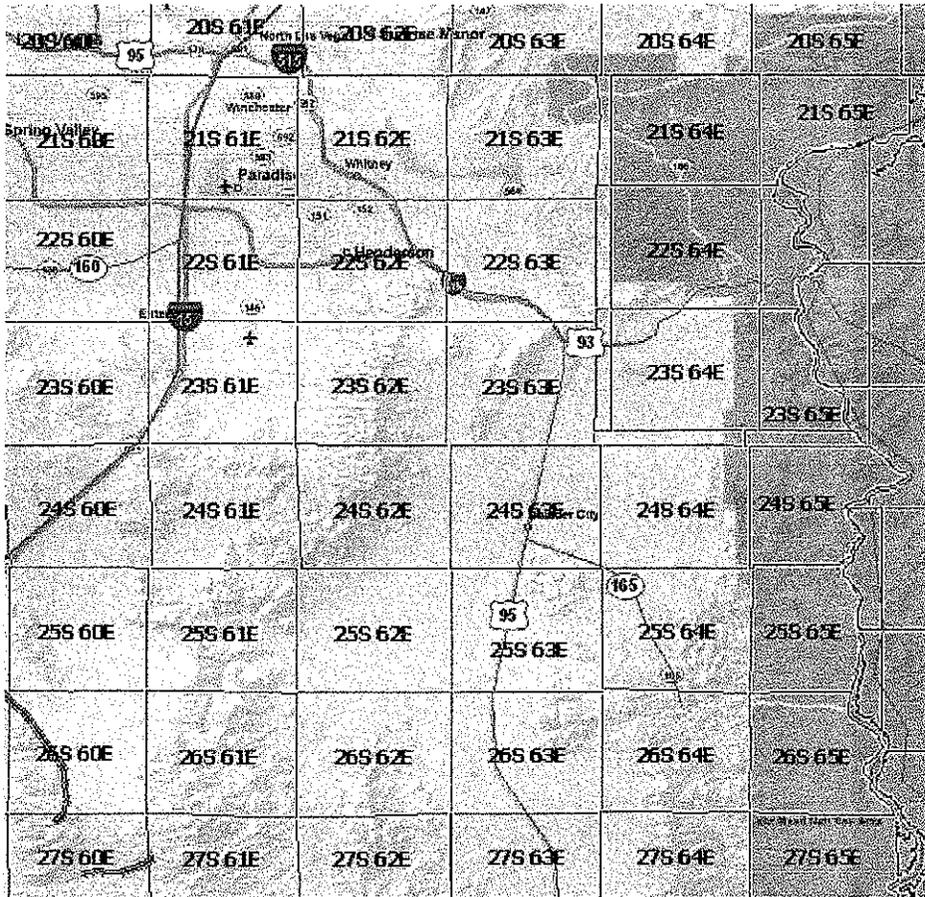


5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

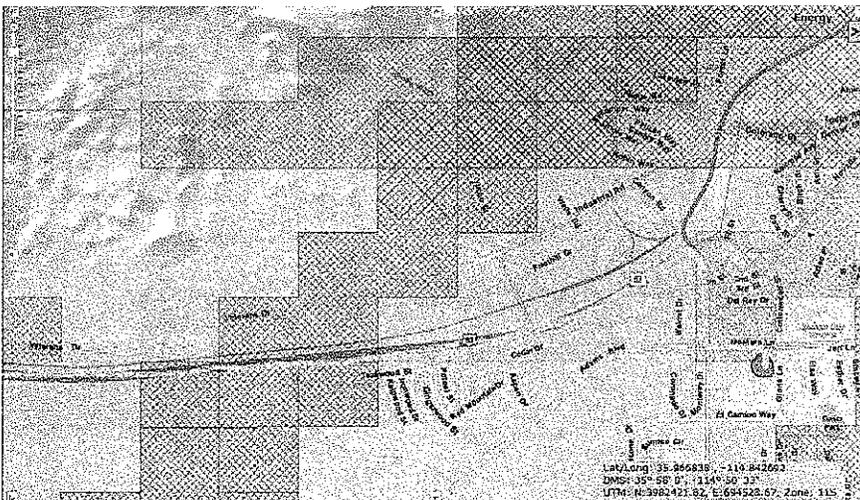


Boulder City to Las Vegas Fiber Route

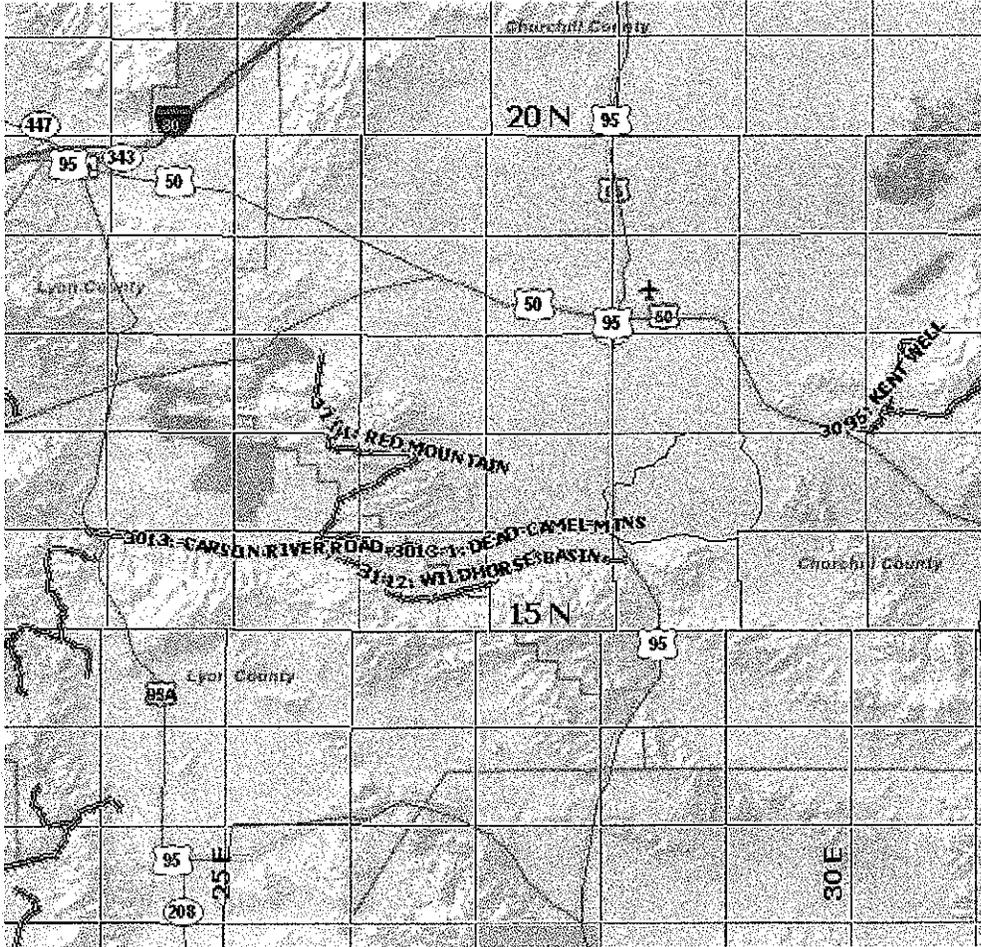


5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

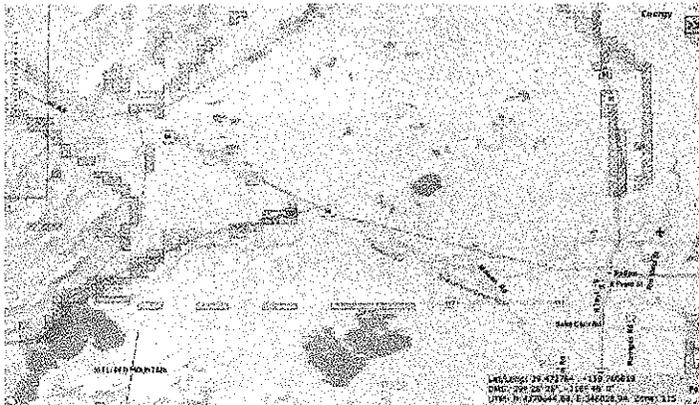


FALLEN Fiber Route to Fernley SCS Nevada Net POP

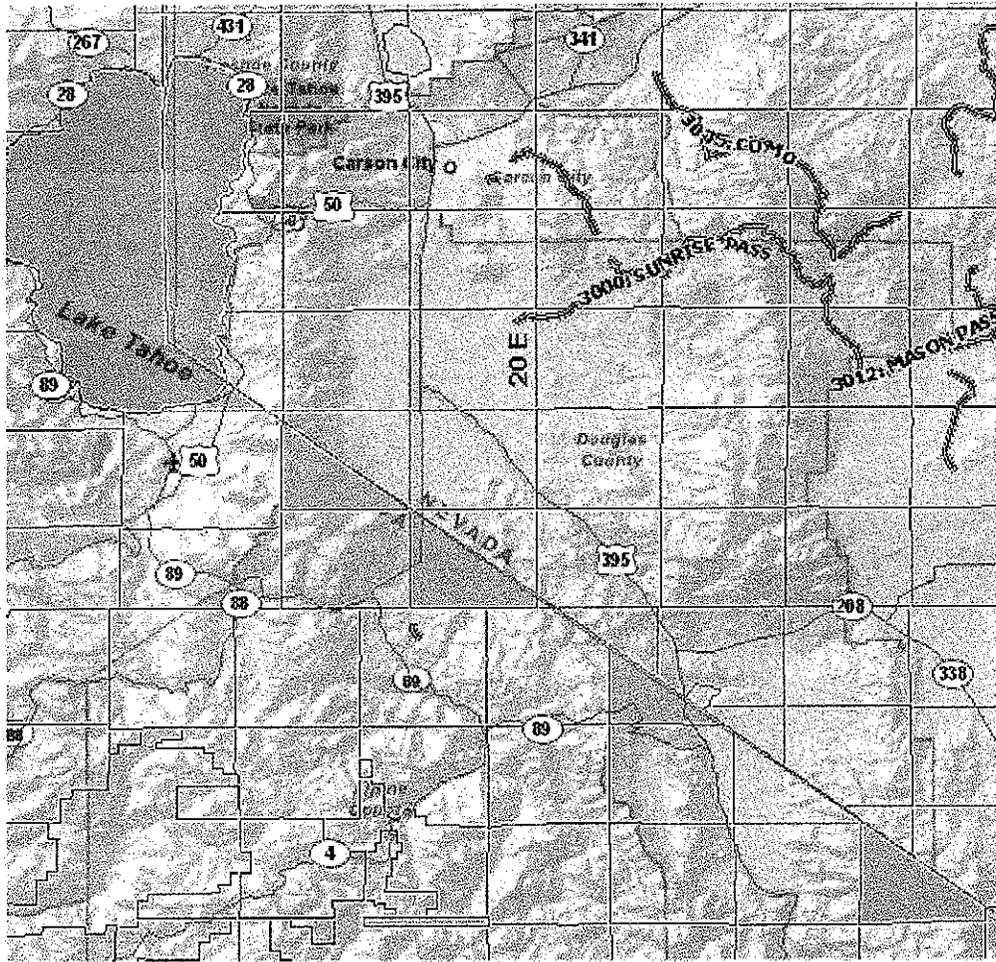


5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

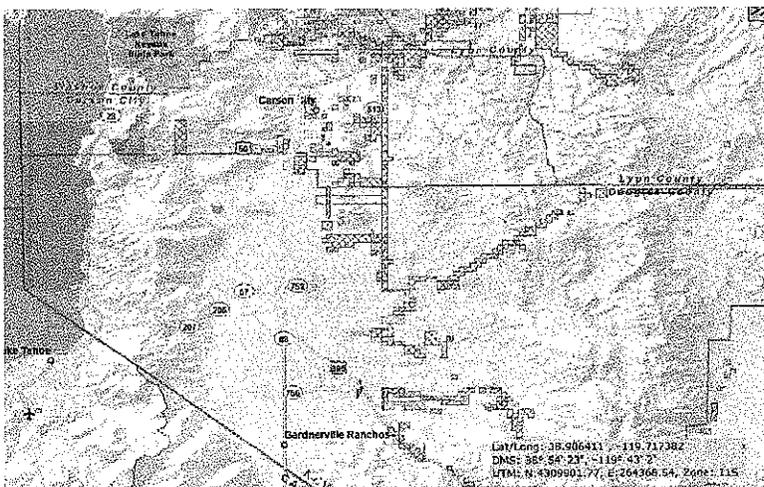


Carson City to GARDNERVILLE Fiber Route

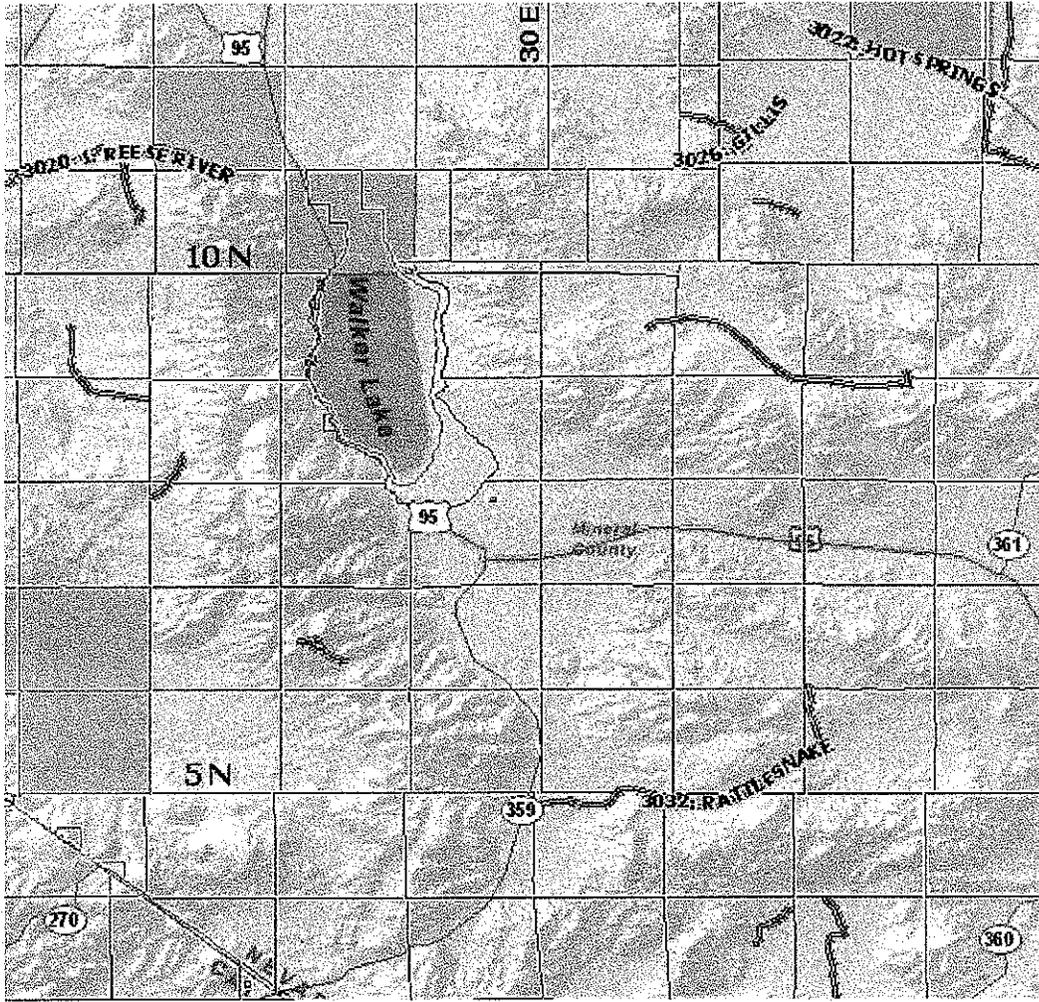


5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.



MT GRANT HOSPITAL Hawthorne



MT GRANT HOSPITAL

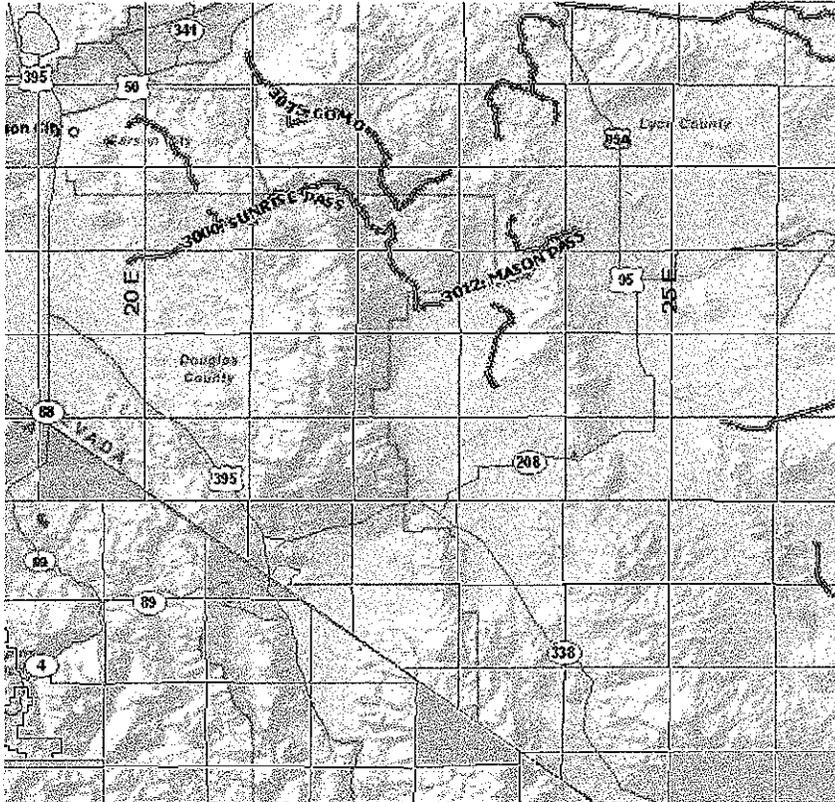


5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

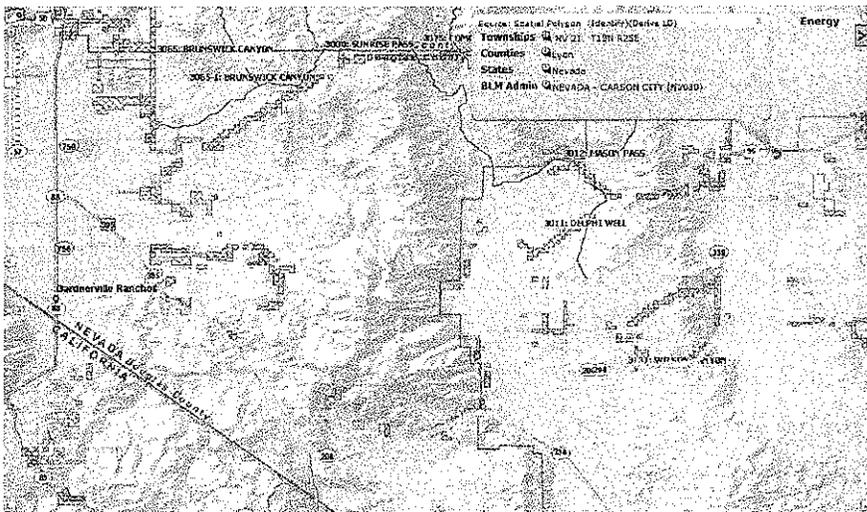


GARDNERVILLE ROW Fiber Route to Yerington



5/24/2010

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.





United States Department of the Interior



FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

4701 North Torrey Pines Drive

Las Vegas, Nevada 89130

Ph: (702) 515-5230 ~ Fax: (702) 515-5231

Date: December 15, 2011

File No. 2011-F-0029

Frank J. Monteferrante, Ph.D.
National Telecommunications and Information Administration
U.S. Department of Commerce
H.C. Hoover Building, Room 2830B
1401 Constitution Avenue, Northwest
Washington, DC 20230

Dear Dr. Monteferrante:

Subject: Biological Opinion for the Nevada Broadband Telemedicine Initiative Project, Clark, Esmeralda, and Nye Counties, Nevada

This letter transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the subject project and possible adverse effects on the Mojave desert tortoise (*Gopherus agassizii*) listed under the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*).

The attached biological opinion addresses potential effects to the desert tortoise legally required under the Act and 50 CFR § 402 of our interagency regulations governing section 7 of the Act. This biological opinion is based on information provided in a letter by the National Telecommunications and Information Administration (NTIA) to the Service; a biological assessment received on August 1, 2011; discussions between NTIA, their consultant (Resource Concepts, Inc), and the Service; and our files. A complete project file of this consultation is available at the Service's Nevada Fish and Wildlife Office in Las Vegas.

If we can be of further assistance regarding this consultation, please contact Brian A. Novosak in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230. Please reference the above file number in any future correspondence relating to this consultation.

Sincerely,

Edward D. Koch
State Supervisor

cc:

Chief, Environmental Services, Nevada Department of Transportation, Carson City, Nevada

Director, Environmental Health and Safety Department, NVEnergy, Las Vegas, Nevada

Vice President, Operations, Nevada Hospital Association, Reno, Nevada

Operations Manager, Valley Electric Association, Pahrump, Nevada

Reptile Biologist, Nevada Department of Wildlife, Las Vegas, Nevada

ENCLOSURE

BIOLOGICAL OPINION

A. CONSULTATION HISTORY

- January 10, 2011: The Fish and Wildlife Service (Service) received a letter, on behalf of the U.S. Department of Commerce – National Telecommunications and Information Administration (NTIA), requesting a list of federally listed species that potentially occur within the project area. NTIA proposes to award a grant through the Broadband Technology Opportunities Program to the Nevada Hospital Association as part of the American Recovery and Reinvestment Act. This grant would fund construction of approximately 1,100 miles of fiber-optic telecommunications line throughout Nevada. The Service responded on February 3, 2011 (File No. 2011-SL-0108) and listed the federally listed as threatened Mojave desert tortoise (*Gopherus agassizii*) as a species potentially occurring within the project area.
- June 16, 2011: The project was subsequently revised and the Service received a letter, on behalf of the NTIA, requesting a revised list of federally listed species that potentially occur within the project area. The Service responded on July 26, 2011 (File No. 2011-SL-0342) identifying the Mojave desert tortoise (threatened), southwestern willow flycatcher (*Empidonax traillii extimus*) (endangered), and the Yuma clapper rail (*Rallus longirostris yumanensis*) (endangered) as species potentially occurring within the project area. The response also included two candidate species: the yellow-billed cuckoo (*Coccyzus americanus*) and Las Vegas buckwheat (*Eriogonum corymbosum var. nilesii*).
- August 1, 2011: NTIA determined that the portion of this action in southern Nevada *may affect, is likely to adversely affect* the Mojave desert tortoise, southwestern willow flycatcher, and the Yuma clapper rail and requested formal consultation on effects to these species. The Service initiated formal consultation on this date.
- August 29, 2011: The project and the option of using helicopters to string the line rather than bucket trucks was discussed with Dr. Frank J. Monteferrante, Environmental Compliance Specialist with NTIA. Mr. Monteferrante suggested we contact Resource Concepts Incorporated, NTIA's biological consultant on the project.

- August 29, 2011: After some additional research, it was decided that the use of a helicopter would not be suitable for this project. This finding was based on sample photos of the project area showing the small size of the existing power poles, their close adjacency to existing access roads, and professional knowledge of the technical capabilities of a bucket truck by qualified linemen.
- October 21, 2011: The Nevada Hospital Association amended their alignment through Beatty, Nevada because the powerline owner (Valley Electric Association) plans to relocate their existing poles from the riparian areas to upland areas. Due to the route change, it was determined that the project would have *no effect* on the southwestern willow flycatcher and the Yuma clapper rail.

B. DESCRIPTION OF THE PROPOSED ACTION

The NTIA proposes to award a grant to the Nevada Hospital Association for the Nevada Broadband Telemedicine Initiative Project. This grant would fund construction, maintenance, and operation of approximately 1,100 miles of fiber-optic telecommunications line and appurtenances throughout Nevada. This fiber-optic network would facilitate telemedicine applications and allow for the meaningful use of electronic medical records.

The project would add fiber-optic cable to existing powerline pole infrastructure; however, 15 miles of the cable would be buried along U.S. Highway 95 (US95) within the Nevada Department of Transportation (NDOT) right-of-way (ROW). Within desert tortoise habitat, the 226 miles of line would result in a direct loss of 3.6 acres (ac) of vegetation during the excavation for the fiber-optic cable trench and the cable handhold boxes. The permanent ROW width for the fiber cable would be the same as the existing powerline ROW.

The project would be constructed from January through July 2012 using contracted linemen working 10-hour days, 5 days a week.

1. Construction Methods for Overhead Cable Attachment

Two basic methods would be used for placement of fiber-optic cable on the existing poles: 1) the drive-out method and 2) the stationary reel method. The majority of the poles along the route are wooden between 45 and 65 feet (ft) tall and average 300 to 600 ft apart with occasional spans of 1,000 ft.

In the drive-out method, one vehicle carrying the reel of cable proceeds from pole to pole, laying out fiber as it moves forward. A second vehicle, a bucket truck, follows at a distance of approximately 50 ft so that a lineman may secure the cable to the pole attachments.

In the stationary reel method, the poles are accessed by all-terrain-vehicles (ATVs) or on foot, and the poles are either climbed or a ladder is used. A pull rope is pulled through a pulley



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, DC 20230



October 12, 2010

Jeannie Stafford
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
1340 Financial Blvd
Reno, NV 89502

Re: Endangered Species Act, Section 7, Consultations Regarding Broadband Technology Opportunities Program (BTOP) Grant Recipient #7648, Nevada Hospital Association, Fiber Optic Network Infrastructure Project

Dear Ms. Stafford,

The National Telecommunications and Information Administration (NTIA) has awarded a grant to Nevada Hospital Association, through the Broadband Technology Opportunities Program (BTOP), as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the project completed within 3 years. This timeline is driven by the laws and regulations governing the use of this ARRA grant funding. In order to meet the ARRA timeline and expedite the review process, NTIA is sending project notification letters to the U.S. Fish and Wildlife Services regional headquarters and individual state field offices seeking their timely cooperation in reviewing and responding to each of NTIA's ARRA funded projects.

The funding for this project in Nevada will use existing broadband capacity where possible and install 10 new fiber segments to each of the targeted anchor institutions throughout the state. A project description is attached.

As a result of the review of the information provided with the grant application, NTIA determined that the proposed activities should be reviewed and informal consultations conducted with the U.S. Fish and Wildlife Service. Special Award Conditions (SAC) in the NTIA grant require Nevada Hospital Association to consult with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. The grant recipient may not commence project implementation (including demolition, construction, ground disturbance, etc.) prior to completion of this consultation.

The grant recipient, Nevada Hospital Association, is being copied with this letter. Once they complete their analysis and develop conclusions regarding effects of the proposed action, they will be in contact with you to provide the analysis developed, and seek your concurrence with the determinations made.

If any issues or questions arise during these consultations please contact me at (202) 482-4208, or FMonteferrante@ntia.doc.gov. NTIA is prepared and willing at any time to participate directly in the review process as needed. As monitoring the progress of each of these projects is vital to their success, I would appreciate being copied on any correspondence you have in the future with the grant recipient regarding this project. Please do not send any return correspondence via US Mail since most mail is irradiated and will take extra time for delivery. All correspondence should be either by e-mail, fax (202-501-8009), or by express mail services (FedEx or similar carrier).

