SUPERIOR TO SILVER KING 115KV TRANSMISSION LINE SEGMENT RELOCATION PROJECT

Application for a Certificate of Environmental Compatibility

Submitted by

SALT RIVER PROJECT

June 2012

TABLE OF CONTENTS

EXHIBIT J – SPECIAL FACTORS

INTRODUCTION

Salt River Project Agricultural Improvement and Power District (SRP) is applying for a Certificate of Environmental Compatibility (CEC) for the proposed relocation of a 115 kilovolt (kV) transmission line project (Superior to Silver King 115kV Transmission Line Segment Relocation Project).

PROJECT PURPOSE AND NEED

In response to a customer request, SRP plans to relocate a segment of its Superior-Silver King 115kV transmission line located on private property near the Town of Superior in Pinal County (see Figure IN-1). This will require SRP to move approximately 1 mile of the existing 115kV transmission line approximately 0.25 mile to the northwest, closer to another transmission line corridor. The customer and property owner, Resolution Copper Mining, LLC (Resolution), has requested this transmission line relocation.

PROPOSED ROUTE

The proposed route for the relocation is located on private property and includes replacing approximately 1 mile of 115kV transmission line and structures 0.25 mile to the northwest of the existing line segment's location. Approximately nine new structures are planned and, to the extent feasible, would match the spans of the existing transmission structures already in the area. The preference is for self-weathering single-shaft poles with an average height of 85 feet. Typical spans would range between 600 and 1,600 feet.

The existing Superior to Silver King 115kV line was placed in service prior to the promulgation of the siting statutes and as such, no CEC was required for the line. As a result, this application requests approval of a CEC for only the segment of the line to be relocated.

For the purposes of this CEC application, the requested corridor is defined as the centerline of the existing 230kV line (south of, and parallel to, the 500kV transmission line) to the centerline of the existing 115kV line, inclusive of only private property. At its widest points, the corridor is 1,520 feet wide and 6,500 feet long. This corridor provides for sufficient flexibility to accommodate final design and engineering. The specific right-of-way within this corridor will be determined following certification and in coordination with the property owner during the final design process.

The entire length of the relocated segment would remain on private property owned by Resolution and would allow for full and efficient use of the private property by the land owner. This location also would minimize visual impacts due to its proximity to current 500kV and 230kV transmission lines.

PROJECT SCHEDULE

Upon receiving the request from Resolution to relocate a segment of the 115kV line, SRP initiated the process to obtain a CEC for the project, including retaining an environmental consultant, URS Corporation. SRP provided briefings of local officials and stakeholders beginning in February 2012. Concurrently, data were collected and analyzed to determine potential effects on land uses and natural and cultural resources in the vicinity of the proposed relocation. In April 2012, SRP held public open houses on the project. From April through June, this CEC application was prepared and submitted.

Should this relocation be approved, SRP anticipates completing final design of the new transmission line segment in late 2012 and construction to occur in early to mid-2013.

PUBLIC AND AGENCY INVOLVEMENT PROCESS

Public and agency involvement activities included the following:

- Stakeholder briefings – Briefings were presented separately to the Pinal County Supervisor, Pinal County Manager, Town of Superior Interim Town Manager, and Superior Mayor and Town Council.
- Agency and tribal notification letters – Project information was provided via letter to the Superior School District Superintendent, the Governing Board of the Superior School District, the President of the Superior Chamber of Commerce, the Tonto National Forest, the Arizona State Historic Preservation Office, and 12 Native American tribes.
- Newsletter – In April 2012, SRP sent a one-page project introduction and call for public comment in the Superior sewer bills. A second newsletter, also to be distributed by way of the sewer bills, will announce the hearing dates for review of this CEC application.
- Open house meetings – On April 17, 2012, open house meetings were held at the Senior Center in the afternoon and at the Junior/Senior High School in the evening. Display boards containing information and maps detailing the project were available for review and comment at the open house meetings.
- Display advertisement – Meetings were advertised in the local newspaper.
- Project website – All public outreach materials and project information were made available on the SRP website, www.azpower.org/ssk115kVrelo/.

CONCLUSION AND SUMMARY OF ENVIRONMENTAL COMPATIBILITY

Because the relocation will take place between an existing high-voltage transmission line corridor and an active operations area on Resolution's property, the impacts to the surrounding environment are expected to be minimal. The relocation would allow Resolution more efficient use of their property.

The process of evaluating the 115kV line segment relocation was conducted from January 2012 through June 2012. This process included an assessment of potential environmental impacts on land uses, visual resources, biological resources, and cultural resources. The following provides a summary of the environmental compatibility of the project:

- The project would have no significant or detrimental effects to fish, wildlife, plant life, and associated forms of life upon which they are dependent.
- The project would have no significant or detrimental effects associated with noise emission levels and interference with communication signals.
- The project would have no significant or detrimental effects on land use, cultural resources, visual resources, and recreation.
- SRP, the private landowner, and jurisdictional agencies have not identified any plans for future development of recreational facilities within the area or associated with the project.
- Project implementation would be consistent with safety considerations and regulations.
- The project is environmentally compatible with the total environment of the area.

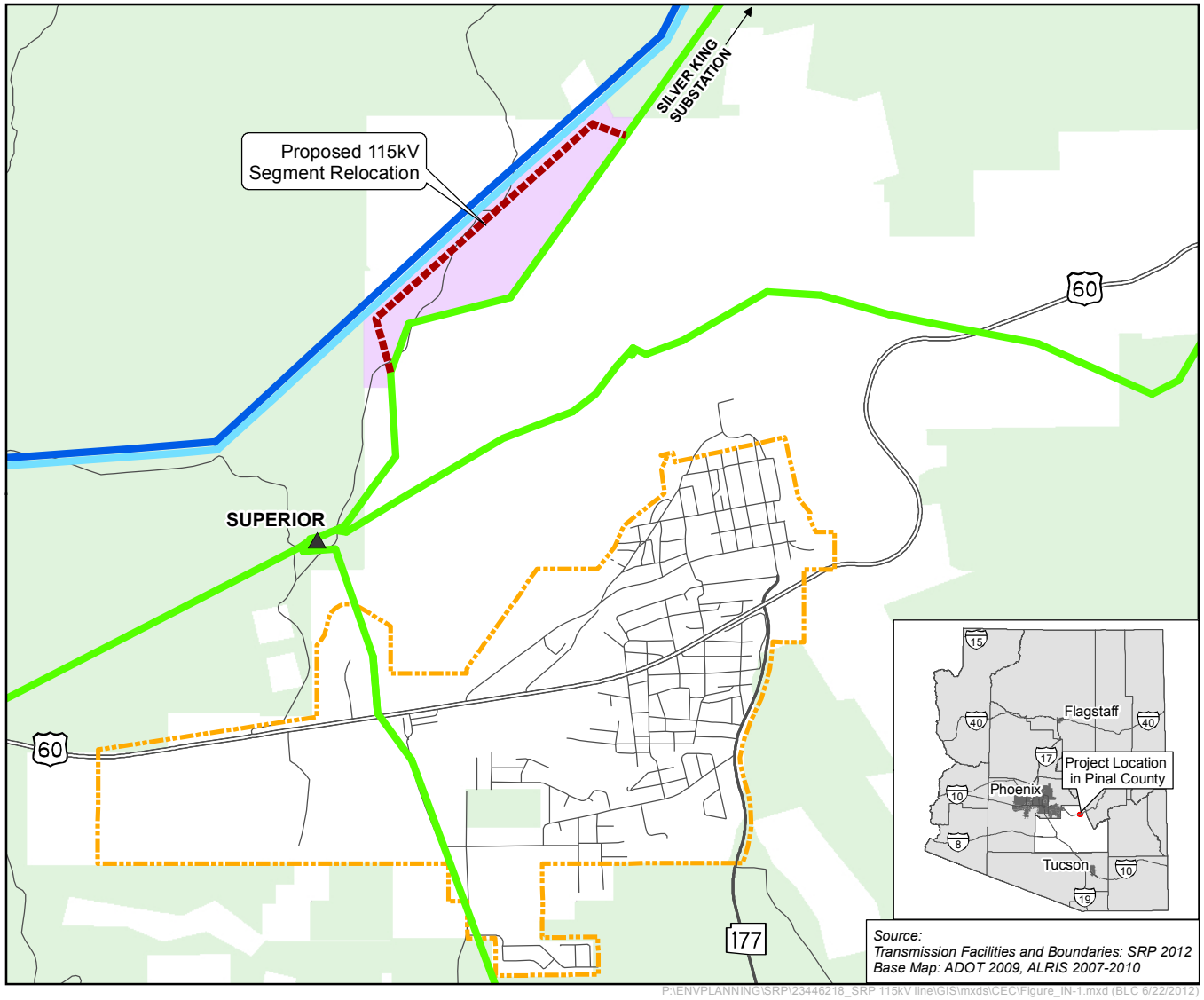


Figure IN-1

Project Location

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Proposed Corridor
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road

N

0 0.25 0.5

Miles

1:36,000

APPLICATION

1. Name and address of the applicant, or in the Line Siting Case of a joint project, the applicants.

Salt River Project Agricultural Improvement and Power District ("SRP")
1521 N. Project Drive
Tempe, AZ 85281-1298

2. Name, address and telephone number of a representative of an applicant who has access to technical knowledge and background information concerning the application in question and who will be available to answer questions or furnish additional information.

Applicant:

Tom Novy
Project Manager
SRP
Mail Station SEP007
P.O. Box 52025
Phoenix, AZ 85072-2025
Telephone: (602) 236-4359
Fax: (602) 236-0399
Email: Tom.Novy@srpnet.com

3. State each date on which applicant has filed a ten-year plan in compliance with A.R.S. § 40-360.02 and designate each such filing in which the facilities for which this application is made were described. If they have not been previously described in a ten-year plan, state the reasons therefore.

In accordance with A.R.S. Section 40-360.02, SRP filed a Ten-Year Plan with the Arizona Corporation Commission on January 31, 2012 that described the project (Superior-Silver King 115kV Re-Route).

4. Description of the proposed facility, including:

4.a. With respect to an electric generating plant:
Not applicable.

4.b. With respect to a proposed transmission line:

4.b.i. Nominal voltage for which the line is designed; description of the proposed structures and switchyards or substations associated therewith; and purpose for constructing said transmission line.

Nominal voltage for which the line is designed:
The transmission line is currently designed at 115 kilovolts (kV) and the rerouted segment also would be designed for 115 kV.

Description of proposed structures:
The project would generally use single-shaft tubular steel structures.

Description of proposed substations:
Not applicable.

Purpose for constructing the transmission line:
In response to a customer request, SRP plans to relocate a segment of its Superior-Silver King 115kV transmission line on private property near the Town of Superior. This will require SRP to move approximately 1 mile of the existing power line approximately 0.25-mile to the northwest, closer to another transmission line corridor. The customer and property owner, Resolution Copper Mining, LLC (Resolution), has requested this transmission line relocation.

4.b.ii. Description of geographical points between which the transmission line will run, the straight-line distance between such points and the length of the transmission line for each alternative route for which application is made.

Description of geographical points between which the transmission line will be located:
The segment relocation is approximately 1 mile in length (see Figure 1). The transmission line segment relocation would begin at an angle or turning structure along the existing 115kV line in the northeast quarter of Section 34, Township 1 South, Range 12 East. The proposed relocation would end approximately 1 mile to the northeast, at another angle or turning structure in southwest quarter of Section 26, Township 1 South, Range 12 East. No alternative route segments are proposed.

Straight-line distance between such points:
The straight-line distance between the beginning and end of the relocated segment would be approximately 1 mile.

4.b.iii. Nominal width of right-of-way required, nominal length of spans, maximum height of supporting structures and minimum height of conductor above ground.

Nominal width of right-of-way required:
The nominal right-of-way width for a single-pole structure 115kV transmission line is approximately 60 feet. A maximum right-of-way width of up to 150 feet may be required to accommodate the relocated transmission line. Factors that could affect the individual right-of-way widths include span lengths, terrain, structure type and framing, circuit configuration and maintenance vehicle access requirements.

Nominal length of spans:
Nominal span lengths would range between 600 and 1,600 feet. Factors affecting span lengths would include (but would not be limited to) terrain and structure height (where restricted) and adjacent 230kV structures.

Maximum height of supporting structures:
The single-pole structures would average 85 feet in height, but could vary as a result of the topography in the relocation area. The maximum height of the supporting structures would be 199 feet above existing grade.

Minimum height of conductor above ground:
The minimum height of the 115kV conductor above the ground would be 20 feet-6 inches.

4.b.iv. To the extent available, the estimated costs of the proposed transmission line and route, stated separately. (If application contains alternative routes, furnish an estimate for each route and a brief description of the reasons for any variations in such estimates.)

The estimated cost of the relocation is $1,215,000.

4.b.v. Description of proposed route and switchyard locations. (If application contains alternative routes, list routes in order of applicant's preference with a summary of reasons for such order of preference and any changes such alternative routes would require in the plans reflected in (i) through (iv) hereof).

The transmission line segment relocation would begin at an angle or turning structure along the existing 115kV line in the northeast quarter of Section 34, Township 1 South, Range 12 East. From this location, the 115kV transmission line would turn north toward the existing 230kV and 500kV transmission corridors. In proximity to these high-voltage corridors, the 115kV line would turn northeast and parallel along the south side of the existing transmission corridors. The proposed relocation would end approximately 1 mile to the northeast, at another angle or turning structure in the southwest quarter of Section 26, Township 1 South, Range 12 East. Approximately nine new structures would be installed to support the line along the new route segment.

For the purposes of this CEC application, the requested corridor is defined as the centerline of the existing 230kV line (south of, and parallel to, the 500kV transmission line) to the centerline of the existing 115kV line, inclusive of only private property (see Figure 2). At its widest points, the corridor is 1,520 feet wide and 6,500 feet long. This corridor provides for sufficient flexibility to accommodate final design and engineering. The specific right-of-way within this corridor will be determined following certification and in coordination with the property owner during the design process.

4.b.vi. For each alternative route for which application is made, list the ownership percentages of land traversed by the entire route (federal, state, Indian, private, etc.).

The proposed segment relocation is located solely on private land.

5. List the areas of jurisdiction [as defined in A.R.S. § 40-360(1)] affected by each alternative site or route and designate those proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of any of such areas of jurisdiction.

The proposed segment relocation is located in unincorporated Pinal County; the relocation does not conflict with the zoning or master plans of Pinal County.

6. Describe any environmental studies applicant has performed or caused to be performed in connection with this application or intends to perform or cause to be performed in such connection, including the contemplated date of completion.

An environmental study was completed for the project pursuant to ARS 40-360.06. The environmental study used publicly available data, input from agencies and landowners, as well as data gathered during field reviews. Potential environmental effects of construction and operation of the proposed project are described in the exhibits to this Application.

7. Rationale for Proposed Route

The proposed 115kV line segment relocation has been requested by the private property owner, Resolution, to accommodate the placement of development rock storage from shaft sinking and underground development activities. The entire length of the relocated segment would remain on private property owned by Resolution and would allow for full and efficient use of the private property by the land owner. This proposed location would minimize visual impacts due to its proximity to current 500kV and 230kV transmission lines. In addition, environmental analyses (included in this application) demonstrate the following:

- The project would have no significant or detrimental effects to fish, wildlife, plant life, and associated forms of life upon which they are dependent.
- The project would have no significant or detrimental effects associated with noise emission levels and interference with communication signals.
- The project would have no significant or detrimental effects on land use, cultural resources, visual resources, and recreation.
- SRP, the private landowner, and jurisdictional agencies have not identified any plans for future development of recreational facilities within the area or associated with the project.
- Project implementation would be consistent with safety considerations and regulations.
- The project is environmentally compatible with the total environment of the area.

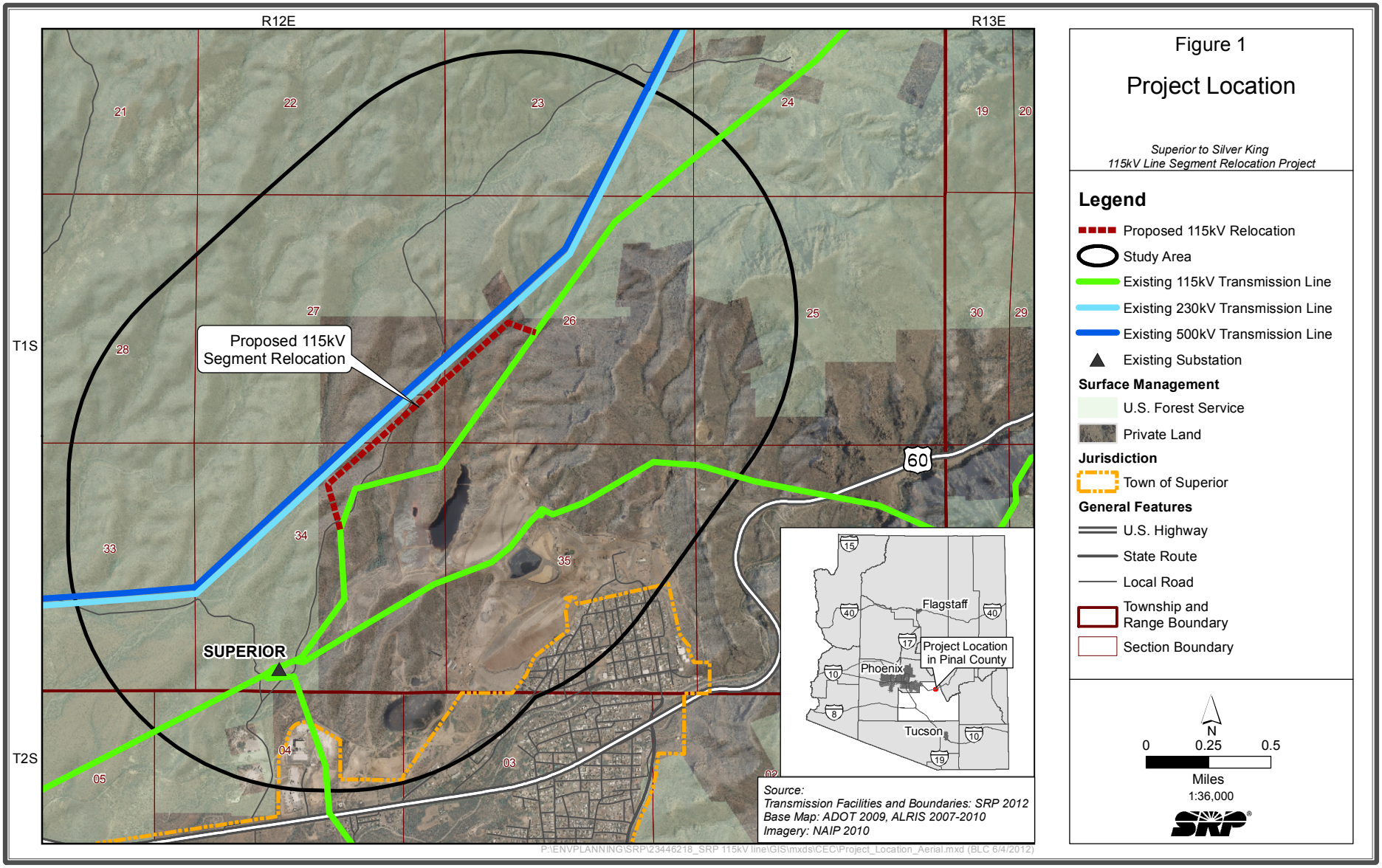


Figure 1

Project Location

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road
- Township and Range Boundary
- Section Boundary

N

0 0.25 0.5

Miles

1:36,000

SRP

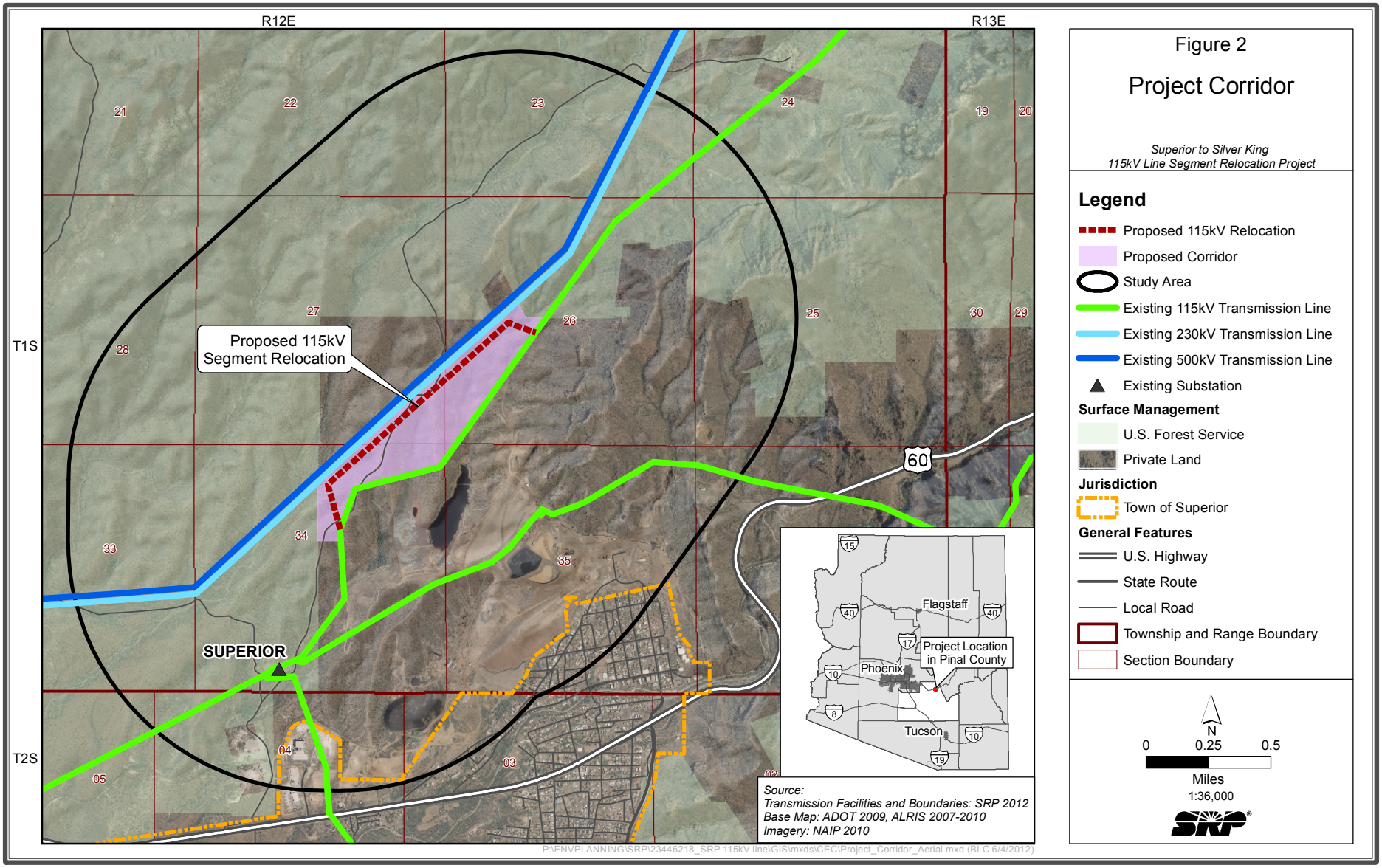


Figure 2

Project Corridor

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Proposed Corridor
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road
- Township and Range Boundary
- Section Boundary

N

0 0.25 0.5

Miles

1:36,000

EXHIBIT A – LOCATION MAP AND LAND USE INFORMATION

In accordance with Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, Applicant provides the following location maps and land use information:

1. "*Where commercially available, a topographic map, 1:250,000 scale, showing the proposed plant site and the adjacent area within 20 miles thereof. If application is made for alternative plant sites, all sites may be shown on the same map, if practicable, designated by applicant's order of preference.*"

2. "*Where commercially available, a topographic map, 1:62,500 scale, of each proposed plant site, showing the area within two miles thereof. The general land use plan within this area shall be shown on the map, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of an overlay.*"

3. "*Where commercially available, a topographic map, 1:250,000 scale, showing any proposed transmission line route of more than 50 miles in length and the adjacent area. For routes of less than 50 miles in length, use a scale of 1:62,500. If application is made for alternative transmission line routes, all routes may be shown on the same map, if practicable, designated by applicant's order of preference.*"

4. "*Where commercially available, a topographic map, 1:62,500 scale, of each proposed transmission line route of more than 50 miles in length showing that portion of the route within two miles of any subdivided area. The general land use plan within the area shall be shown on a 1:62,500 map required for Exhibit A-3, and for the map required by this Exhibit A-4, which shall also show the areas of jurisdiction affected and any boundaries between such areas of jurisdiction. If the general land use plan is uniform throughout the area depicted, it may be described in the legend in lieu of on an overlay.*"

INTRODUCTION

The existing 115kV transmission line segment and proposed segment relocation is located entirely on privately owned land in unincorporated northeastern Pinal County. Major land uses in the area surrounding the transmission line segment include mining and industrial uses, with primarily residential, commercial, and industrial land uses within the incorporated limits of the Town of Superior. The mining and residential areas are surrounded by Tonto National Forest which is federal land administered by the U.S. Department of Agriculture, Forest Service.

INVENTORY METHODS

For the purpose of this analysis, the study area included lands within approximately 1 mile of the existing 115kV transmission line and the proposed segment relocation. Within that study area, URS conducted an inventory of the land jurisdiction, ownership (surface management), and land uses. Surface management, jurisdiction, and land use information were identified through a review of data acquired from the Arizona Land Resource Information System (ALRIS 2007-2010); the Pinal County Comprehensive Plan (Pinal County 2009), development services code, and zoning ordinance (Pinal County 2012a, 2012b, 2012c); the Town of Superior zoning map (Town of Superior 2000) and General Plan (2009); the Tonto National Forest Plan (USDA FS 1985); aerial photography; and field reconnaissance.

INVENTORY RESULTS

Jurisdiction and Land Ownership (Surface Management)

The study area encompasses the northern boundary of the Town of Superior and a portion of unincorporated Pinal County and includes both federal and privately owned land. The federal land is administered by the U.S. Department of Agriculture, Forest Service, Tonto National Forest, Globe Ranger District. The jurisdiction and land ownership within the study area is shown on Exhibit A-1.

Existing Land Use

Within the study area, land uses generally follow along the boundary of the incorporated and unincorporated areas. The land within the incorporated limits of the Town of Superior includes industrial and residential properties and uses, consistent with the Town of Superior's zoning for those lands. These lands are along the southern edge of the study area boundary, approximately 0.7 to 1.0 mile from the existing 115kV transmission line.

The private land in the unincorporated part of the study area includes primarily mining facilities, roads, utilities, and some undeveloped lands. In proximity to the existing 115kV transmission line, there are limited-access unpaved roads and some previously used mine tailing pond areas associated with past mining operations. South/southeast of the existing 115kV transmission line the private land includes buildings and other structures, material piles, tailings ponds, pits, and reclaimed slopes. Toward the north and northwest of the existing 115kV transmission line, a high-voltage transmission line corridor is present, which includes a 230kV transmission line and 500kV transmission line. The Silver King Mine Road, which is publicly accessible through the area, follows near the ridgeline under the 115kV, 230kV, and 500kV lines. The private property northwest of the 230kV and 500kV transmission lines is relatively undisturbed. Though the private and unincorporated lands are zoned by Pinal County as General Rural for uses such as dwellings, agriculture, and dairy (Pinal County 2012a, 2012c), Arizona Revised Statutes (A.R.S. 11-812, A2) exempts mining uses from zoning regulations (Pinal County 2012b).

The federal land in the unincorporated part of the study area includes National Forest land, with unpaved roads and utilities, though that area remains relatively undisturbed. This National Forest land is part of the extensive 2F Management Area in the Globe Ranger District of the Tonto National Forest, which is managed for a variety of uses particularly water quality maintenance, dispersed recreation, wildlife habitat improvement, and livestock forage production (USDA FS 1985). Facilities include two-track roads, the bladed Forest Road 229 (Silver King Mine Road), and an electrical substation.

The existing land use within the study area is shown on Exhibit A-2.

Future Land Use

In general, future land uses are not expected to differ significantly from existing land uses within the study area. The future land use within the incorporated limits of the Town of Superior is expected to remain similar to existing uses, as most of the land within the incorporated area includes developed uses (industrial and residential).

Future use of private land in the unincorporated part of the study area is designated in the Pinal County comprehensive plan as Very Low Density Residential (rural) with Mining/Extraction in the general vicinity of Superior. The Town of Superior General Plan (2009) categorizes this land outside of the Town boundary but within its planning area as Mining, Industrial Park, and Low Density Residential, which is generally consistent with the uses identified by the County (though locations vary slightly). As a result,

use of the private land in the study area is expected to continue similar to present uses, with the potential for some increased mining uses on the private land, including the addition of rock storage related to mining activities.

Future uses of the federal land in the unincorporated part of the study area are not expected to change from existing uses, as no specific changes have been proposed to the management described under existing land uses. However, in this area future land uses are categorized in the Town's General Plan as mainly Park/Open Space, Mining, Industrial Park, and Low and Medium Density Residential. The Town assumes that annexation could expand to the west through land exchanges and disposals by the Forest Service. Should land transfer from federal ownership, future uses would be expected to change.

The future land use within the study area is shown on Exhibit A-2 (as existing uses are not expected to change substantially).

IMPACT ASSESSMENT METHODOLOGY

The potential effects of the proposed relocation of a segment of the Superior to Silver King 115kV transmission line on existing and future land uses were assessed by considering whether the project would substantially alter the type of land use (e.g., residential, industrial) or create restrictions on future land use opportunities. The study area was reviewed for potential impacts on land uses, recognizing that only those land uses within the proposed transmission line corridor would be impacted.

IMPACT ASSESSMENT RESULTS

The existing land use of the proposed transmission line corridor includes mining with undeveloped areas. The new location proposed for the 115kV transmission line is undeveloped except for the Silver King Mine Road, other unpaved roads, and 230kV and 500kV lines, which the 115kV line would parallel the southernmost edge of the existing transmission line corridor. The nine replacement structures (primarily single-pole structures) would result in a minimal amount of disturbance to the undeveloped area, though they would not adversely affect existing roads or the utility corridor. Given the distance to the nearest developed lands, particularly residential areas that are approximately 0.7 mile away, no impacts on residential uses are anticipated.

Future uses of the project area would not be adversely impacted, as the property owner has requested the relocation to accommodate future uses, including storage of rock from mine shaft sinking and underground development activities. As a result, co-locating the 115kV transmission line along the corridor for the 230kV and 500kV transmission lines provides benefits to the property owner for future uses.

CONCLUSION

By relocating the 115kV line segment adjacent to and parallel to the existing 230kV and 500kV transmission lines, private land under the existing route could be used more efficiently for current and future mining use, and the land used for transmission lines would be consolidated along an existing utility corridor.

REFERENCES

Arizona Land Resource Information System (ALRIS). 2007-2010.

Pinal County. 2012a. *Pinal County Development Services Code*. http://www.codepublishing.com/AZ/pinalcounty. Accessed on April 30, 2012.

Pinal County. 2012b. *Zoning Ordinance*. http://pinalcountyaz.gov/Departments/PlanningDevelopment/Documents/PZC00710.ORD.FINAL.pdf. Accessed on April 30, 2012.

Pinal County. 2012c. GIS Map Viewer. http://gismaps.pinalcountyaz.gov/Geocortex/Essentials/Web/Viewer.aspx?Site=PinalCounty#. Accessed on April 30, 2012.

Pinal County. 2009 (updated 2011). *We Create Our Future: Pinal County Comprehensive Plan*. Florence, Arizona.

Town of Superior. 2009. *Town of Superior General Plan Update*, adopted December 18, 2003, amended February 19, 2009. Superior, Arizona.

Town of Superior. 2000. Official Zoning Map of the Town of Superior. http://superior-arizona.com/images/zoning map-800.jpg. Accessed on March 30, 2012.

U.S. Department of Agriculture (USDA), Forest Service (FS). 1985 (amended 2006). *Tonto National Forest Plan*. Phoenix, Arizona.

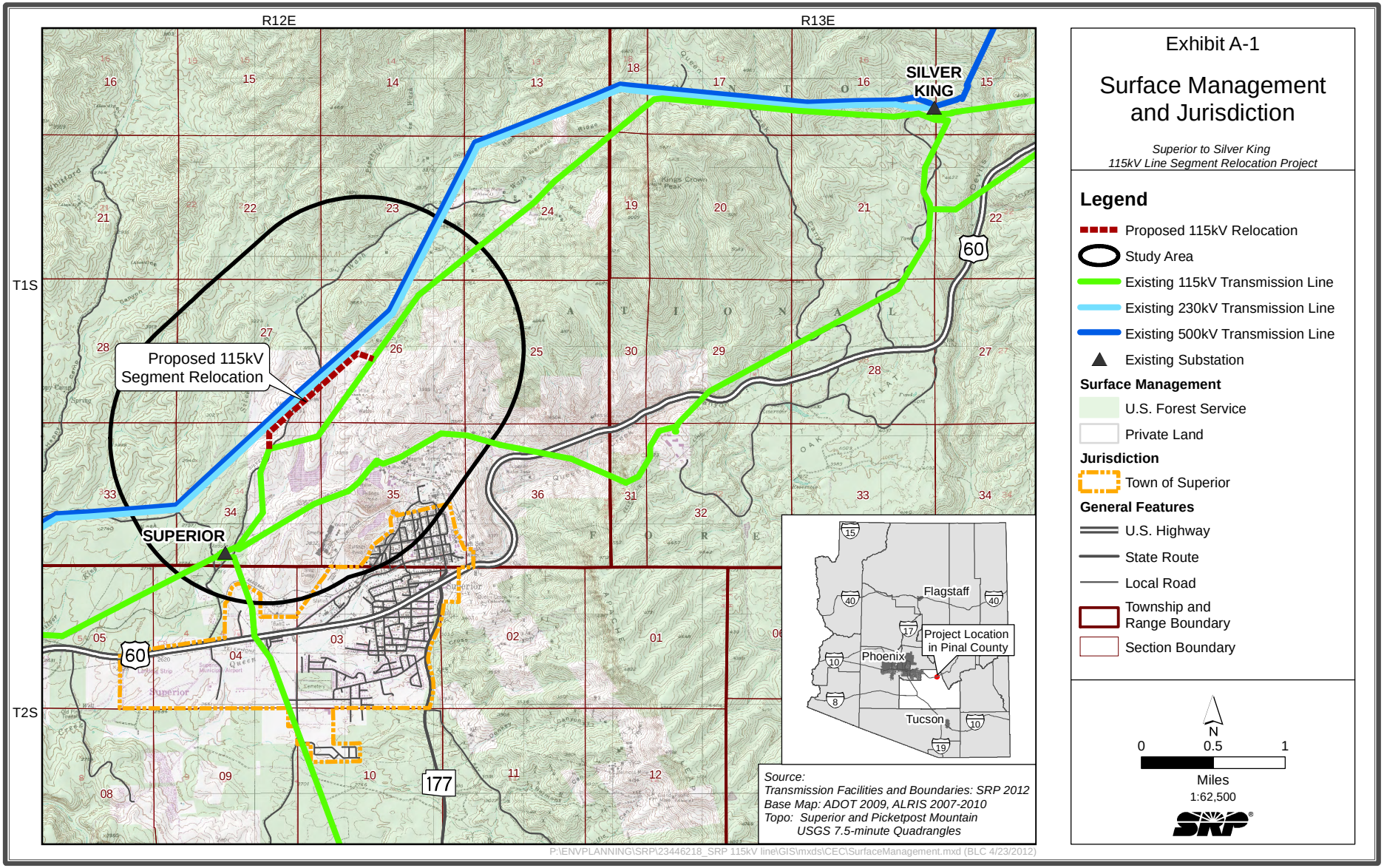


Exhibit A-1

Surface Management and Jurisdiction

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road
- Township and Range Boundary
- Section Boundary

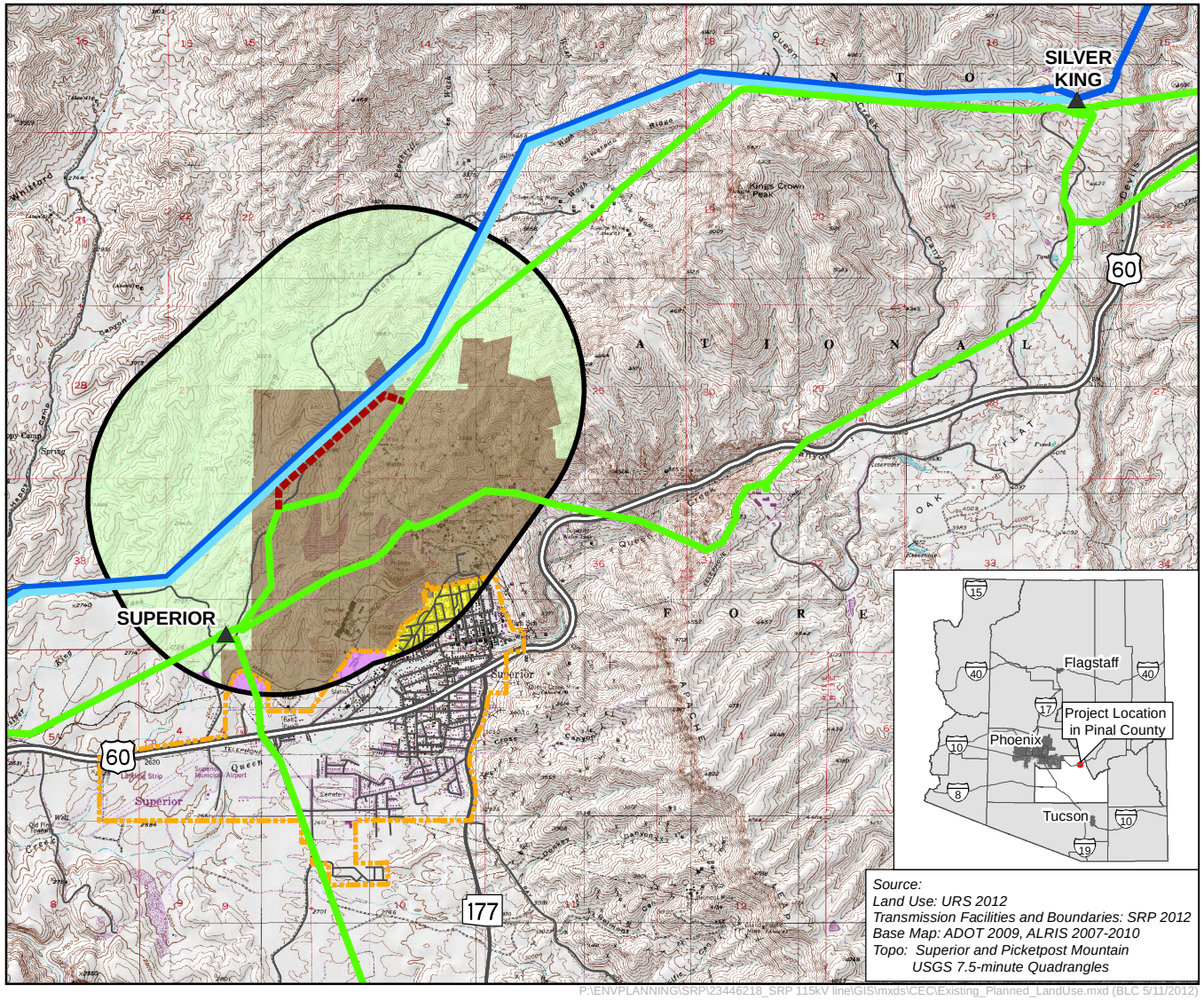
N

0 0.5 1

Miles

1:62,500

SRP



P:\ENVPLANNING\SRP\23446218_SRP 115kV line\GIS\mxds\CEC\Existing_Planned_LandUse.mxd (BLC 5/11/2012)

Exhibit A-2

Existing and Planned Land Use

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Jurisdiction

- Town of Superior

Existing and Planned Land Use

- Residential
- Industrial
- Undeveloped and Mining (Rural)
- Multiple Use (U.S. Forest Service)

General Features

- U.S. Highway
- State Route
- Local Road

N

0 0.5 1

Miles

1:62,500

EXHIBIT B – ENVIRONMENTAL REPORT

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any Federal agency or if a Federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as part of this exhibit.*"

Additional studies associated with this line relocation have been prepared on behalf of Resolution Copper Mining, LLC by WestLand Resources. The studies relevant to this project that SRP obtained and reviewed included the following:

Exhibit B-1 WestLand. 2012. *Biological Evaluation: Superior to Silver King 115 kV Powerline Segment Re-route*. WestLand Resources Inc., Tucson, AZ, 18 pp+figures and appendices.