Sincerely,



Frank J. Monteferrante, Ph.D.
Environmental Compliance Specialist
National Telecommunications and
Information Administration
U.S. Department of Commerce
H.C. Hoover Bldg. Room 2830B
1401 Constitution Avenue, NW
Washington, DC 20230

Attachment

cc: Mr. Bill Welch
Nevada Hospital Association
5250 Neil Road, Suite 302
Reno, NV 89502

Nevada Hospital Association

NEVADA BROADBAND TELEMEDICINE INITIATIVE

Executive Summary*

The Nevada Hospital Association (NHA) consisting of 33 acute care providers and 18 specialty hospitals and clinics throughout the state of Nevada proposes to construct a state-wide medical network, the primary purpose of which is to facilitate telemedicine applications and allow for the meaningful use of electronic medical records as is required under the HITECH Act enacted as part of the American Recovery and Reinvestment Act. Nevada lacks the broadband infrastructure necessary for the medical community to take full advantage of most telemedicine applications or the exchange of medical information among all health providers. All of Nevada's hospitals currently have some level of access to the internet, however, the quality of the connections varies dramatically and there is little or no reliability or redundancy. With the requirement that all medical providers demonstrate the meaningful use of electronic medical records by 2016, Nevada's medical community is faced with an insurmountable obstacle unless the network proposed in this grant application can be built. The current haphazard connectivity between those who have sufficient funding and information technology resources and those who can't afford or do not have access to a high-speed, high-capacity broadband network is likely to continue for some time. The community anchor institutions to be served by the proposed network are located throughout the state of Nevada. The service area of the network includes communities in 16 of Nevada's 17 counties. The project anticipates using existing broadband capacity where possible and deploying 10 new fiber segments offering both 100 Mb and 1 Gb of capacity to each of the targeted anchor institutions throughout the state. The NHA has titled this project the Nevada Broadband Telemedicine Initiative, (NBTI). The Nevada Hospital Association board has endorsed the application for BTOP funding and fully supports the establishment and operation of the NBTI. Members of the NHA have been partners in an existing telemedicine network using the NevadaNet since the mid-1990's. The NBTI seeks to follow in the footsteps of several other state medical networks, such as Washington State's NoaNet, which was awarded funding in Round 1. Utilizing the network of hospitals throughout the state as the platform for constructing a state-wide broadband network is a logical and efficient solution to the lack of adequate broadband service throughout the state. The applicant has worked to establish partnerships with key players throughout the state, including the Nevada System of Higher Education, the University of Nevada School of Medicine, several Native American Tribes, the Nevada Indian Health Board, the Nevada Rural Health Partners, and the Arizona Nevada Tower Corporation.

The network will provide direct access for 37 community anchor institutions from among Nevada's hospitals, however, 315 additional facilities including schools, community colleges, public safety entities, libraries, and other community organizations will benefit from the increase in bandwidth made available to Last Mile Service Providers. The NHA has secured letters from several public safety entities who also wish to utilize the middle mile network NBTI will provide. The NHA has reached out to all the Native American Tribes through a partnership with the Nevada Indian Health board to offer access to the network for the 23 tribes and their affiliated health facilities scattered throughout the state. Through NBTI's partnership with the University of Nevada School of Medicine and the Nevada Department of Higher Education, the network to be constructed will allow several community colleges and units of the Nevada University system broadband access to areas currently underserved. By focusing on the states acute care medical providers, the NBTI project will serve some of the most vulnerable populations in the state. Through a partnership with the Indian Health Board the project will improve access to medical care on reservations such as the Duckwater Shoshone in remote central Nevada. Key partners in our network include Renown Regional Medical Center in Reno and the University Medical Center in Las Vegas, a non-profit publicly owned hospital. UMC is the number one provider of medical services to the poor and uninsured in the state of Nevada. Renown Regional Medical Center in Reno also serves a large proportion of uninsured, poor and disadvantaged clients.

Counties affected by construction:

Carson City, Churchill, Clark, Douglas, Elko, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, White Pine

List of counties in which project activities will occur:

Carson City, Churchill, Clark, Douglas, Elko, Eureka, Humboldt, Lander, Lincoln, Lyon, Mineral, Nye, Pershing, Washoe, White Pine

*It was determined that the Electronic Medical Records system was an ineligible cost, therefore the project does not include a bundled Electronic Health Records solution as part of this grant funding.

system attached to the pole. This pull rope is attached to the fiber cable placed at the nearest access point on a stationary reel. The fiber cable is pulled, preferably downhill, through the pulley system and attached to the pole. This method is generally the slower of the two methods and creates the widest spread of equipment and manpower along the route. However, this method has the least impact to vegetation and soil resources.

The majority of the construction zone would occur in less than a 10 ft width. This construction zone would be located within the existing roadways along the powerlines plus the existing access roads from the highway. No new roadways would be constructed. Where the road is narrower than 10 ft, some vegetation may be crushed adjacent to the edges of the road using the drive-out method described above. If the road is too rough or steep for the bucket truck, ATVs may be used and the poles would be climbed or a ladder would be used to access the attachment points.

Pulling and Tensioning Staging Areas

In the drive-out method, there is not a true staging area, as the equipment needed for placement of the cable moves in tandem from the start point to the end of the reel. All equipment would mostly occur within a moving 100-ft zone within the existing roads.

In the stationary reel method of placement, staging areas are required at opposite ends of a multiple-pole span for parking a reel trailer or other reel carrier and a win truck to pull back a rope and attached cable end. At multiple locations along the path between the reel and the win, workers equipped with two-way radios would be stationed to observe the progress of the pull and to stop the process should problems arise.

During the tensioning and sagging operation, a truck is positioned at one end of the span to be tensioned, while a second truck starts at the opposite end of the span and works back toward the first truck, securing the cable that has been tensioned and sagged to the structures.

Materials would be kept off the ROW at a contractor storage yard and/or warehouse location and transported as needed by crews or delivery trucks for construction. No items, except for installed fiber-optic cable, associated hardware, anchors, handholes and marker posts, would remain after installation.

Signal Regeneration Stations

As light travels down a fiber, it loses power. Regeneration stations or “regens” are used to amplify a weak incoming signal and send the amplified signal along the network toward the customer. The spacing of these regens is generally every 50 to 75 miles. The regens along the network are planned to be co-located at existing power substation locations or cell tower locations. Regeneration sites vary in size from 20 ft by 20 ft to 40 ft by 60 ft depending on the available space.

Long-Term Maintenance and Monitoring of Poles and Lines

Annual and long-term maintenance of the poles and vegetation would be performed by the owner of the poles. Monitoring of the overhead fiber-optic cable would be through alarm circuits in the electronics attached to the cable at various points along the route. Any attachment issues that arise from the maintenance of these poles would be coordinated through the owner.

Equipment Types and Numbers

The following table lists representative types of equipment proposed to perform specific tasks, which would be used for the overhead portion of the project in desert tortoise habitat.

Table 1. Typical Overhead Cable Placement / Tensioning Equipment Group

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Bucket Truck	International 4300 (or equivalent)	2
Reel Carrier Truck w/ win	International 4300 (or equivalent)	1
Misc. Small Power Tools	Stihl/Echo	Many

2. Underground Cable Activities, Duration, and Equipment

The cable would be buried along 15 miles of US 95. The construction corridor would be approximately 10 ft wide. Three basic methods could be used: 1) the plow method, 2) the trench method, and 3) directional bore method.

Cable Placement using the Plow Method

The cable route would be plowed 3 to 6 ft deep. The process of plowing cable into the ground does not leave an open excavation; instead it lifts the soil and leaves a heaved area on each side of the plow slot. Restoration and compaction is limited to driving the dozer (either the cable plow itself, a second dozer used for pulling the plow, or a “clean up” dozer working behind the cable plow) over each side of the plow rip to push it back to a level state. There is no need for material excavation or imported material to restore the trench.

Cable Placement using Trenching Method

Trench sections would only be necessary where it is not possible or practical to plow the cable. For instance, in areas containing solid rock or large boulders a trench would be opened either by rock saw or breaker. Further, trenches are generally used where conduit is required. Once the cable is placed in the open trench, the original material is used to backfill the trench. In some cases where there isn’t enough granular fill to “pad” the cable before backfilling, excavated rock, sand or other suitable material may be brought in to provide protection to the facilities. Final backfill is completed using dozers, an excavator and/or skid steer loaders, and typically “wheel-walked” for compaction. Along open areas of the ROW, specialized compaction equipment and compaction testing is not necessary.

Backhoe trenching can range from 1 ft to 2 ft for backhoe/loader machinery. Rock areas, especially those with loose boulders, tend to create irregular trenches that can be up to 5 ft wide. Rock sawing is generally 8 to 12 inches (in) wide and up to 4 ft deep.

Directional Boring

Hard surfaces such as paved roads would be bored wherever possible. Boring does not create a “trench” visible from the surface. However, pits 8 to 10 ft long are necessary to tie conduit together where two bore sections meet. Bore diameters for fiber-optic construction are just over 1.5 in. Bore pits would be backfilled and, where appropriate, compacted using hand tamps such as mechanical whackers or compaction attachment on a backhoe.

Length of Construction Zone Layout and Sequencing

The main placing operation is relatively contained but may stretch out for a mile or more. Advance excavation equipment opens trenches and exposes conduit previously placed by bore or other operations. Main line trenching/plowing crews follow and finally trailing crews backfill trenches and compact and level the plow rip. The main operation is the plow/trench crew that is placing the cable in direct buried applications or conduit for underground systems. The production of this crew is maximized through ROW preparations by smaller, specialized crews in advance of actual cable/conduit placing. This extends the “work zone” throughout the project area although the operations themselves are generally contained within a few hundred ft of the designed cable route. The corridor would be 10 to 20 ft wide.

Equipment Types and Numbers

Tables 2a – 2d list representative types of equipment designed to perform specific tasks.

Table 2a. Typical Buried ROW Preparation Equipment Group

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	2
Bulldozer with Ripper Shank	Komatsu D85PX (or equivalent)	1
Two Ton Truck w/Chip Box	Ford F-750 (or equivalent)	1
Chipper/Shredder	Vermeer BC1200XL (or equivalent)	1
Misc. Small Power Tools	Stihl/Echo Chainsaws, etc	Many

Table 2b. Typical Cable Plow Equipment Group:

Description	Model	Quantity
Pickup Trucks	Ford F-250 (or equivalent)	2
Semi Truck w/Lowboy Trailer	Mack Pinnacle Axle Forward (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Excavator	Caterpillar 324D (or equivalent)	1
Cable Plow	Komatsu D65 w/Bron Plow	1
Flatbed Truck	Ford F-750 (or equivalent)	1
Cable Trailer	Miscellaneous Equipment	1
Figure 8 Machine	Miscellaneous Equipment	1

Table 2c. Typical Directional Boring Equipment Group:

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Directional Bore Machine	Ditch Witch, JT3020 MACH 1 (or equivalent)	1
Two Ton Truck w/Chip Box	Ford F-750 (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Vacuum Locator System	Ditch Witch FX60 (or equivalent)	1

Table 2d. Typical Buried Clean Up/Restoration Crew

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Dump Truck/Trailer	Ford F-750 (or equivalent)	1
Skid-Steer Loader	Caterpillar 259B Series 3 (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Vacuum Locator System	Ditch Witch FX60 (or equivalent)	1
Compactor	Whacker BS 60 (or equivalent)	1

A detailed description of the proposed action is available in NTIA's request and attached biological assessment and is hereby incorporated by reference.

Proposed Measures to Minimize the Potential Effects of the Action

NTIA would ensure effects to the desert tortoise are minimized by requiring the applicant and their contracts to perform the following:

1. provide an environmental awareness program to construction personnel;
2. implement a 25 mile-per-hour (mph) speed limit;
3. require an authorized desert tortoise biologist onsite;
4. conduct pre-activity desert tortoise clearance surveys and relocating all desert tortoises out of development areas;

5. implement a litter-control program; and
6. keep all vehicles within delimited temporary work areas.

A detailed description of the minimization measures are available in NTIA's August 26, 2011, request and attached Biological Assessment and are hereby incorporated by reference.

C. ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

Section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*) requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the rangewide survival and recovery of the desert tortoise. It relies on four components: (1) the Status of the Species, which describes the rangewide condition of the desert tortoise, the factors responsible for that condition, and its survival and recovery needs; (2) the Environmental Baseline, which analyzes the condition of the desert tortoise in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the desert tortoise; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the desert tortoise; and (4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the desert tortoise.

D. STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

The rangewide status of the desert tortoise and its critical habitat consists of information on its listing history, species account, recovery plan, recovery and critical habitat units, distribution, reproduction, and numbers. This information is dated September 23, 2010, and provided on the Service's website at: http://www.fws.gov/nevada/desert_tortoise/dt_life.html. If unavailable on this web site, contact the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230, and provide File No. 84320-2012-F-0029 along with the date of September 23, 2010. Additional information is provided in our 5-year review (Service 2010b) and revised recovery plan for the Mojave desert tortoise (Service 2011).

This project would not affect or occur in desert tortoise critical habitat. The nearest critical habitat unit (CHU) would be the Piute-Eldorado CHU, located approximately 25 miles southeast of the project area.

E. ENVIRONMENTAL BASELINE

The action area is defined as all areas to be affected directly or indirectly by the Federal action, including interrelated and interdependent actions and not just the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service.

The action area for this project includes the disturbance footprint and a buffer zone, or ZOI, surrounding the project area out to 300 meters.

1. Factors Affecting the Species within the Action Area

Off-highway vehicle use and other forms of recreation occur in the action area and impact the desert tortoise. Expanded urbanization and habitat invasion by non-native invasive species also adversely impact the desert tortoise and its habitat in the area by destroying and fragmenting habitat.

Clark County Multiple Species Habitat Conservation Plan (MSHCP)

On November 22, 2000, the Service issued an incidental take permit (TE-034927) to Clark County, Nevada, including cities within the County and NDOT. In the biological/conference opinion (File No. 1-5-00-FW-575), the Service determined that issuance of the incidental take permit to Clark County would not jeopardize the listed desert tortoise or southwestern willow flycatcher, or any of the 76 species that are not listed or proposed for listing under the Act that are covered under the incidental take permit. The incidental take permit allows incidental take of covered species for a period of 30 years on 145,000 acres of non-Federal land in Clark County, and within NDOT ROWs, south of the 38th parallel in Nevada. The MSHCP (RECON 2000) serves as the permittees' habitat conservation plan and details their proposed measures to minimize, mitigate, and monitor the effects of covered activities on the 78 species.

2. Status of the Desert Tortoise and its Habitat in the Action Area

Project-specific surveys for the desert tortoise have not been conducted; however, NDOT surveyed about 23 linear miles of the ROW from Mountain Springs, Nevada to Pahrump, Nevada in October 2005 as part of the State Road 160 (SR160) upgrade (Service File No. 1-5-06-F-498). The NDOT alignment parallels NTIA's proposed route for all 23 miles. Biologists conducted a 100-percent coverage survey of 589 acres between MP 22.0 and MP 1.47. Adjacent to the powerline corridor, the only tortoise sign observed was one road kill desert tortoise carcass.

In May 2011, NDOT surveyed another mile of SR160 from MP 23 to 24 just north of Pahrump, Nevada. This alignment parallels NTIA's proposed route. No desert tortoise sign was located (NDOT 2011).

All project segments are entirely within the existing powerline or road ROW. The specific project areas are characterized as disturbed to highly disturbed. There is an existing two-track road along all but the most rugged terrain beneath the existing powerlines. However, the area immediately adjacent to the project corridor ranges from urban to relatively pristine condition.

F. EFFECTS OF THE PROPOSED ACTIONS ON THE LISTED SPECIES

The documentation of tortoise sign indicates that tortoises occur or may occur near the action area and could enter into the project area. It is unclear whether desert tortoises regularly enter the project area.

The greatest potential threats to desert tortoises resulting from the proposed action are associated with site clearance. Tortoises also could be killed or injured due to crushing by project-related vehicles traveling to and from the project area. Tortoises not located before land clearing activities commence, or not avoided by vehicles and equipment, could be killed or injured. Project vehicles or equipment that stray from designated areas may crush desert tortoises aboveground or in their burrows or damage habitat outside the project area. Tortoises could wander into the construction work area or take refuge underneath project vehicles and equipment, and be killed or injured when the vehicle/equipment is moved. If excavations are left open, tortoises could fall into them and be injured or killed, or become trapped resulting in death or injury. Measures proposed by NTIA to ensure potential effects to the desert tortoise are minimized include: (1) provide an environmental awareness program; (2) require an authorized desert tortoise biologist be available during all phases of construction; (3) require pre-activity desert tortoise surveys and relocation of all desert tortoises out of development areas; (4) restrict vehicles to flagged and cleared areas; and (5) enforce a 25 mph speed limit.

Project activities may result in trash and litter accumulating on the site, which attracts predators such as the common raven, kit fox, and coyote (BLM 1990, Boarman and Berry 1995). Tortoises may ingest trash or they may become entangled resulting in their injury or death. Measures proposed by NTIA to require (1) an environmental awareness program and (2) a litter control program should minimize the potential effects of subsidized tortoise predators.

Desert tortoises that are physically moved out of project areas to prevent mortality or injury could be inadvertently harmed if not handled properly. Urine and large amounts of urates may be voided during handling and may represent a severe water loss, particularly to juveniles (Luckenbach 1982). Overheating can occur if tortoises are not placed in the shade when ambient temperatures equal or exceed temperature maximums for the species (Service 2010). Measures proposed by NTIA to require an authorized desert tortoise biologist onsite during all phases of construction would minimize potential effects to the desert tortoise. Indirect impacts from the proposed action include the potential to temporarily displace individuals from the area because of noise and vibration.

Up to 3.6 ac of currently undisturbed desert tortoise habitat may be disturbed as a result of this project. The completion of this project would have a negligible reduction of available habitat. Although not all impacts would be eliminated through implementation of the minimization

measures, payment of remuneration fees would offset this loss through enhancement of habitat in other areas. Impacts would be both short-term and minimal in their overall effect on the habitat because of the small size of the project.

G. CUMULATIVE EFFECTS

Cumulative effects are those effects of future non-Federal (State, tribal, local government, or private) activities that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they would likely require separate consultation pursuant to section 7 of the Act.

Development of non-Federal actions in the action area likely fall under purview of the MSHCP and may include the following NDOT-proposed ground disturbing activities (NTIA 2011):

- US 93 Boulder City Bypass (Phase 1) from 1 mile south of the junction of US95/US93 to Foothills Road.
- US 93/Boulder City Corridor (Phase 2) from the Nevada interchange to 1 mile south of the junction with US 93/US95 new four-lane highway construction.
- SR160 from Red Rock Canyon Road to 1.24 miles north of Mountain Spring Summit widen from two lanes to four lanes with median.
- SR160 Pahrump Valley Road from Calvada Boulevard to the NY/CL County line widen from two to five lanes.

H. CONCLUSION

After reviewing the current status of the desert tortoise, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the project, as proposed and analyzed, is not likely to jeopardize the continued existence of the threatened desert tortoise (Mojave population), and is not likely to adversely modify designated critical habitat.

The Service's conclusion of no jeopardy and no adverse modification of critical habitat is based on the following:

1. The 3.6 acres of disturbance to desert tortoise habitat would not affect a large number of tortoises or substantially reduce the amount of rangewide habitat available to the species.
2. Measures have been proposed by NTIA to further minimize any effects of the proposed action to the desert tortoise and its habitat.
3. The proposed project would not result in a level of take of desert tortoise that would significantly affect the rangewide number, distribution, or reproduction of the species.
4. The project would not affect desert tortoise critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, as amended, prohibits take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 CFR § 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3). Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant. Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the Terms and Conditions of this Incidental Take Statement.

The Terms and Conditions may include restated or modified measures proposed by NTIA or additional measures considered necessary by the Service. Where these Terms and Conditions vary from or contradict the minimization measures proposed under the Description of the Proposed Action section, specifications in these Terms and Conditions shall apply. The measures described below are nondiscretionary and must be implemented by NTIA, or other jurisdictional Federal agencies as appropriate, so that they become binding conditions of any project, contract, grant, or permit issued by NTIA, or other jurisdictional Federal agencies as appropriate, in order for the exemption in section 7(o)(2) to apply. The Service's evaluation of the effects of the proposed actions includes consideration of the measures developed by NTIA, and repeated in the Description of the Proposed Action portion of this biological opinion, to minimize the adverse effects of the proposed action on the desert tortoise. Any subsequent changes in the minimization measures proposed by NTIA, or other jurisdictional Federal agencies as appropriate, may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 CFR § 402.16. The Reasonable and Prudent Measures (RPMs) below clarify or supplement the protective measures proposed by NTIA as part of the proposed action.

The NTIA, or other jurisdictional Federal agencies as appropriate, have a continuing duty to regulate the activity covered by this Incidental Take Statement. If NTIA, or other jurisdictional Federal agencies as appropriate, fail to adhere to the Terms and Conditions of the incidental take statement through enforceable terms that are added to permits or grant documents, and/or fails to retain oversight to ensure compliance with these Terms and Conditions, the protective coverage of section 7(o)(2) may lapse.

A. AMOUNT OR EXTENT OF TAKE ANTICIPATED

Based on the analysis of effects provided above, measures proposed by NTIA, and anticipated project duration the Service anticipates that the following take could occur as a result of the proposed action:

1. The Service determined that one desert tortoise may be incidentally killed or injured as a result of the proposed project.
2. All desert tortoises located in harm's way will be harassed by capture and removed from the project areas. Based on survey data, description of proposed activities, and description of the project area, the Service estimates that no more than one desert tortoise may be taken by non-lethal means as a result of project activities.
3. No desert tortoise nests with eggs are anticipated to be disturbed as a result of project activities.

B. EFFECT OF TAKE

In the accompanying biological opinion, the Service has determined that this level of anticipated take will not jeopardize the continued existence of the desert tortoise.

C. REASONABLE AND PRUDENT MEASURES WITH TERMS AND CONDITIONS

The Service believes that the following RPMs and Terms and Conditions are necessary and appropriate to minimize take of desert tortoise:

RPM 1: *The NTIA, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to minimize injury and mortality of desert tortoises as a direct or indirect result of projects and activities within the range and habitat of the desert tortoise including capture and handling of desert tortoises.*

Terms and Conditions:

- 1.a. A desert tortoise education program shall be presented to all personnel onsite during construction activities. This program will contain information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the proposed project area, the definition of "take" and associated penalties,

measures designed to minimize the effects of construction activities, the means by which employees can facilitate this process, and reporting requirements to be implemented when desert tortoises are encountered.

- 1.b. An authorized desert tortoise biologist shall conduct a survey to locate desert tortoise in project areas and remove them prior to surface disturbance. Two clear passes of complete coverage will be accomplished.

All burrows found within areas proposed for disturbance, whether occupied or vacant, shall be excavated by an authorized desert tortoise biologist and collapsed or blocked to prevent desert tortoise re-entry. All burrows will be excavated with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and excavations, including nests, will be conducted by an authorized desert tortoise biologist in accordance with Service-approved protocol (Service 2010a).

- 1.c. Any desert tortoises found shall be transported from the project site to the Desert Tortoise Conservation Center in accordance with approved protocol (Service 2010a). Desert tortoise burrows that occur immediately outside of the action area that can be avoided by construction activities shall be clearly marked or flagged to prevent crushing.

Any desert tortoise found within one hour before nightfall shall be placed in a separate clean cardboard box and held in a cool, predator-free location. The box shall be covered and kept upright at all times to minimize stress to the tortoise. Each box shall be used once and then disposed of properly. The desert tortoise shall be transported from the project site to the Desert Tortoise Conservation Center the next day. Each desert tortoise shall be handled with new disposable latex gloves. After use, the gloves will be properly discarded and a fresh set used for each subsequent desert tortoise handling.

- 1.d. Project personnel shall exercise caution when commuting to the project area and obey posted speed limits or maintain a speed of no more than 25 mph to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the project site.
- 1.e. Any vehicle or equipment outside the fenced and cleared areas shall be checked underneath before moving. This includes the morning before any construction activity begins. If a desert tortoise is observed, the vehicle or equipment shall remain in place until the tortoise moves on its own or an authorized desert tortoise biologist moves the tortoise.

- 1.f. Project personnel shall halt activities when the continuation of such activities may endanger a desert tortoise or if a tortoise is found on a project site. An authorized on-call biologist (Service 2010a) will be contacted and will respond to the sighting within one hour of notification during normal operating hours. Project activities will resume after the on-call biologist assesses the situation and takes appropriate action to avoid or minimize the direct impact to the animal.
- 1.g. Open trenches, stockpiled pipes, and excavations that pose a threat or potential to entrap or injure tortoises shall be capped, temporarily fenced, and/or escape ramps installed. Any excavated holes left open overnight will be covered, and/or tortoise-proof fencing will be installed to prevent the possibility of tortoises falling into the open holes.

RPM 2: *The NTIA, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measure to minimize predation on tortoises by ravens or other desert tortoise predators attracted to the project area.*

Term and Condition:

A litter-control program shall be implemented during outdoor program activities that will include the use of covered, raven-proof trash receptacles; disposal of edible trash in trash receptacles following the end of each work day; and disposal of trash in a designated sanitary landfill at the end of each work week. Material placed in a sanitary landfill will be covered daily when the landfill is open, as per county standard operating procedures.

RPM 3: *The NTIA, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of non-native invasive plants or weeds as a result of project activities.*

Terms and Conditions:

- 3.a. The boundaries of disturbance shall be flagged before beginning any activities, and all disturbances shall be confined to the flagged areas. Project personnel will be instructed that their activities must be confined within the flagged areas. Cross-country travel, travel outside flagged construction zones, and disturbance beyond the flagged areas are generally prohibited.
- 3.b. All disturbances within the construction boundaries shall be restricted to the minimum area necessary to complete project activities.

- 3.c. Prior to surface-disturbing activities, NTIA shall ensure remuneration fees are paid by the project proponent to the San Diego Zoo to be applied towards costs associated with operation of the Desert Tortoise Conservation Center.

The proponent shall pay remuneration fees at the rate of \$786 per acre of disturbance for 3.6 acres, for a total of \$2,829.60. If fees are paid after March 1, 2012, the rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U). Information on the CPI-U can be found on the internet at:

<http://stats.bls.gov/news.release/cpi.nws.htm>.

Remuneration fees shall be used for management actions expected to promote recovery of the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species' biological requirements, reducing loss of individual animals, documenting the species status and trend, and preserving distinct population attributes (Hastey *et al.* 1991).

The NTIA or project proponent shall submit the remuneration fee to the San Diego Zoo. A letter must be attached to the check providing authorization and guidance for the use of your funds. The format for your letter is provided in Appendix A. Once completed, send your letter and check to:

Associate Director, Conservation Field Programs
San Diego Zoo's Institute for Conservation Research
15600 San Pasqual Valley Road
Escondido, California 92027-7000
(760) 796-5602

A copy of your letter and the receipt of payment of the remuneration fees shall be sent to the Desert Tortoise Recovery Office in Reno and the Nevada Fish and Wildlife Service Office in Las Vegas.

Desert Tortoise Recovery Office
1340 Financial Blvd., Ste 234
Reno, NV 89502
(775) 861-6300

Nevada Fish and Wildlife Office
4701 N. Torrey Pines Dr.
Las Vegas, NV 89130
(702) 515-5230

- RPM 4:** *The NTIA, or other jurisdictional Federal agencies as appropriate, shall ensure implementation of measures to ensure compliance with the RPMs, Terms and Conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.*

Terms and Conditions:

- 4.a. All desert tortoise observations, including mortalities, shall be reported directly to an authorized desert tortoise biologist and the Service. The authorized desert tortoise biologist shall record each observation of handled desert tortoises. Data will be collected, including: location, date, time of observation, whether the tortoise was handled, the general health of the tortoise, whether it voided its bladder, the location the tortoise moved from and the location it moved to, and any unique physical characteristics.

The authorized desert tortoise biologist shall also include the names of all monitors approved for the project, and the activities and level of involvement during the project.

- 4.b. The NTIA shall ensure that a report documenting effectiveness and compliance with the desert tortoise protection measures is prepared and submitted to the Service's Nevada Fish and Wildlife Office in Las Vegas within 90 days of completion of construction of the project.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- *We commend NTIA, the Nevada Hospital Association, the Nevada Department of Transportation, and the pole owners (NVEnergy and Valley Electric Association) for working together to collocate transmission lines and communication lines on existing infrastructure. We recognize the reduced project footprint and surface disturbance associated with this collaboration. We ask that you continue to identify areas where components can be collocated and construct projects to reduce impacts to wildlife.*

LITERATURE CITED

BLM (Bureau of Land Management). 1990. Draft Raven Management Plan for the California Desert Conservation Area. Prepared by Bureau of Land Management, California Desert District, Riverside, California. April 1990.

Boarman, W. I. and K. H. Berry. 1995. Common ravens in the southwestern United States, 1968-92. Pages 73-75 in E. T. LaRoe, G. F. Farris, C. E. Puckett, P. D. Doran, and M. J. Mac, editors. Our living resources: A report to the nation on the distribution, abundance,

and health of U.S. plants, animals, and ecosystems. National Biological Service. Washington, D.C.

Hastey, E., L.K. Rosenkrance, B.R. Templeton, J.M. Parker, W.H. Radtkey, D.L. Harlow, B.D. Taubert, F. Worthley, W.A. Molini, R.D. Radantris. 1991. Compensation for the desert tortoise. A report prepared for the Desert Tortoise Management Oversight Group. November 1991. 16 pp.