Exhibit B-2 Deaver, William T. 2012. *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona.* Cultural Resources Report 2011-51. WestLand Resources, Tucson, Arizona. (specific maps redacted)

EXHIBIT B-1 – BIOLOGICAL EVALUATION

BIOLOGICAL EVALUATION

SUPERIOR TO SILVER KING 115 KV POWERLINE SEGMENT RE-ROUTE

Prepared by:

WestLand Resources, Inc.
Engineering and Environmental Consultants
4001 E. Paradise Falls Drive
Tucson, Arizona 85712

February 10, 2012
Project No. 0807.40 A 347

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

(figures follow text)

LIST OF PHOTOGRAPHS

LIST OF APPENDICES

EXECUTIVE SUMMARY

WestLand Resources, Inc. (WestLand) has prepared this Biological Evaluation (BE) for proposed re-route of a 115 kV powerline segment (the Project). The powerline is located entirely on privately owned lands. Salt River Project (SRP) plans to reroute the 115 kV powerline segment to continue provide electrical service from Superior, Pinal County, to the Silver King Substation, Gila County, Arizona (***Figure 1***). The Project is located west of Superior in Pinal County, and north of U.S. Highway 60 (US 60) within Township 1 South, Range 12 East, portions of Sections 26, 27, and 34; Gila and Salt River Baseline and Meridian (***Figure 1***). The area evaluated in this BE is approximately 1.1 mi (1.8 km) long, 200 ft (61 m) to 660 ft (200 m) wide and encompasses approximately 36.6 ac (14.8 hectares) (the Project Area).

The purpose of this BE is to identify the potential for any special-status species to occur within the Project Area, and determine whether the Project would potentially impact any special-status species. Special-status species are those currently listed by the U.S. Fish and Wildlife Service (USFWS) in Pinal County as endangered, threatened, or candidate for listing under the Endangered Species Act (ESA).

A screening analysis was conducted to evaluate the potential for occurrence of 18 special-status species. Three special-status species have limited potential to occur within the Project Area, the Sonoran population of the desert tortoise (*Gopherus agassizii*), lesser long-nosed bat (LLNB; *Leptonycteris curasoae yerbabuenae*), and ocelot (*Leopardus* [*Felis*] *pardalis*). There is no designated or proposed critical habitat within the Project Area.

The listing of LLNB and ocelot as endangered species triggers "take" prohibition as outlined in Section 9 of the ESA. As a candidate species, the desert tortoise has no formal protection under the ESA.

The desert tortoise has not been recorded from the Project Area, but is considered to have limited potential to occur in the Project Area because the Project Area is within the range of the tortoise and the Project Area contains desertscrub habitat. The desert tortoise uses rocky slopes and bajadas in Mohave and Sonoran desertscrub. This species was not observed in the Project Area, which lacks rocky habitat often associated with this species, and the slopes observed during field surveys appear to offer little opportunity for excavation to create shelters. The Project Area appears to provide marginally suitable habitat and the likelihood of adverse impacts to this species as a result of loss of habitat is improbable. However, it is possible that individual tortoise could be encountered during surface disturbance activities, and measures for avoiding impacts to Sonoran desert tortoise are recommended. Any individual tortoises encountered could be avoided and allowed to move out of the way prior to activities. If encountered near ground disturbing activities, work could stop until the tortoise vacates to an adequate safe distance. Guidelines for handling desert tortoise published by Arizona Game and Fish Department (AGFD) (2007) could be used if it were found absolutely necessary to move individual tortoises.

The LLNB has not been recorded from the Project Area, but is considered to have a limited potential for occurrence in the Project Area because the Project Area occurs along the northeastern extent of its range and the Project Area contains appropriate foraging habitat for this species. Saguaro (*Carnegiea giantea*) and agave (*Agave* sp.), forage plants for LLNB, occur within portions of the Project Area and individual

forage plants may be impacted by proposed activities. This species has not been detected within the Tonto National Forest (Tonto National Forest 2000), which encompasses the private lands that include the Project Area, and there have been no detections of this bat during surveys conducted by AGFD (Bill Burger, AGFD, pers. comm.) and WestLand (WestLand 2011 Bat Survey Report in prep.) in the Project vicinity. No LLNB are anticipated to be directly impacted and no potential roosts (caves or abandoned mines) will be impacted by the Project.

The ocelot has not been recorded within the Project Area, but is considered to have limited potential to occur within the Project Area because a male ocelot was killed by a vehicle in 2010 between Globe and Superior (approximately 4 miles east of the Project Area), and the Project Area contains desertscrub habitat, which is used by ocelot, although the vegetation in the Project Area is marginally suitable based on this species' preference. Confirmed sightings of ocelot in Arizona are sparse, and numerous unconfirmed sightings are also reported for this species (USFWS 2011b). Overall, this cat utilizes dense, brushy, and shrubby vegetation, especially along streams, which provides thick cover (Hoffmeister 1986, AGFD 2011b, USFWS 2011b). In Arizona, this species uses desertscrub habitat, but it is usually found in habitat with greater than 75 percent cover (USFWS 2010). There are only seven confirmed records of ocelots in Arizona, the closest of which was a roadkill between Globe and Superior in April 2010 approximately 4 miles east of the Project Area. This sighting is the northernmost recent sighting of this species. Breeding ocelots have never been confirmed in Arizona. There are no confirmed records of female ocelots within the State of Arizona. Because the Project Area lacks dense vegetation cover for this species, the likelihood of adverse impacts to ocelot as a result of loss of habitat is highly improbable. No direct impacts to ocelot individuals are anticipated, because this species will not likely be traveling through the Project Area during surface disturbance activities.

1. INTRODUCTION

WestLand Resources, Inc. (WestLand) has prepared this Biological Evaluation (BE) for the proposed re-route of a 115 kV powerline segment (the Project). The powerline is located entirely on privately owned lands. Salt River Project (SRP) plans to re-route a segment of the 115 kV powerline to continue provide electrical service from Superior, Pinal County, to the Silver King Substation, Gila County, Arizona (***Figure 1***). The Project is located west of Superior in Pinal County, and north of U.S. Highway 60 (US 60) within Township 1 South, Range 12 East, portions of Sections 26, 27, and 34; Gila and Salt River Baseline and Meridian (***Figure 1***). The area evaluated in this BE is approximately 1.1 mi (1.8 km) long, 200 ft (61 m) to 660 ft (200 m) wide and encompasses approximately 36.6 ac (14.8 hectares) (the Project Area).

The purpose of this BE is to identify the potential for any special-status species to occur within the Project Area, and determine whether the Project would potentially impact any special-status species. Special-status species are those species designated as threatened, endangered, proposed/candidate by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) as endangered, threatened, candidate, and conservation agreement species in Pinal County. The BE includes and ecological description of the Project Area and documents dominant vegetation and wildlife observed within the Project Area during field surveys.

2. METHODS

Eighteen special-status species are listed for Pinal County by the Arizona Ecological Field Office of the USFWS (2011a, ***Appendix A***). A screening analysis was conducted to evaluate the potential for occurrence of 18 special-status species and proposed or designated critical habitat for listed species within the Project Area. Special-status species are those which are classified as endangered, threatened, or candidate for listing by the USFWS for Pinal County, Arizona.

Our determination of the potential for special-status species to be present and to utilize habitats within the Project Area is based upon: 1) field observations and habitat assessments of the Project Area; 2) review of information regarding the natural history of the special-status species; 3) evaluation of known range and distribution for the special-status species; and 4) comparisons of this information with habitats present in the Project Area.

Special-status species lists for the Project Area vicinity were obtained from the Arizona Ecological Field Office of the U.S. Fish and Wildlife Service for Pinal County (USFWS 2011a), the Arizona Game and Fish Department (AGFD) Heritage Database Management System (HDMS [AGFD 2011a]). Special-status species lists obtained from USFWS and used in WestLand's screening analysis are provided in ***Appendix A***. A site-specific HDMS online search (AGFD 2011a) resulted in a list of special-status species known to be present within 3 miles of the Project Area (***Appendix B***). Natural history for each of these species was reviewed to determine habitat and life history requirements and to identify the parameters requiring investigation during the field reconnaissance portion of the evaluation. A more rigorous literature review was conducted for any species known to occur in proximity to or within the Project Area.

Field reconnaissance was conducted October 25, 2011, by WestLand biologists to identify habitat types in the area, to evaluate the Project Area's potential to support any special-status species. No species-specific survey was conducted during the site visit.

Based on results of the background research and field reconnaissance described above, a screening analysis was conducted to determine the potential for occurrence of special-status species on or near the Project Area. Species were eliminated from further consideration if the Project Area is located outside of their known range or distribution, or if require habitat components are not present. In addition, the location of proposed or designated critical habitat was reviewed for each federally listed species in reference to proposed activity areas.

3. RESULTS

3.1 SITE DESCRIPTION

The Project Area is situated on the low ridges on the west side of Silver King Wash. Access to the Project Area for the project would be gained through Silver King Road.

Historical land use within the Project Area vicinity has primarily been associated with mineral exploration and mining, low-density cattle grazing, and dispersed public recreation, off-road vehicle use, and recreational shooting. Mining activities have been fundamental to the economy of the area for many years, beginning with the establishment of the Silver King Mine in 1875 and the Magma Mine in the early 1900s (Buckles 2009). Disturbance is most evident along existing roadways that currently appear to be used mainly for recreation, grazing activities, and powerline maintenance. Numerous pullout areas are found along the roadways, generally in flat areas. Older disturbance associated with mining and ranching is also apparent (***Photo 1***).

Photo 1. Typical upland Sonoran desertscrub habitat along Silver King Road within the Project Area in previously disturbed area. Transmission line will follow existing corridor. October 25, 2011.

The Project Area is within the Central Highlands Physiographic Province, a geologic transitional zone between the Colorado Plateau and the Basin and Range provinces. This zone is characterized by a series of smooth-floored basins separated by rugged mountain ranges (Chronic 1983). The topography of the Project Area is characterized by long south-southwest-oriented ridges of moderate height and with moderate slopes. The majority of the Project Area, along Silver King Wash, is the largest relatively level area along the ridge top with a drainage located near the northernmost portion. Elevations within the Project Area range around approximately 3,100 feet above mean sea level (amsl).

Geology within the south and central portions of the Project Area consists of primarily of Gila Conglomerate formation consisting of Quaternary-Tertiary gravel and conglomerate (QTg) (Arizona Land Resource Information System 2011; ***Figure 4***). Gila Conglomerate consists of deposits of grains, pebbles and boulders that have been eroded from the surrounding volcanic mountains and then transported and deposited by streams. Dripping Springs quartzite (Yds) and Late Crustacean diabase (Kdb) can be found in the northern portion of the Project Area.

The Project Area is located within the Gila River watershed west of Apache Leap. No surface water is present within the Project Area because the majority of the Project Area lies along the ridge tops. A drainage located at the northern edge of the Project Area is ephemeral and is subject only to run off events occurring during seasonal thunderstorms.

The Project Area lies entirely within an area classified as the Arizona Upland subdivision of the Sonoran Desertscrub biotic community, as mapped by Brown and Lowe (1980). Brown and Lowe's Arizona Upland corresponds to the USDA Forest Service's (Forest Service's) Sonoran upland desertscrub vegetation community. Arizona Upland is typically wetter than other desert communities (averaging 12 to 18 inches of annual rainfall) and is characterized by its appearance as a scrubland or low woodland of leguminous trees with shrubs and perennial succulents in the open areas (Brown 1994).

Vegetation within the Project Area in general is dominated by species that include velvet mesquite (*Prosopis velutina*), blue paloverde (*Parkinsonia florida*), littleleaf paloverde (*P. microphylla*), saguaro (*Carnegiea gigantea*), ocotillo (*Fouquieria splendens*), jojoba (*Simmondsia chinensis*), flattop buckwheat (*Eriogonum fasciculatum*), fairy duster (*Calliandra eriophylla*), cholla species and prickly pear cactus (*Opuntia* spp.), and fishhook barrel cactus (*Ferocactus wislizenii*). In general, the north facing slopes are more densely vegetated than south facing areas (***Photo 2***).

The vegetation community is relatively consistent throughout the Project Area. However, a slight vegetation shift was noted in the northern portion, which is slightly higher elevation in elevation and spans an ephemeral wash (***Photo 3***). In the northern reach, saguaros are present and tree density increases. WestLand compiled a general species list of vegetation within the Project Area during field surveys on October 25, 2011 (***Table 1***).

Photo 2. Typical upland Sonoran desertscrub habitat along southern portion of Silver King Road within the Project Area. Transmission line will follow existing corridor seen in background. October 25, 2011.

Photo 3. Typical upland Sonoran desertscrub habitat along northern portion of Silver King Road within the Project Area. Transmission line will bisect this image horizontally and connect the two lines located left and right of this image (outside of view). October 25, 2011.

Table 1. List of Plant Species Commonly Noted during field reconnaissance in the Project Area on October 25, 2011. Taxonomy follows ITIS (2011).

Plant Species Common Name	Plant Species Scientific Name	Plant Species Common Name	Plant Species Scientific Name
Catclaw acacia	*Acacia greggii*	Wolfberry	*Lycium* sp.
Agave	*Agave* sp.	Teddybear cholla	*Opuntia bigelovii*
Canyon ragweed	*Ambrosia ambrosioides*	Jumping cholla	*O. fulgida*
Thistle	*Asteraceae*	Prickly pear	*Opuntia* spp.
Saguaro	*Carnegiea gigantea*	Staghorn cholla	*O. versicolor*
Fairyduster	*Calliandra eriophylla*	Blue paloverde	*Parkinsonia florida*
Desert hackberry	*Celtis pallida*	Littleleaf paloverde	*P. microphylla*
Brittlebush	*Encelia farinosa*	Velvet mesquite	*Prosopis velutina*
Jointfir	*Ephedra* sp.	Globe mallow	*Sphaeralcea ambigua*
Fishhook barrel cactus	*Ferocactus wislizenii*	Jojoba	*Simmondsia chinensis*
Ocotillo	*Fouquieria splendens*	Banana yucca	*Yucca bacata*
Broom snakeweed	*Gutierrezia sarothrae*	Gray thorn	*Ziziphus obtusifolia*

Mammals noted during field reconnaissance include observations of mule deer (*Odecoilus hemonius*) as well as tracks and scat of javelina (*Pecari tajacu*) and gray fox (*Urocyon cineroargenteus*). Bird species detected during field reconnaissance include cactus wren (*Campylorhynchus brunneicapillus*), common raven (*Corvus corax*), and curve-billed thrasher (*Toxostoma curvirostre*).

3.2 SCREENING ANALYSIS

Special-status species considered in this BE include those that are currently listed by USFWS as occurring in Pinal County, Arizona; they include endangered, threatened, and candidates for listing.

A composite list was created that includes 18 special-species (3 plants, 15 vertebrates, 0 invertebrates). Of the 18 special-status species, 9 are listed as endangered, 3 as threatened, and 6 as candidates for listing. A screening analysis of these 18 special-status species was then completed to determine which have the potential to be present within the Project Area (***Table 2***).

An AGFD HDMS search identified ten species that have been reported within three miles of the Project Area (***Appendix B***), including, Bat colony (species not identified), desert pupfish (*Cyprinodon macularius*), Arizona hedgehog cactus (*Echinocereus triglochidiatus* var. *arizonicus*), greater western mastiff bat (*Eumops perotis californicus*), American peregrine falcon (*Falco peregrinus anatum*), Yuma myotis (*Myotis yumanensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), saddled leaf-nosed snake (*Phyllorhynchus browni*), Gila topminnow (*Poeciliopsis occidentalis occidentalis*), and lowland leopard frog (*Lithobates* [*Rana*] *yavapaiensis*). Three of these species are protected under the ESA: Arizona hedgehog cactus, desert pupfish, and Gila topminnow. The Project Area does not provide surface water or suitable substrate for any these special-status species.

Based on WestLand's screening analysis, three special-status species have the potential to occur within the Project Area, the Sonoran population of the desert tortoise (*Gopherus agassizii)*, lesser long-nosed bat (LLNB; *Leptonycteris curasoae yerbabuenae*), and ocelot (*Leopardus* [*Felis*] *pardalis*). These species are discussed further in the following sections. No proposed or designated critical habitat is located within the Project Area.

Table 2. Screening Analysis for USFWS Special-Status Species in Pinal County. Species shown in bold have potential to occur in the project vicinity and are discussed further in this BE.

Species	USFWS Status[1]	Potential Occurrence at Project Area; Basis for Potential Occurrence Determination
Plants (3)		
Arizona hedgehog cactus (*Echinocereus triglochidiatus* var. *arizonicus*)	Endangered	No potential to occur. Occupies open slopes and cracks and crevices between boulders in Interior Chaparral and Madrean Evergreen Woodland habitats (sensu Brown 1994) at elevations between 3,300 to 5,700 feet (TNF 1996). Associated with Apache Leap Tuff and Pinal Schist substrates (WestLand 2009). This cactus has been recorded from within 3 miles of the Project Area (***Appendix B***). However, elevations found within the Project Area are lower than its typical distribution, does not possess associated vegetation community, or crevice habitat, and the does not provide the specific substrates associated with this cactus.

[1] **U.S. Fish & Wildlife Service Categories**

Endangered Taxa in danger of extinction throughout all, or a significant portion, of its range.

Threatened Taxa likely to become Endangered in the foreseeable future throughout all, or a significant portion, of its range.

Candidate Taxa for which sufficient data exist to support proposals to list, but formal proposals to list the species as Threatened or Endangered have not been made by the USFWS because this action is precluded by other listing activity.

Table 2. Screening Analysis for USFWS Special-Status Species in Pinal County. Species shown in bold have potential to occur in the project vicinity and are discussed further in this BE.

Species	USFWS Status[1]	Potential Occurrence at Project Area; Basis for Potential Occurrence Determination
Acuña cactus (*Echinomastus erectocentrus acunensis*)	Candidate	No potential to occur. Occupies knolls and ridges between ridges in granitic soils at elevations between 1,300 to 2,000 feet or 1,300 to 3,610 feet (AGFD 2011b). The closest known population is in the hills between Florence and Kearney that is well outside the Project Area and not found within TNF. The Project Area lacks suitable habitat and it outside of the range for this cactus.
Nichol's Turk's head cactus (*Echinocactus horizonthalonius nicholii*)	Endangered	No potential to occur. Occupies Sonoran Desertscrub habitats at the foot of limestone mountains and on inclined terraces and saddles on limestone mountains (AGFD 2011b). No suitable habitat of limestone substrates are present on the Project Area, and it is well outside the known range of this cactus.
Fish (6)		
Desert pupfish (*Cyprinodon macularis*)	Endangered	No potential to occur. Occupies shallow clear waters with soft substrates (AGFD 2011b). No naturally occurring populations remain in Arizona. Project Area lacks aquatic habitat for this fish.
Gila chub (*Gila intermedia*)	Endangered	No potential to occur. Uses small headwater streams, cienegas, marshes and springs of Gila River Drainage (AGFD 2011b). Suitable aquatic habitat may be present on Queen Creek south of the Project Area, but this species is not known to be present in this drainage (AGFD 2011b). Project Area lacks aquatic habitat for this fish.
Razorback sucker (*Xyrauchen texanus*)	Endangered	No potential to occur. Utilizes a variety of stream habitats, big rivers and reservoirs (AGFD 2011b). This species is endemic to the Colorado river basin and is not found on TNF. Project Area lacks aquatic habitat for this fish.
Spikedace (*Meda fulgida*)	Threatened	No potential to occur. Inhabit shallow streams with eddies and riffles (AGFD 2011b). Suitable aquatic habitat may be present near Queen Creek south of the Project Area, but this species is not known to be present in this drainage (AGFD 2011b). Project Area lacks aquatic habitat for this fish.
Loach minnow (*Tiaroga cobitis*)	Threatened	No potential to occur. Occupies turbulent habitats of rocky areas with riffles in large rivers and tributaries (AGFD 2011b). Suitable aquatic habitat may be present on Queen Creek south of the Project Area, but this species is not known to be present in this drainage (AGFD 2011b). Project Area lacks aquatic habitat for this fish.
Roundtail chub (*Gila robusta*)	Candidate	No potential to occur. Inhabits warm to cool mid-elevation rivers and streams (AGFD 2011b). Marginal aquatic habitat may be present on Queen Creek south of the Project Area, but this species is not known to be present in this drainage (AGFD 2011b). Project Area lacks aquatic habitat for this fish.
Reptiles (3)		
Tucson shovel-nosed snake (*Chionactis occipitalis klauberi*)	Candidate	No potential to occur. Utilizes creosote-mesquite floodplains with loose substrates at elevations between 785-1,662 feet (AGFD 2011b). Project Area lacks suitable habitat and is above the known elevation range of this snake.
Desert tortoise, Sonoran population (*Gopherus agassizii*)	Candidate	Limited potential to occur. Species primarily occurs in rocky foothills and lower bajadas of the Sonoran desert (AGFD 2011b). The Project Area lacks suitable rocky habitat for this tortoise but individuals may move through the area. This species is considered further in Section 5.1.

Table 2. Screening Analysis for USFWS Special-Status Species in Pinal County. Species shown in bold have potential to occur in the project vicinity and are discussed further in this BE.

Species	USFWS Status[1]	Potential Occurrence at Project Area; Basis for Potential Occurrence Determination
Northern Mexican gartersnake (*Thamnophis eques megalops*)	Candidate	No potential to occur. Inhabits densely vegetated habitats along water sources (AGFD 2011b). Populations are generally found south of Gila River. Suitable aquatic habitat may be present on Queen Creek south of the Project Area, but this species is not known to be present in this drainage (AGFD 2011b). Project Area lacks suitable riparian habitat and surface water for this snake.
Birds (8)		
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	No potential to occur. Inhabits densely vegetated multilayered blocks of willow/cottonwood/exotic riparian vegetation and standing water/saturated soils present mid-summer (AGFD 2011b). The Project Area lacks the well-developed riparian habitat used by this bird.
Yuma clapper rail (*Rallus longirostris yumaensis*)	Endangered	No potential to occur. Occupies fresh water and brackish marshes with dense emergent riparian vegetation (AGFD 2011b). The Project Area lacks aquatic habitat for this bird.
Mexican spotted owl (*Strix occidentalis lucida*)	Threatened	No potential to occur. Inhabits canyons and dense forests between 4,100 to 9,000 feet (USFWS 2011a). The Project Area lacks suitable habitat and is below the lower elevation limit for this bird.
Yellow-billed cuckoo (*Coccyzus americanus*)	Candidate	No potential to occur. Utilizes large blocks of riparian woodlands at elevations below 6,710 feet in Arizona (AGFD 2011b). Project Area lacks suitable habitat for this bird.
Bat (1)		
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)	Endangered	Limited potential to occur. The Project Area is outside the known range of this bat as denoted by Hoffmeister (1986) and Cockrum (1991).This species roosts in caves or abandoned mines during the warm months (Hoffmeister 1986). This species could occasionally fly over the survey area while foraging; however, proposed activities will not likely eliminate roosting habitat. This species is considered further in Section 5.2.
Mammal (1)		
Ocelot (*Leopardus* [*Felis*] *pardalis*)	Endangered	Limited potential to occur. Occupies dense thickets that are almost impenetrable (AGFD 2011b). Established sightings in Arizona are rare for this species. However, a male was killed by a vehicle along Highway 60 between Globe and Superior in April 2010 (AGFD 2011b). The Project Area lacks suitable dense habitat for this mammal but because it has been confirmed between Globe and Superior, approximately 4 miles east of the Project Area, it is considered further in Section 5.3.

4. SPECIES EVALUATIONS

4.1 DESERT TORTOISE (*GOPHERUS AGASSIZII*)

Sonoran desert tortoises occur throughout much of the central and southwestern portions of the Arizona. The northeastern extent of their range abuts the Salt River in Gila County, while the easternmost records are located along the middle San Pedro River drainage in Cochise County. Tortoises have been recorded as far southwest as the Yuma Proving Ground, the Barry M. Goldwater Range, and the Cabeza Prieta National Wildlife Refuge (AGFD 2011b).

Habitat for the desert tortoise includes rocky slopes and bajadas in Mohave and Sonoran desertscrub, including a variety of biotic communities within or extending from the Sonoran Desert (AGFD 2011b). Specifically, Sonoran desert tortoises are found in the Arizona Upland and Lower Colorado River subdivisions of Sonoran Desertscrub, in desert grassland communities, and in ecotonal areas consisting of Sonoran desertscrub with elements of Mojave desertscrub and juniper woodland, interior chaparral, and desert grassland (Averill-Murray and Klug 2000). Populations occur at elevations from approximately 510 to 5,300 feet (AGFD 2011b).

Although no specimens or sign was observed during field surveys, the vegetation throughout much of the Project Area provides potentially suitable habitat for the Sonoran desert tortoise. The Project Area generally lacks rocky habitat often associated with this species, and the slopes observed during field surveys appear to offer little opportunity for excavation to create shelters. The area appears to provide only marginally suitable habitat. However, it is possible that individual tortoise could be encountered during surface disturbance activities, and measures for avoiding impacts to Sonoran desert tortoise are recommended. Any individual tortoises encountered could be avoided and allowed to move out of the way prior to activities. If encountered near ground disturbing activities, work could stop until the tortoise vacates to an adequate safe distance. Guidelines for handling desert tortoise published by AGFD (2007) and included as ***Appendix C*** could be used if it were found absolutely necessary to move individual tortoises.

4.2 LESSER LONG-NOSED BAT (*LEPTONYCTERIS YERBABUENAE*)

The lesser long-nosed bat is known to be present in parts of Arizona, New Mexico, and Central America. In Arizona, this bat has been found throughout much of the southern portion of the state, from the Picacho Mountains southwest to the Agua Dulce Mountains and southeast to the Chiricahua Mountains (***Figure 4***). It is a seasonal resident in Arizona, usually arriving in early April and departing in mid-to-late September. The Project Area occurs just northeast of the documented range of this bat. A few individuals have been reported northwest of the normal range during July and August in the Phoenix and Bill Williams River areas (Cole and Wilson 2006), but these occurrences appear to be anomalous. This species has not been detected within the Tonto National Forest (Tonto National Forest 2000), which encompasses the private lands that include the Project Area.

The lesser long-nosed bat is found in arid and semiarid habitats, and is associated primarily with desertscrub, semidesert grassland, and oak woodland vegetative communities below approximately 6,000 feet amsl (USFWS 2011b). This species roosts in caves and abandoned mines. In Arizona, this species feeds almost exclusively on the nectar and pollen of agaves (primarily *Agave palmeri*) and the nectar, pollen, and fruit of saguaro (*Carnegiea gigantea*) and organ pipe (*Stenocereus thurberi*) cacti (Cole and Wilson 2006; USFWS 1994). Extensive populations of suitable agave and cactus species are required to support this species (USFWS 1994).

The AGFD has captured 11 different species of bats during their mist netting efforts at the Boyce Thompson Arboretum, but the lesser long-nosed bat was not detected (Tim Snow, AGFD, pers. comm.). The AGFD has no records of this species in the Project Area region (Bill Burger, AGFD, pers. comm.). Similarly, this species was not detected during WestLand's bat survey of areas along Queen Creek, Apache Leap, Devil's Canyon, and Oak Flat area (WestLand 2011 Bat Survey Report in prep.).

Suitable roosting substrate (caves or abandoned mines) occurs within vicinity of the Project Area, but would not be disturbed by the Project. Given that this species has not been detected in the Project Area vicinity, it is unlikely for the lesser long-nosed bat to occur in the Project Area. There is limited potential for this species to forage on the saguaro and agave plants in the Project Area during summer and fall months. Impacts associated with the loss of forage plants for this species are improbable due to the availability of forage plants in proximity to known major roost sites and areas where this species in known to occur and roost (***Figures 4 and 5***).

4.3 OCELOT (*LEOPARDUS [FELIS] PARDALIS*)

In Arizona, the current range includes three counties: Cochise, Pima, and Santa Cruz (AGFD 2011b, USFWS 2011b). Confirmed sightings in Arizona are sparse, and numerous unconfirmed sightings are also reported for this species (USFWS 2011b). Ocelot records in Arizona are described below. The global range extends from the southern Arizona and southern Texas in the north, through the lowlands of Mexico and Central America, and into the lowlands of Columbia, Ecuador, and Peru in the south (AGFD 2011b). Historically, their range included areas from Arkansas and Arizona to Paraguay, Uruguay, and northern Argentina (AGFD 2011b). They were also found throughout much of Texas, and possibly into Louisiana (AGFD 2011b).

This cat is generally nocturnal, is a good swimmer, and frequently spends the day lying in branches of large trees (AGFD 2011b). Though primarily solitary, ocelots sometimes hunt in pairs (AGFD 2011b). Their diet is mostly comprised of small mammals (rodents), birds, rabbits, amphibians, insects, fish, and reptiles (Wilson and Ruff 1999, AGFD 2011b). Ocelots have also been known to consume armadillos, squirrel monkeys, lesser anteaters, land tortoises, and land crabs (AGFD 2011b). They typically hunt on the ground and in the trees (AGFD 2011b). Individuals may travel as much as 3.7 miles (6 km) a night while hunting (Wilson and Ruff 1999).

Overall, this cat utilizes dense, brushy, and shrubby vegetation, especially along streams, which provides thick cover (Hoffmeister 1986, AGFD 2011b, USFWS 2011b). This species is usually found in habitat with greater than 75% cover, with 95% being preferred in Texas (USFWS 2010). In Arizona, this species

uses desertscrub habitat, and in Texas is typically found in impenetrable thickets of chaparral including mesquite and acacia (AGFD 2011b, USFWS 2011b). In the southern United States they occupy moist tropical thorn forests, coastal mangroves, and swampy savannahs (USFWS 2011b). Throughout their range they have been observed in rainforests, tropical deciduous forests, gallery forests, savannahs, and xeric scrub (Wilson and Ruff 1999). This species may have a higher level of adaptability in habitat use than previously thought (Caso et al. 2008).

Dens are typically found in areas of bare ground within dense vegetation cover (Wilson and Ruff 1999, AGFD 2011b, NatureServe 2010). They have been shown to use thickets, caves, rocky areas, hollow trees, and buttress roots of large trees as den sites (Wilson and Ruff 1999, NatureServe 2010).

Confirmed Ocelot Sightings:

1. 1927. West side of Dragoon Mountains, Cochise County, AZ. Trapped by Mr. Stewart. Sex unknown. This animal was mounted and the mount still exists. A photograph of this mounted specimen is presented in Brown and Lopéz-Gonzaléz (2001 - Figure 26).

2. 1932. Camp Verde, Yavapai County, AZ. Collected by U.S. Biological Survey Predator and Rodent Control Agent. Sex of the ocelot is unknown. (Brown and Lopéz-Gonzaléz 2001; Hoffmeister 1986; USFWS 1990; FWS 2010)

3. 1964. Pat Scott Peak, Huachuca Mountains, Cochise County, AZ. Treed by hounds and lawfully shot by Sewell Goodwin. Male. Photograph record exists. (Brown and Lopéz-Gonzaléz 2001; Hoffmeister 1986; USFWS 1990; USFWS 2010)

4. 2009. Cochise County, AZ. Specific location has not been released. Photographed by camera trap placed by the Sky Island Alliance. Sex unknown (USFWS 2010).

5. 2010. Pinal Mountains near Superior, Pinal County, AZ. Male collected as road kill by AGFD in April (USFWS 2010).

6. 2011. A male was treed at a ranch in the Huachuca Mountains, AZ in February (AGFD 2011b).

7. 2011. Huachuca Mountains near Sierra Vista, Cochise County, AZ. Individual ocelots were photographed by a landowner (February 2011) and a camera trap placed by hunters in the Huachuca Mountains (May 2011) (AGFD unpublished data). The observations may be of the same cat (AGFD unpublished data).

Unconfirmed Ocelot Sightings:

1. 1887. Fort Verde, Yavapai County, AZ. Collected/reported by E.A. Mearns. Sex unknown. A skin (minus skull) was sent to the American Museum of Natural History (Brown and Lopéz-Gonzaléz 2001; Hoffmeister 1986; USFWS 1990; USFWS 2010). The validity of this record is questioned by Hoffmeister who believes the animal may have originated in Texas or Mexico.

2. 1963. San Simon River, north of San Simon, Cochise County, AZ. John Phelps of AGFD along with two seasonal BLM employees visually observed what they reported as an ocelot. Mr. Phelps went on to become the State Predator and Furbearer Biologist. Unconfirmed but reliable. Sex unknown (USFWS 1990).

3. Early 1980's. San Pedro River at Dudleyville, Pinal County, AZ. Two ocelots, including one lactating female, reportedly trapped. One male, one female (USFWS 1990).

4. 1980's. Sasabe, Pima County, AZ. Sex unknown. Reportedly trapped. (USFWS 1990).

5. 1980's. Holbrook/Concho area, Apache/Navajo County, AZ. Male. Reportedly trapped. (USFWS 1990).

There are only seven confirmed records of ocelots in Arizona. Breeding ocelots have never been confirmed in Arizona. There are no confirmed records of female ocelots within the State of Arizona. Breeding ocelots are not known to occupy Madrean evergreen woodlands. The northern-most confirmed record of a female ocelot in Sonora, Mexico is approximately 60 miles south of the international border (Lopéz-Gonzaléz et al. 2003). Several camera records of ocelots document their presence within about 30 miles of the border in Sonora, Mexico (USFWS 2011b). A male ocelot was collected as road kill in April 2010 along US Highway 60 approximately 4 miles east of the Project Area (see confirmed ocelot sighting No. 5, above).

Planned activities require little disturbance. No individual ocelot, if present, would be impacted because dense vegetative habitat is lacking and individuals would likely only to move through the area if at all. It is WestLand's opinion that the activities will have no effect on the ocelot.

5. CONCLUSIONS AND RECOMMENDATIONS

A screening analysis was conducted to evaluate the potential for occurrence of 18 special-status species. Three special-status species have limited potential to occur within the Project Area, the Sonoran population of the desert tortoise (*Gopherus agassizii*), lesser long-nosed bat (LLNB; *Leptonycteris curasoae yerbabuenae*), and ocelot (*Leopardus* [*Felis*] *pardalis*). There is no designated or proposed critical habitat within the Project Area.

The listing of LLNB and ocelot as endangered species triggers "take" prohibition as outlined in Section 9 of the ESA. As a candidate species, the desert tortoise has no formal protection under the ESA.

The desert tortoise has not been recorded from within 3 miles of the Project Area (***Appendix B***), but is considered to have limited potential to occur in the Project Area because the Project Area is within the range of the tortoise and the Project Area contains desertscrub habitat. The desert tortoise uses rocky slopes and bajadas in Mohave and Sonoran desertscrub. This species was not observed in the Project Area, which lacks rocky habitat often associated with this species, and the slopes observed during field surveys appear to offer little opportunity for excavation to create shelters. The Project Area appears to

provide marginally suitable habitat and the likelihood of adverse impacts to this species as a result of loss of habitat is improbable. However, it is possible that individual tortoise could be encountered during surface disturbance activities, and measures for avoiding impacts to Sonoran desert tortoise are recommended. Any individual tortoises encountered could be avoided and allowed to move out of the way prior to activities. If encountered near ground disturbing activities, work could stop until the tortoise vacates to an adequate safe distance. Guidelines for handling desert tortoise published by Arizona Game and Fish Department (AGFD) (2007) could be used if it were found absolutely necessary to move individual tortoises.

The LLNB has not been recorded from within 3 miles of the Project Area (***Appendix B***), but is considered to have a limited potential for occurrence in the Project Area because the Project Area occurs along the northeastern extent of its range and the Project Area contains appropriate foraging habitat for this species. Saguaro (*Carnegiea giantea*) and agave (*Agave* sp.), forage plants for LLNB, occur within portions of the Project Area and individual forage plants may be impacted by proposed activities. This species has not been detected within the Tonto National Forest (Tonto National Forest 2000), which encompasses the private lands that include the Project Area, and there have been no detections of this bat during surveys conducted by AGFD (Bill Burger, AGFD, pers. comm.) and WestLand (WestLand 2011 Bat Survey Report in prep.) in the Project vicinity. No LLNB are anticipated to be directly impacted and no potential roosts (caves or abandoned mines) will be impacted by the Project.

The ocelot has not been recorded from within 3 miles of the Project Area (***Appendix B***), but is considered to have limited potential to occur within the Project Area because a male ocelot was killed by a vehicle in 2010 between Globe and Superior (approximately 4 miles east of the Project Area), and the Project Area contains desertscrub habitat, which is used by ocelot, although the vegetation in the Project Area is marginally suitable based on this species' preference. Confirmed sightings of ocelot in Arizona are sparse, and numerous unconfirmed sightings are also reported for this species (USFWS 2011b). Overall, this cat utilizes dense, brushy, and shrubby vegetation, especially along streams, which provides thick cover (Hoffmeister 1986, AGFD 2011b, USFWS 2011b). In Arizona, this species uses desertscrub habitat, but it is usually found in habitat with greater than 75 percent cover (USFWS 2010). There are only seven confirmed records of ocelots in Arizona. The roadkill between Globe and Superior in April 2010 is the northernmost recent sighting of this species. Breeding ocelots have never been confirmed in Arizona. There are no confirmed records of female ocelots within the State of Arizona. Because the Project Area lacks dense vegetation cover for this species, the likelihood of adverse impacts to ocelot as a result of loss of habitat is highly improbable. No direct impacts to ocelot individuals are anticipated, because this species will not likely be traveling through the Project Area during surface disturbance activities.