Luckenbach, R. A. 1982. Ecology and management of the desert tortoise (*Gopherus agassizii*) in California. *In*: R. B. Bury, editor. North American tortoise: Conservation and ecology. U.S. Fish and Wildlife Service, Wildlife Research Report 12, Washington, DC.

NDOT (Nevada Department of Transportation). 2011. Biological Resources Baseline Report for the Nevada Department of Transportation Southern Nevada Construction and Maintenance Habitat Conservation Plan. Prepared by HDR Engineering, Inc. Las Vegas, Nevada. August 9, 2011. 32 pp.

NTIA (National Telecommunications and Information Administration). 2011. Biological Assessment for the Nevada Hospital Association Nevada Broadband Initiative. Prepared by Resource Concepts, Inc. Carson City, Nevada. August 2011. 62 pp.

RECON (Regional Environmental Consultants). 2000. Clark County multiple species habitat conservation plan. Prepared for Clark County, 500 Grand Central Parkway, Las Vegas, Nevada 89155.

Service (Fish and Wildlife Service). 2010a. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California. Available on the internet at: http://www.fws.gov/ventura/species_information/protocols_guidelines/index.htm

Service (Fish and Wildlife Service). 2010b. Mojave population of the desert tortoise (*Gopherus agassizii*), Five-year review: summary and evaluation. Desert Tortoise Recovery Office, Reno, Nevada. September 30, 2010. Available on the internet at: http://www.fws.gov/.../five_year_review/doc3572.DT%20Year%20Review_FINAL.pdf

Service (Fish and Wildlife Service). 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 222 pp.

Appendix A

[Agency Letterhead]

[Date]

Associate Director, Conservation Field Programs
San Diego Zoo's Institute for Conservation Research
15600 San Pasqual Valley Road
Escondido, California 92027-7000

Dear Associate Director:

As part of [agency name]'s proposed action for [project name], we are collecting fees to compensate for disturbance to Mojave desert tortoise habitat. This project is being conducted in consultation with the U.S. Fish and Wildlife Service as referenced by biological opinion number [biological opinion number]. Attached is a check in the amount of \$[xxxx.xx] to be used for the purpose of operation of the Desert Tortoise Conservation Center or other research or educational activities to benefit the conservation and recovery of the Mojave desert tortoise within recovery units in Nevada or overlapping Nevada and adjacent states. We acknowledge that, if the project disturbs less habitat than proposed in the biological opinion, a refund up to 25 percent of the total amount may be requested by the project proponent within one year of the date on this letter. After one year, no refund will be required.

Questions about this project may be directed to:

[Contact name, address, and phone number]

Sincerely,

[signature]

Attachment

cc: Assistant Field Supervisor, Nevada Fish and Wildlife Office, Las Vegas
Desert Tortoise Recovery Coordinator, Nevada Fish and Wildlife Office, Reno



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, DC 20230

July 21, 2011

Jeannie Stafford
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
1340 Financial Blvd
Reno, NV 89502

Re: Notice of Project Change Affecting Endangered Species Act, Section 7, Consultations
Regarding Broadband Technology Opportunities Program Grant Recipient #7648, Nevada
Hospital Association, Fiber Optic Network Infrastructure Project

Dear Ms. Stafford,

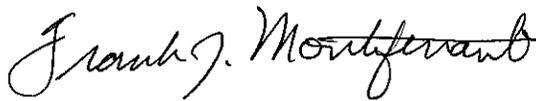
In a letter dated October, 12, 2010, the National Telecommunications and Information Administration (NTIA) informed your office of a grant awarded to Nevada Hospital Association, through the Broadband Technology Opportunities Program (BTOP), as part of the American Recovery and Reinvestment Act (ARRA). The funding must be obligated and the project completed within 3 years. This timeline is driven by the laws and regulations governing the use of this ARRA grant funding. In order to meet the ARRA timeline and expedite the review process, NTIA is sending project notification letters to the U.S. Fish and Wildlife Service regional headquarters and individual state field offices seeking their timely cooperation in reviewing and responding to each of NTIA's ARRA funded projects. The project previously we described included constructing a new 224 mile fiber network while utilizing an additional 453 miles of existing fiber and 580 microwave miles to connect rural hospitals throughout the state of Nevada. NTIA has since approved adding new fiber to the proposed project and removing all telecommunication tower sites proposed in the original design.

As a result of the review of the information provided with the grant application, NTIA determined that the proposed activities should be reviewed and informal consultations conducted with the U.S. Fish and Wildlife Service. Special Award Conditions (SAC) in the NTIA grant require Nevada Hospital Association to consult with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. The grant recipient may not commence project implementation (including demolition, construction, ground disturbance, etc.) prior to completion of this consultation.

The grant recipient, Nevada Hospital Association, is being copied with this letter. Once they complete their analysis and develop conclusions regarding effects of the proposed action, they will be in contact with you to provide the analysis developed, and seek your concurrence with the determinations made.

If any issues or questions arise during these consultations please contact me at (202) 482-4208, or FMonteferrante@ntia.doc.gov. NTIA is prepared and willing at any time to participate directly in the review process as needed. As monitoring the progress of each of these projects is vital to their success, I would appreciate being copied on any correspondence you have in the future with the grant recipient regarding this project. Please do not send any return correspondence via US Mail since most mail is irradiated and will take extra time for delivery. All correspondence should be either by e-mail, or by express mail services (FedEx or similar carrier).

Sincerely,



Frank J. Monteferrante, Ph.D.
Environmental Compliance Specialist
National Telecommunications and
Information Administration
U.S. Department of Commerce
H.C. Hoover Bldg. Room 2830B
1401 Constitution Avenue, NW
Washington, DC 20230

Attachment

cc: Mr. Bill Welch
Nevada Hospital Association
5250 Neil Road, Suite 302
Reno, NV 89502



NEVADA BROADBAND TELEMEDICINE INITIATIVE
NEVADA HOSPITAL ASSOCIATION – Award #NT10BIX5570103
Project Description
Updated July 2011

The Nevada Broadband Telemedicine Initiative (NBTI) is a \$19.6 million grant award funded under the Broadband Technology Opportunities Program (BTOP) and awarded to the non-profit, Nevada Hospital Association (NHA). The NBTI is a private, custom designed broadband network built specifically to transport and interconnect the health care needs of the State of Nevada. The NBTI is defined and designed to link medical facilities with broadband fiber, delivering advanced high-speed transport generally not available throughout the State today.

NBTI's primary purpose is to provide direct network access to 36 hospitals providing secure data transport for Telemedicine applications as well as the future exchange of Electronic Medical Records as required under the federal HITECH Act. Further, an additional 315 community anchor facilities were identified in the funded service areas including schools, community colleges, public safety entities, correctional facilities, libraries, and other community organizations that could benefit from the increased bandwidth and Quality of Service agreements made available through either direct connections or contracted Last Mile Service Providers. The NHA has worked to establish partnerships with key players throughout the state, including Nevada Department of Transportation, NV Energy, Valley Electric Association, Zayo, University Medical Center, Nevada Indian Health Board, Nevada System of Higher Education, and Nevada Department of Information Technology.

The new fiber segments will offer 40 Mbps - 1 GB of capacity to each of the targeted anchor institutions throughout the state. The NHA will, where feasible, utilize existing transmission, aerial attachment, and fiber facilities by securing agreements with dark fiber providers and partnering with local utility providers to lower network build and operating costs. The route narratives noted below reflect high-bandwidth terrestrial fiber connections creating a cohesive, facilities-based network. Once complete, these routes will provide for an increase in the quality of bandwidth, capacity, and integrity of the overall network designed to service Nevada Hospital Association facilities and Community Anchor Institutions. With this plan, the network is better positioned to serve identified customer end-points with increased Quality of Service metrics and capacity; thereby achieving the ambitious goal of introducing a highly secure, private, terrestrial broadband facility meeting statewide public use and health care needs now and well into the future.

The paragraphs below describe each route segment and are summarized in the attached Table. The Project Vicinity Map illustrates the general locations of each.

RENO TO CARSON CITY ROUTE

This route increases the capability of the system by linking the two largest cities in northern Nevada through an agreement with NV Energy whereby we pull new cable in one of their existing conduits. This route length is 31 miles long. Construction and maintenance access will be via existing paved and dirt roads, which will not need to be improved for the project.

CARSON CITY TO FALLON ROUTE

The route will be built by pulling a new fiber cable in an existing duct system owned by NV Energy along US Hwy 50, then turning on a city street for approximately 3 blocks in Fallon to a NDOT maintenance facility. This route is 51 miles long. Access will be via existing paved and dirt roads, which will not need to be improved for the project. The majority of this route crosses BLM managed land.

RENO TO ELKO CONNECTION VIA INTERSTATE-80

This route connects uses existing NDOT fiber cable. This cable, however, is restricted for non-commercial use. The route is 297 miles long. Access will be via existing paved and dirt roads, which will not need to be improved for the project. This route crosses BLM managed land.

FALLON to ELY CONNECTION

This route on US-50 will use existing NDOT lit service to connect Fallon to Ely. This NDOT fiber cable is restricted for non-commercial service. This route is 288 miles long. The majority of this route crosses BLM managed land.

CARSON CITY TO GARDNERVILLE and GARDNERVILLE HOSPITAL CONNECTION

This route is a fiber optic cable connection from Carson City to Gardnerville Hospital. This 21-mile route is within public utility easements, county and private roads. The route includes 10 miles of existing conduit and 3.4 miles of overhead attachment to connect with the Gardnerville Hospital. The route is almost entirely within existing easements or private property. A small parcel of BLM and State of Nevada is crossed in the northern part of this project.

GARDNERVILLE CONNECTION to BUCKEYE SUBSTATION, YERINGTON SUBSTATION and YERINGTON HOSPITAL

This route connects a fiber cable installation on existing NV Energy transmission lines. This connection allows for fiber service to Yerington and the Yerington Hospital. This route is 40 miles long and access will be via the existing paved and dirt roads. Portions of the dirt access roads will need to be improved for the project for safe use by construction equipment. In addition some of the older poles may require replacement to accommodate the new cable. The majority of this route crosses BLM managed land.

An alternative to this route is a buried cable from the US-50 fiber route intersection at Silver Springs to Yerington along Hwy 95a (illustrated on the map and listed in the table).

YERINGTON TO HAWTHORNE CONNECTION

This route is a fiber cable on NV Energy transmission lines from Yerington to Hawthorne and connects to the hospital in Hawthorne. The route is 105 miles long. Access will be via the existing paved and dirt roads. Portions of the dirt access roads will need to be improved for safe use by project construction equipment. In addition some of the older poles may require replacement to accommodate the new cable. This route crosses land managed by the BLM, the Department of Defense and the Walker River Tribe. Approximately 2 regen stations will be installed along this route.

HAWTHORNE TO TONOPAH CONNECTION

This route is a fiber cable on NV Energy transmission lines from Hawthorne to Tonopah. The route is 102 miles long. Access will be via the existing paved and dirt roads. Portions of the dirt access roads will need to be improved for the project for safe use by construction equipment. In addition some of the older poles may require replacement to accommodate the new cable. Approximately 2 regen stations will be installed along this route. The majority of this route crosses BLM managed land and a small amount of DOD land.

TONOPAH TO PAHRUMP CONNECTION

This route is composed of three segments: 1) 26 miles of fiber cable on NV Energy overhead lines; 2) 98 miles of fiber cable on Valley Electric Association (VEA) transmission lines; and 3) a 15-mile underground fiber in the HWY 95 NDOT ROW over BLM managed land south of Goldfield to HWY 266, bridging a gap between the two power grids. Access will be via the existing paved and dirt roads. Portions of the dirt access roads will need to be improved for the project for safe use by construction equipment. In addition some of the older poles may require replacement to accommodate the new cable. Approximately 3 regen stations will be installed along this route. The majority of this route crosses BLM managed land.

PAHRUMP TO LAS VEGAS CONNECTION

The route is 65 miles of fiber cable on VEA transmission lines with a direct connection to the proposed NHA data center in Las Vegas. Access will be via the existing paved and dirt roads. Portions of the dirt access roads may need to be improved for the project for safe use by construction equipment. In addition some of the older poles may require replacement to accommodate the new cable. Approximately 1 regen station will be installed along this route. A portion of this route crosses BLM and USFS managed land.

BOULDER CITY TO LAS VEGAS

The new underground construction distance in this area is reduced by utilizing VEA transmission lines to a substation in Henderson. Alternatives are still being researched to further reduce the need to construct approximately 10 miles along Hwy 93/95. The route is approximately 23 miles long. Access will be via the existing paved and dirt roads. A portion of this route crosses BLM and BOR managed land.

Elko Lateral

The route is 4 miles of fiber cable buried in road ROWs from I-80 to the Hospital in Elko. Access will be via the existing paved and dirt roads. A portion of this route crosses BLM managed land.

Lovelock Lateral

The route is 2 miles of fiber cable buried in road ROWs from I-80 to the Hospital in Lovelock. Access will be via the existing paved and dirt roads. This route is all on private land.

Winnemucca Lateral

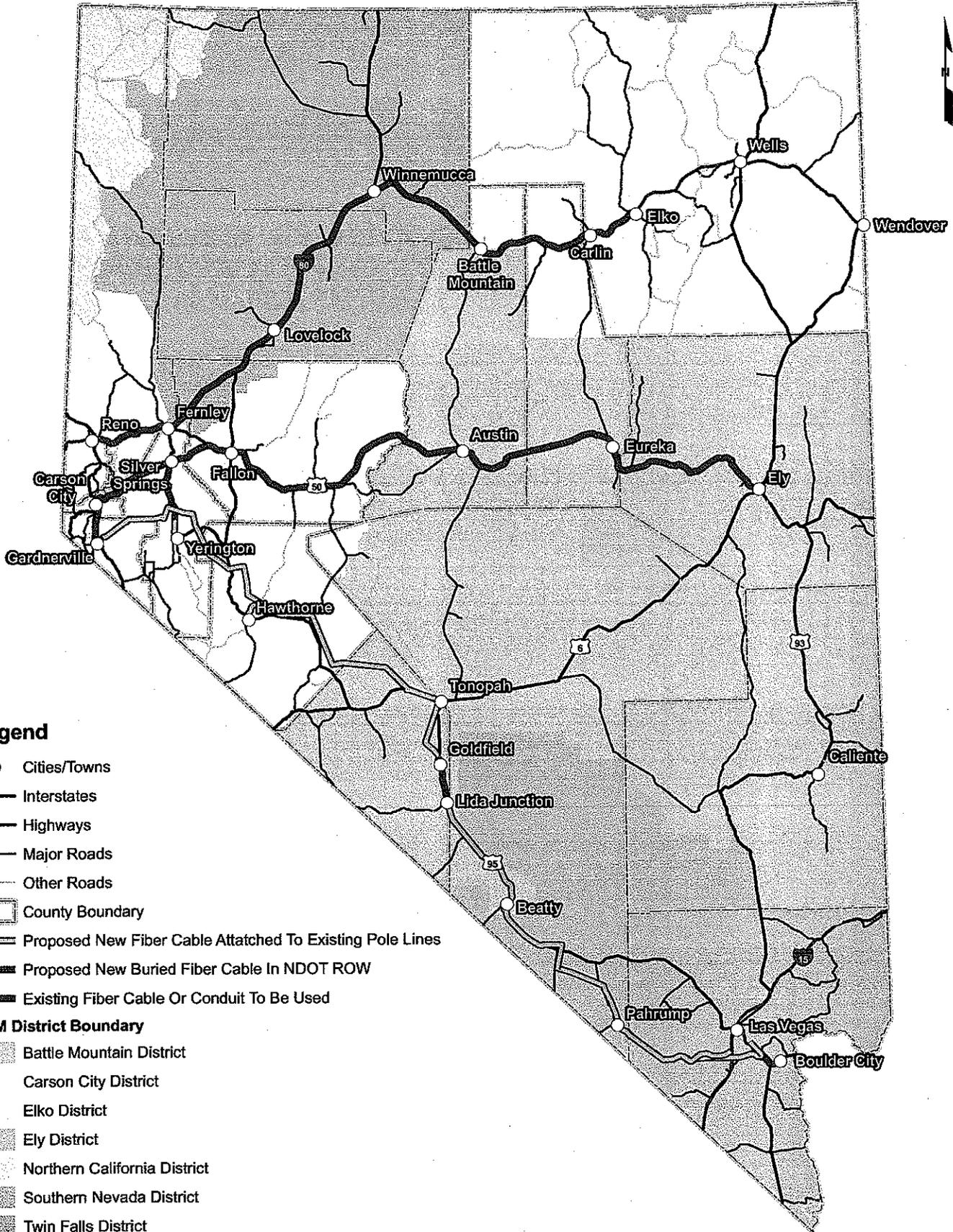
The route uses 2 miles of existing fiber cable buried in road ROWs from I-80 to the Hospital in Winnemucca. This route is all on private land.

Battle Mountain Lateral

The route is 2 miles of fiber cable buried in road ROWs from I-80 to the Hospital in Battle Mountain. Access will be via the existing paved and dirt roads. This route is all on private land.

Routes within Reno, Carson City, and Las Vegas

A variety of existing fiber cable systems will be used through agreements with the owners within these major cities. The hospitals will be connected to these existing routes using small underground or overhead connections. These routes are all on private land.



Legend

- Cities/Towns
- Interstates
- Highways
- Major Roads
- Other Roads
- County Boundary
- Proposed New Fiber Cable Attached To Existing Pole Lines
- Proposed New Buried Fiber Cable In NDOT ROW
- Existing Fiber Cable Or Conduit To Be Used

BLM District Boundary

- Battle Mountain District
- Carson City District
- Elko District
- Ely District
- Northern California District
- Southern Nevada District
- Twin Falls District
- Winnemucca District

Project Vicinity Map

NBTI Proposed Overhead and Underground Routes
 Nevada Hospital Association

R:\projects\Optica_Group\11_101_1\MD\5\may_2011\overall_routes.mxd 6/7/11

Nevada Hospital Assoc. NBTI Project Description Summary Table

Routes Funded Through Grant & Matching Funds

Land Management

Route Name	Supplier	Route Start/End Points		Facility Type	Estimated Miles	Estimated Miles						BLM District					NDOT ROW Miles			
		From	To			BLM	FS	BIA	DOD	BOR	NV State	Private / Municipal	Carson City	Battle Mountain	Las Vegas	Winnemucca		Ely	Elko	
I-80 Route	NDOT	200 S. Virginia, Reno	Elko	IRU - RLS	297.0	TBD							TBD	X	X		X	X	297.0	
Lovelock Lateral	NHA	NDOT Hut	Lovelock	U/G	2.0								2.0							
Winnemucca Lateral	NDOT	NDOT Hut	Winnemucca	IRU	2.0								2.0							
Battle Mountain Lateral	NHA	NDOT Hut	Battle Mountain	U/G	2.0								2.0							
Elko Lateral	NHA	NDOT Hut	Elko	U/G	2.0	0.20							4.2					X		
Reno/Carson City Rings	Zayo	Reno/Carson City	Rings	IRU	37.0								37.0							
Reno Laterals	Zayo	Reno	Laterals	IRU	3.2								3.2							
Carson City Laterals	Zayo	Carson City	Laterals	IRU	1.0								1.0							
Reno Carson City Route	NV Energy	200 S Virginia, Reno	Hwy 50/Hwy 395, Carson City	Ex. U/G	31.5								31.5						31.5	
Carson City Fallon Route	NV Energy	Carson City POP	Fallon	Ex. U/G	61.4	8.4					8.1		44.9						61.4	
Fallon Ely Hwy 50 Route	NDOT	Hwy 50/Hwy 395, Fallon	Ely	IRU - RLS	287.8	TBD							TBD	X	X		X		287.8	
Carson City Gardnerville Route	NHA	Hwy 50/Hwy 395, Carson City	Gardnerville	U/G + Ex.U/G	21.2	0.05		0.28			0.6		19.8	X						
Gardnerville Yerington Route	NV Energy	Gardnerville	Yerington	Ovhd	38.7	24.5							14.2	X						
Silversprings to Yerington Alt	NHA	Silver Springs	Yerington (alt to GV to Yer Route)	U/G	31.2	11.5							19.7	X					31.2	
Yerington Hawthorne Route	NV Energy	Yerington	Hawthorne	Ovhd	105.4	100.3		5.1						X						
Hawthorne Tonopah Route	NV Energy	Hawthorne	Tonopah	Ovhd	101.6	97.2			1.4				3	X	X					
Tonopah - Goldfield	NV Energy	Tonopah	Goldfield	Ovhd	26.2	25.2							1.0		X					
Goldfield - Lida Junction	NHA	Goldfield	Lida Junction	U/G	14.3	14.3									X				14.3	
Lida Junction - Pahrump	VEA	Lida Junction	Pahrump	Ovhd	98.0	72.9							25.1		X	X				
Pahrump Vegas Route	VEA	Las Vegas	Pahrump	Ovhd	88.4	36.4	4.9						47.1		X					
VEA/Zayo Connector	NHA	NW Vegas VEA	Zayo Ring	U/G	9.0								9							
Zayo Vegas Rings	Zayo	Las Vegas	Rings	IRU	126.0								126.0							
Zayo Vegas Laterals	Zayo	Las Vegas	Laterals	U/G	20.2								20.2							
Boulder Route	NHA	SuperNap, Las Vegas	Boulder City	Ovhd + U/G	23.1	1.3					0.3		12/9		X				12	
Boulder Lateral	NHA	SNWA Route	Boulder	Ovhd + U/G	3.1								3.1							
Approximate New Underground by land manager						27.3					0.3		70.1						14.3	
Approximate Overhead by land manager						356.5	4.9	5.1	1.4				101.5							

Facility Types:

- IRU *Indefeasible Right to Use [contractual agreement with supplier for exclusive, unrestricted use]*
- IRU - RLS *Restricted Lit Service IRU [reflects a proposed restricted bandwidth lease from NDOT on this route]*
- Ovhd *Overhead [agreement to attach (i.e., hang) new fiber onto the supplier's existing utility poles]*
- U/G *Underground [new underground conduit and fiber]*
- Ex. U/G *Existing Underground [new fiber into existing underground conduit]*

Note: Mileage is approximate for a general description of the project.
 Green = new underground
 Blue = hanging from existing overhead structure
 Black = using existing cable or conduit



United States Department of the Interior

Pacific Southwest Region FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234

Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301



February 3, 2011
File No. 2011-SL-0108

Ms. Lynn Zonge
Resource Concepts, Inc.
340 North Minnesota Street
Carson City, Nevada 89703

Dear Ms. Zonge:

Subject: Species List Request for the Nevada Hospital Association Fiber Optics Network Project, Carson City, Churchill, Lyon, Douglas, Mineral, Pershing, Humboldt, Lander, Elko, Nye, and Clark Counties, Nevada

In response to your letter received on January 11, 2011, the following federally-listed species may occur in the subject project area:

- Desert tortoise (*Gopherus agassizii*), threatened (Clark and Nye Counties)

This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on listed species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (ESA), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species receive no legal protection under the ESA, but could be proposed for listing in the near future.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. As you may know, the mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (<http://heritage.nv.gov>). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (<http://heritage.nv.gov/forms.htm>) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (<http://www.leg.state.nv.us/NAC/NAC-503.html>). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to take, or possess any parts of protected wildlife species. Please visit <http://www.ndow.org> or contact NDOW at (775) 688-1500 (Carson City, Lyon Douglas, Mineral, Churchill, Humboldt, and Lander Counties), (702) 486-5127 (Nye and Clark Counties), or (775) 777-2300 (Elko County).

In particular, we are concerned about the State-protected western burrowing owl (*Athene cunicularia hypugea*) and potential project impacts to this species from your project. The reduction of habitat in southern Nevada is a major threat to this species. Therefore, we recommend that the project avoid disturbing burrows that are used by burrowing owls. If this is not possible, we ask that the project incorporate recommendations in our enclosed pamphlet, "Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region."

We also are concerned that the project may impact the banded Gila monster (*Heloderma suspectum cinctum*), a species listed as sensitive by Heritage and a protected species under Nevada Administrative Code 503.080. Per Nevada Administrative Codes 503.090 and 503.093, no persons shall capture, kill, or possess any part of protected wildlife without the prior written permission from NDOW. The banded Gila monster occurs primarily in the Mojave desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. The banded Gila monster is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive species. Given that the Gila monster may occur within the project area, we ask that you evaluate project impacts to any existing populations and suitable habitat for this species. If it is determined that the project may result in impacts to Gila monsters, we recommend that you contact NDOW.

If bald eagles (*Haliaeetus leucocephalus*) and/or golden eagles (*Aquila chrysaetos*) occur in the project area or within 10 miles of the proposed project area boundary, we recommend you analyze project impacts to the affected individuals, their habitats, and regional populations. While the bald eagle has been removed from the Federal list of threatened and endangered species (August 8, 2007; 72 FR 37346), it remains classified as endangered by the State of

Nevada. Further, the bald eagle along with the golden eagle continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. 668-668d) and the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). Both the BGEPA and the MBTA prohibit take as defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, disturb, or otherwise harm eagles, their nests, or their eggs. Under the BGEPA, “disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. On September 11, 2009 (74 FR 46836), the Service set in place rules establishing two new permit types: 1) take of bald and golden eagles that is associated with, but not the purpose of, the activity; and 2) purposeful take of eagle nests that pose a threat to human or eagle safety. We recommend you coordinate with State and Federal wildlife officials early in the planning process to ensure compliance with State and Federal regulations and to develop a survey protocol to evaluate the potential risk and the likelihood of take of eagles. If take is reasonably anticipated to occur, we recommend you develop an Avian Protection Plan (APP) in coordination with State wildlife agencies and the Service. An APP is intended to avoid, minimize, or mitigate impacts to these species.

Based on the Service's conservation responsibilities and management authority for migratory birds under the MBTA, we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

We recommend the following measures to minimize possible impacts to migratory birds from construction of new structures. Holes, gaps, or hollow spaces in the proposed facilities or structures could cause cavity-nesting migratory birds to enter and become entrapped in these spaces; holes as small as 0.75-inch in diameter could trap birds. Gaps or narrow open hollow spaces in the proposed facilities or structures should be closed during construction to prevent bird entry. In addition, open-ended posts of any material or color, used to mark boundaries at construction sites should be capped; however, since caps can deteriorate over time, use of solid posts is preferred. To prevent raptors and other migratory birds from getting their feet trapped in metal sign posts, any exposed holes near the top of posts should be filled with rivets, bolts or

Lynn Zonge

File No. 2011-SL-0108

nuts. These conservation measures for migratory birds should be included in the proposed project.

Because wetlands, springs, streams, or ephemeral washes may be present in the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section at 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304 (Carson City, Douglas, Lyon, Churchill, Mineral, Pershing, Humboldt, Lander, and Elko Counties) or 321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979 (Clark County and southern portion of Nye County) regarding the possible need for a permit.

Please reference File No. 2011-SL-0108 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me, James Harter at (775) 861-6300, or Phillip Cunningham at (702) 575-5230 for Nye and Clark Counties.

Sincerely,

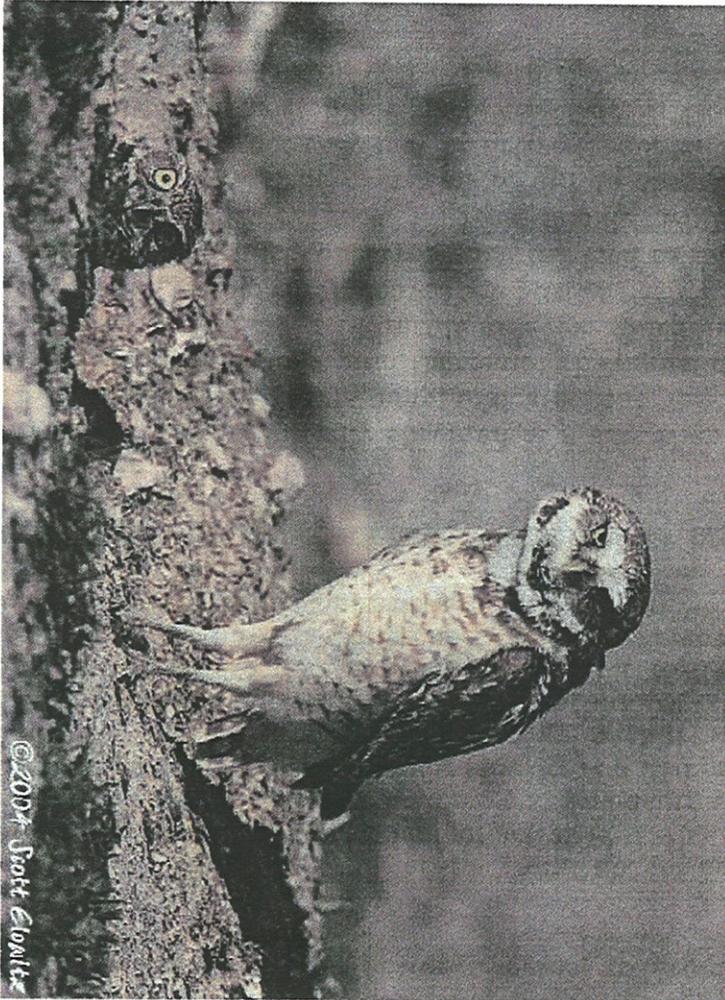


 Katrina M. Martin
Acting State Supervisor

Enclosure

cc:

Assistant State Supervisor, Nevada Fish and Wildlife Office, Las Vegas, Nevada
(Attn: P. Cunningham)



U. S. Fish and Wildlife Service

Nevada Fish and Wildlife Office

*Conserving the Biological Diversity of Great Basin, Eastern Sierra
& Mojave Desert*

PROTECTING BURROWING OWLS AT CONSTRUCTION SITES IN NEVADA'S MOJAVE DESERT REGION



Burrowing owl numbers are declining despite protection under the Migratory Bird Treaty Act. Killing or possessing these birds or destruction of their eggs or nest is prohibited.