6. REFERENCES

Arizona Game and Fish Department (AGFD). 2011a. Heritage Data Management System. On-line database search for special-status species recorded within 3 miles of designated Geophysical Study Area. Available: http://www.azgfd.gov/hgis/. Accessed October 24, 2011.

_____. 2011b. Heritage Data Management System. Unpublished species abstracts and maps. Available at: http://www.azgfd.com/w_c/edits/hdms_abstracts.shtml. Accessed multiple dates October 2011.

Arizona Land Resource Information System. 2011. Geologic Map of Arizona by Stephen J. Reynolds, AZ Geological Survey. 1988 Digitized from 1:1,000,000 paper map.

Averill-Murray, R.C., and C.M. Klug. 2000. Monitoring and ecology of Sonoran desert tortoises in Arizona. Nongame and Endangered Wildlife Program Technical Report 161. Arizona Game and Fish Department, Phoenix, AZ.

Brown, D.E. (ed). 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press, Salt Lake City, UT.

Brown, D.E., and C.H. Lowe. 1980. *Biotic Communities – Southwestern United States and Northwestern Mexico.* Map. University of Utah Press, Salt Lake City, UT.

Brown, D.E. and Lopéz-Gonzaléz. C. A. 2001. Borderland Jaguars. University of Utah Press. Salt Lake City, Utah.

Buckles, Avi. 2009. A Class III Cultural Resources Inventory of 302 Acres in the Pinal Highlands, Pinal and Gila Counties, Arizona: Resolution Pre-Feasibility Studies. Cultural Resources Report 2008-21. WestLand Resources, Inc., Tucson, AZ.

Chronic, H. 1983. *Roadside Geology of Arizona*. Mountain Press Publishing Company, Missoula, MT.

Cockrum, E.L. 1991. Seasonal distribution of northwestern populations of the long-nosed bats (*Leptonycteris sanborni*), Family Phyllostomidea. *Anales Inst. Biol. Univ. Nac. Auton. Mexico, Ser. Zool*. 6292:181–202.

Cole, F.R., and D.E. Wilson. 2006. Leptonycteris yerbabuenae. *Mammalian Species* 797:1–7.

Hoffmeister, D.F. 1986. *Mammals of Arizona*. University of Arizona Press, Tucson, AZ.

Integrated Taxonomic Information System (ITIS). 2011. On-line database of taxonomic information, available at: http://www.itis.gov. Website accessed October 27, 2011.

López-González, C.A., D.E. Brown and J.P. Gallo-Reynoso. 2003. The ocelot *Leopardus pardalis* in north-western Mexico: ecology, distribution and conservation status. Oryx. 37:358-364.

NatureServe Explorer. 2010. Available at: http://www.natureserve.org/explorer/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=104046&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=104046&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=104046. Accessed October 31, 2011.

Tonto National Forest. 2000. Species abstracts. Available at: http://www.fs.fed.us/r3/tonto/naturalResources/wildlife-tess.shtml. Accessed multiple dates October 2011.

U.S. Fish and Wildlife Service (USFWS). 1994. Lesser Long-Nosed Bat Recovery Plan. Report prepared by T.H. Fleming for USFWS Region 2, Albuquerque, New Mexico. USFWS, Arizona Ecological Services State Office, Phoenix, AZ.

U.S. Fish and Wildlife Service (USFWS). 2011a. Federally-Listed Threatened, Endangered, and Candidate Species for Pinal County, updated August 22. Arizona Ecological Field Services Office. Available at: http://www.fws.gov/southwest/es/arizona/Documents/CountyLists/Pinal.pdf. Accessed October 25, 2011.

_____. 2011b. California Brown Pelican (*Pelicanus occidentalis*). Available at: http://www.fws.gov/arcata/es/birds/brnPelican/b_pelican.html. Accessed October 26, 2011.

_____. 2010. Draft Ocelot (*Leopardus pardalis*) Recovery Plan, First Revision. U.S Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico. Available at internet site: http://ecos.fws.gov/docs/recovery_plan/100826.pdf. Accessed October 31, 2011.

_____. 1998. Endangered Species Consultation Manual. Procedures for conducting Section 7 consultations and conferences. U. S. Fish and Wildlife Service and National Marine Fisheries Service.

_____. 1990. Listed cats of Arizona and Texas recovery plan (with an emphasis on the Ocelot). Available at: http://www.fws.gov/southwest/es/arizona/Documents/RecoveryPlans/CatsTexasArizona.pdf. Accessed 31 October 2011.

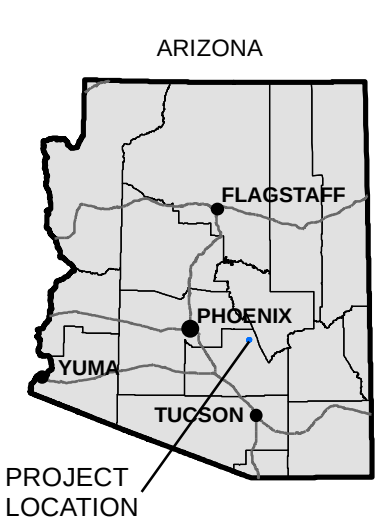
WestLand Resources, Inc (WestLand). 2011. *Resolution 2011 Bat Survey Report.* Report in preparation.

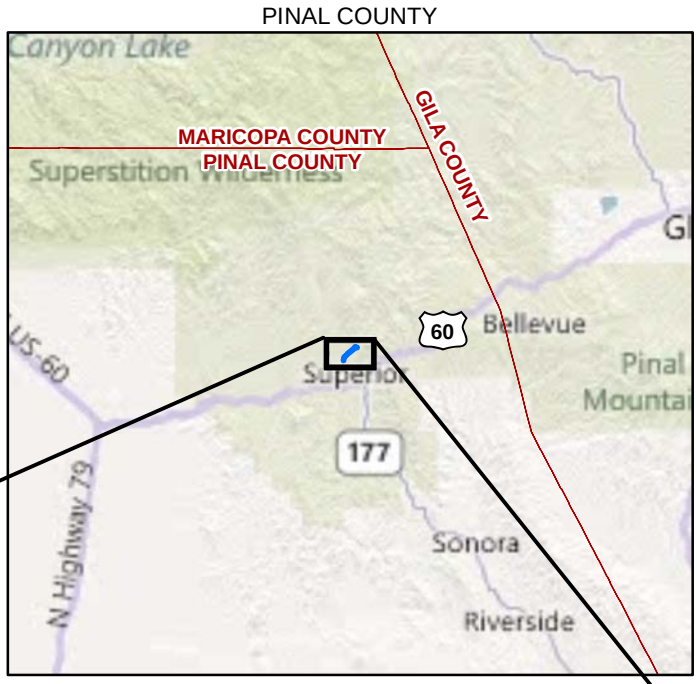
_____. 2009. *Biological Assessment and Evaluation* for the Resolution Pre-feasibility Activities Plan of Operations.

Wilson, D.E. and S. Ruff. 1999. The Smithsonian Book of North American Mammals. Smithsonian Institution Press in Association with the American Society of Mammalogists. Washington and London. 750 pp.

FIGURES

Date: 2/7/2012 User: reneew

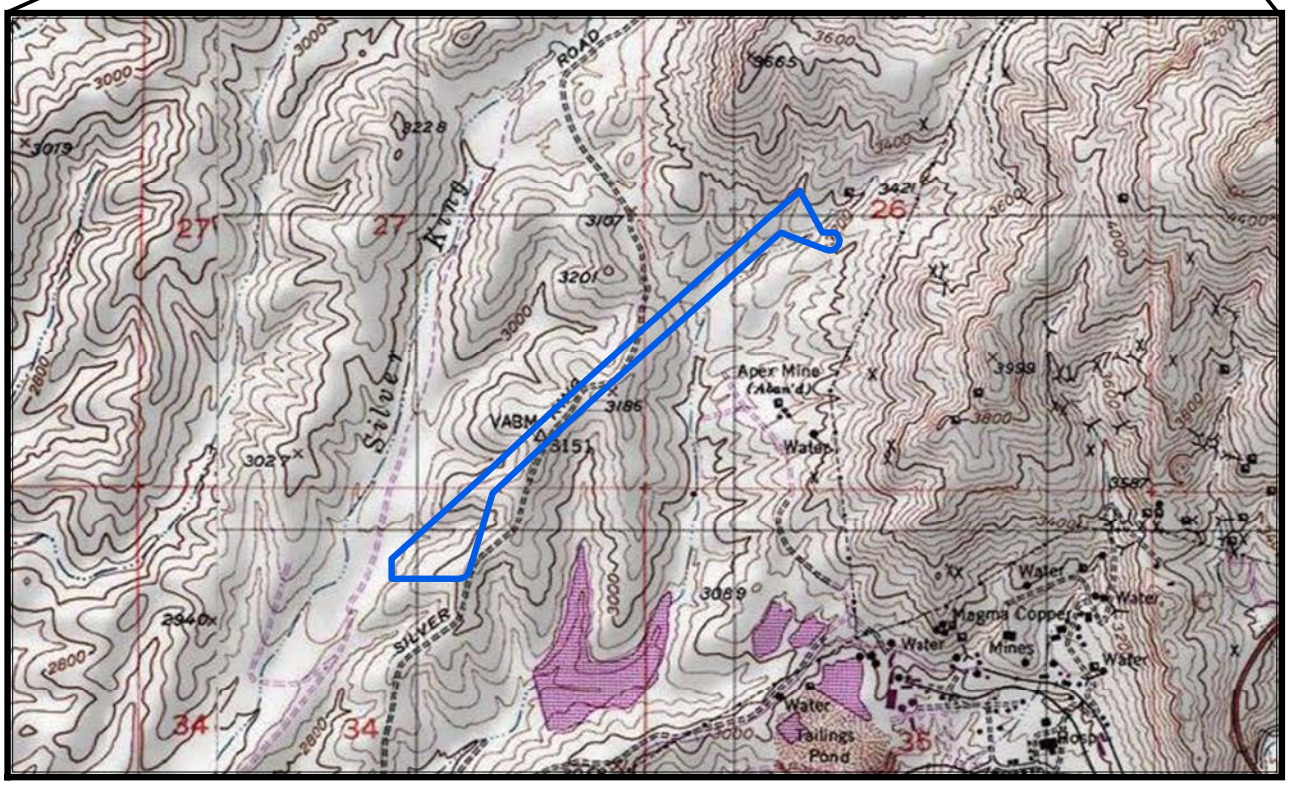




Legend

Project Area

Approximate Scale 1 Inch = 10 Miles



T1S, R12E, Portion of Sections 26, 27, & 34,
Pinal County, Arizona,
Superior USGS 7.5' Quadrangle

N

0 1,000 2,000 Feet

WestLand Resources, Inc.
Engineering and Environmental Consultants

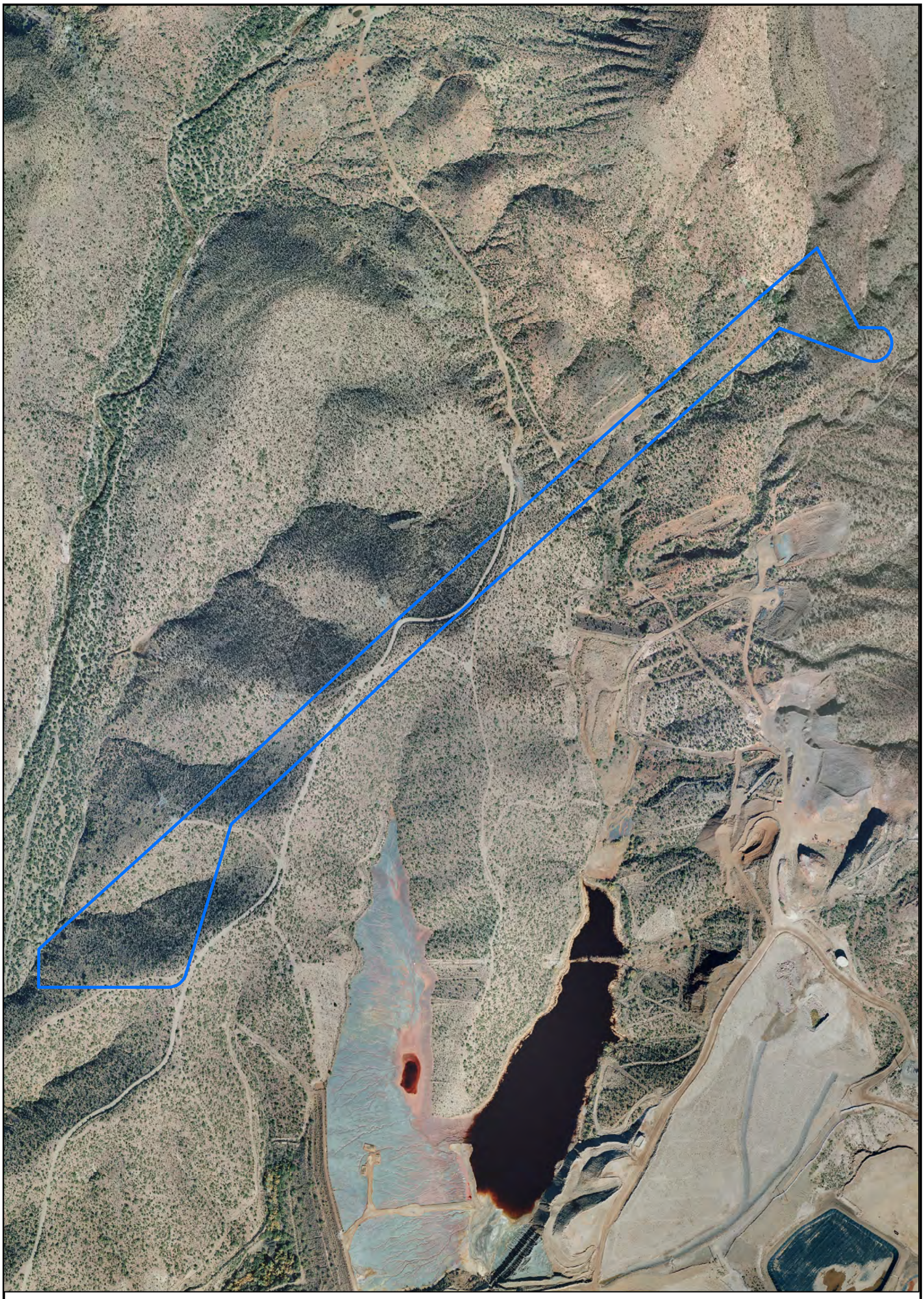
SUPERIOR TO SILVER KING 115kV POWERLINE SEGMENT RE-ROUTE

Biological Evaluation

VICINITY MAP

Figure 1

Date: 2/7/2012 User: reneew



T1S, R12E, Portion of Sections 26, 27, & 34,
Pinal County, Arizona
Photo Source: 2010 Cooper Aerial Surveys Co.

WestLand Resources, Inc.
Engineering and Environmental Consultants

N

0 250 500 Feet

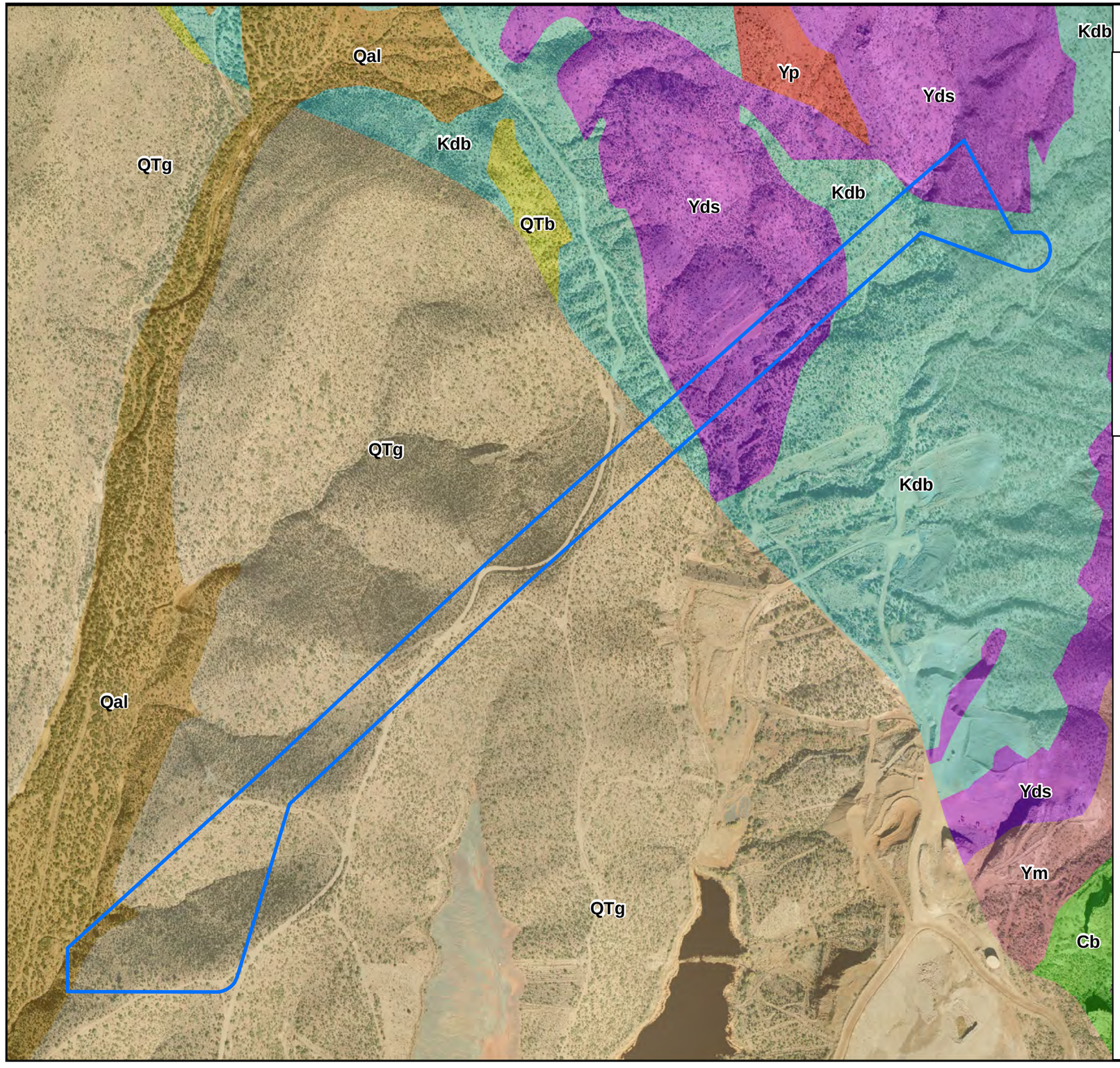
Legend

Project Area

SUPERIOR TO SILVER KING 115kV
POWERLINE SEGMENT RE-ROUTE
Biological Evaluation

AERIAL OVERVIEW
Figure 2

Date: 2/7/2012 User: reneew



Legend

Project Area

Geology

- Cambrian Bolsa Quartzite (Cb)
- Late Cretaceous diabase (Kdb)
- Quaternary unconsolidated alluvium, talus and colluvium (Qal)
- Quaternary-Tertiary basalt (QTb)
- Quaternary-Tertiary gravel and conglomerate (Gila Conglom) (QTg)
- Younger Precambrian Mescal limestone (Ym)
- Younger Precambrian Dripping Spring quartzite (Yds)
- Younger Precambrian Pioneer shale (Yp)

Geology Source:
Geologic Map of the Superior Quadrangle, Pinal County, AZ
Geology by Donald W. Peterson, 1969.