Be part of the solution; help these owls!



U.S. Fish and Wildlife Service
Nevada Fish and Wildlife Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
Phone: 702-515-5230
Fax: 702-515-5231
<http://www.fws.gov/nevada>

Though burrowing owls are capable of digging their own burrows, they often will use burrows of other animals for shelter and nesting. They will even adopt pipes or culverts 6" to 8" in diameter.

Tips for Protecting Burrowing Owls, Their Eggs and Young at Construction Sites:

Even though burrowing owls are often active during the day, always check burrows, cracks, and crevices for owls before beginning construction. Use of a fiber-optic scope or remote mini-camera to look into a burrow can help determine the presence of owls or nests. Ensure owls and eggs are not present in burrows when grading begins, to avoid burying them.

In southern Nevada, owls breed from about mid-March through August. If a burrow has an active nest, the site must be avoided until the chicks have fledged. To ensure that birds will not abandon the nest, a buffer of at least a 250-foot radius should be placed around the burrow, within which no construction should occur. It takes a minimum of 74 days from when eggs are laid until chicks are able to fly (fledge). After the young have fledged, check the nest burrow for any owlets before resuming construction.

The following owl behaviors may help determine breeding or the presence of an active nest:

- A pair of owls is initially observed at a site, then only one owl is observed. This may indicate that the pair has chosen a nest burrow, and the female has gone down into the burrow to lay and incubate eggs. Once incubation begins the female rarely leaves the burrow.
- An owl is frequently observed carrying food to the burrow. The male provides food for the female while she is incubating eggs. The best time of day to observe owls is dawn and dusk, but they may be active throughout the day. The male will most likely leave the food in front of the burrow and the female will come to the entrance to take

the food. This is probably the best indication that the owls have an active nest.

- Only one owl has been seen for a period of time; then, two owls are observed. This may indicate that either the nest has failed, or the eggs have hatched, and the female has emerged from the burrow to assist the male in hunting for food to feed the chicks. The chicks will appear at the burrow entrance when they are about 10 days old.

If you are unsure of breeding status, seek the assistance of a professional biologist or other knowledgeable person. Should breeding behavior be observed, presence of an active nest should be assumed and the area avoided until the chicks have fledged or the nest is no longer occupied.

IMPORTANT! In the Mojave Desert portions of Clark, southern Lincoln and Nye counties, owls may use desert tortoise burrows for nesting and shelter. Desert tortoises are protected under the Endangered Species Act. Killing, harming, or harassing desert tortoises, including destruction of their nests with eggs, without prior authorization is prohibited by Federal law.*

*** IF YOUR PROJECT IS IN CLARK COUNTY, PLEASE READ ON:**

Clark County holds a permit from the U.S. Fish & Wildlife Service authorizing "take" of desert tortoises during the course of otherwise legal activities on non-federal lands. In Clark County only, discouraging burrowing owls from breeding in the construction site on private property is allowed by collapsing tortoise burrows during the owl's non-breeding season (September through February). This may help avoid construction delays. Prior to collapsing a burrow, always check for owls or other protected wildlife occupying the burrow for the winter. Call the Nevada Department of Wildlife at 702-486-5127 if a Gila monster is found as this is a State protected species.

Thank you for your assistance in protecting migratory birds and Nevada's endangered and threatened species!



United States Department of the Interior

Pacific Southwest Region FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

1340 Financial Blvd., Suite 234

Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301



July 26, 2011
File No. 2011-SL-0342

Ms. Lynn Zonge
Resource Concepts, Inc.
340 North Minnesota Street
Carson City, Nevada 89703

Dear Ms. Zonge:

Subject: Species List Request for the Nevada Hospital Association Fiber Optics Network Project, Clark, Douglas, Elko, Esmeralda, Lyon, Mineral, and Nye Counties, Nevada

This letter responds to your electronic mail received on June 16, 2011, requesting an updated species list for the Nevada Hospital Association Fiber Optics Network Project in Douglas, Elko, Esmeralda, Lyon, Mineral, and Nye Counties, Nevada. Our office previously provided a species list (File Number 2011-SL-0108) on February 3, 2011, regarding this project. The following federally-listed and candidate species may occur in the subject project area:

- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*), endangered
- Yuma clapper rail (*Rallus longirostris yumanensis*), endangered
- Yellow-billed cuckoo (*Coccyzus americanus*), candidate
- Las Vegas buckwheat (*Eriogonum cormbosum* var. *nilesii*), candidate

This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on listed species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (ESA), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species receive no legal protection under the ESA, but could be proposed for listing in the near future. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions.

TAKE PRIDE
IN AMERICA 

Enclosure A provides a discussion of the responsibilities Federal agencies have under section 7 of the ESA and the conditions under which a biological assessment (BA) must be prepared by the lead Federal agency or its designated non-Federal representative. If it is determined by the responsible Federal agency that a listed or proposed species may be affected by the proposed project, then consultation should be initiated pursuant to 50 CFR § 402.14. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to listed species. If a BA is required and it is not initiated within 90 days of the receipt of this letter, you should informally verify the accuracy of this list with our office. If, through informal consultation or development of a BA, it is determined that a proposed action is not likely to adversely affect the listed species, and the Service concurs in writing, then the consultation process is terminated and formal consultation is not required.

Based on the information provided in your correspondence, portions of your proposed project occur within desert tortoise habitat. Therefore, desert tortoises may be encountered within these areas of your proposed project. Spatial data and maps are available from the Service at <http://crithab.fws.gov>. On private land in Clark County, take of desert tortoise for this project may be authorized pursuant to the provisions of section 10(a)(1)(B) of the ESA, under a permit for the Clark County Multiple Species Habitat Conservation Plan. We recommend that you contact Ms. Marci Hensen, Desert Conservation Plan Administrator, at 702-455-3859 for information on your responsibilities under this permit. On Federal land, the lead Federal agency or its designated representative is responsible for determining whether or not the proposed project may affect a listed species.

We are concerned about the Las Vegas buckwheat; an at-risk species that is also designated as critically endangered by the State of Nevada under Nevada Revised Statutes (NRS) 527.260-.300. Portions of the proposed project occur near potential Las Vegas buckwheat habitat. Therefore, we recommend that a qualified botanist conduct sensitive plant surveys in suitable habitat and that you contact Heritage for current location data on this species. As a reminder, the Las Vegas buckwheat and its habitat may not be removed or destroyed at any time by any means except under special permit issued by the State Forester (NRS 527.270). If you determine that Las Vegas buckwheat and its habitat occur on Federal lands within the project area and project implementation would impact this species, you are required under State law to apply for a special permit issued by the State Forester. Requests for permits should be directed to the State Forester, Nevada Division of Forestry at 2478 Fairview Drive, Carson City, Nevada 89701, (775) 684-2500.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. As you may know, the mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those

most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (<http://heritage.nv.gov>). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (<http://heritage.nv.gov/forms.htm>) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (<http://www.leg.state.nv.us/NAC/NAC-503.html>). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to take, or possess any parts of protected wildlife species. Please visit <http://www.ndow.org> or contact the NDOW at (775) 688-1500 (Carson City, Douglas, Esmeralda, Lyon, and Mineral Counties), (702) 486-5127 (Nye and Clark Counties), or (775) 777-2300 (Elko County).

We are concerned about the western burrowing owl (*Athene cunicularia hypugea*) and potential impacts to this species from the proposed project. The reduction of habitat in southern Nevada is a major threat to this species. Therefore, we recommend that the project avoid disturbing burrows that are used by burrowing owls. If this is not possible, we ask that the project incorporate recommendations in our pamphlet, "Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region" (Enclosure B).

We are also concerned that the project may impact the banded Gila monster (*Heloderma suspectum cinctum*), an at-risk species according to Heritage and a protected species under Nevada Administrative Code 503.080. Per Nevada Administrative Codes 503.090 and 503.093, no persons shall capture, kill, or possess any part of protected wildlife without the prior written permission from NDOW. The banded Gila monster occurs primarily in the Mojave desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. The banded Gila monster is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive species. Given that the Gila monster may occur within the project area, we ask that you evaluate project impacts to any existing populations and suitable habitat for this species. If it is determined that the project may result in impacts to Gila monsters, we recommend that you contact NDOW.

If bald eagles (*Haliaeetus leucocephalus*) and/or golden eagles (*Aquila chrysaetos*) occur in the project area or within 10 miles of the proposed project area boundary, we recommend you analyze project impacts to the affected individuals, their habitats, and regional populations. While the bald eagle has been removed from the Federal list of threatened and endangered

species (August 8, 2007; 72 FR 37346), it remains classified as endangered by the State of Nevada. Further, the bald eagle along with the golden eagle continues to be protected under the Bald and Golden Eagle Protection Act (BGEPA) of 1940, as amended (16 U.S.C. 668-668d) and the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). Both the BGEPA and the MBTA prohibit take as defined as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, disturb, or otherwise harm eagles, their nests, or their eggs. Under the BGEPA, "disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. On September 11, 2009 (74 FR 46836), the Service set in place rules establishing two new permit types: 1) take of bald and golden eagles that is associated with, but not the purpose of, the activity; and 2) purposeful take of eagle nests that pose a threat to human or eagle safety. We recommend you coordinate with State and Federal wildlife officials early in the planning process to ensure compliance with State and Federal regulations and to develop a survey protocol to evaluate the potential risk and the likelihood of take of eagles. If take is reasonably anticipated to occur, we recommend you develop an Avian Protection Plan (APP) in coordination with State wildlife agencies and the Service. An APP is intended to avoid, minimize, or mitigate impacts to these species.

Based on the Service's conservation responsibilities and management authority for migratory birds under the MBTA, we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

We recommend the following measures to minimize possible impacts to migratory birds from construction of new structures. Holes, gaps, or hollow spaces in the proposed facilities or structures could cause cavity-nesting migratory birds to enter and become entrapped in these spaces; holes as small as 0.75-inch in diameter could trap birds. Gaps or narrow open hollow spaces in the proposed facilities or structures should be closed during construction to prevent bird entry. In addition, open-ended posts of any material or color, used to mark boundaries at construction sites should be capped; however, since caps can deteriorate over time, use of solid posts is preferred. To prevent raptors and other migratory birds from getting their feet trapped in

Lynn Zonge

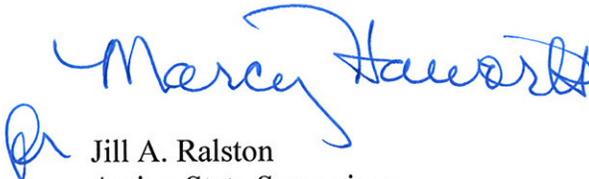
File No. 2011-SL-0342

metal sign posts, any exposed holes near the top of posts should be filled with rivets, bolts or nuts. These conservation measures for migratory birds should be included in the proposed project.

Because wetlands, springs, streams, or ephemeral washes may be present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304 (Douglas, Elko, Esmeralda, Lyon, Mineral, and Nye Counties) and 321 North Mall Drive, Suite L-101, St. George, Utah 84790, (435) 986-3979 (Clark County and southern portion of Nye County) regarding the possible need for a permit.

Please reference File No. 2011-SL-0342 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me, James Harter at (775) 861-6300, or Susan Cooper at (702) 575-5230.

Sincerely,


Jill A. Ralston
Acting State Supervisor

Enclosures

cc:

Assistant State Supervisor, Nevada Fish and Wildlife Office, Las Vegas, Nevada
(Attn: S. Cooper)

BIOLOGICAL ASSESSMENT

**Nevada Hospital Association
Nevada Broadband Telemedicine Initiative
US Department of Commerce
National Telecommunications and Information Administration**

**Location:
Clark and Nye Counties, Nevada**

Township	Range	Township	Range
01N, 02N, 01S, 02S, 03S, 04S	42E	15S, 16S	50E
01S	41E	17S	51E, 52E, 53E
04S, 05S, 06S, 07S	43E	18S, 19S, 20S	53E
07S, 08S	44E	20S, 21S	54E,
08S, 09S	45E	21S	55E
09S, 10S, 12S	46E	22S	55E, 56E, 57E, 58E, 59E, 60E, 61E, 62E, 63E
10S, 11S, 12S, 13S, 14S	47E	22S, 23S	63E
14S, 15S	48E	23S	631/2E
15S	49E	23S	64E

Prepared by:



RESOURCE CONCEPTS, INC.

Lynn Zonge
340 N. Minnesota Street
Carson City, NV 89703-4152
(775) 883-1600 lynn@rci-nv.com
www.rci-nv.com



NEVADA HOSPITAL ASSOCIATION

Bill Welch
5250 Neil Road, Suite 302
Reno, NV 89502
775-827-0184



Prepared for:



**US DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION**
Frank Monteferrante, Ph.D.
H.C. Hoover Bldg. Room 2510
1401 Constitution Ave, NV
Washington, DC 20230
202-482-4208 fmonteferrante@ntia.doc.gov

Table of Contents

1.0	INTRODUCTION.....	1
	Purpose of the Biological Assessment.....	1
	Listed Species.....	1
2.0	CRITICAL HABITAT.....	1
3.0	CONSULTATION TO DATE.....	2
4.0	CURRENT MANAGEMENT DIRECTION.....	2
5.0	DESCRIPTION OF THE PROPOSED ACTION.....	3
	Project Location.....	3
	Proposed Action Appurtenances.....	3
	Project Schedule.....	4
	Construction Methods for Overhead Cable Attachment in VEA or NV Energy ROWs.....	4
	Underground Cable in NDOT ROW Activities, Duration, and Equipment.....	7
	Proposed Project Footprint Summary.....	10
6.0	SPECIES ACCOUNTS.....	14
	Habitat Status.....	17
7.0	EXISTING ENVIRONMENT.....	18
8.0	EFFECTS.....	19
	Planned Desert Tortoise Mitigation Measures to Minimize Potential Impacts to the Species.....	19
	Planned Southwest Willow Flycatcher and Yellow Billed Cuckoo Mitigation Measures to Minimize Potential Impacts to the Species.....	21
	Direct Effects.....	21
	Indirect Effects.....	21
	Detrimental and Beneficial Effects.....	22
	Interrelated and Interdependent Effects.....	22
9.0	CUMULATIVE EFFECTS.....	22
10.0	CONCLUSION AND DETERMINATION.....	23
11.0	LITERATURE CITED.....	24
12.0	LIST OF CONTACTS / CONTRIBUTORS / PREPARERS.....	26

List of Tables

Table 1.	Typical Overhead Cable Placement / Tensioning Equipment Group.....	7
Table 2a.	Typical Buried Right-Of-Way Preparation Equipment Group.....	9
Table 2b.	Typical Cable Plow Equipment Group:.....	9
Table 2c.	Typical Directional Boring Equipment Group:.....	10
Table 2d.	Typical Buried Clean Up/Restoration Crew.....	10
Table 3a.	Las Vegas to Boulder City Proposed Fiber Optic Segments.....	11
Table 3b.	Las Vegas to Pahrump Proposed Fiber Optic Segments.....	11
Table 3c.	Pahrump to Lida Junction Proposed Fiber Optic Segments.....	12
Table 3d.	Lida Junction to Goldfield Proposed Fiber Optic Segments.....	13
Table 3e.	Goldfield to Tonopah Proposed Fiber Optic Segments.....	13

Figures

- Project Vicinity Map

Township / Range / Land Use Maps

- Las Vegas to Boulder City
- Las Vegas to Pahrump
- Pahrump to Lida (1 of 3)
- Pahrump to Lida (2 of 3)
- Pahrump to Lida (3 of 3)
- Goldfield to Lida Junction
- Tonopah to Goldfield

Vegetation Maps

- Las Vegas to Boulder City
- Pahrump to Vegas
- Pahrump to Lida (1 of 3)
- Pahrump to Lida (2 of 3)
- Pahrump to Lida (3 of 3)
- Goldfield to Lida Junction
- Tonopah to Goldfield

Appendix A Representative Fiber Optic Route Photographs

Appendix B Project Disturbance Calculation Table

File Doc: 2011-08-18 BA 11-101.3 The Optica Group LZ-td L8-29.doc

1.0 INTRODUCTION

Purpose of the Biological Assessment

The purpose of this biological assessment is to evaluate the Nevada Hospital Association's proposed Nevada Broadband Telemedicine Initiative in sufficient detail to determine whether the proposed action may affect federally listed species in the project area. This biological assessment is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)), and follows the standards or guidance established in the Department of Commerce (DOC) National Telecommunications and Information Administration (NTIA) Special Award Condition (SAC) and standards suggested by the USFWS, Las Vegas Field Office.

Listed Species

Based on consultation with the USFWS (File No. 2011-SL-0342) there are five species considered in this document:

<u>Wildlife</u>	<u>Status</u>
Desert tortoise (<i>Gopherus agassizii</i>)	Threatened
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered
Yuma clapper rail (<i>Rallus longirostris yumanensis</i>)	Endangered
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Candidate
Las Vegas Buckwheat (<i>Eriogonum cormbosum</i> var. <i>nilesii</i>)	Candidate

2.0 CRITICAL HABITAT

Desert Tortoise

The action addressed within this biological assessment is not within Critical Habitat for the desert tortoise. Final ruling on Critical Habitat for the Desert tortoise (*Gopherus agassizii*) was established by the USFWS on February 8, 1994, which became effective on March 10, 1994 (59 FR 5820).

Southwestern Willow Flycatcher

The action addressed within this biological assessment is not within Critical Habitat for the southwestern willow flycatcher. Final ruling on Critical Habitat for the Southwestern willow flycatcher (*Empidonax traillii extimus*) became effective on October 19, 2005 (60 FR 10693).

Yuma Clapper Rail

No critical habitat rules have been published for the Yuma Clapper Rail.

Yellow-billed cuckoo

No critical habitat rules have been published for the yellow-billed cuckoo.

Las Vegas Buckwheat

No critical habitat rules have been published for the Las Vegas buckwheat.

3.0 CONSULTATION TO DATE

A list of federally listed species with the potential to occur within the project area was requested from the USFWS on January 10, 2011 on behalf of the National Telecommunications and Information Administration (NTIA). A letter from the USFWS dated February 3, 2011 (File No. 2011-SL-0108) listed the federally threatened Mojave population of the desert tortoise (*Gopherus agassizii*), as species that may occur in the subject project area.

The project was subsequently revised and a list of federally listed species with the potential to occur within the project area was requested from the USFWS on June 16, 2011 on behalf of the NTIA. A letter from the USFWS dated July 26, 2011 (File No. 2011-SL-0342) listed the five species with habitat potentially occurring in the subject project area.

RCI has had several phone conversations with Michael Burroughs and Jeri Krueger with the USFWS and Julie Ervin-Holoubek, a biologist with the NDOT that helped to guide the content of this biological assessment. Jenny Benz, Regional Environmental Officer with the US Department of Commerce reviewed the draft BA and provided suggestions for minimization and mitigation measures.

Other consultations in the project area include a Biological Assessment prepared by NDOT for the SR160 widening project and material sites CL 47-04 and NY 35-02 in 2005-2006.

4.0 CURRENT MANAGEMENT DIRECTION

Desert Tortoise

The desert tortoise recovery plan was finalized in 1994. Subsequently this recovery plan was reviewed and the results and recommendations were published in the 2004 Desert Tortoise Recovery Plan Assessment. In 2006 a Feasibility Assessment Report for Collaborative Desert Tortoise Recovery Planning was completed. Currently, a 2008 Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise is in the process of being finalized.

Southwestern Willow Flycatcher

The southwestern willow flycatcher was listed as endangered on February 27, 1995. The Southwestern Willow Flycatcher Recovery Plan was finalized in August 2002 and critical habitat designated in 2005. The Clark County MSHCP also includes this species within the project area.

Yuma Clapper Rail

The Yuma clapper rail was listed as endangered on March 3, 1967. A recovery team was established for the Yuma clapper rail in 1972. The team established survey protocols for the U.S. and Mexico and initiated biological research. The Yuma Clapper Rail Recovery Plan (USFWS 1983) was developed based on survey and biological information gathered between 1969 and 1981 and is currently under revision. There are no HCPs including the Yuma clapper Rail in the project area.

Yellow-billed cuckoo

The yellow-billed cuckoo was petitioned for listing on February 9, 1998. There are no HCPs including the yellow-billed cuckoo in the project area.

Las Vegas Buckwheat

There are no conservation plans for the Las Vegas buckwheat in the project area.

5.0 DESCRIPTION OF THE PROPOSED ACTION

The Nevada Hospital Association is proposing this Nevada Broadband Telemedicine Initiative Project in order to construct, maintain, and operate a statewide fiber optic cable and appurtenances. This fiber optic network will facilitate telemedicine applications, and allow for the meaningful use of electronic medical records as required under the HITECH Act enacted as part of the American Recovery and Reinvestment Act.

Project Location

The overall project is illustrated by the Project Vicinity Map. The project would use existing powerline pole infrastructure and add fiber optic cable to these poles and bury new fiber optic cable within NDOT ROWs. The proposed fiber optic routes in Southern Nevada are within desert tortoise habitat. The route locations are illustrated on two types of maps: 1) Township / Range / Landuse; and 2) Vegetation. Representative photographs are provided in Appendix A.

The project routes are segmented for ease of description as follows:

- Las Vegas to Boulder City
 - Fiber ADSS (All Dielectric Self Support) cable would be attached to existing poles owned by Nevada Energy (NV Energy) except within Boulder City urban area it will be buried.
 - An alternative buried route within the Hwy 93/95 corridor.
- Las Vegas to Pahrump
 - Fiber ADSS cable would be attached to existing poles owned by Valley Electric Association (VEA)
- Pahrump to Lida Junction
 - Fiber ADSS cable would be attached to existing poles owned by VEA
- Lida Junction to Goldfield
 - Fiber ADSS cable would be buried in Hwy 95 NDOT ROW
- Goldfield to Tonopah
 - Fiber ADSS cable would be attached to existing poles owned by NV Energy

Proposed Action Appurtenances

Handholes

Handholes are features where splices or slack for future access are placed and where cable placement transitions from aerial to buried (such as urban connections to hospitals) and at cable ends. In desert tortoise habitat where existing power poles are used to hang the cable, the handholes will be placed on the existing power poles.

Between Lida Junction and Goldfield, where the cable is buried, the handholes will also be buried. The project proposes to use 30-inch wide x 48-inch long x 30-inch high for splice locations and in conduit systems. Between Lida Junction and Goldfield, there will be 4 handholes.

Cable Route Markers

Cable markers will be placed along the buried route between Lida Junction and Goldfield per the following guidelines:

- At all handhole locations;

- At changes in route direction, such as a turn from one road onto another or substantial points of interest due to right-of-way width changes or deviations to avoid sensitive areas; and
- At all road/highway intersections.

If none of the preceding applies, at a minimum spacing of 1,500 feet will be used. Pro-Mark PM303 dome marker or its equivalent will be used. Color choices are white “post” with telecom orange label with black lettering.

Signal Regeneration Stations

As light travels down a fiber, it loses power. Regeneration stations or “regens” are used to amplify a weak incoming signal and send the amplified signal along the network toward the customer. The spacing of these regens is determined by many factors, but generally is necessary every 50 to 75 miles. One of the major determining factors for determining the suitability of a potential regen site is the availability of commercial power. As currently designed, the regens along the NHA network are planned to be co-located at existing power substation locations or cell tower locations, owned by either Valley Electric Association, Nevada Energy or Arizona Tower. Regeneration sites vary in size from 20’x20’ to 40’x60’ depending on the available space.

Project Schedule

The project will be constructed using crews working ten-hour days, five days a week. The project is proposed to start construction as soon as permits are obtained in the winter of 2011/2012.

The proposed construction schedule, by segment is:

- Las Vegas to Boulder City: January to June 2012
- Las Vegas to Pahrump: March to July 2012
- Pahrump to Lida Junction: July 2012 to February 2013
- Lida Junction to Goldfield: January to March 2012
- Goldfield to Tonopah: April to July 2012

Construction Methods for Overhead Cable Attachment in VEA or NV Energy ROWs

Two basic methods would be used for placement of All Dielectric Self Supporting (ADSS) fiber optic cable on the existing poles: 1) the drive-out method and 2) the stationary reel method. Either method may be used, based on existing roadway conditions. Existing roadways will not be improved in desert tortoise habitat and no new roadways would be constructed.

The drive-out method is the most desirable method and is used in areas where there is adequate vehicular access to and along the cable corridor. The existing roadway generally should be at least 8 feet wide and passable by a standard 4-wheel drive vehicle. In the drive-out method, one vehicle carrying the reel of cable proceeds from pole to pole, paying out fiber as it moves forward. A second vehicle, a bucket truck, follows at a distance of approximately 50 feet so that a lineman may secure the cable to the pole attachments.

The stationary reel method will be used in areas where vehicular access to the construction corridor along a pole line is restricted. Using this method, the poles are accessed by ATV, or on foot and the poles are either climbed or a ladder is used. A pull rope is pulled through a pulley system attached to the pole. This pull rope is attached to the fiber cable placed at the nearest access point on a stationary reel. The fiber cable is pulled, preferably downhill, through the pulley system and attached to the pole. This

method is generally the slower of the two methods and creates the widest spread of equipment and manpower along the route. However, this method has the least impact to vegetation and soil resources.

The general sequence for developing and constructing fiber cable to existing poles is:

- Order and staging of materials
- Mobilization of advance/right of way preparation crews
- Attaching temporary supports / rollers or permanent grips
- Placing pull rope (Stationary reel method only)
- Mobilization of cable placing crews
- Pulling of cable through temporary rollers or hanging of cable
- Tensioning, sagging, and permanent attachment of cables
- Mobilization of splicing/testing crews
- Splicing and testing of system
- Placing of route markers
- Placing of anchors & down guys, if required by pole owner.
- Restoration of right of way will be concurrent with construction, throughout the splicing operations and continuing until surfaces are restored to “original” condition. Pictures are taken before and after construction to document that no permanent alteration of environmental conditions has occurred.

Pulling and Tensioning Staging Areas

Materials consist of fiber optic cable on 6-foot –x- 4-foot reels, splice cases and appurtenances, handholes, high density polyethylene conduit (HDPE) on 6-foot –x- 4-foot reels, aerial strand and pole line hardware. Most of these items will be kept off the right of way at a contractor storage yard and/or warehouse location and transported as needed by crews or delivery trucks for construction. All packaging material will be removed and disposed of each day in the proper manner. No items, except for installed fiber optic cable, associated hardware, anchors, handholes and marker posts, will remain after installation.

In the stationary reel method of placement, staging areas are required at opposite ends of a multiple-pole span for parking a reel trailer or other reel carrier and a winch truck to pull back a rope and attached cable end. At multiple locations along the path between the reel and the winch, workers equipped with two-way radios will be stationed to observe the progress of the pull and to stop the process should problems arise.

In the drive-out method of placement, there is not a true staging area, as the equipment needed for placement of the cable moves in tandem from the start point to the end of the reel. All equipment will be generally within a moving 100-foot zone within the existing roads.

During the tensioning and sagging operation, a truck is positioned at one end of the span to be tensioned, while a second truck starts at the opposite end of the span and works back toward the first truck, securing the cable that has been tensioned and sagged to the structures.

Pole heights, distances between poles, and pole types vary, per the practice of the particular owner of the existing infrastructure. Pole heights are between 45 and 65 feet. Average spacing ranges from 300 to 600 feet, with occasional spans of 1,000 feet (+/-). The majority of the poles along the route are wood.