T1S, R12E, Portion of Sections 26, 27, & 34,
Pinal County, Arizona
Photo Source: 2010 Cooper Aerial Surveys Co.

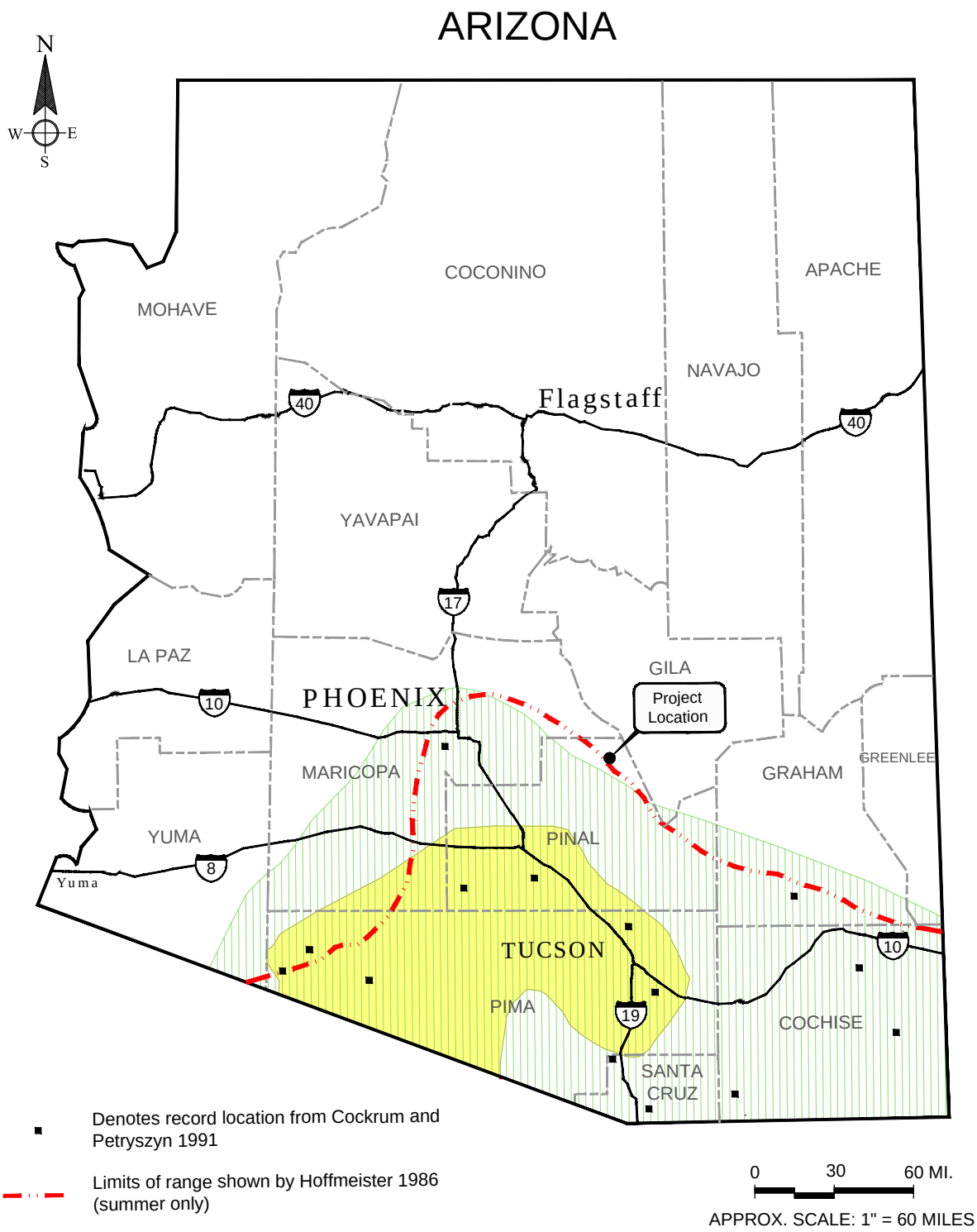
N

0 250 500 Feet

WestLand Resources, Inc.
Engineering and Environmental Consultants

SUPERIOR TO SILVER KING 115kV
POWERLINE SEGMENT RE-ROUTE
Biological Evaluation

GEOLOGY MAP
Figure 3



SUPERIOR TO SILVER KING 115kV POWERLINE SEGMENT RE-ROUTE

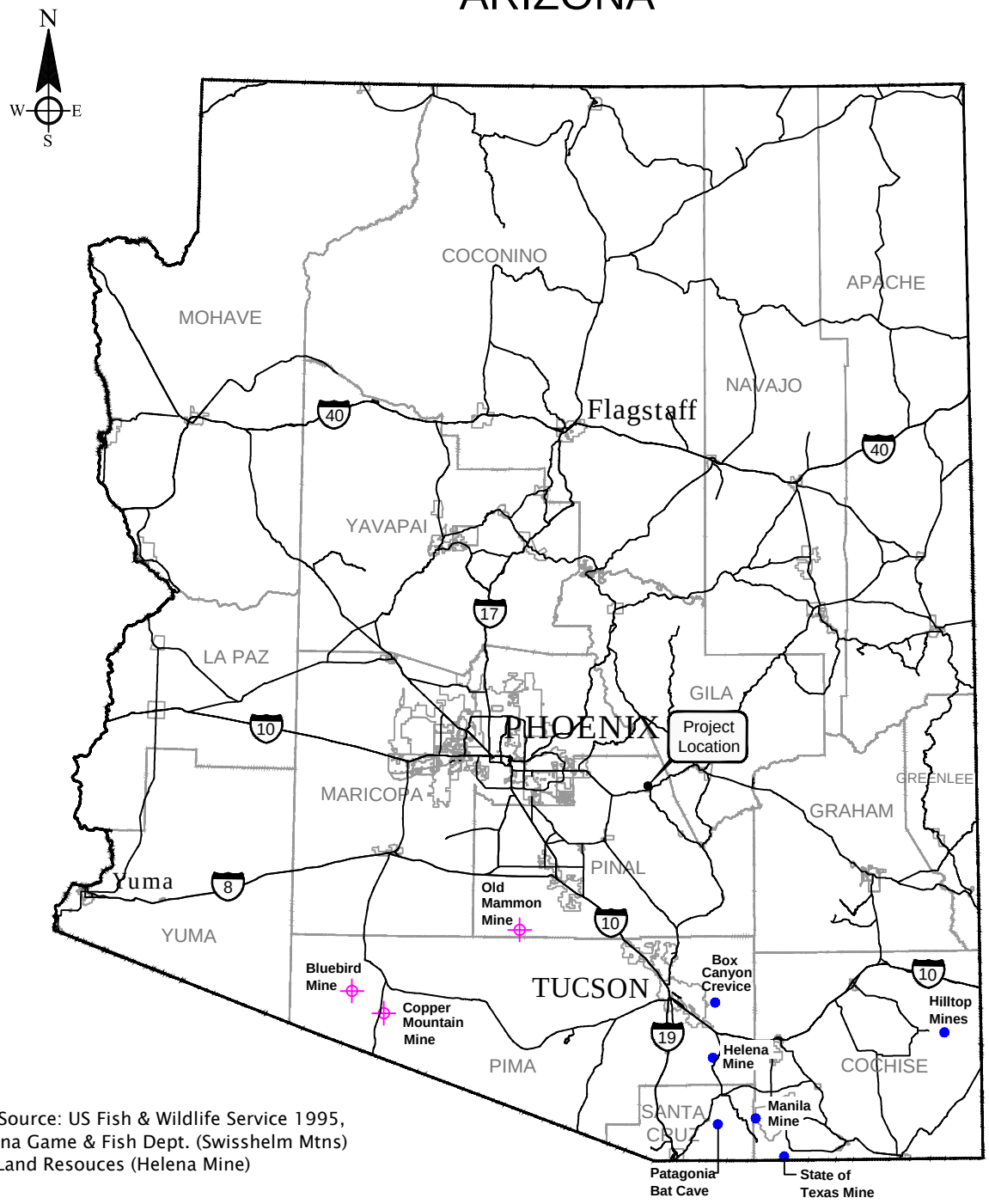
Biological Evaluation

ARIZONA RANGE OF THE LESSER LONG-NOSED BAT (FROM HOFFMEISTER 1986, AND COCKRUM AND PETRYSZYN 1991)

Figure 4

WestLand Resources Inc.
Engineering and Environmental Consultants
2343 E. Broadway Blvd. Suite 202
Tucson, Az 85719 (520) 206-9585

ARIZONA



Data Source: US Fish & Wildlife Service 1995,
Arizona Game & Fish Dept. (Swisshelm Mtns)
WestLand Resouces (Helena Mine)

Maternity Roosts

Post Maternity Roosts

0 30 60 Miles

WestLand Resources Inc.
Engineering and Environmental Consultants
4001 E. Paradise Falls Drive
Tucson, Az 85712 (520) 206-9585

SUPERIOR TO SILVER KING 115kV POWERLINE SEGMENT RE-ROUTE

Biological Evaluation

KNOWN MAJOR ROOST SITES OF
LESSER LONG-NOSED BAT IN ARIZONA

Figure 5

APPENDIX A

USFWS LIST OF SPECIAL-STATUS SPECIES

Pinal County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Arizona hedgehog cactus	*Echinocereus triglochidiatus var. arizonicus*	Endangered	Dark green cylindroid stem, 2.5-12 inches tall, 2-10 inches in diameter. Occurs singly or in clusters. Has 1-3 gray or pinkish central spines, the largest deflexed, and 5-11 radial spines. Flower are brilliant red along side of stem.	Gila, Pinal	3,200-5,200 ft	Ecotone between interior chaparral and madrean evergreen woodland.	Open slopes, in narrow cracks between boulders, and in understory of shrubs. Additional genetic studies have determined that the species does not occur outside of the type locality.
Desert pupfish	*Cyprinodon macularius*	Endangered	Small (2 inches) smoothly rounded body shape with narrow vertical bars on the sides. Breeding males blue on head and sides with yellow on tail. Females and juveniles tan to olive colored back and silvery sides.	Cochise, Graham, Maricopa, Pima, Pinal, Santa Cruz, Yavapai	< 4,000 ft	Shallow springs, small streams, and marshes. Tolerates saline and warm water.	Two subspecies are recognized: Desert Pupfish (C.m. macularis) and Quitobaquito Pupfish (C.m. eremus). Critical habitat includes Quitobaquito Springs, Pima County, portions of San Felipe Creek, Carrizo Wash, and Fish Creek Wash, Imperial County, California.
Gila chub	*Gila intermedia*	Endangered	Deep compressed body, flat head. Dark olive-gray color above, silver sides. Endemic to Gila River Basin.	Cochise, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, Yavapai	2,000-5,500 ft	Pools, springs, cienegas, and streams.	Occurs on Federal, State, and private lands, including the Nature Conservancy and the Audubon Society. Also occurs in Sonora, Mexico. Critical habitat includes Cochise, Gila, Graham, Greenlee, Pima, Pinal, Santa Cruz, and Yavapai counties (70 FR 66664).
Lesser long-nosed bat	*Leptonycteris curasoae yerbabuenae*	Endangered	Elongated muzzle, small leaf nose, and long tongue. Yellowish brown or gray above and cinnamon brown below. Tail minute and appears to be lacking. Easily disturbed.	Cochise, Gila, Graham, Greenlee, Maricopa, Pima, Pinal, Santa Cruz, Yuma	1,600-11,500 ft	Desert scrub habitat with agave and columnar cacti present as food plants.	Day roosts in caves and abandoned tunnels. Forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti. This species is migratory and is present in Arizona usually from April to September and south of the border the remainder of the year.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Loach minnow	*Tiaroga cobitis*	Threatened	Small (<3 inches) slender, elongated fish, olive colored with dirty white spots at the base of the dorsal and caudal fins. Breeding males vivid red on mouth and base of fins.	Apache, Cochise, Gila, Graham, Greenlee, Navajo, Pinal	< 8,000 ft	Benthic species of small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrograph important.	Presently found in Aravaipa Creek, Deer Creek, Turkey Creek, Blue River, Campbell Blue Creek, San Francisco River, Eagle Creek, North Fork of the East Fork Black River, and White River in Arizona, and Dry Blue Creek, Pace Creek, Frieborn Creek, the Tularosa River, West Fork Gila River, and the mainstem upper Gila River in New Mexico. Populations have been recently reintroduced in Hot Springs and Redfield canyons in Cochise and Graham counties; Fossil Creek in Gila County; and Bonita Creek in Graham County Arizona. Critical habitat found in Apache, Graham, Greenlee, and Pinal counties, Arizona, as well as portions of the Blue River, San Francisco River, Tularosa River, Negrito Creek, Pace Creek, Dry Blue Creek, Frieborn Creek, Whitewater Creek, Gila River, and its West, Middle, and East Forks in Catron, Grant, and Hidalgo counties in New Mexico (72 FR 13356).
Mexican spotted owl	*Strix occidentalis lucida*	Threatened	Medium sized with dark eyes and no ear tufts. Brownish and heavily spotted with white or beige.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	4,100-9,000 ft	Nests in canyons and dense forests with multi-layered foliage structure.	Generally nest in older forests of mixed conifer or ponderosa pine/gambel oak type, in canyons, and use variety of habitats for foraging. Sites with cool microclimates appear to be of importance or are preferred. Critical habitat was finalized on August 31, 2004 (69 FR 53182) in Arizona in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties.
Nichol Turk's head cactus	*Echinocactus horizonthalonius var. nicholii*	Endangered	Blue-green to yellowish-green, columnar, 18 inches tall, 8 inches in diameter. Spine clusters have 5 radial and 3 central spines; one curves downward and is short; 2 spines curve upward and are red or pale gray. Flowers: pink; fruit: woolly white.	Pima, Pinal	2,400-4,100 ft	Sonoran desertscrub.	Found in unshaded microsites in Sonoran desertscrub on dissected alluvial fans at the foot of limestone mountains and on inclined terraces and saddles on limestone mountain sides.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Ocelot	*Leopardus pardalis*	Endangered	Medium-sized spotted cat that is yellowish with black streaks and stripes running from front to back. Tail is spotted and about 1/2 the length of head and body. Face is less heavily streaked than the back and sides.	Cochise,Gila, Graham, Pima, Pinal, Santa Cruz	< 8,000 ft	Desert scrub in Arizona. Humid tropical and sub-tropical forests, and savannahs in areas south of the U.S.	Little is known about ocelot habitat use in Arizona; however, ocelots are typically associated with areas of dense cover. Four confirmed reports of ocelots have been received from Gila (one) and Cochise (three) counties since 2009. Based on photographic evidence, two of the reports from Cochise County were most likely of the same ocelot.
Razorback sucker	*Xyrauchen texanus*	Endangered	Large, up to 3 feet long and up to 6 lbs, high sharp-edged keel-like hump behind the head. Head flattened on top. Olive-brown above to yellowish below.	Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pinal, Yavapai, Yuma	< 6,000 ft	Riverine and lacustrine areas, generally not in fast moving water and may use backwaters.	Big River fish also found in Horseshoe reservoir (Maricopa County). Critical habitat includes the 100-year floodplain of the river through the Grand Canyon from confluence with Paria River to Hoover Dam; Hoover Dam to Davis Dam; Parker Dam to Imperial Dam. Also Gila River from Arizona/New Mexico border to Coolidge Dam; and Salt River from Hwy 60/SR77 Bridge to Roosevelt Dam; Verde River from FS boundary to Horseshoe Lake (59 FR 13374).
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 8,500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Riparian-obligate bird that occupies migratory/breeding habitat from late April-Sept. Critical habitat was finalized on October 19, 2005 in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties (70 FR 60886). Revised critical habitat was proposed August 15, 2011 (76 FR 50542) and includes river segments in counties currently designated plus those in La Paz, Santa Cruz, and Yuma counties. The 2005 critical habitat designation remains in effect until the current proposal is finalized. Training seminar/permits required for those conducting call playback surveys.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Spikedace	*Meda fulgida*	Threatened	Small (<3 inches) slim fish with silvery sides and "spine" on dorsal fin. Breeding males are a brassy golden color.	Cochise, Gila, Graham, Greenlee, Pinal, Yavapai	< 6,000 ft	Medium to large perennial streams with moderate to swift velocity waters over cobble and gravel substrate. Recurrent flooding and natural hydrograph important to withstand invading exotic species.	Presently found in Aravaipa Creek, Eagle Creek, Verde River, and the Gila River from the San Pedro River to Ashurst-Hayden Dam in Arizona, and the Gila River and its East and West Forks in New Mexico. Populations have been recently reintroduced in Hot Springs and Redfield canyons in Cochise and Graham counties; Fossil Creek in Gila County; and Bonita Creek in Graham County Arizona. Critical habitat (72 FR 13356) in Graham, Greenlee, Pinal, and Yavapai counties in Arizona, and in Catron, Grant, and Hidalgo counties in New Mexico.
Yuma clapper rail	*Rallus longirostris yumanensis*	Endangered	Water bird with long legs and short tail. Long, slender decurved bill. Mottled brown or gray on its rump. Flanks and undersides are dark gray with narrow vertical stripes producing a barring effect.	Gila, La Paz, Maricopa, Mohave, Pinal, Yuma	< 4,500 ft	Fresh water and brackish marshes.	Species is associated with dense emergent riparian vegetation. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging. Channelization and marsh destruction are primary sources of habitat loss.
Acuna cactus	*Echinomastus erectocentrus var. acunensis*	Candidate	Less than 12 inches tall; spine clusters borne on tubercles, each with a groove on the upper surface. 2-3 central spines and 12 radial spines. Radial spines are dirty white with maroon tips. Flowers pink to purple.	Pima, Pinal	1,300-2,000 ft	Well drained knolls and gravel ridges in Sonoran desertscrub.	Immature plants distinctly different from mature plants. Immatures are disc-shaped or spherical and have no central spines until they are about 1.5 inches.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Desert tortoise, Sonoran population	*Gopherus agassizii*	Candidate	Large herbivorous reptile with domed shell and round stumpy hind legs. The carapace is a dull brown or grey color and the plastron is unhinged, often pale yellow in coloration. Sonoran desert tortoises generally have a flatter carapace than tortoises in the Mohave population. Active in spring and during the monsoon; dormant in winter and mid-summer months.	Cochise, Gila, Graham, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 7,800 ft	Primarily rocky (often steep) hillsides and bajadas of Mohave and Sonoran desertscub but may encroach into desert grassland, juniper woodland, interior chaparral habitats, and even pine communities. Washes and valley bottoms may be used in dispersal.	Desert tortoises that occur east and south of the Colorado River in Arizona are referred to as the Sonoran population. Individuals are found throughout their historic range; but populations are becoming increasingly fragmented due to threats to their habitat in valley bottoms, which are used for dispersal and exchange of genetic material.
Northern Mexican Gartersnake	*Thamnophis eques megalops*	Candidate	Background color ranges from olive, olive-brown, to olive-gray. Body has three yellow or light colored stripes running down the length of the body, darker towards tail. Species distinguished from other native gartersnakes by the lateral stripes reaching the 3rd and 4th scale rows. Paired black spots extend along dorsolateral fields.	Apache, Cochise, Coconino, Gila, Graham, Navajo, Pima, Pinal, Santa Cruz, Yavapai	130-8,500 ft	Cienegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests.	Core population areas in the U.S. include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley and surrounding area. Status on tribal lands unknown. Distributed south into Mexico along the Sierra Madre Occidental and Mexican Plateau. Strongly associated with the presence of a native prey base including leopard frogs and native fish.
Roundtail chub	*Gila robusta*	Candidate	Member of the minnow family Cyprinidae and characterized by streamlined body shape. Color usually olive gray with silvery sides and a white belly. Breeding males develop red or orange coloration on the lower half of the cheeks and on the bases of paired fins. Individuals may reach 49.0 cm (19.3 in) but usually average 25-30 cm (9.8 - 11.8 in).	Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, Yavapai	1,000-7,500 ft.	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams.	Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Tucson shovel-nosed snake	*Chionactis occipitalis klauberi*	Candidate	Small snake (10-17 inches total length) in the family Colubridae, with a shovel-shaped snout and an inset lower jaw. Overall coloring mimics coral snakes, with pale yellow to cream-colored body, 21 or more black or brown saddle-like bands across the back, and orange-red saddle-like bands in between. The subspecies is distinguished from the other subspecies in that these secondary orange-red crossbands are suffused with dark pigment, making them appear brown or partly black, and the black and red crossbands do not encircle the entire body.	Maricopa, Pima, Pinal	785-1,662 ft	Sonoran Desertscrub; associated with soft, sandy soils having sparse gravel.	Found in creosote-mesquite floodplain environments, finds refuge under desert shrubs,active during crepuscular (dawn and dusk) and daylight hours.
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill that is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos are primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
American peregrine falcon	*Falco pereginus anatum*	Delisted	A crow-sized falcon with slate blue-gray on the back and wings, and white on the underside; a black head with vertical "bandit's mask" pattern over the eyes; long pointed wings; and a long wailing call made during breeding. Very adept flyers and hunters, reaching diving speeds of 200 mph.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	3,500-9,000 ft	Areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Nests are found on ledges of cliffs, and sometimes on man-made structures such as office towers and bridge abutments.	Species recovered with over 1,650 breeding birds in the US and Canada.
Bald eagle	*Haliaeetus leucocephalus*	Delisted	Large, adults have white head and tail. Height 28 to 38 inches; wingspan 66 to 96 inches. Juveniles and subadults are dark brown with varying degrees of white mottling on chest, wings, and head.	Apache, Coconino, Gila, Graham, La Paz, Maricopa, Mohave, Pinal, and Yavapai	Varies	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey.	Nationwide and throughout the State of Arizona, the bald eagle is currently not listed under the Endangered Species Act. On September 30, 2010, the U.S. District Court dissolved an injunction that led to the bald eagle in the Sonoran Desert Area of central Arizona being placed on the Endangered Species list in 2008. This determination is presently (January 2011) under judicial consideration. Bald eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act) and other Federal and state statutes. The word "disturb" under the Eagle Act was recently clarified, as well as the implementation of new regulations requiring permits to incidentally "take" eagles. Retrieve more information on management and life history at http://SWBEMC.org.
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Delisted; petitioned for relisting	Small reddish-brown owl with a cream-colored belly streaked with reddish-brown. Males average 2.2 oz and females average 2.6 oz. Length is approximately 6.5 in., including a relatively long tail. Lacks ear tufts, and has paired black spots on the back of the head.	Pima, Pinal	< 4,000 ft	Areas of desert woodlands with tall canopy cover. Primarily found in Sonoran desert scrub and occasionally in riparian drainages and woodlands within semi-desert grassland communities. Prefers to nest in cavities in saguaro cacti but has been found in low-density suburban developments that include natural open spaces.	Not recognized as a protected taxonomic entity under the Act, but protected from direct take of individuals and nests/eggs under the Migratory Bird Treaty Act. A 2006 petition for relisting under the Act is currently being evaluated. Due to low population numbers, captive breeding research was initiated in 2006 with some success.