Overhead Attachment Right of Way Width

The majority of the construction zone will impact ten feet or less of the right of way width. This construction zone will be located within the existing roadways along the power lines plus the existing access roads from the highway. No new roadways would be constructed.

Where the road is narrower than 10 feet, some vegetation may be crushed adjacent to the edges of the road using the drive-out method described above. If the road is too rough or steep for the bucket truck, then ATVs may be used and the poles will be climbed or a ladder will be used to access the attachment points.

If the terrain is too rough or steep for ATV use, then the stationary reel method will be used and the crew will hike from the nearest access point to the pole and the poles will be climbed or a ladder will be used to access the attachment points.

Additional Disturbance around Poles

Additional disturbance around poles will be necessary at locations where splices or slack for future access are placed in handholes and where cable placement transitions from aerial to buried or vice versa. Handhole placement will be limited to splice locations (10,000' +/-) and customer access points. As a general rule, in remote areas, splices will be mounted on poles, with no ground disturbance necessary.

We anticipate no pole replacements.

Typical Work Hours

Aerial construction crews typically work ten hour days, five days per week. This can be increased due to schedule and other situations requiring acceleration of production. Although the exception, crews with highly compressed schedules can work ten to twelve hours per day, seven days per week for extended periods. The NHA project has anticipated a ten-hour, five-day workweek schedule.

Permanent Right of Way Width

The permanent ROW width for the fiber cable will be the same as the existing power line ROW.

Long-Term Maintenance and Monitoring of Poles and Lines

It is anticipated that annual and long-term maintenance of the poles and vegetation will be performed by the owner of the poles. Any attachment issues that arise from the maintenance of these poles will be coordinated through the owner.

Monitoring of the overhead fiber optic cable will be through alarm circuits in the electronics attached to the cable at various points along the route.

Equipment Types and Numbers

The following table lists representative types of equipment designed to perform specific tasks, which would be used for the overhead portion of the project in desert tortoise habitat.

Table 1. Typical Overhead Cable Placement / Tensioning Equipment Group

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Bucket Truck	International 4300 (or equivalent)	2
Reel Carrier Truck w/ winch	International 4300 (or equivalent)	1
Misc. Small Power Tools	Stihl/Echo	Many

Underground Cable in NDOT ROW Activities, Duration, and Equipment

Three basic methods would be used for placement of ADSS fiber optic cable below ground: 1) the plow method, 2) the trench method, and 3) directional bore method. Either method may be used, based on existing conditions and described below.

Cable Placement using the Plow Method

In the NDOT ROWs, the cable route will be plowed using a rip shank with attached cable chute. The depth of the cable will be three feet in normal conditions and up to six feet in areas where more protection is desired, such as washes and high erosion areas. For depths over 3', boring methods will be used. The process of plowing cable into the ground does not leave an excavation; instead it lifts the soil and leaves a heaved area on each side of the plow slot. Restoration and compaction is limited to driving the dozer (either the cable plow itself, a second dozer used for pulling the plow or a "clean up" dozer working behind the cable plow) over each side of the plow rip to push it back to a level state. There is no need for material excavation or imported material to restore the trench.

Cable Placement using Trenching Method

Trench sections will only be necessary where it is not possible or practical to plow the cable. For instance, in areas containing solid rock or large boulders a trench will be opened either by rock saw or excavator/hydraulic breaker. Further, trenches are generally used where conduit is required. Conduit will be used in selective areas due to work operation or right-of-way owner requirements. Conduit material may be HDPE, Poly Vinyl Chloride (PVC), galvanized or black iron pipe.

Once the conduit/cable is placed in the open trench, the original material is used to backfill the trench. In some exceptional cases where there isn't enough granular fill to "pad" the conduit/cable before backfilling excavated rock, then sand or other suitable material may be brought in to provide protection to the facilities. Final backfill is completed using dozers, an excavator and/or skid steer loaders, and typically "wheel-walked" for compaction. Along open areas of the right-of-way, specialized compaction equipment and compaction testing is not necessary.

Some examples of trench excavation and average dimensions include:

- Backhoe trenching- depending on bucket size can range from one-foot to two feet for backhoe/loader machinery. These dimensions assume dirt excavation. Rock areas, especially those with loose boulders, tend to create irregular trenches that can approach five feet in width.
- Rock Sawing- can vary depending on equipment used but generally are eight to twelve inches wide and up to four feet deep.

Directional Boring

Hard surfaces such as paved roads will be bored wherever possible. Boring does not create a “trench” visible from the surface. However, pits eight to ten feet in length are necessary to tie conduit together where two bore sections meet. Bore diameters for fiber optic construction are large enough to accommodate (dependent on right-of-way owner requirements) one or more 1½-inch HDPE conduit(s) or a single four inch PVC or steel casing. Bore pits will be backfilled and, where appropriate, compacted using hand tamps such as mechanical whackers or compaction attachment on a backhoe.

Utility Crossings

Crossings of existing pipelines, power lines or telephone cables will be assessed on a case-by-case basis. In general, if an existing facility can be crossed by placing cable at the normal specified depth (36-inch minimum) and still maintaining a 12-inch clearance from the existing appurtenance, then the cable will cross over the facility. Otherwise the cable/conduit will be placed under the existing facility and maintain a minimum 12-inch clearance from the existing obstruction.

Wash Culvert Crossings

Dry wash will be plowed or bored as conditions allow. Culverts will be bored.

Length of Construction Zone Layout and Sequencing

Construction of telecommunications facilities in existing rights-of-way is a relatively fast-paced operation. The main operation is the plow/trench crew that is placing the cable in direct buried applications or conduit for underground systems. The production of this crew is maximized through right-of-way preparations by smaller, specialized crews in advance of actual cable/conduit placing. This extends the “work zone” throughout the project area although the operations themselves are generally contained within a few hundred feet of the designed cable route. An example of these specialized operations is boring and bridge attachment crews, among others.

The main placing operation is relatively contained but may stretch out for a mile or more as advance excavation equipment opens trenches, exposes conduit placed previously by bore or other operations, main line trenching/plowing crews follow, and finally trailing crews backfill trenches and compact and level the plow rip.

The project sequencing would follow the outline below:

- Survey drive-out for feasibility assessment
- Mark right-of-way
- Road bores and stream crossings
- Mobilize conduit/cable placing crews
- Place conduit system and hand holes
- Pull cable into conduit system
- Mobilize splicing/testing crew(s)
- Splice and test system
- Place route markers

Restore right-of-way operation concurrent with construction, throughout the splicing operations and continuing until all trenches/excavations are backfilled and surfaces are reclaimed to “original” condition.

Underground Construction Right-of-Way Width

The construction corridor will be approximately ten feet wide in desert tortoise habitat to allow for the actual cable/conduit laying machinery. In other areas, where conditions allow, the corridor may be up to

20 feet wide. The majority of the construction zone will impact ten feet or less of the right-of-way width. This includes the actual plow rip and ground heave approximately one foot each side of the cable/conduit route and tire/track marks of the machines placing the facility.

Cable or conduit systems are generally placed within three to four feet of the edge of the final right-of-way, allowing for the width of the machinery placing the facilities to the centerline of the equipment (where most trenching booms, rock-saw wheels, etc, are located). Exceptions occur when obstructions require offsetting the trench/plow equipment to place the facilities closer to the right-of-way boundary.

Permanent Right-of-Way

Fiber optic cable right-of-way will be 10 feet and larger for reasonable egress from the public highway. The permanent facilities will occupy less than six inches of horizontal space once construction is complete with the exception of handhole boxes placed for splicing and/or cable slack for future use.

Equipment Types and Numbers

There are many variations on equipment types and models used in fiber optic cable placing. The following tables list representative types of equipment designed to perform specific tasks. An example is the cable plow. Although most cross country plowing has been done with static plows mounted to various sized prime movers (mostly bulldozers), many contractors choose to use vibratory plows that allow smaller machines to be used by supplementing pulling (drawbar) power with a vibratory action to break soil compaction/resistance. Either method could be used.

Table 2a. Typical Buried Right-Of-Way Preparation Equipment Group

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	2
Bulldozer with Ripper Shank	Komatsu D85PX (or equivalent)	1
Two Ton Truck w/Chip Box	Ford F-750 (or equivalent)	1
Chipper/Shredder	Vermeer BC1200XL (or equivalent)	1
Misc. Small Power Tools	Stihl/Echo Chainsaws, etc	Many

Table 2b. Typical Cable Plow Equipment Group:

Description	Model	Quantity
Pickup Trucks	Ford F-250 (or equivalent)	2
Semi Truck w/Lowboy Trailer	Mack Pinnacle Axle Forward (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Excavator	Caterpillar 324D (or equivalent)	1
Cable Plow	Komatsu D65 w/Bron Plow	1
Flatbed Truck	Ford F-750 (or equivalent)	1
Cable Trailer	Miscellaneous Equipment	1
Figure 8 Machine	Miscellaneous Equipment	1

Table 2c. Typical Directional Boring Equipment Group:

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Directional Bore Machine	Ditch Witch, JT3020 MACH 1 (or equivalent)	1
Two Ton Truck w/Chip Box	Ford F-750 (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Vacuum Locator System	Ditch Witch FX60 (or equivalent)	1

Table 2d. Typical Buried Clean Up/Restoration Crew

Description	Model	Quantity
Pickup Truck	Ford F-250 (or equivalent)	1
Dump Truck/Trailer	Ford F-750 (or equivalent)	1
Skid-Steer Loader	Caterpillar 259B Series 3 (or equivalent)	1
Backhoe/Loader	Caterpillar 416E (or equivalent)	1
Vacuum Locator System	Ditch Witch FX60 (or equivalent)	1
Compactor	Whacker BS 60 (or equivalent)	1

Proposed Project Footprint Summary

For the overhead portion, the project would use existing roads and trails to access the power poles. The temporary project footprint would vary slightly according to the condition of the roads. The tables below summarize the fiber optic routes and the condition of the access roads. Numbers under Road Condition are used to indicate three basic types of road categories: “1.0” indicates a good road at least 10 feet wide; “2.0” indicates a jeep trail roughly 7 feet wide; “3.0” indicates there is no established road or trail. Decimals are used to indicate conditions in between these three categories.

The bucket truck has a width from outside tire edge to outside tire edge of eight feet. Regular 4 wheel drive vehicles have a width of 6.7 feet and ATVs typically have a width of 4.2 feet. Therefore, where the road is 7 feet wide, there would be ½ foot of vegetation disturbance along the edges of the road from being driven over by the bucket truck. Disturbance calculations are provided in Appendix B.

Table 3a. Las Vegas to Boulder City Proposed Fiber Optic Segments

Miles	Route Description	Vegetation Type (from SW ReGAP [2000 - 2003 Imagery] and July 2011 Field Surveys)	Road Category*
3.59	Dirt and paved roads from Amargosa SS to the edge of urban development	Developed - Medium - High Intensity	1.0
4.78	Dirt roads along steep topography over pass and gentle topography on alluvial fans	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	2.0
1.72	Within the Boulder City developed area.	Developed - Open Space - Low Intensity	1.0

Table 3b. Las Vegas to Pahrump Proposed Fiber Optic Segments

Miles	Route Description	Vegetation Type (from SW ReGAP [2000 - 2003 Imagery] and July 2011 Field Surveys)	Road Category*
1.77	Dirt road under or along power line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5
0.99	Dirt road under or along power line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5
1.82	Dirt road under or along power line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5
1.71	Dirt road under or along power line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5
1.22	Rough road across steep terrain	Mohave Mid-Elevation Mixed Desert Scrub	2.0
0.53	Access roads to ridges; road under power line is spotty	Mohave Mid-Elevation Mixed Desert Scrub	2.5
1.61	Dirt road under or along power line; rough where crosses washes	Mohave Mid-Elevation Mixed Desert Scrub	2.0
4.91	Spring Mts; rugged terrain	Mohave Mid-Elevation Mixed Desert Scrub	2.5
2.53	Steep alluvial fan; rugged terrain	Mohave Mid-Elevation Mixed Desert Scrub	2.5
3.29	Steep alluvial fan to Sandy substation; moderate to gentle topography	Mohave Mid-Elevation Mixed Desert Scrub	2.0
15.10	Dirt road under or along power line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5
9.45	Dirt road under or along power line; rough where crosses washes to Pahrump SS	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5

Table 3c. Pahrump to Lida Junction Proposed Fiber Optic Segments

Miles	Route Description	Vegetation Type (from SW ReGAP [2000 - 2003 Imagery] and July 2011 Field Surveys)	Road Category*
16.27	Dirt road under or along power line; rough where crosses washes to Johnny	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub	2.0
6.04	Dirt road under or along power line; rough where crosses washes to edge of playa	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub	2.0
13.49	Across playa; gentle topography	Sonora-Mojave Mixed Salt Desert Scrub; North American Warm Desert Playa; North American Warm Desert Riparian Mesquite Bosque	2.0
17.05	Dirt road along alluvial fans; gentle topography	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub	2.0
9.83	Dirt road along alluvial fans; gentle topography	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub	2.0
11.42	Dirt road along alluvial fans; gentle topography	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub	2.5
2.85	Over rugged hills into the southern edge of Beatty	Sonora-Mojave Mixed Salt Desert Scrub; Mohave Mid-Elevation Mixed Desert Scrub	3.0
1.69	Through Beatty	Developed - Open Space – Low Intensity	1.0
9.66	Along the wash and sides of the hills	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; North American Warm Desert Playa	2.0
5.88	Near edge of Hwy 95 ROW; gentle topography	Sonora-Mojave Mixed Salt Desert Scrub	2.0
8.73	Near edge of Hwy 95 ROW; gentle topography	Sonora-Mojave Mixed Salt Desert Scrub	2.0
9.86	Near edge of Hwy 95 ROW; gentle topography	Sonora-Mojave Mixed Salt Desert Scrub; Sonora – Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; North American Warm Desert Playa	2.0
7.37	Near edge of Hwy 95 ROW; gentle topography	Sonora – Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; Mojave Mid-Elevation Mixed Desert Scrub	2.0
9.16	Near edge of Hwy 95 ROW; gentle topography; end at Lida Jctn	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0

Table 3d. Lida Junction to Goldfield Proposed Fiber Optic Segments

Miles	Route Description	Vegetation Type (from SW ReGAP [2000 - 2003 Imagery] and July 2011 Field Surveys)	Road Category*
8.26	Buried within the Hwy 95 ROW; gentle topography	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0
3.43	Buried within the Hwy 95 ROW; gentle topography	Inter-Mountain Basins Big Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	2.0
2.67	Over rugged terrain and hills to the southern edge of Goldfield	Inter-Mountain Basins Big Sagebrush Shrubland; Great Basin Xeric Mixed Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	3.0

Table 3e. Goldfield to Tonopah Proposed Fiber Optic Segments

Miles	Route Description	Vegetation Type (from SW ReGAP [2000 - 2003 Imagery] and July 2011 Field Surveys)	Road Category*
2.07	Along the western edge of Goldfield	Inter-Mountain Basins Big Sagebrush Shrubland; Great Basin Xeric Mixed Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	2.0
1.76	Along alluvial fans and gentle topography	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0
23.70	Along alluvial fans and gentle topography to the southern edge of the steep hills on the south side of Tonopah	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0

* Note: Numbers are used to indicate three basic types of road categories 1.0 = Good Road; 2.0 = Jeep Trail; 3.0 = No Road. Decimals are used to indicate conditions in between these three categories.

6.0 SPECIES ACCOUNTS

Desert Tortoise

The Mojave population of the desert tortoise was listed as endangered by emergency rule on August 4, 1989 (54 FR 42270). The Mojave population was then proposed under normal listing procedures on October 13, 1989 and listed as threatened on April 2, 1990 (55 FR 12178). Based on genetic variability, morphology, and behavior patterns, the Mojave population was divided into six “recovery units.” The project area is located within the Northeastern Mojave Recovery Unit (USFWS 1994).

The desert tortoise is a medium-sized, terrestrial tortoise in the family *Testudinidae*. The shell is light brown to very dark brown with brown to orange or yellow in the centers of scutes, particularly in young animals. The skin is dry and scaly with thick, stumpy, elephantine hind legs. The gular horn is a projection located at the anterior end of the plastron and is most pronounced in adult males. Adult males weigh 0.04 to 10 plus lbs (20 to 5000 plus grams) and range in carapace length from about 1.4 inches (35 mm) to 16 inches (400 mm).

Desert tortoises lay eggs in the spring (April to June) and fall (September to October). Females produce 2 to 14 eggs, with an average of about five eggs per year. Eggs are laid in sandy or friable soil. Hatching occurs 90 to 135 days later and hatching peaks in September and early October. Eggs and young are untended by the parents. Desert tortoises reach sexual maturity in 13 to 20 years and the average life span for a desert tortoise is about 50 to 100 years (Tracy et al, 2004).

Tortoise activity patterns are controlled by ambient temperature and precipitation (Nagy and Medica, 1986; Zimmerman et al 1994). In the East Mohave, precipitation may occur during summer monsoons and winter storms, which provide food and water during the summer and fall. Tortoises may be active during periods of mild or rainy weather in the summer and winter. During active periods, tortoises spend nights and the hotter part of the day in their burrows or under a shrub. During inactive periods, tortoises hibernate, aestivate, or rest in burrows. Tortoises tend to prefer annual forbs primarily but also eat perennials and non-native plants.

Tortoise activities are concentrated in core areas referred to as home ranges. Home range sizes vary with sex, age, season and population density and have been measured from 10 to 450 acres. In the Northeastern Mojave Recovery Unit, the desert tortoises are generally found in creosotebush scrub communities of flats, valley bottoms, alluvial fans, and bajadas but they occasionally use other habitats such as rocky slopes and blackbrush scrub (USFS 1994).

The primary causes for population decline in the desert tortoise populations include habitat loss, habitat deterioration, and habitat fragmentation attributable to urban development, military operations, and multiple-uses of public land, such as OHV activities and livestock grazing. Other threats are predation by common ravens (*Corvus corax*) and kit foxes (*Vulpes macrotis*), and direct taking by humans, either accidental or intentional. People illegally collect desert tortoises for pets and commercial trade (58 FR 45748). In addition, fire is a threat to desert tortoise habitat. Fires in the Mojave Desert scrub degrade or eliminate habitat for desert tortoises (Tracy et al, 2004).

Adult tortoise density in the Northeastern Mojave Recovery Unit in 2010 was estimated at 3.2 animals per square kilometer (Allison, 2010) or 8 animals per square mile. Historically, much higher densities were found in the central and southern portions of the Recovery Unit, with the most dramatic declines caused by urban development in the Las Vegas Valley (58 FR 45751).

The closest survey to the power line routes was a survey for the NDOT SR160 widening project conducted in December 2005. According to the NDOT Biological Assessment, the results of the survey showed that the project area was within a low-density area (NDOT, 2006). Desert tortoises and their burrows have been observed near paved roads as the firm paved road surface provides a top to the burrow (Michael Burroughs, personal communication 2-28-11).

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a small neotropical migratory bird. The bird is less than 6 inches in length including the tail. The bird has conspicuous light-colored wingbars and lacks the pale eye-ring of many similar flycatcher species. The body is brownish-olive to gray-green above. The throat is whitish, breast pale olive, and belly is yellowish. It is best identified by its calls.

The southwestern willow flycatcher breeds in relatively dense riparian habitats, near surface water or saturated soils. Habitat may vary greatly in structure and species composition – from monotypic, single strata patches to multi-species, multi-layered strata with complex canopy and sub-canopy structure. Common tree and shrub species used as nesting habitat include willows (*Salix* spp.), seepwillow (*Baccharis* spp.), boxelder (*Acer negundo*), stinging nettle (*Urtica* spp.), blackberry (*Rubus* spp.), cottonwood (*Populus* spp.), arrow weed (*Pluchea sericea*), salt cedar (*Tamarix ramosissima*), and Russian olive (*Eleagnus angustifolia*) (USFWS, 2000). In many cases, flycatcher nest plants are rooted in or overhang standing water. Common riparian habitat communities that do not constitute southwestern flycatcher habitat include: 1) cottonwood-willow gallery forests that are devoid of an understory; 2) isolated, linear riparian patches less than approximately 10 m wide; and 3) high elevation willow patches devoid of live vegetation structure in the lower strata (Finch et al., 2000).

During spring and fall migration, southwestern willow flycatchers have been documented using riparian habitats along major drainages in the southwest. Migrant southwestern willow flycatchers may occur in non-riparian habitats and/or be found in riparian habitats unsuitable for breeding. Such migration stopover areas, even though not used for breeding, may be critically important resources affecting productivity and survival (USFWS, 2002).

The decline of the southwest willow flycatcher is primarily attributed to habitat loss and modification. Several mechanisms contribute to the decline in habitat: 1) Dams and reservoirs modify, reduce, destroy or increase riparian habitats both downstream and upstream of the dam site through the alteration of natural hydrologic cycles; 2) Surface water diversions and groundwater pumping for agricultural, industrial and municipal uses reduce the water in riparian ecosystems and associated subsurface water tables; 3) Habitat is physically modified through manipulation of stream courses during channelization, bank stabilization and placement of levees; 4) Control of phreatophytes, such as salt cedar, directly removes riparian vegetation as potential breeding habitat; 5) Overgrazing by domestic livestock can alter plant community structure, species composition, relative abundance of species, and alter stream channel morphology. Livestock feeding in and on riparian habitats can reduce the overall density of vegetation; 6) Recreation, which is often concentrated in the shaded riparian areas, reduces vegetation through trampling, clearing, woodcutting and prevention of seedling germination due to increased soil compaction; 7) Wildland fires in riparian habitats typically cause immediate and drastic changes in plant density and species composition; 8) Expansion of agriculture and urbanization results in direct and indirect effects on breeding habitat; and 9) Brood parasitism reduces flycatcher young survival rates (USFWS, 2002, Finch et al., 2000, and USFWS, 2000).

The total number of southwestern willow flycatchers is small, with an estimated 1100-1200 territories range wide. These territories are distributed in a large number of very small breeding groups, and only a small number of relatively large breeding groups. These isolated breeding groups are vulnerable to local extirpation from floods, fire, severe weather, disease, and shifts in birth/death rates and sex ratios.

Therefore it is possible that moderate variations in stochastic factors that might be sustained by larger populations may reduce a small population below a threshold level from which it cannot recover (USFWS, 2002).

The Nevada Natural Heritage Program search for this project identified the wetland area near Beatty as potential habitat for the southwestern willow flycatcher. In 2005 and 2001 a southwestern willow flycatcher was observed 12 miles north of Beatty along Highway 95 in T10S R47E S31.

Yuma Clapper Rail

The Yuma clapper rail is a marsh bird roughly the size of a chicken. Adult Yuma clapper rails of both sexes are similar in plumage; they possess a long, slender slightly de-curved bill, a laterally compressed body, and relatively long legs and toes compared to body size. The body is gray-brown above and buff-cinnamon below and has brownish-gray cheeks, with browns and oranges appearing on the sides of the neck and under the head. The bill is dark grey, fading to orange at the base and the tip. The chin and upper throat are white, and there is a light eyebrow stripe extending from above the eye to the upper mandible. Legs are unfeathered and orange-flesh in color (USFWS, 2009).

The Yuma clapper rail is a secretive bird that is more often heard rather than seen. When alarmed, they run into vegetative cover. The diet of Yuma clapper rails is dominated by crayfish, with small fish, tadpoles, clams, and other aquatic invertebrates also utilized (USFWS, 2009).

Nesting begins in March with a peak in mid-May on the Lower Colorado River and from May to June at Salton Sea. Clutch size is from 5 to 10. Incubation ranges from 23-28 days with the males generally incubating at night and females during the day. Nests are constructed on stable substrates (bases of emergent plant clumps or trees, on or in deep mats of residual vegetation) and may be near shore in shallow water or in the interior of marshes over deeper water (USFWS, 2009).

Primary threats to the Yuma clapper rail include habitat loss caused by dredging, rip-rapping stream banks, water diversions, and flooding (USFWS, 2009).

Yellow-billed Cuckoo

The yellow-billed cuckoo is a migratory bird that breeds in North America and winters in Central and South America. The Yellow-billed cuckoo habitat is often generally associated with the southwestern willow flycatcher.

The breeding range of the yellow-billed cuckoo includes much of the United States, southeastern Canada, Greater Antilles, and Mexico. The yellow-billed cuckoo is common throughout the eastern United States, but has been in decline in the western portion of its range. Breeding populations have declined by at least 90% since the end of the 19th century and the range has been greatly reduced. Formerly widespread and locally common in California, breeding population estimates have decreased from 15,000 to an estimated 62-84. The yellow-billed cuckoo is a rare summer resident or transient in Nevada. Occurrences of the yellow-billed cuckoo have been documented in Clark, Lincoln, and Lyon Counties.

Habitat loss and degradation are the primary mechanisms contributing to the decline of yellow-billed cuckoo populations. Riparian forests have declined as a result of conversion to agriculture, dams and river flow management, stream channelization and stabilization, livestock grazing, groundwater pumping, and invasion of alien vegetation such as tamarisk. Habitat fragmentation is also a major threat, as yellow-billed cuckoos may require intact woodlands of at least 40 hectares to breed in California, and prefers woodlands greater than 80 hectares (NatureServe, 2004; NatureServe, 2011).

Habitat degradation is attributed to the invasion of non-native species, such as tamarisk. Monocultures of tamarisk remove the structural complexity of a riparian forest, replacing three or four vegetation layers with one monotonous layer. In addition, the over use of pesticides may contribute to the species decline. Low to moderate levels of DDT may cause significant eggshell thinning and reduce prey availability.

Las Vegas Buckwheat

Eriogonum corymbosum var. *nilesii* is a woody perennial shrub up to 4 feet high with a mounding shape. The flowers of this plant are numerous, small, and yellow with small bract-like leaves at the base of each flower. *Eriogonum corymbosum* var. *nilesii* is very conspicuous when flowering in late September and early October. It is restricted to gypsum soil outcroppings in Clark County, Nevada.

Eriogonum corymbosum var. *nilesii* was added to the candidate list in December 2007 due to continued loss of habitat from development of over 95 percent of its core historical range and potential habitat. In addition, off-highway vehicle activity and other public-land uses (casual public use, mining, and illegal dumping) directly threaten over 95 percent of the remaining habitat. It was petitioned for listing in April 2008 and a warranted-but-precluded determination was made in December 2008. (FR Vol. 75 No. 217 11-10-2010).

Habitat Status

Desert Tortoise

Throughout most of the Mojave region, desert tortoises occur primarily on flats and bajadas with soils ranging from sand to sandy-gravel. The vegetation types of these areas are characterized by scattered shrubs and abundant inter-shrub space for growth of herbaceous plants. Typical vegetation communities consist of creosote bush-scrub, succulent scrub, cheesebush scrub, blackbush scrub, hopsage scrub, shadscale scrub, microphyll woodland, and Mojave saltbrush-shadscale scrub. Desert tortoises are also found in rocky terrain and slopes in parts of the Mojave region (USFWS, 1994).

Desert tortoises are not typically found above 5,000 feet in elevation, however there have been instances of desert tortoise found up to 7,300 feet (USFWS 2008). Pinyon pine and Utah juniper are not ideal vegetation found in desert tortoise habitat.

The project area is not within critical habitat, or in an Area of Critical Environmental Concern. South of Tonopah, all of the non-urban portions of the project and a four-mile portion over the Spring Mountains are considered desert tortoise habitat based on the location, geomorphology, vegetation types, and elevation, and is used by desert tortoise (Allison, 2010; NDOT 2006; Michael Burroughs, personal communication 2-28-11). Desert tortoise fencing was erected along both sides of Hwy 160 as a part of the widening project in 2006. The fence extends from Lovel Canyon to Trout Canyon Road (14 miles).

Southwestern Willow Flycatcher

The Southwestern willow flycatcher breeds in dense riparian habitats along rivers, streams or other wet areas. Vegetation is usually dominated by willow or other shrubs and small trees. The flycatcher will next in tamarisk and Russian olive. The most important characteristic is the presence of dense vegetation, usually throughout all vegetation layers present. Almost all breeding habitats are close to water or saturated soil (USGS Colorado Plateau Research Station Southwestern willow flycatcher web page accessed on 8-18-11 at <http://sbsc.we.usgs.gov>).

In 2005 and 2001 southwestern willow flycatcher was observed 12 miles north of Beatty along Highway 95 in T10S R47E S31. The riparian area near Beatty is considered potential habitat for the southwestern willow flycatcher (Jeri Krueger, personal communication 8-15-2011).

Yuma Clapper Rail

The core habitat for the Yuma clapper rail in the US is centered on marsh land near the lower Colorado River and tributaries (Virgin River, Bill Williams River, lower Gila River) in Arizona, California, Nevada, and Utah; the Salton Sea in California; and the Cienega de Santa Clara and Colorado River Delta in Mexico. The movement patterns of rails between core habitat areas are unclear. A researcher has documented that most rails do not migrate, but remain in the habitat all year. There may be a migratory or dispersal component of the population that requires connectivity between core habitat areas on the Lower Colorado River, Salton Sea, and the Cienega (USFWS, 2009).

In the project area, there have been no surveys for the Yuma clapper rail and there is extremely limited habitat for the rail. The riparian areas in the vicinity of Beatty are the only potential habitat in the project area. There has been no documentation of Yuma clapper rail sightings as far north as Beatty (Jeri Krueger, personal communication, 8-15-2011).

Yellow-billed Cuckoo

Habitat is described as willow and cottonwood forests below 1300 meters elevation, greater than 10 hectares in extent, and wider than 100 meters. Laymon and Halterman (1989) concluded that sites greater than 80 hectares (200 acres) in extent and wider than 600 meters (1950 feet) were optimal (100 percent occupancy), sites 41-80 hectares (101-200 acres) in extent and wider than 200 meters (650 feet) were suitable (58.8 percent), sites 20-40 hectares (50-100 acres) in extent and 100-200 meters (325-650 feet) in width were marginal (9.5 percent), and sites less than 15 hectares (38 acres) in extent and less than 100 meters (325 feet) in width were unsuitable.

In the project area, there have been no published surveys for the yellow-billed cuckoo. The riparian areas in the vicinity of Beatty are the only potential habitat in the project area.

Las Vegas Buckwheat

Las Vegas buckwheat habitat is limited to gypsum-rich soils in central and eastern Clark County. There is a 0.2-mile stretch of McCarran very cobbly fine sandy loam with 10 to 15 percent gypsum along the Boulder City to Las Vegas segment. However, this portion of the project has a sufficiently wide road to accommodate all construction equipment to hang the cable from the existing poles and no new disturbance to vegetation would occur.

7.0 EXISTING ENVIRONMENT

All project segments are entirely within the existing power line or road rights-of-way. The specific project areas are characterized as disturbed to highly disturbed. There is an existing two-track road along all but the most rugged terrain beneath the power lines as summarized in Table 3. However, the area immediately adjacent to the project corridor ranges from urban to relatively pristine vegetation. During the NDOT survey in December 2005 for Hwy 160, adjacent to the powerline corridor, there were zero tortoise burrows observed and one carcass within the 200-foot right-of-way corridor for roughly 25 miles from mileposts CC 22.0 to NY 1.47 (NDOT, 2006).

Project-specific surveys for the tortoise, the birds or the buckwheat have not been conducted. The project is relying on information from existing surveys in nearby areas to estimate the number of tortoise.

8.0 EFFECTS

Section 9 of the Endangered Species Act of 1973, as amended, prohibits the take (i.e. harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of a listed species without special authorization. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Under the terms of Section 7(b) and 7(o)(2) of the Endangered Species Act, taking that is incidental to and not a purpose of the agency action is not considered taking within the bounds of the Act, provided that such taking is in compliance with the incidental take statement.

It is the intent of the proposed project to avoid and minimize direct and indirect impacts to tortoises and their habitat during the construction, operation, and maintenance of the fiber optic cable. Anticipated effects are based on the following working definitions:

- Direct effects are those that act directly upon an animal. For example, physically picking up an animal and moving it out of harms way.
- Indirect effects are those that do not act directly upon an animal, but are removed in space or time from the animal. For example, trampling or removing vegetation.
- Short-term effects are those that are not expected to last beyond two growing seasons. For example, vegetation would be lost due to trampling or trenching but the area would be allowed to revegetated as directed by the land management agency.
- Long-term effects are those that are expected to last beyond two growing seasons. For example, permanent vegetation loss due to placement of the handhole boxes.

Planned Desert Tortoise Mitigation Measures to Minimize Potential Impacts to the Species

Potential project impacts to the desert tortoise will be minimized by implementation of the following conservation measures:

1. For all construction areas south of Springdale, NV, a contractor education program will be implemented. The program will include a tri-fold brochure with important information for workers which will be handed out during the training. Only workers who have successfully completed the education program shall be allowed to enter the construction site. Desert tortoise education shall at a minimum include information on the biology and distribution of the desert tortoise, general behavior and ecology of the desert tortoise, its legal status and occurrence in the Proposed Project area, the definition of “take” and associated penalties for violations of Federal and State laws, the measures designed to minimize the effects of construction activities, and reporting procedures to be used in the event that a desert tortoise is encountered.
2. For all areas south of Springdale, a 25-mile per hour speed limit shall be followed for all access and construction roads. A litter control program, including use of covered, raven-proof trash receptacles and daily trash removal shall be implemented.
3. No construction activities shall begin until Authorized Biologists and desert tortoise monitors are approved. The names and qualifications of individuals that will work on the Proposed Project within desert tortoise habitat, as Authorized Biologists and monitors, will be sent to USFWS for approval. An Authorized Biologist shall possess thorough and current knowledge of desert

tortoise behavior, natural history, ecology, physiology, and shall demonstrate substantial field experience and training to safely and successfully:

- a) handle and temporarily hold desert tortoises,
 - b) excavate burrows to locate desert tortoises or eggs,
 - c) relocate/translocate desert tortoises,
 - d) unearth and relocate desert tortoise eggs, and
 - e) locate, identify, and record all forms of desert tortoise sign.
4. Pre-construction clearance surveys shall be conducted in areas with a high potential for desert tortoise presence. Desert tortoises shall be relocated (if necessary), and ensure that the effects of the Proposed Project on the individuals are minimized.
 5. Special habitat features, such as burrows/pallets, identified during pre-construction surveys shall be marked, recorded, and avoided to the extent possible. Burrows that are found shall be checked for desert tortoises and eggs. When desert tortoises are found, the burrows shall be flagged so that equipment operators and drivers shall clearly see the flagging and avoid the burrows. Unoccupied burrows shall be flagged in a manner that contrasts with occupied burrows.
 6. A biologist will be present during all construction activities within desert tortoise habitat without existing exclusionary fencing. Vehicles and construction equipment shall be monitored by desert tortoise monitors walking ahead of equipment.
 7. Encounters with desert tortoises shall be immediately reported to an Authorized Biologist. The Authorized Biologist shall maintain a record of all desert tortoises encountered during Project activities. Information recorded for each desert tortoise shall include: the location (narrative, vegetation type, and maps); date of observation; general condition of health, including apparent injuries and state of healing; whether the desert tortoise voided its bladder; if moved, location moved from and location moved to; digital photographs of each handled tortoise; and diagnostic markings (i.e., identification numbers or marked lateral scutes).
 8. If desert tortoise must be moved from harm's way during any Project activities, an Authorized Biologist will follow the "Guidelines for Handling Desert Tortoises During Construction Projects" (Desert Tortoise Council, 1999).
 9. The Authorized Biologist shall have the authority to halt all non-emergency project activity should danger to a desert tortoise arise. Work shall proceed only after hazards to the listed species are cleared or removed, the species is no longer at risk, or the species has been moved from harm's way by the Authorized Biologist.
 10. Upon locating a dead or injured desert tortoise, the USFWS shall be notified immediately. Written notification shall be made within 72 hours of the date and time of the finding or incident (if known), and shall include location of the carcass, a photograph, cause of death (if known), and other pertinent information. Desert tortoise remains shall be left in place (or just outside of the construction footprint or fenced area). Desert tortoises injured through project activities shall be transported to a veterinarian for treatment at the expense of the Nevada Hospital Association. If an injured animal recovers, the USFWS shall be contacted for final disposition of the animal.

Planned Southwest Willow Flycatcher and Yellow Billed Cuckoo Mitigation Measures to Minimize Potential Impacts to the Species

Potential project impacts to the avian species will be minimized by implementation of the following conservation measures:

1. Southwestern willow flycatcher and yellow-billed cuckoo habitat will be delineated and flagged where it falls within 300 feet of the existing power line.
2. Construction will not take place between June 1 and August 15 where habitat is within 300 feet of the power line unless:
 - a. Surveys are conducted during the appropriate time by approved biologists with the required permits and the surveys determine there are no breeding or nesting pairs in the vicinity.

Direct Effects

Direct Effects on Desert Tortoise

- Tortoises may be taken through harassment, however any tortoises found to be in harms way would be removed from harms way. Take would be minimized or avoided through implementation of mitigation and minimization measures described in this document.
- Short-term direct loss of 3.6 acres of vegetation during the excavation for the 2-foot width of the fiber optic cable trench along 15 miles of the Hwy 95 right-of way from Lida Junction to Goldfield.
- Long-term direct loss of 40 square feet of vegetation for the permanent 4-cable handhold boxes measuring 2.5 feet by 4 feet.

Indirect Effects

Indirect Effects on Desert Tortoise

- Short-term reduction in the use of 19 acres of vegetation along the edges of the jeep roads due to vegetation disturbance by the larger equipment.
- Short-term increased noise, vibration, heavy equipment traffic, and dust levels during construction.

Indirect Effects on Southwestern Willow Flycatcher and Yellow-Billed Cuckoo

- Short-term indirect effects to the southwestern willow flycatcher and yellow-billed cuckoo could occur due to construction noise. This effect would be avoided through the use of pre-construction surveys and construction timing as described in the mitigation and minimization measures described in this document.

Detrimental and Beneficial Effects

Desert Tortoise

The proposed action will result in the temporary loss of approximately 3.6 acres of vegetation due to the plowing for the 2-foot width of the fiber optic cable trench and permanent loss of 0.092 percent of one acre of desert tortoise habitat occupied by desert tortoises.

Southwestern Willow Flycatcher and Yellow-Billed Cuckoo

The proposed action will result in local, temporary noise from construction equipment.

Interrelated and Interdependent Effects

Section 7 of the ESA and its implementing regulations require a federal agency to examine the effects of a proposed federal action on federally-listed species including direct, indirect and other effects from activities that are interrelated and interdependent with that action. Interrelated actions are defined in the implementing regulations as those that are part of a larger action and depend upon that action for their justification. Interdependent actions are defined as those that would not occur but for the action under consideration.

The proposed project would provide broadband capabilities to serve existing facilities. The project would be expected to reduce car and air traffic because more hospital patients and college students could be served at local facilities by using the new broadband service provided by the proposed action. The reduced travel relative to non-project related travel would be unquantifiable.

The project would not have growth inducing effects, as the project purpose is to serve existing hospitals and institutions.

9.0 CUMULATIVE EFFECTS

Desert Tortoise

The NDOT has many planned projects in desert tortoise habitat in southern Nevada. Specific to the fiber optic proposed actions, NDOT has the following proposed ground disturbing activities (NDOT, 2010):

- CL200802-11: US 93 Boulder City Bypass (Phase 1) from 1 mile south of the junction of US95 / US93 to Foothills Road.
- CL20100242-11: US 93 / Boulder City Corridor (Phase 2) from the Nevada interchange to 1 mile south of the junction with US 93 / 95 new 4 lane highway construction.
- CL200749-11: SR 160 from Red Rock Canyon Road to 1.24 miles north of Mountain Spring Summit (CL 11.04 to CL 22.0) widen from 2 lanes to 4 lanes with median.
- NYLRE04: SR 160 Pahrump Valley Road from Calvada Blvd to the NY/CL County line widen from 2 to 5 lanes.

In addition to the NDOT planned future activities, on-going activities, which adversely impact the desert tortoise in the area, would also continue. Such activities include those that destruct, modify and fragment habitat such as off highway vehicle use, expanded urbanization, and habitat invasion by non-native invasive species.

Southwestern Willow Flycatcher, Yuma Clapper Rail and Yellow-Billed Cuckoo

There are no known planned projects in the riparian habitat north of Beatty. Therefore there would be no cumulative effects to these avian species in that area.

Las Vegas Buckwheat

Las Vegas buckwheat habitat is limited to gypsum-rich soils in central and eastern Clark County. There is a 0.2-mile stretch of McCarran very cobbly fine sandy loam with 10 to 15 percent gypsum along the Boulder City to Las Vegas segment. However, this portion of the project has a sufficiently wide road to accommodate all construction equipment to hang the cable from the existing poles and no new disturbance to vegetation would occur. Therefore, there would be no cumulative effects to Las Vegas buckwheat.

Future Federal actions will be subject to the consultation requirements established in Section 7 of the Endangered Species Act. Private and state actions will be subject to the consultation requirements established in section 10 of the Endangered Species Act.

10.0 CONCLUSION AND DETERMINATION

Desert Tortoise

The impact from the proposed project would not significantly reduce the recovery potential for the desert tortoise nor affect any other environmental factors in this area. The proposed project utilizes existing disturbed areas and incorporates mitigation and minimization measures to avoid or reduce impacts to individuals. The impact may affect, but is not likely to adversely affect, the desert tortoise or its habitat.

Southwestern Willow Flycatcher and Yellow-Billed Cuckoo

The impact from the proposed project would not significantly reduce the recovery potential for the southwestern willow flycatcher or yellow-billed cuckoo. The proposed project would not alter any habitat. The project would not be constructed within 300 feet of occupied habitat during the nesting season. Therefore, the impact is not likely to adversely affect these species or their habitat.

Yuma Clapper Rail

The impact from the proposed project would not affect the Yuma clapper rail because the habitat and individuals are not present.

Las Vegas Buckwheat

Las Vegas buckwheat habitat is limited to gypsum-rich soils in central and eastern Clark County. There is a 0.2-mile stretch of McCarran very cobbly fine sandy loam with 10 to 15 percent gypsum along the Boulder City to Las Vegas segment. However, this portion of the project has a sufficiently wide, compacted dirt road to accommodate all construction equipment to hang the cable from the existing poles and no new disturbance to vegetation would occur. Therefore there would be no effect to Las Vegas buckwheat.

11.0 LITERATURE CITED

- Federal Register. 1994. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. Vol. 50 No. 26. Feb. 8, 1994.
- Federal Register. 1993. Endangered and Threatened Wildlife and Plants; Proposed Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. Vol. 58 August 30, 1993.
- Federal Register. 1989. Endangered and Threatened Wildlife and Plants; Desert Tortoise. Vol. 54. Oct. 13, 1989.
- Federal Register. 1994. Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. Vol. 50 No. 26. Feb. 8, 1994.
- Federal Register. 1993. Endangered and Threatened Wildlife and Plants; Proposed Determination of Critical Habitat for the Mojave Population of the Desert Tortoise. Vol. 58 August 30, 1993.
- Federal Register. 1989. Endangered and Threatened Wildlife and Plants; Desert Tortoise. Vol. 54. Oct. 13, 1989.
- Federal Register. 1989. Endangered Species List; Yuma Clapper Rail Vol. 32. Mar. 11, 1967.
- Finch, Deborah M., Stoleson, S.H., eds. 2000. Status, ecology, and conservation of the Southwestern Willow Flycatcher. Gen. Tech. Rep. RMRS-GTR-60. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 131 pp.
- Hoff, K.S. and R.W. Marlow, 2002. Impacts of Vehicle Road Traffic on Desert Tortoise Populations with Consideration of Conservation of Tortoise Habitat in Southern Nevada. *Chelonian Conservation and Biology*, Vol. 4, No. 2.
- Laymon, S.A., and M.D. Halterman. 1989. A proposed habitat management plan for Yellow-billed Cuckoos in California. USDA Forest Service, Gen. Tech. Rep. PSW-110.
- Nevada Division of Wildlife, 2005. Breeding status of the southwestern willow flycatcher and yellow-billed cuckoo at sites in southern Nevada. Nevada Division of Wildlife, Southern Region.
- 2003. Breeding status of the southwestern willow flycatcher and and yellow-billed cuckoo at sites in southern Nevada. Nevada Division of Wildlife, Southern Region.
- 2001. Breeding status of the southwestern willow flycatcher and initial surveys for the Yuma clapper rail and yellow-billed cuckoo at various sites in southern Nevada. Nevada Division of Wildlife, Southern Region.
- 1999. Breeding status of the southwestern willow flycatcher and initial surveys for the Yuma clapper rail at various sites in southern Nevada. Nevada Division of Wildlife, Southern Region.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: December 7, 2004; August 8, 2011).

- Nagy, K.A. and P.A. Medica, 1986. Physiological ecology of desert tortoises in southern Nevada. *Herpetologica* 42:73-92.
- NDOT, 2006. Biological Assessment for the SR160 Widening Project and Material Sites CL 47-04 and NY 35-02.
- NDOT, 2010a. Clark County FY 2011 Annual Work Program; FY 2012 – FY2013 Short Range Element; FY 2014 – 2020 Long Range Element.
- NDOT, 2010b. Nye County FY 2011 Annual Work Program; FY 2012 – FY2013 Short Range Element; FY 2014 – 2020 Long Range Element.
- Tracy, C.R., R.C. Averill-Murray, W.I. Boarman, D. Delehanty, J.S. Heaton, E.D. McCoy, D.J. Morafka, K.E. Nussear, B.E. Hagerty, and P.A. Medica. 2004. Desert Tortoise Recovery Plan Assessment. Report to the U.S. Fish and Wildlife Service, Reno, Nevada.
- U. S. Fish and Wildlife Service. 1994. Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, OR.
- U.S. Fish and Wildlife Service. 2000. Biological and Conference Opinion on Issuance of an Incidental Take Permit to Clark County, Nevada for a Multiple Species Habitat Conservation Plan.
- U.S. Fish and Wildlife Service. 2002. Southwestern Willow Flycatcher (*Empidonax traillii extimus*) Final Recovery Plan. U.S. Fish and Wildlife Service, Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service. 2009. Yuma Clapper Rail (*Rallus longirostris yumanensis*) Recovery Plan. Draft First Revision. U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service. 2010. DRAFT Range-wide Monitoring of the Mojave Population of the Desert Tortoise: 2010 Annual Report. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada.
- U.S. Fish and Wildlife Service. 2011. Species Profile Environmental Conservation Online System, Yellow-Billed Cuckoo (*Coccyzus americanus*). Accessed <http://ecos.fws.gov> on August 8, 2011.
- Zimmerman, L.C., M.P. O'Conner, S.J. Bulova, J.R. Spotila, S.J. Kemp, and C.J. Salice. 1994. Thermal ecology of desert tortoises in the eastern Mojave Desert: seasonal patterns of operative and body temperatures, and microhabitat utilization. *Herpetology Monographs* 8:45-59.

12.0 LIST OF CONTACTS / CONTRIBUTORS / PREPARERS

This Biological Assessment was prepared by:

Lynn Zonge, Senior Resource Specialist
Resource Concepts, Inc

JoAnne Robben, Biologist
Resource Concepts, Inc.

In consultation with:

Jenny K. Benz
US Department of Commerce
Regional Environmental Officer

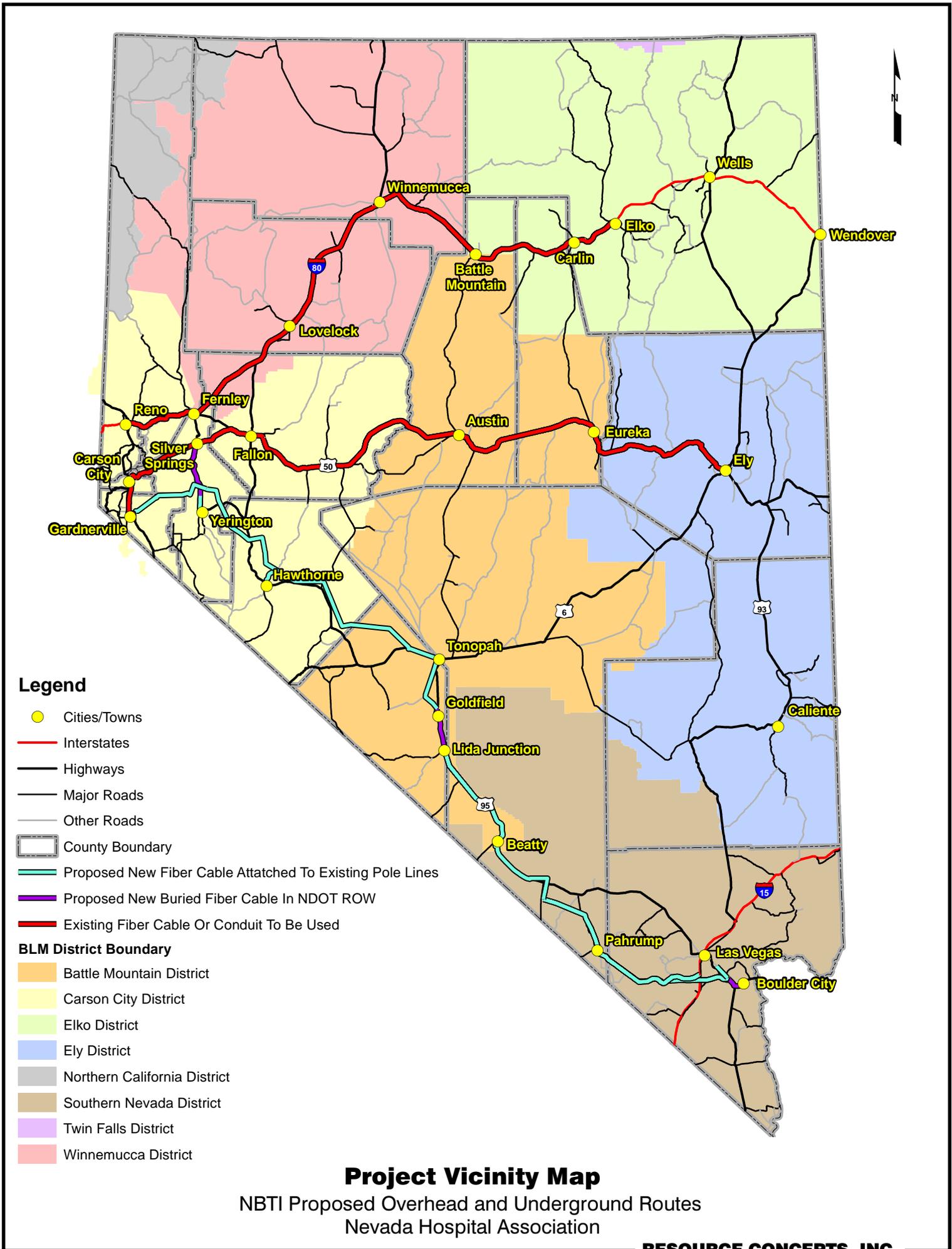
Michael Burroughs, Biologist
US Fish and Wildlife Service

Jeri Krueger, Biologist
US Fish and Wildlife Service

Julie Ervin-Holoubek, Biologist
Nevada Department of Transportation

Figures

- Project Vicinity Map



Legend

- Cities/Towns
- Interstates
- Highways
- Major Roads
- Other Roads
- County Boundary
- Proposed New Fiber Cable Attached To Existing Pole Lines
- Proposed New Buried Fiber Cable In NDOT ROW
- Existing Fiber Cable Or Conduit To Be Used

BLM District Boundary

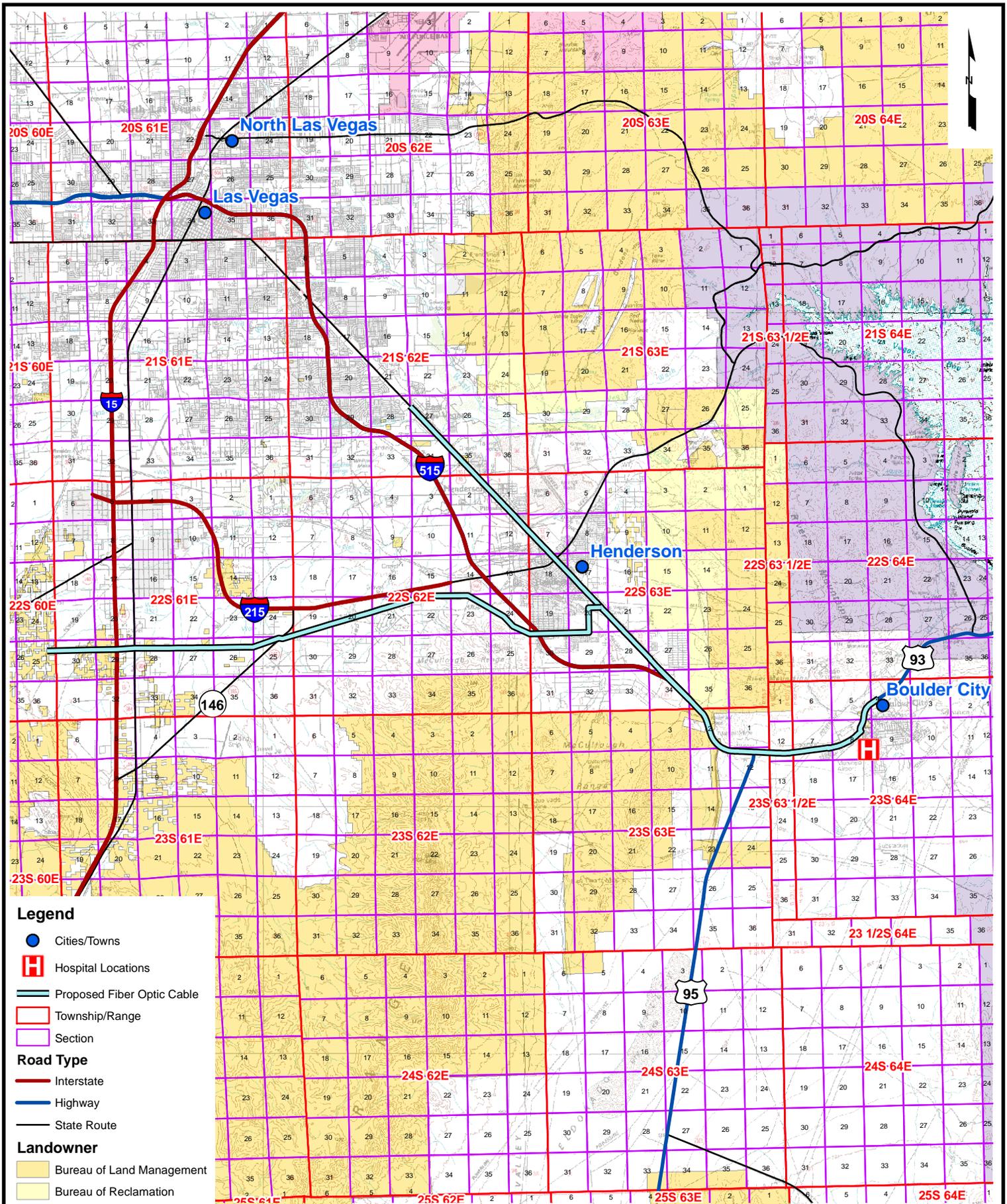
- Battle Mountain District
- Carson City District
- Elko District
- Ely District
- Northern California District
- Southern Nevada District
- Twin Falls District
- Winnemucca District

Project Vicinity Map

NBTI Proposed Overhead and Underground Routes
 Nevada Hospital Association

Township / Range / Land Use Maps

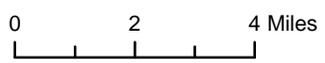
- Las Vegas to Boulder City
- Las Vegas to Pahrump
- Pahrump to Lida (1 of 3)
- Pahrump to Lida (2 of 3)
- Pahrump to Lida (3 of 3)
- Goldfield to Lida Junction
- Tonopah to Goldfield