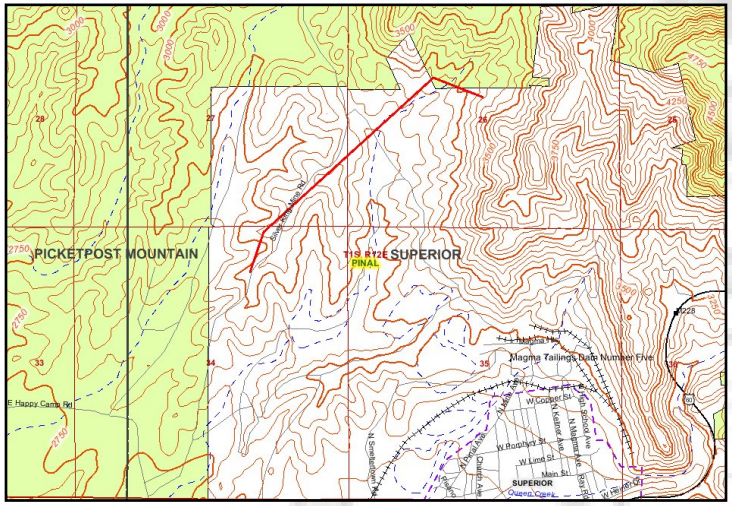
COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
California brown pelican	*Pelecanus occidentalis californicus*	Delisted	Large, dark gray-brown water bird with webbed feet, pouch underneath its long bill, and wingspan of 7 ft. Adults have a white head and neck, brownish black breast, and silver gray upper parts.	Gila, La Paz, Maricopa, Mohave, Pinal, Yuma	Varies	Coastal land and islands; species found occasionally around Arizona's lakes and rivers.	Considered an uncommon transient in Arizona. Most observations recorded along the Colorado River and in the Gila Valley. Individuals known to wander up from Mexico in summer and fall. No breeding has been documented in Arizona. Delisted on November 17, 2009 (74 FR 59444).

APPENDIX B

AGFD HDMS SPECIAL-STATUS SPECIES RESULTS FROM ONLINE REVIEW TOOL

Arizona's On-line Environmental Review Tool
Search ID: 20111024016406
Project Name: Resolution wps 115 kV line
Date: 10/24/2011 2:32:30 PM

Project Location



Project Name: Resolution wps 115 kV line
Submitted By: Gabrielle Diamond
On behalf of: CONSULTING
Project Search ID: 20111024016406
Date: 10/24/2011 2:32:22 PM
Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric realignment
Project Coordinates (UTM Zone 12-NAD 83): 489799.342, 3685737.201 meter
Project Length: 1933.645 meter
County: PINAL
USGS 7.5 Minute Quadrangle ID: 1361
Quadrangle Name: SUPERIOR
Project locality is currently being scoped

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Bat Colony					
Cyprinodon macularius	Desert Pupfish	LE			WSC
Echinocereus triglochidiatus var. arizonicus	Arizona Hedgehog Cactus	LE			HS
Eumops perotis californicus	Greater Western Bonneted Bat	SC	S	S	
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S	WSC
Myotis yumanensis	Yuma Myotis	SC			
Nyctinomops femorosaccus	Pocketed Free-tailed Bat		S		
Phyllorhynchus browni	Saddled Leaf-nosed Snake		PS		
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE			WSC
Rana yavapaiensis	Lowland Leopard Frog	SC	S	S	WSC

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

 APPLICATION INITIALS: _____

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: http://arizonaes.fws.gov/.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

 APPLICATION INITIALS: _____

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric realignment

Project Type Recommendations:

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Based on the project type entered; coordination with State Historic Preservation Office may be required http://azstateparks.com/SHPO/index.html

Based on the project type entered; coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (http://arizonaes.fws.gov/)

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants http://www.azda.gov/PSD/quarantine5.htm. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

Impacts to raptors by above ground power lines and poles have been well documented. A number of structural improvements can minimize potential impacts to raptors and other migratory birds. Arizona Public Service (APS) offers guidelines to reduce mortality to these species http://www.aps.com/my_community/Environmental/Environmental_10.html. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated. Please contact the Project Evaluation Program for further recommendations regarding trenching and power line associated activities.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act .
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area,

 APPLICATION INITIALS: _____

location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.
5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature:_____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

 APPLICATION INITIALS: _____

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

 APPLICATION INITIALS: _____

APPENDIX C

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mojave population of desert tortoises (north and west of the Colorado River). Mojave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.

- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

EXHIBIT B-2 – CULTURAL RESOURCES REPORT

SALT RIVER PROJECT:
SUPERIOR TO SILVER KING 115 kV TRANSMISSION LINE REROUTE, PINAL COUNTY, ARIZONA

Prepared by:
William L. Deaver

Reviewed and Submitted by:
Fred Huntington

WestLand Resources, Inc.
Engineering and Environmental Consultants
4001 East Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

Cultural Resources Report 2011-51

March 6, 2012
Project No. 807.40 A 500

TABLE OF CONTENTS

FIGURES

PHOTOGRAPHS

TABLES

ABSTRACT

REPORT TITLE: Salt River Project: Superior to Silver King 115 kV Transmission Line Reroute, Pinal County, Arizona

REPORT DATE: March 6, 2012

AGENCIES: Private

PROJECT DESCRIPTION: A cultural resources inventory of 1.2 linear miles of electrical transmission line right-of-way

PROJECT NUMBER: 807.40 A 500 (WestLand)

LOCATION: Township 1 South, Range 12 East, portions of Sections 26, 27, and 34, Pinal County, Arizona, Gila and Salt River Baseline and Meridian

USGS 7.5′ QUADRANGLE: Superior

ACREAGE: 36.6

REGISTER-ELIGIBLE PROPERTIES: 1 – AZ U:12:218(ASM)

REGISTER-INELIGIBLE PROPERTIES: 1 – AZ U:12:217(ASM)

RECOMMENDATION: The cultural resources inventory identified two archaeological sites within the project area. AZ U:12:217(ASM) is the Silver King Road, which was in place by 1948. The other site, AZ U:12:218(ASM) (NA15692[MNA]), is a miner's cabin. Arizona State Museum site files indicated that a third site, NA15722(MNA), might also be located in the project area. This site is in fact located west of the present project area and was excavated between fall 1978 and spring 1979. WestLand Resources, Inc. (WestLand), recommends that AZ U:12:218(ASM) (NA15692[MNA]) is eligible for listing in the National Register of Historic Places, but that AZ U:12:217(ASM) is not eligible for listing. WestLand recommends that Salt River Project take steps in the design, construction, and future maintenance of the transmission line to avoid adversely affecting AZ U:12:218(ASM). If avoidance is not a viable treatment, then WestLand recommends the development of an archaeological program to resolve the adverse effect.

PROJECT BACKGROUND

Salt River Project (SRP) plans to reroute a segment of the Superior-Silver King 115 kV transmission line that crosses lands owned by Resolution Copper Mining (Resolution) west of Superior, Pinal County, Arizona ***(Figures 1 and 2)***. The transmission line draws power from the existing SRP Silver King to Kyrene East End Transmission System (SKKEETS). The transmission line corridor is approximately 1.2 miles (1.7 kilometers) long, 200 feet wide, and encompasses approximately 36.6 acres. The transmission line is located entirely on lands owned by Resolution, and the project is the relocation of an existing 115 kV line segment.

The relocation of the power line will be the subject of an Arizona Corporation Commission review and will require the attendant Certificate of Environmental Compatibility. Resolution retained WestLand Resources, Inc. (WestLand), to identify cultural resources that might be affected by the construction and maintenance of the proposed rerouted power line. WestLand performed the cultural resources inventory to the standards required for compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended). The inventory consisted of a literature search, records check, and pedestrian archaeological survey. The initial archaeological survey and site recording were conducted by William L. Deaver and Annie King on October 6 and 7, 2011. Additional acreage added to the transmission line corridor was surveyed by William L. Deaver on February 16, 2012.

The cultural resources inventory identified two archaeological sites and 38 isolated finds within the project area. AZ U:12:217(ASM) is the Silver King Road, which was in place by 1948. The other site, AZ U:12:218(ASM), is a miner's cabin. This site is located within the Gerald Cansler lode mining claim (GLO Patent 857949) that was owned by the Magma Chief Copper Company in 1922. Arizona State Museum (ASM) site files indicated that a third site, NA15722(MNA), might also be located in the project area. This site is in fact located west of the present project area and was excavated between fall 1978 and spring 1979 (Yablon and Weaver 1981). Most of the isolated archaeological finds are related to mining in the area. These consist of cairns, prospects, excavations, roads, and pipelines. The exact age of many of these features is unknown. Other isolated archaeological finds are probably related to the use of Silver King Road and represent trash tossed along the roadside. Two isolated artifacts were found that represent Native American activities in the area.

WestLand recommends that AZ U:12:218(ASM) is eligible for listing in the National Register of Historic Places (NRHP), but that AZ U:12:217(ASM) is not eligible for listing. None of the isolated finds are considered eligible for the NRHP. WestLand recommends that SRP take steps in the design of the transmission line to avoid affecting AZ U:12:218(ASM).

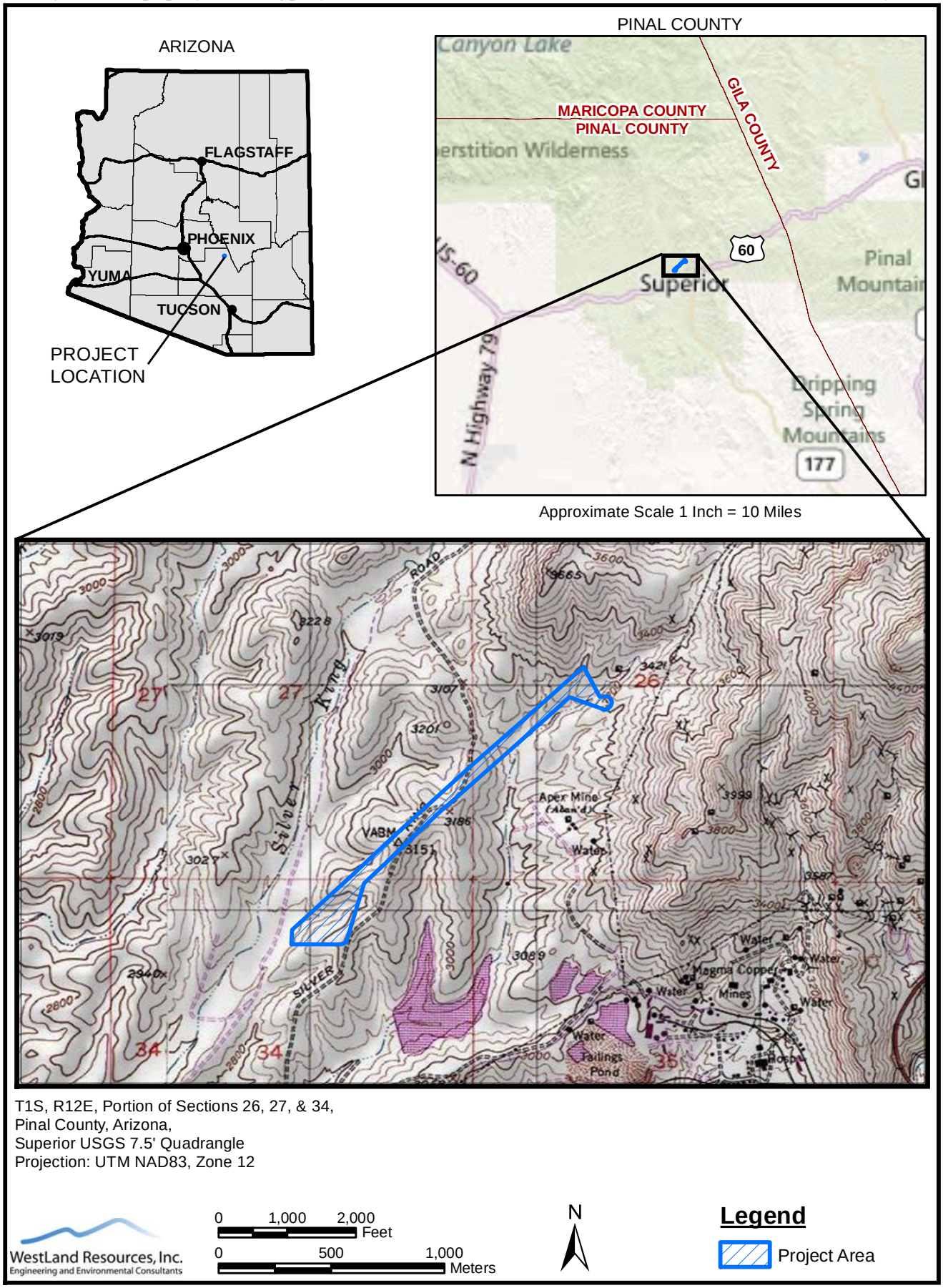


Figure 1. Vicinity map

Figure 2 Removed: Sensitive Data

ENVIRONMENTAL BACKGROUND

The project area is located in a hilly area west of Superior, Arizona, north of U.S. 60 and east of the Silver King Wash. The topography is defined by mountainous bedrock outcrops whose lower flanks are blanketed by ancient gravelly alluvium ***(Photos 1 and 2)***. The alluvium has been eroded, forming narrow, steep-sided ridges that generally run northeast to southwest. There is no permanent surface water in the area, and surface runoff is channeled in washes that are deeply incised into the landscape. The ground is rocky. Vegetation is characteristic of the Jojoba-Mixed Scrub Series of the Arizona Upland Subdivision of the Sonoran Desertscrub (Turner and Brown 1994). The dominant low-growing shrub in the project area is jojoba (*Simmondsia chinensis*), with triangle-leaf bursage (*Ambrosia deltoidea*) interspersed. Trees and larger shrubs include mesquite (*Prosopsis* sp.), paloverde (*Cercidium micophyllum*), and catclaw (*Acacia greggii*). Cacti are common and include prickly pear (*Opuntia* sp.), various chollas (*Opuntia* sp.), saguaro (*Carnegiea gigantea*), hedgehog (*Echinocereus* sp.), and fish-hook barrel cactus (*Ferocactus wislizenii*).

Photo 1. Overview of project area looking northeast

Photo 2. Overview of project area looking southwest

CULTURAL HISTORY FOR CENTRAL ARIZONA

This section presents a cultural setting for the project area and the surrounding region ***(Figure 3)***. It covers the entire range of potential human occupation of the area, even though remains from many of the periods discussed below (e.g., the Paleoindian period) are unlikely.

PALEOINDIAN PERIOD (CA. 10,500–9200 B.C.)

There is little evidence of a Paleoindian occupation in the immediate area of this project. Other parts of southern Arizona, however, have been important to the study of Paleoindians in the Southwest (Mabry 1998). Well-known Paleoindian sites are located west of the Sulphur Springs Valley at Naco (Haury 1953), at the Lehner Ranch (Haury et al. 1959), and at Murray Springs along the San Pedro Valley (Haynes 2002; Reid and Whittlesey 1997). Isolated Paleoindian projectile points have been reported for the Phoenix Basin, including several Clovis points (North et al. 2005), and for the Tucson Basin (Doelle 1985; Huckell 1984a). Current evidence suggests that Paleoindian groups were small and that they hunted big game, including mammoth, and gathered other subsistence resources. The most distinctive Paleoindian artifacts are the large fluted projectile points, such as Clovis and Folsom, that would have been hafted to hand-held spears (Slaughter 1992:2.6–2.9). Archaeologists believe that Paleoindian groups were highly mobile and that they selected high-quality lithic materials for tool production (North et al. 2005:297).

ARCHAIC PERIOD (CA. 9200 B.C.–A.D. 1)

Although a number of Archaic period sites have been documented in Arizona, e.g., the Tucson Basin (Freeman 1999; Mabry and Archer 1997), Phoenix (Hackbarth 1995), the Tonto Basin (Clark and Vint 2004), the Payson area (Huckell 1978b), and the Cienega Creek Valley of southern Arizona (Huckell 1995), this type of site is relatively rare in the vicinity of the project area. The following account, therefore, presents a very general outline of the Archaic period in southern Arizona.