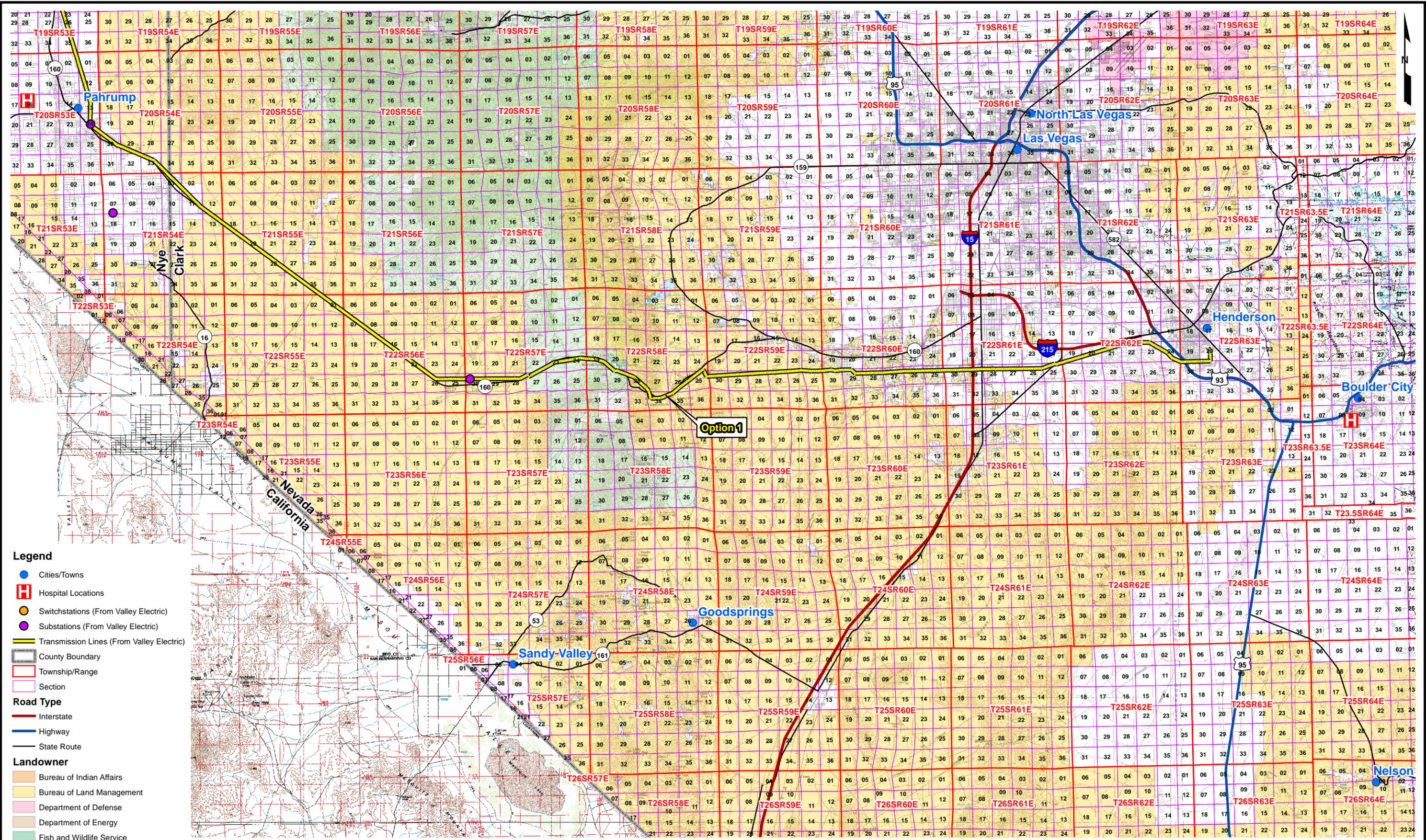
- Legend**
- Cities/Towns
 - H Hospital Locations
 - Proposed Fiber Optic Cable
 - Township/Range
 - Section
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Land Management
 - Bureau of Reclamation
 - Department of Defense
 - National Park Service
 - Private

Las Vegas to Boulder City Township/Range/Landuse Map

NBTI Proposed Routes
Nevada Hospital Association



Source:
USGS 100k Quads,
BLM Township/Range/Section/Landuse Data



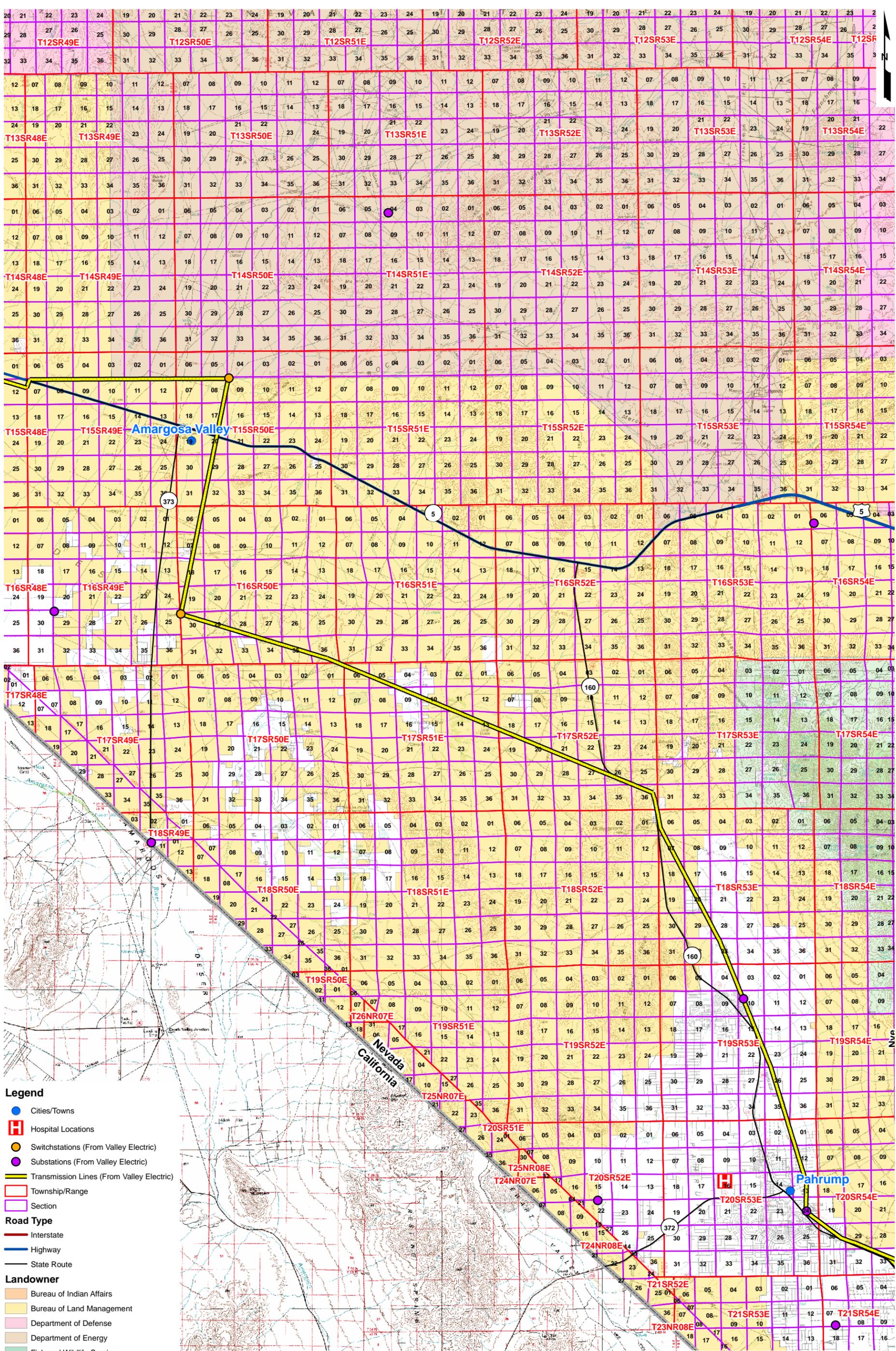
- Legend**
- Cities/Towns
 - H Hospital Locations
 - Switchstations (From Valley Electric)
 - Substations (From Valley Electric)
 - Transmission Lines (From Valley Electric)
 - County Boundary
 - Township/Range
 - Section
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Indian Affairs
 - Bureau of Land Management
 - Department of Defense
 - Department of Energy
 - Fish and Wildlife Service
 - Forest Service
 - Nevada State
 - Private

**Las Vegas To Pahrump
Township/Range/Landuse Map**
NBTI Proposed Routes
Nevada Hospital Association



Source:
USGS 100k Quads,
BLM Township/Range/Section/Landuse Data

R:\projects\Optical_Group\11_101_11MXD\may_2011\township_landuse_transmission\township_vegas_pahrump\11x17.mxd 6/7/11

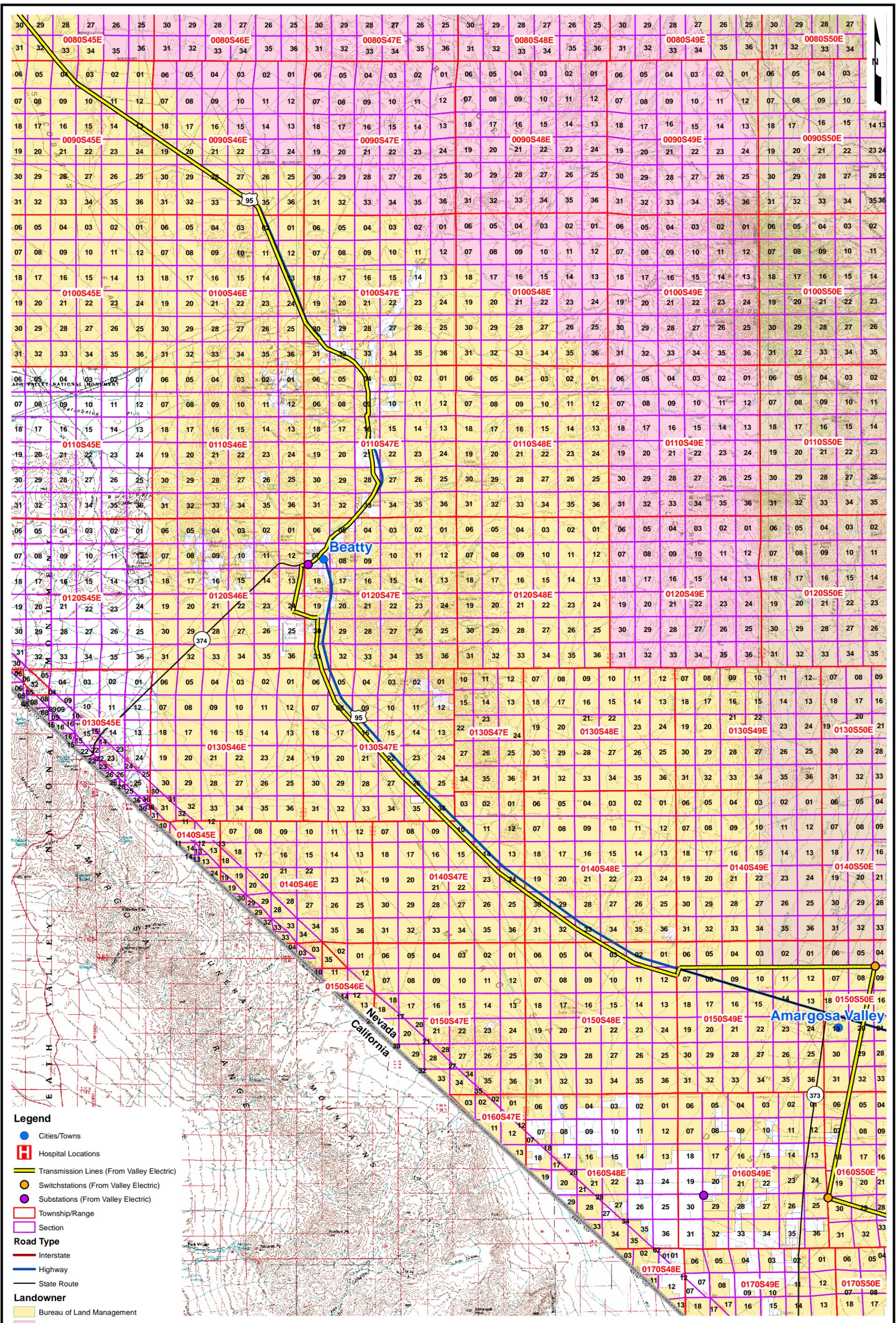


- Legend**
- Cities/Towns
 - H Hospital Locations
 - Switchstations (From Valley Electric)
 - Substations (From Valley Electric)
 - Transmission Lines (From Valley Electric)
 - Township/Range
 - Section
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Indian Affairs
 - Bureau of Land Management
 - Department of Defense
 - Department of Energy
 - Fish and Wildlife Service
 - Forest Service
 - Nevada State
 - Private

Pahrump to Lida (1 of 3)
Township/Range/Landuse Map
 NBTI Proposed Routes
 Nevada Hospital Association



Source:
 USGS 100k Quads,
 BLM Township/Range/Section/Landuse Data



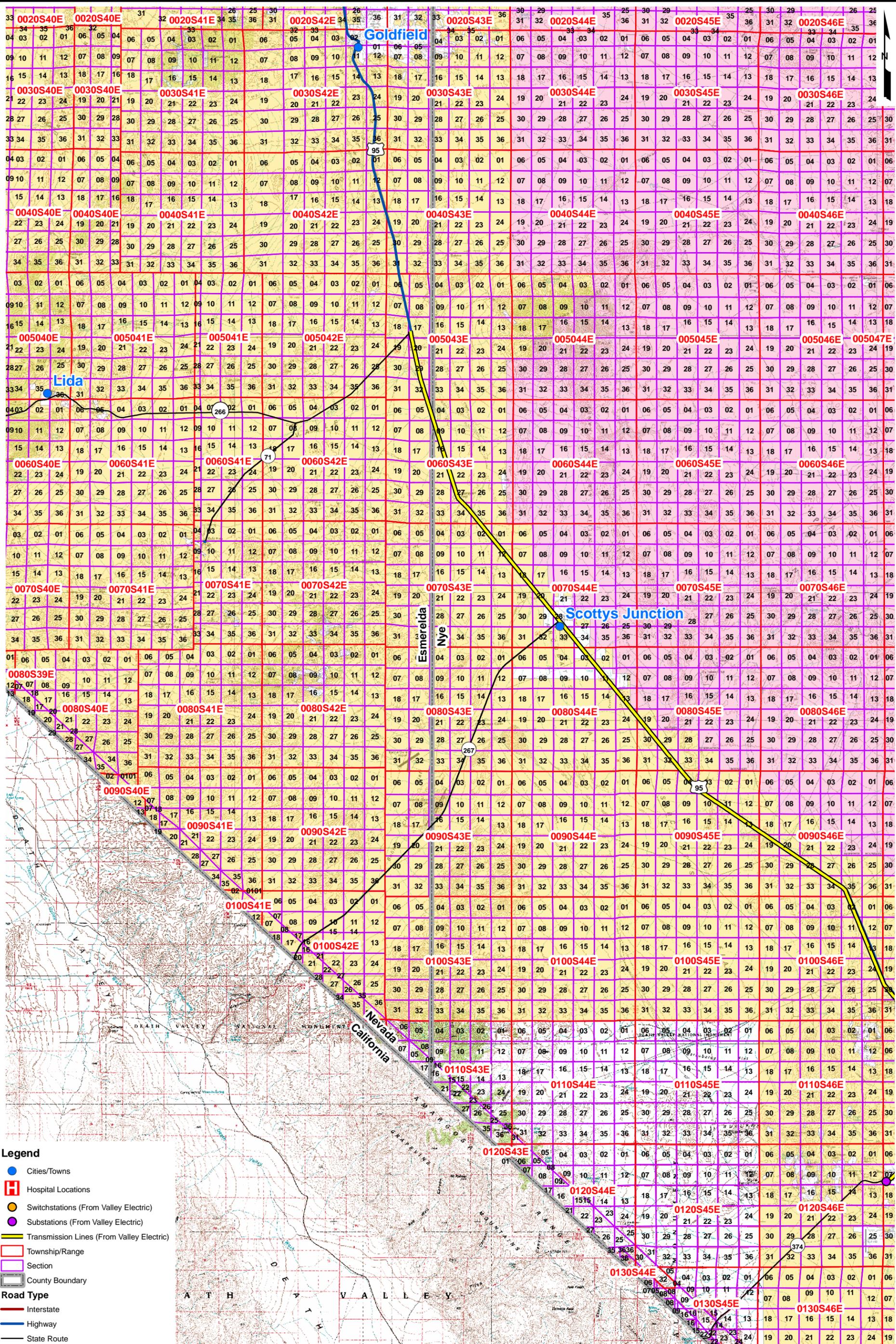
- Legend**
- Cities/Towns
 - H Hospital Locations
 - Transmission Lines (From Valley Electric)
 - Switchstations (From Valley Electric)
 - Substations (From Valley Electric)
 - Township/Range
 - Section
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Land Management
 - Department of Defense
 - Department of Energy
 - Private

Pahrump to Lida (2 of 3)
Township/Range/Landuse Map
 NBTI Proposed Routes
 Nevada Hospital Association



Source:
 USGS 100k Quads,
 BLM Township/Range/Section/Landuse Data

R:\projects\Optical_Group\11_101_1\MapData\updated_feb_2011\township_landuse_transmission\township_pahrump_lida2.mxd 5/24/11

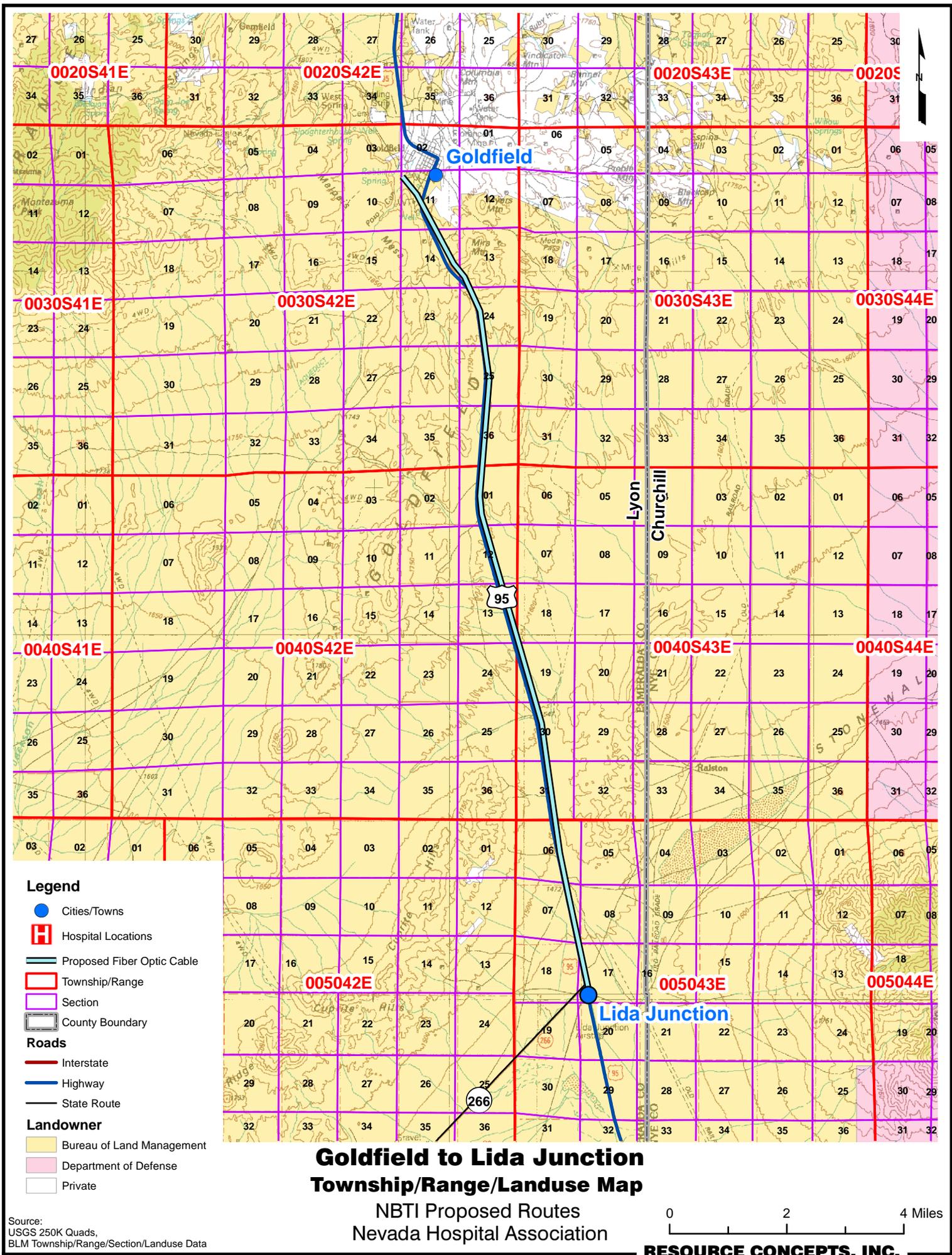


- Legend**
- Cities/Towns
 - H Hospital Locations
 - Switchstations (From Valley Electric)
 - Substations (From Valley Electric)
 - Transmission Lines (From Valley Electric)
 - Township/Range
 - Section
 - County Boundary
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Land Management
 - Department of Defense
 - Private

Pahrump to Lida (3 of 3)
Township/Range/Landuse Map
 NBTI Proposed Routes
 Nevada Hospital Association



Source: USGS 100k Quads, BLM Township/Range/Section/Landuse Data



Legend

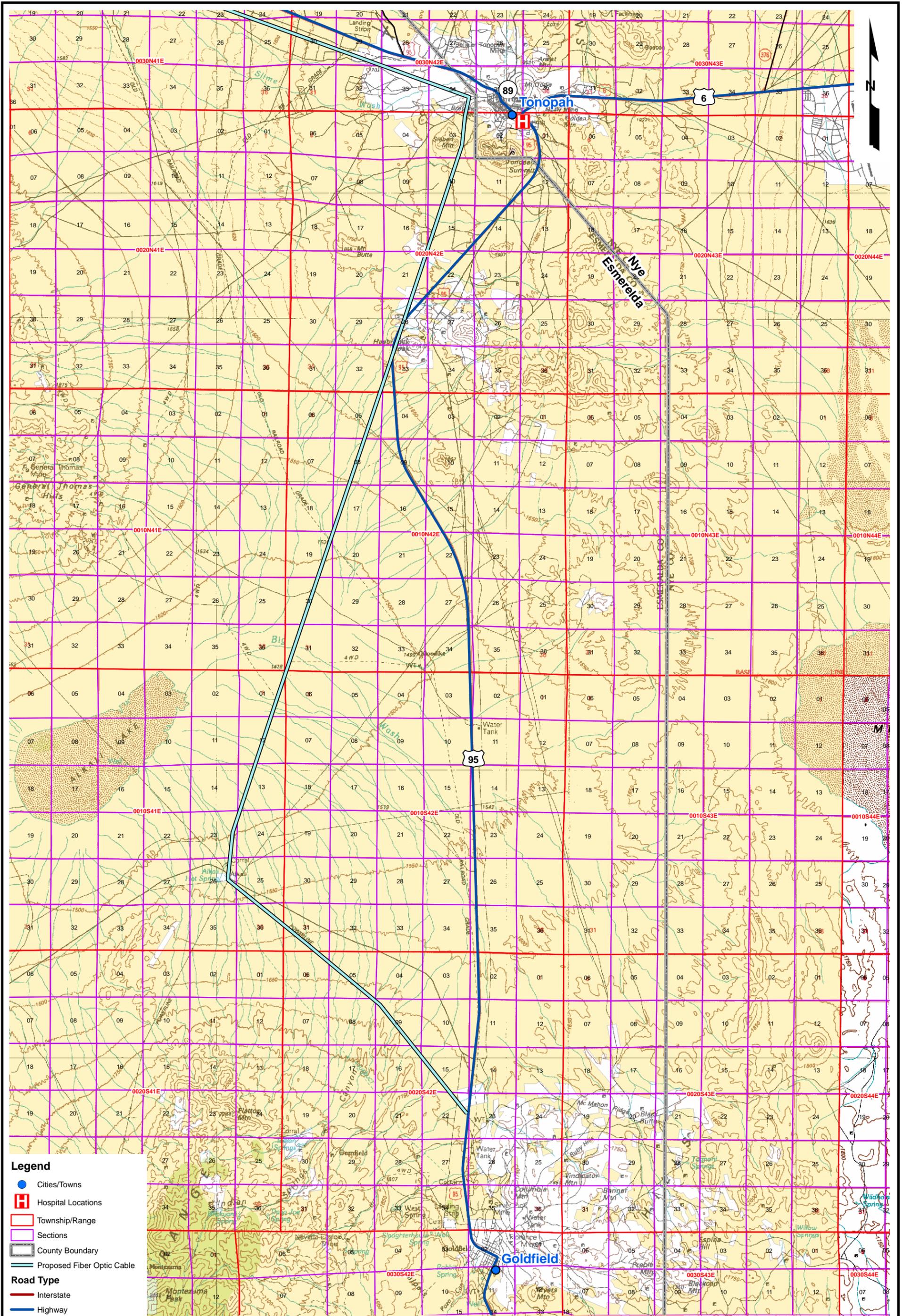
- Cities/Towns
- H Hospital Locations
- Proposed Fiber Optic Cable
- Township/Range
- Section
- County Boundary
- Roads**
- Interstate
- Highway
- State Route
- Landowner**
- Bureau of Land Management
- Department of Defense
- Private

**Goldfield to Lida Junction
Township/Range/Landuse Map**

NBTI Proposed Routes
Nevada Hospital Association



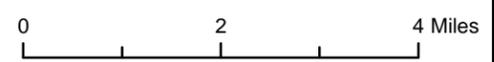
Source:
USGS 250K Quads,
BLM Township/Range/Section/Landuse Data



- Legend**
- Cities/Towns
 - H Hospital Locations
 - Township/Range
 - Sections
 - County Boundary
 - Proposed Fiber Optic Cable
- Road Type**
- Interstate
 - Highway
 - State Route
- Landowner**
- Bureau of Land Management
 - Private

Tonopah to Goldfield Township/Range/Landuse Map

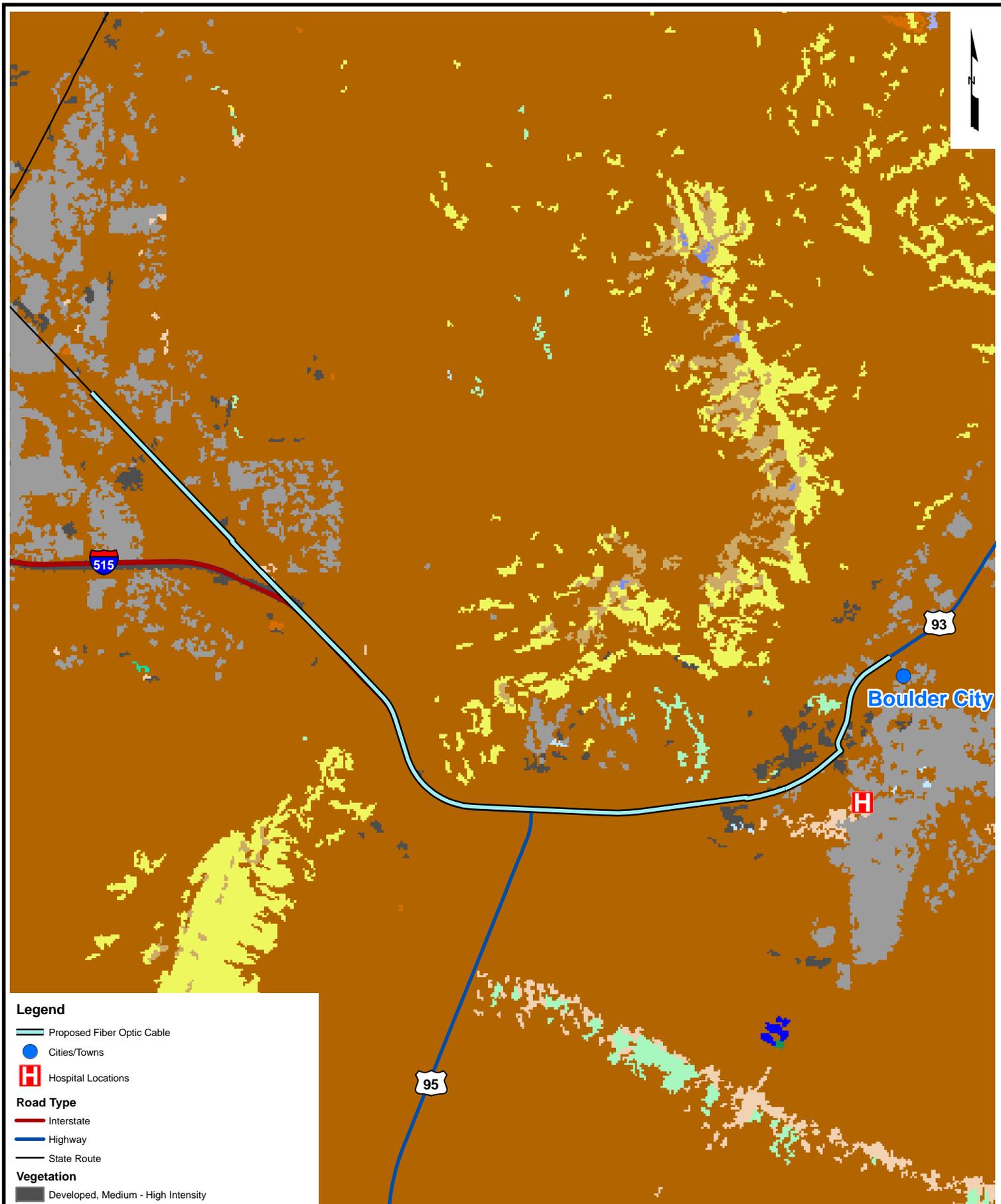
NBTI Proposed Routes
Nevada Hospital Association



Source:
USGS 100k Quads,
BLM Township/Range/Section/Land Ownership Data

Vegetation Maps

- Las Vegas to Boulder City
- Las Vegas to Pahrump
- Lida Junction to Pahrump
- Goldfield to Lida Junction
- Yerington to Goldfield (2 of 2)



Legend

Proposed Fiber Optic Cable

Cities/Towns

Hospital Locations

Road Type

Interstate

Highway

State Route

Vegetation

Developed, Medium - High Intensity

Developed, Open Space - Low Intensity

North American Warm Desert Wash

Sonora-Mojave Creosotebush-White Bursage Desert Scrub

Sonora-Mojave Mixed Salt Desert Scrub

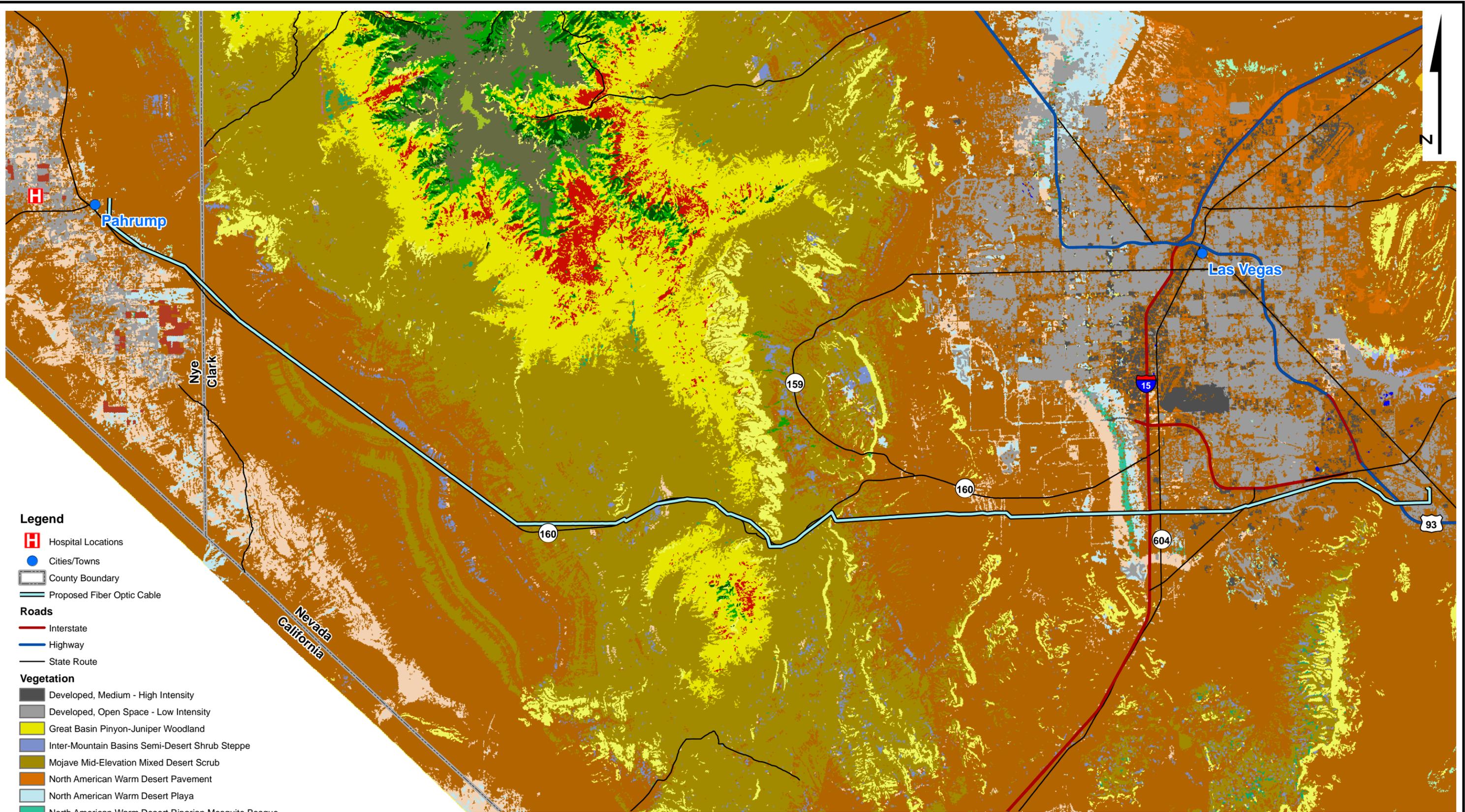
**Las Vegas to Boulder City
Vegetation Map**

NBTI Proposed Routes
Nevada Hospital Association



Source:
SW ReGAP Landcover Data

RESOURCE CONCEPTS, INC.



Legend

-  Hospital Locations
-  Cities/Towns

-  County Boundary
-  Proposed Fiber Optic Cable

Roads

-  Interstate
-  Highway
-  State Route

Vegetation

-  Developed, Medium - High Intensity
-  Developed, Open Space - Low Intensity
-  Great Basin Pinyon-Juniper Woodland
-  Inter-Mountain Basins Semi-Desert Shrub Steppe
-  Mojave Mid-Elevation Mixed Desert Scrub
-  North American Warm Desert Pavement
-  North American Warm Desert Playa
-  North American Warm Desert Riparian Mesquite Bosque
-  North American Warm Desert Wash
-  Sonora-Mojave Creosotebush-White Bursage Desert Scrub
-  Sonora-Mojave Mixed Salt Desert Scrub

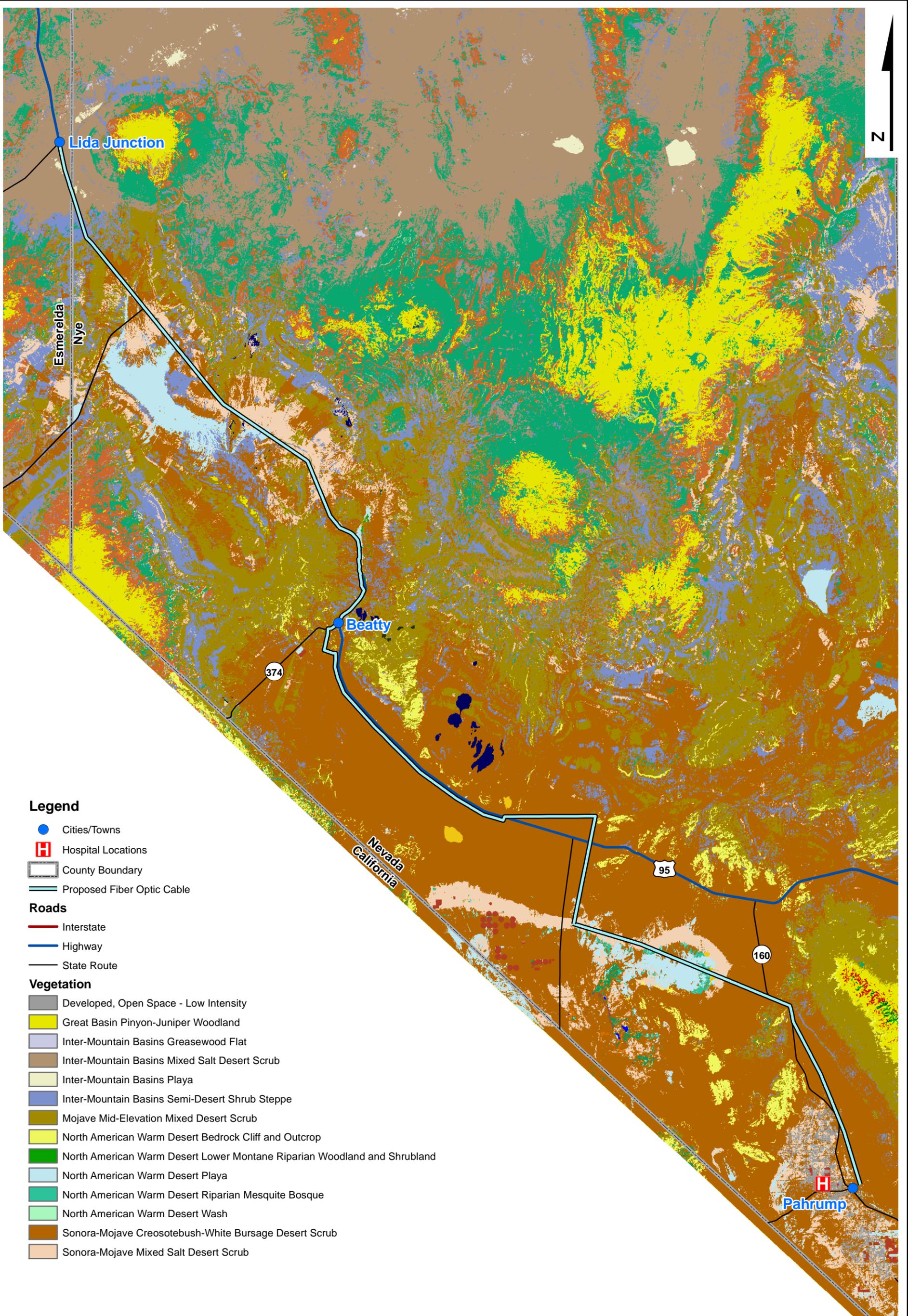
**Las Vegas to Pahrump
Vegetation Map**

NBTI Proposed Routes
Nevada Hospital Association



Source:
SW ReGAP Landcover Data

RESOURCE CONCEPTS, INC.



Legend

- Cities/Towns
- H Hospital Locations
- County Boundary
- Proposed Fiber Optic Cable

Roads

- Interstate
- Highway
- State Route

Vegetation

- Developed, Open Space - Low Intensity
- Great Basin Pinyon-Juniper Woodland
- Inter-Mountain Basins Greasewood Flat
- Inter-Mountain Basins Mixed Salt Desert Scrub
- Inter-Mountain Basins Playa
- Inter-Mountain Basins Semi-Desert Shrub Steppe
- Mojave Mid-Elevation Mixed Desert Scrub
- North American Warm Desert Bedrock Cliff and Outcrop
- North American Warm Desert Lower Montane Riparian Woodland and Shrubland
- North American Warm Desert Playa
- North American Warm Desert Riparian Mesquite Bosque
- North American Warm Desert Wash
- Sonora-Mojave Creosotebush-White Bursage Desert Scrub
- Sonora-Mojave Mixed Salt Desert Scrub

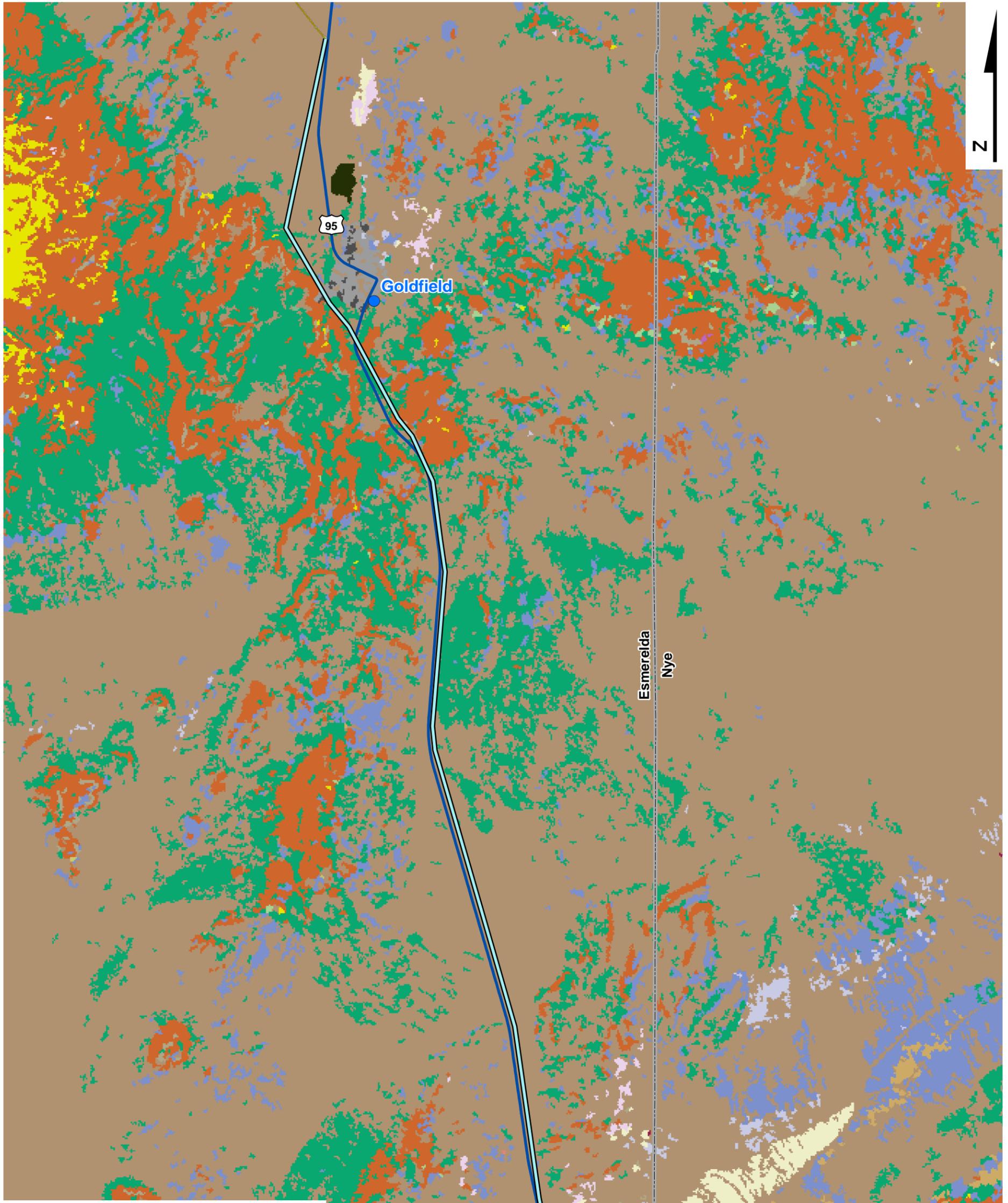
**Lida Junction to Pahrump
Vegetation Map**

NBTI Proposed Routes
Nevada Hospital Association



Source:
USGS 100K Quads,
NRCS Soil Data Mart

RESOURCE CONCEPTS, INC.

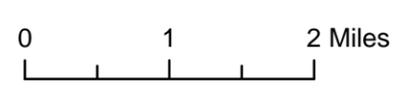


Legend

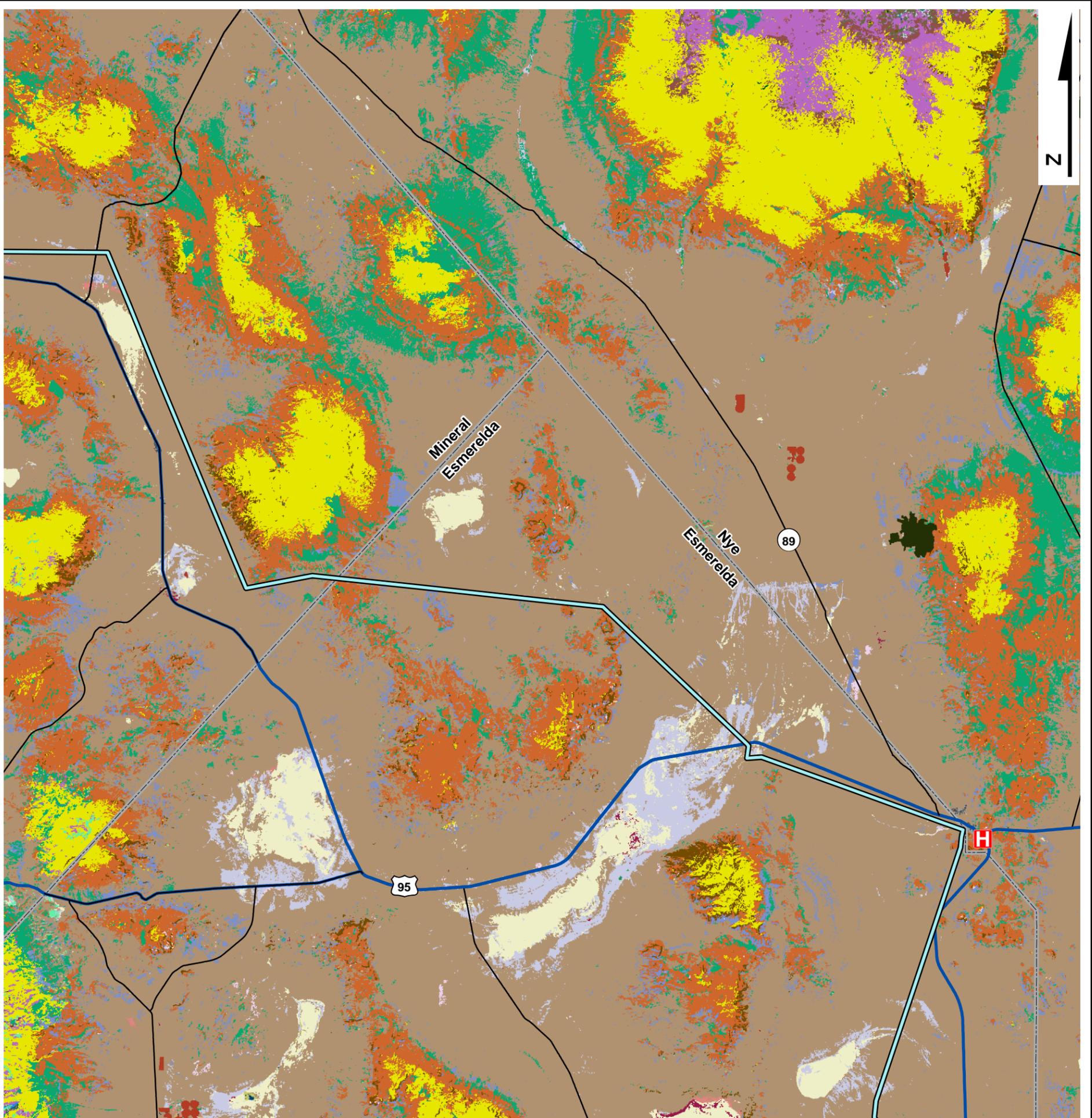
- Cities/Towns
 - H Hospital Locations
 - County Boundary
 - Proposed Fiber Optic Route
- Roads**
- Interstate
 - Highway
 - State Route
- Vegetation**
- Developed, Open Space - Low Intensity
 - Great Basin Xeric Mixed Sagebrush Shrubland
 - Inter-Mountain Basins Big Sagebrush Shrubland
 - Inter-Mountain Basins Mixed Salt Desert Scrub
 - Inter-Mountain Basins Semi-Desert Shrub Steppe

**Goldfield to Lida Junction
Vegetation Map**

NBTI Proposed Routes
Nevada Hospital Association



Source:
SW ReGAP Landcover Data



Legend

-  Hospital Locations
-  Cities/Towns
-  County Boundary
-  Proposed Fiber Optic Cable
- Roads**
-  Interstate
-  Highway
-  State Route
- Vegetation**
-  Barren Lands, Non-specific
-  Developed, Open Space - Low Intensity
-  Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
-  Great Basin Pinyon-Juniper Woodland
-  Great Basin Xeric Mixed Sagebrush Shrubland
-  Inter-Mountain Basins Big Sagebrush Shrubland
-  Inter-Mountain Basins Cliff and Canyon
-  Inter-Mountain Basins Greasewood Flat
-  Inter-Mountain Basins Mixed Salt Desert Scrub
-  Inter-Mountain Basins Playa
-  Inter-Mountain Basins Semi-Desert Grassland
-  Inter-Mountain Basins Semi-Desert Shrub Steppe
-  Invasive Annual Grassland
-  Invasive Perennial Grassland
-  North American Arid West Emergent Marsh
-  Open Water
-  Recently Mined or Quarried

**Yerington to Goldfield (2 of 2)
Vegetation Map**

NBTI Proposed Routes
Nevada Hospital Association



Source:
SW ReGAP Landcover Data

RESOURCE CONCEPTS, INC.

R:\projects\Optica_Group\11_101_1\MXDs\July_2011\Soil\yering_gold2.mxd 7/13/11

Appendix A

Representative Fiber Optic Route Photographs.

Please see the Disturbance Calculation Table in Appendix B for a description of each photo.

REPRESENTATIVE PHOTOS

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19



Photo 20



Photo 21



Photo 22



Photo 23



Photo 24



Photo 25



Photo 26



Appendix B

Disturbance Calculation Table

NHA Fiber Optic
Disturbance in Desert Tortoise Habitat Calculation Table

From	To	Miles	Description	Vegetation Type (from SW ReGAP (2000 - 2003 Imagery) and July 2011 Field Surveys)	Road Category	Width of Vegetation crushed (feet)	Acres Affected	Representative Photo #
Armagosa SS	BC Hosp	3.594	Armagosa SS to Edge of urban dev	Developed - Medium - High Intensity	1.0	0	0.00	
		4.784	Edge of Urban Dev to BC Road	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.0	0	0.00	1
		1.72	BC Road to Hosp	Developed - Open Space - Low Intensity	1.0	0	0.00	
		10.098	TOTAL					
Ft Apache Road	West	1.77	Dirt road under or along pwer line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.11	2
		0.992	Dirt road under or along pwer line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.06	2
		1.822	Dirt road under or along pwer line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.11	2
		1.708	Dirt road under or along pwer line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.10	2
		1.22	Rough road across steep terrain	Mohave Mid-Elevation Mixed Desert Scrub	2.0	1	0.15	3
		0.527	access roads hit ridges; road along is spotty	Mohave Mid-Elevation Mixed Desert Scrub	2.5	2	0.13	4
		1.61	Dirt road under or along pwer line; rough where crosses washes	Mohave Mid-Elevation Mixed Desert Scrub	2.0	1	0.20	5
Spring Mtns		4.914	Spring Mts	Mohave Mid-Elevation Mixed Desert Scrub	2.5	2	1.19	6
		2.532	Steep alluvial fan	Mohave Mid-Elevation Mixed Desert Scrub	2.5	2	0.61	7
		3.288	Steep alluvial fan to Sandy substation	Mohave Mid-Elevation Mixed Desert Scrub	2.0	1	0.40	8
		15.103	Dirt road under or along pwer line; rough where crosses washes	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.92	9
Pahrump		9.447	Dirt road under or along pwer line; rough where crosses washes to Pahrump SS	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.57	10
		16.272	Dirt road under or along pwer line; rough where crosses washes to Johnny	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.99	10
		6.039	Dirt road under or along pwer line; rough where crosses washes to edge of Playa	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.0	0	0.00	10
		13.491	Across Playa	Sonora-Mojave Mixed Salt Desert Scrub; Nroth American Warm Desert Playa; North American Warm Desert Riparian Mesquite Bosque	1.0	0	0.00	11
		17.046	Alluvial fanns	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	1.03	12
		9.828	Alluvial fanns	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	1.5	0.5	0.60	13
		11.42	Alluvial fanns	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub	2.5	2	2.77	14
Beatty		2.85	over hills into edge of Beatty	Sonora-Mojave Mixed Salt Desert Scrub; Mohave Mid-Elevation Mixed Desert Scrub	2.5	2	0.69	15
		1.695	Through Beatty	Developed - Open Space - Low Intensity	1.0	0	0.00	
		9.658	Along the wash and sides of the hills	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; North American Warm Desert Playa	2.0	1	1.17	16, 17, 18
		5.88	Along the road	Sonora-Mojave Mixed Salt Desert Scrub	2.0	1	0.71	19, 20
		8.73	Along the road	Sonora-Mojave Mixed Salt Desert Scrub	2.0	1	1.06	19, 20
		9.865	Along the road	Sonora-Mojave Mixed Salt Desert Scrub; Sonora - Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; North American Warm Desert Playa	2.0	1	1.20	21
		7.372	Along the road	Sonora - Mojave Creosotebush-Whitebursage Desert Scrub; Inter-Mountain Basins Semi-Desert Shrub Steppe; Mojave Mid-Elevation Mixed Desert Scrub	2.0	1	0.89	22
Lida		9.163	Along the Road end at Lida Jctn	Inter-Mountain Basins Mixed Salt Desert Scrub	na	na		
		8.262	Along the road	Inter-Mountain Basins Mixed Salt Desert Scrub	na	na		23
		3.433	Along the road	Inter-Mountain Basins Big Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	na	na		

NHA Fiber Optic
Disturbance in Desert Tortoise Habitat Calculation Table

		2.668	Over rugged terrain to edge of Goldfield	Inter-Mountain Basins Big Sagebrush Shrubland; Great Basin Xeric Mixed Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	na	na		24
Goldfield		2.067	Along the western edge of Goldfield	Inter-Mountain Basins Big Sagebrush Shrubland; Great Basin Xeric Mixed Sagebrush Shrubland; Inter-Mountain Basins Mixed Salt Desert Scrub	2.0	1	0.25	25
		1.756	along alluvial fan	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0	1	0.21	26
Tonopah		23.698	along alluvial fan to Mtns of Tonopah	Inter-Mountain Basins Mixed Salt Desert Scrub	2.0	1	2.87	106
							18.98	
na--not applicable, the cable will be buried through this section								
1 = good road								
2 = jeep trail								
3 = no road								
Where the road = 1, then there are no adjacent effects								
Where road = 1.5 then there would be 1/4 foot on each side of trail crushing vegetation								
Where the road = 2, then the effects would be 1/2 foot on each side of trail crushing vegetation								
Where road = 2.5, then the effects would be 1 foot x 2 for each ATV tire crushing vegetation								
Where road = 3 then there are no effects from equipment as the placement would be done on foot.								

From: eric Miskow [mailto:emiskow@heritage.nv.gov]
Sent: Wednesday, December 21, 2011 4:51 PM
To: Lynn Zonge
Subject: RE: Fiber Optic Project additional routes

Hi Lynn,

Here is the data set (data request) for the fiber optic route....at least the new iteration. This sure is one big project. I placed a hard copy and invoice in the regular mail. Let me know if you have any questions. Hope all is well.

Cheers,

Eric
Eric Miskow
Biologist/Data Manager
Nevada Natural Heritage Program
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 5002
Carson City, NV 89701-5245
(775) 684-2905 (voice)
(775) 684-2909 (fax)
emiskow@heritage.nv.gov

From: eric Miskow [mailto:emiskow@heritage.nv.gov]
Sent: Tuesday, June 28, 2011 2:24 PM
To: Lynn Zonge
Subject: RE: Data Request

Hi Lynn,

Here is the data request for the Nevada Hospital Association.....third iteration...I think. Anyway, let me know if you have questions. I placed a hard copy of the cover letter and invoice in the terrestrial mail.

Cheers,

Eric
Eric Miskow
Biologist/Data Manager
Nevada Natural Heritage Program
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 5002
Carson City, NV 89701-5245
(775) 684-2905 (voice)
(775) 684-2909 (fax)
emiskow@heritage.nv.gov

From: eric Miskow [mailto:emiskow@heritage.nv.gov]
Sent: Monday, March 14, 2011 4:29 PM
To: Lynn Zonge
Subject: RE: Fiber Optic Shape Files

Hi Lynn,

Ok, here is the latest rendition. This should have all the hospitals covered in Nevada. I placed the hard copy in the mail. Let me know if there are questions or new routes.

Cheers,
Eric
Eric Miskow
Biologist/Data Manager
Nevada Natural Heritage Program
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 5002
Carson City, NV 89701-5245
(775) 684-2905 (voice)
(775) 684-2909 (fax)
emiskow@heritage.nv.gov

From: eric Miskow [mailto:emiskow@heritage.nv.gov]
Sent: Wednesday, March 02, 2011 2:21 PM
To: Lynn Zonge
Subject: RE: Fiber Optic Line data

Hi Lynn,

Here is the data request. I placed a hard copy of the cover letter and invoice in the regular mail. Let me know if there are any questions.

Regards,

Eric
Eric Miskow
Biologist/Data Manager
Nevada Natural Heritage Program
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 5002
Carson City, NV 89701-5245
(775) 684-2905 (voice)
(775) 684-2909 (fax)
emiskow@heritage.nv.gov