The transition from the Paleoindian to the Archaic period correlates with a change in the environment that distinguishes the Holocene epoch from the preceding Pleistocene epoch. Whereas Paleoindian cultures are characterized as big-game hunters, Archaic cultures are perceived as generalized hunters and gatherers (Mabry 1997:4). These Archaic cultures sustained themselves using a more generalized subsistence strategy, one that consisted of hunting the large game animals characteristic of the Holocene epoch and of gathering a broad spectrum of plant foods. The transition from the Paleoindian period to Archaic occupation remains poorly understood, contentious, and difficult to explain, partly due to the paucity of data (Huckell 1984a; Huckell and Haynes 1995; Waters 1996). This transition probably was not abrupt, and some have suggested that people practicing both subsistence strategies may have lived at the same time and occupied the same territories (Faught and Freeman 1998:50). That being said, 8500 B.C. is often taken as the starting point of the Archaic period because it was around this time that a ground stone tool industry consisting of handstones and netherstones became common across the Southwest (Huckell 1996:306, 327). The Archaic period ends in southern Arizona with the appearance of pottery, which is generally accepted as an indicator of sedentary agricultural cultures. This development is estimated to have taken place between A.D. 1 and 150 (Deaver and Ciolek-Torrello 1995).

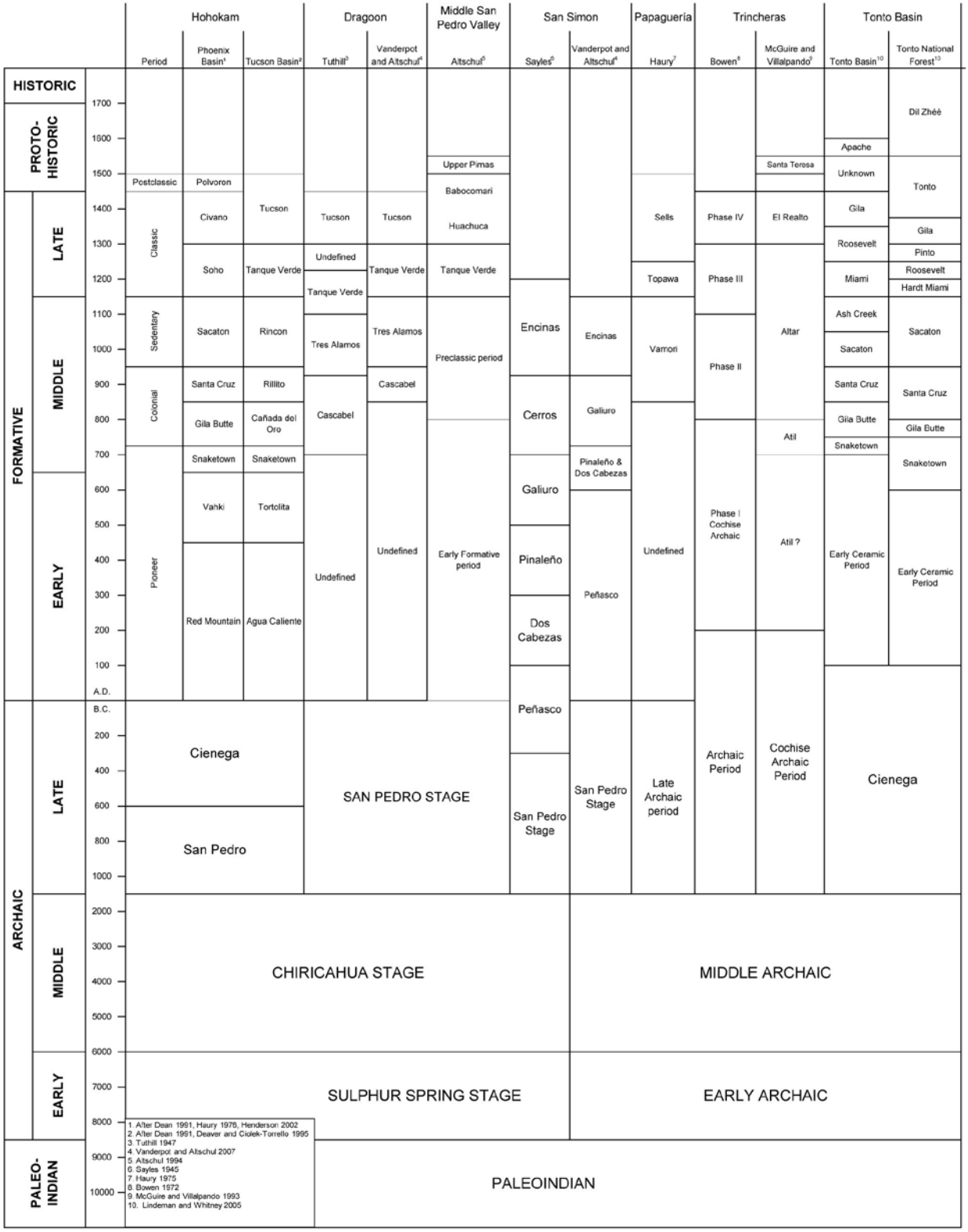


Figure 3. Synoptic chart of selected cultural chronologies from central and southern Arizona

Several regional Archaic traditions are recognized: the Cochise tradition across southern Arizona, northwestern Chihuahua, and northern Sonora (Sayles 1983); the Oshara tradition on the Colorado Plateau (Irwin-Williams 1967); the San Dieguito-Pinto tradition in southwestern Arizona, western California, and southern Nevada (Huckell 1978a; Rogers 1966); the Hueco Basketmaker complex in western Texas and southeastern New Mexico; and the Frontera complex in the northern Mexican states of Coahuila and northeastern Chihuahua. In recognition of the many cultural similarities that characterized these local traditions, Irwin-Williams (1967, 1979) suggested that each was a manifestation of an overarching cultural tradition she termed the Picosa culture. Further consideration of this issue led Huckell (1984a, 1984b, 1978b) to suggest that the Cochise culture and its counterparts be referred to collectively as the Southwestern Archaic. Temporally, the Cochise culture is subdivided into three broad divisions: Early Archaic (ca. 8500 to 6000 B.C.), Middle Archaic (ca. 6000 to 1500 B.C.), and Late Archaic (ca. 1500 B.C. to A.D. 1).

THE HOHOKAM

The Hohokam were primarily a sedentary farming people who lived in villages consisting of clusters of single-family dwellings. During most of the Hohokam tenure, dwellings were made by building a structure of jacal (post and adobe) in a shallow pit. The roofs were made of similar materials. Late in the chronological sequence, the Hohokam built adobe-walled structures grouped within walled compounds. The Hohokam are known for their use of canal irrigation and for building platform mounds and ballcourts. Throughout most of their tenure in the basin, the Hohokam cremated their dead, although they later replaced this practice with inhumation. The Hohokam produced plain, red, red-on-buff, and red-on-brown ceramics constructed mainly by the paddle-and-anvil method. They also produced clay figurines and objects of shell, bone, and flaked and ground stone (Fish 1989; Gumerman and Haury 1979; Haury 1976).

Archaeologists make two basic divisions in the Hohokam chronology: the pre-Classic and the Classic. The pre-Classic is divided into three periods: the Pioneer, the Colonial, and the Sedentary. These periods, along with the subsequent Classic period, are further broken into phases. There are numerous problems in assigning dates and temporal ranges to the Hohokam chronology (Fish 1989), and numerous Hohokam chronologies abound (Dean 1991). Most researchers agree with the phase sequence developed following the excavations at Snaketown (Gladwin et al. 1937; Haury 1976); however, many strongly support the temporal compression of the Pioneer period phases (Fish 1989; Schiffer 1982).

Following are brief discussions of the periods and phases of the Hohokam chronology in the Phoenix Basin.

The Pioneer Period (ca. A.D. 1–775)

In the Phoenix Basin, the Pioneer period encompasses five phases: Red Mountain, Vahki, Estrella, Sweetwater, and Snaketown. During the Pioneer period, Hohokam pithouse villages developed, canals were built, a few trash mounds were purposefully capped with a caliche plaster, and red-on-buff pottery was produced (Eighmy and McGuire 1989; Fish 1989; Haury 1976).

Cable and Doyel (1987) suggested the Red Mountain phase to cover the transition from the Archaic to the Hohokam culture. Doyel (1991a) lists the characteristics of the Red Mountain phase as including small square houses, flexed inhumation burials, basin metates, and large corner-notched projectile points. Crown (1991a) adds clay figurines and sand-tempered plain brown pottery to the list. Mabry (2000), however, states that round, oval, rectangular, and square structures have been documented. Mabry (2000) has summarized the available absolute dates for the phase, giving it a range from A.D. 1–450, although Doyel (1991a) and Dean (1991) place the end of the phase at A.D. 300.

Archaeologists have identified Red Mountain phase components at Pueblo Patricio, the Red Mountain site (Cable and Doyel 1985, 1987), Heritage Square (Henderson 1985), and possibly at Block 39 (Montero and Hackbarth 1992). Several sites north of the Phoenix Basin have also yielded radiocarbon dates in the Red Mountain phase date range (Mabry 2000:40).

Archaeologists have identified two types of structures for the Vahki phase: large square houses and small rectangular structures (Cable et al. 1985; Haury 1976). The large square houses might have served as communal structures (Doyel 1991a). Vahki phase assemblages include trough metates, plain brown ware ceramics, and polished red ware ceramics (Crown 1991a). Vahki ceramics were made by both the paddle-and-anvil and coil-and-scrape methods (Foster et al. 1995). The production of carved shell jewelry, ground stone palettes, stone bowls, turquoise mosaics, and human figurines—although the latter may have appeared earlier—occur during the Vahki phase (Cable and Doyel 1987; Foster et al. 1995; Gladwin et al. 1937). Doyel (1991a) has stated that 90 percent of the figurines found at Snaketown (Haury 1976) dated to between the Vahki and Snaketown phases. Inhumation was the predominant form of burial during the Vahki phase (Doyel 1991a). Haury (1976:149) believed that canal irrigation was present at this time, but agriculture might nevertheless have consisted mainly of dry farming and floodwater farming (Crown 1991a; Doyel 1991a).

The Estrella (A.D. 500–600) and Sweetwater (A.D. 600–700) phases are typified by Estrella and Sweetwater red-on-gray pottery, respectively. Together these phases represent the transition between the Vahki and Snaketown phases, between a Vahki-phase Hohokam cultural pattern that is similar to patterns seen in other regions of the southwest and a Snaketown-phase Hohokam pattern that stands out as unique. Estrella Red-on-gray often included grooves between the coils of the pot on the outside of the vessel and simple, broad, red-line designs. Haury (1976:220) identified an early version of Estrella Red-on-gray in which the potter polished over the painted lines, giving them diffused edges. Sweetwater Red-on-gray pottery sits as a transition between the earlier Estrella Red-on-gray and the later Snaketown Red-on-buff. Sweetwater Red-on-gray retains the practice of incising the exterior of vessels, but the incising is not constrained to the coils of the pot and often produces elaborate decorative patterns. The painted designs become more elaborate as well showing the emergence of a particular decorative style involving interlocking, hachure motifs. Estrella houses at Snaketown included square and rectangular structures, although both were smaller than the square structures of the Vahki phase at that site. By the Sweetwater phase, rectangular houses were the norm. Cultural materials from the Vahki phase, such as figurines with crude featureless faces, continued through the Estrella and Sweetwater phases (Haury 1976).

The Snaketown phase (A.D. 700–775) brought numerous changes to the Hohokam. New traits included the deposition of trash in mounds, the construction of patterned house clusters, the introduction of buff

ware ceramics, and the use of cremation as the dominant treatment of the dead. Domestic-use structures increased in size during the Snaketown phase, although the large square houses were no longer constructed. By this phase, the Hohokam appear to have developed a pattern of grouping several houses together around a courtyard area (Doyel 1991a). Pithouses were typically of the house-in-pit variety (Haury 1976). Ceramics changed from red-on-gray to red-on-buff and were manufactured with the paddle-and-anvil method. Stone palettes, censers, and figurines became common and were often included as burial goods. Although evidence indicates that canal irrigation was present earlier, the first large-scale irrigation systems appeared during the Snaketown phase (Foster et al. 1995).

Colonial Period (ca. A.D. 775–950)

The Colonial period is made up of two phases: the Gila Butte (A.D. 775–850) and the Santa Cruz (A.D. 850–950). During this period, Hohokam culture spread beyond the Phoenix Basin and throughout southern and central Arizona. Oval-shaped ballcourts were constructed, and villages within the basin became larger. Well-crafted projectile points and carved and etched shell were common; cremation burials were standard (Fish 1989; Haury 1976).

In the Gila Butte phase, structures (houses-in-pits) were primarily rectangular and organized into courtyard groups. These courtyard groups consisted of several structures oriented toward a common-use courtyard area (Crown 1991a). At the Grewe site, the locations of the courtyards showed a trend toward becoming more permanent, with houses being rebuilt around the same courtyard (Craig 2000). Ballcourts had appeared at a number of sites by the Gila Butte phase (Doyel 1980, 1991a; Wilcox and Sternberg 1983). The ballcourt complex is one of the strongest indicators of Mesoamerican influence on the Hohokam (Wilcox 1991).

These trends in architecture and the material culture continued through the Santa Cruz phase. According to Crown (1991a:148), red-on-buff pottery reached its zenith during this phase, with tightly packed and well-executed design motifs. Pithouses continued to be rectangular or slightly oval in shape and were almost entirely of the house-in-pit variety (Haury 1976).

Populations throughout the Hohokam world apparently increased during the Colonial period, in part because irrigation technology improved, facilitating the reliable cultivation of maize, beans, squash, and cotton (Reid and Whittlesey 1997). Ballcourts were built at the larger sites throughout southern Arizona (Wilcox and Sternberg 1983).

Sedentary Period (ca. A.D. 950–1150)

The Sedentary period consists of one phase, the Sacaton (A.D. 950–1150). During the Sedentary period, sites continued to increase in size, and some, such as Snaketown, had large central plazas and multiple ballcourts. The distinctive low “Gila shoulder” became common in pottery. Copper bells first came into use during the Sedentary period (Haury 1976). Sacaton phase houses were ellipsoidal and somewhat larger than the structures of the Colonial period. Pottery production appears to have declined in quality, and red ware once again became common. The etching of shell was practiced.

The Sacaton phase Hohokam expanded irrigation throughout the Phoenix Basin. Doyel (1981:70) believed, "It is likely that the vast majority of the canals mapped by Midvale (1965) in the Gila Basin were completed by the Sacaton phase. By the end of the Sacaton phase, many large Hohokam sites were abandoned, and, with the advent of the Classic period, there appears to have been a retraction of Hohokam populations from outlying areas and a consolidation within the Phoenix Basin."

Many archaeologists believe that Hohokam participation in exchange networks was at its zenith during the Colonial and Sedentary periods (Crown 1991a, 1991b; Doyel 1991a, 1991b), although the presence of large numbers of Gila Polychrome ceramics in the Civano phase suggests that exchange was still common in the Classic period. Sedentary period materials from non-local sources include shell, copper bells, obsidian and other fine-grained stone used in flaked lithic tool production, and andesite and quartz-basalt for ground stone tools (Doyel 1991a:252). These materials indicate contact with the Anasazi, Mogollon, Dragoon, Trincheras, Yuman, and California coastal groups (Doyel 1991a).

Doyel (2000) has championed the use of the Santan phase to cover the period between A.D. 1075 and 1200, during the transition from the pre-Classic period to the Classic period. Doyel appears to have partly based his ideas about the Santan phase on his work at the Escalante Ruin (Doyel 1974, 1981). As Doyel (2000:232) stated, the differences between the remains that dated to the Sacaton phase at Snaketown and the Soho phase at Escalante were such to cause him to propose a phase that dated to between those occupations. Dean (1991:85) also identified a temporal gap that corresponded to Doyel's proposed Santan phase.

Classic Period (ca. A.D. 1150–1350)

In the Phoenix Basin, the Classic period (A.D. 1150–1350) is made up of two phases: the Soho and the Civano. Architecture during the Classic period changed from shallow pithouses to adobe structures and adobe-walled compounds. The Hohokam further expanded their canal systems and constructed platform mounds. Ballcourts were no longer being built, but some may have continued to be used (Eighmy and McGuire 1989; Haury 1976).

Early Southwestern archaeologists viewed the Hohokam Classic period as the epitome of prehistoric culture in central and southern Arizona (Gladwin et al. 1937). However, as Abbott et al. (2003:4, 5) have stated, most archaeologists now view the Classic period as a time of rapid change and pressure from outside the region.

During this period, several of the major villages along the Gila River, e.g., Snaketown, were abandoned or only occupied on a limited basis. This is in contrast to the Salt River, where most large villages continued to be occupied (Foster et al. 1995). According to Gregory (1987), more new sites with platform mounds were established along the Salt River than along the Gila River.

During the Soho phase (A.D. 1150–1250), architecture consisted of both pithouses and above-ground structures (Doyel 1981). Post-reinforced and solid adobe-walled structures were built. Doyel (1991a) indicates that by this time, the regional ballcourt system had either weakened or ceased to exist and was replaced by large platform mounds. There was a decrease in the production of red-on-buff pottery and an increase in the production of red ware. Cremation burial in ceramic urns was common, although there is

also evidence of inhumation (Doyel 1974). Soho sites consisted of clusters of structures that were often surrounded by an adobe compound wall.

The Civano phase (A.D. 1250–1350) saw an elaboration of the architectural trends evident during the Soho phase (Doyel 1991a:253). Adobe walls became more substantial and rooms were often constructed in a contiguous pattern (Doyel 1974, 1981). Platform mounds are found at major sites, and great houses, the basal floors of which were platforms, were built at Casa Grande and perhaps at Pueblo Grande. During the Civano phase, inhumation burials dominated, Salado polychrome ceramics were the common decorated ware, and red-on-buff ware production drastically decreased. Crown (1991a) has stated that new platform mounds were not being built during the Civano phase, but that adobe structures were built on top of the existing mounds and apparently used as habitations. Downum and Bostwick (2003), however, analyzed data from early excavations at the Pueblo Grande platform mound and from the Hohokam Expressway project and concluded that the mound was not used as a full-time residence by an elite group. Instead, multiple groups may have used it for a variety of tasks, such as food preparation, feasting, food storage, and rituals and ceremonies (Downum and Bostwick 2003:199). This interpretation might apply to other platform mound sites as well.

Post-Classic Period (ca. A.D. 1350–1450)

In the Phoenix Basin, a late Classic or post-Classic phase termed the Polvorón has been identified (Chenault 1996, 2000; Sires 1984). However, some archaeologists working in the region (Henderson and Hackbarth 2000) believe that the Polvorón is not a valid phase and that the remains identified as Polvorón merely represent variation in the Civano phase.

The Polvorón phase marked a significant change in the Hohokam culture (Crown and Sires 1984). There appears to have been a dramatic decrease in population levels, a new preference for pithouses, and a return to the exploitation of diverse resources and marginal areas, with a possible decrease in the reliance on agriculture. Roosevelt Redware (Salado polychrome) ceramics were used in high frequencies, buff wares were used in very low frequencies, and obsidian use greatly increased (Doyel 1991a; Sires 1984).

The Polvorón phase was first defined by Sires (1984) and Crown and Sires (1984) from work on the Salt-Gila Aqueduct project. Excavations at the site of El Polvorón (Sires 1984) in the Queen Creek drainage revealed a small prehistoric site dating late in the Hohokam chronological sequence. Inhabitants of the site lived in pithouses, practiced agriculture, and had a material culture in the Hohokam tradition.

PROTOHISTORIC PERIOD (A.D. 1450–1700)

Between the Polvorón phase and the start of historical records associated with a European presence in the region (ca. A.D. 1700) is a period that is only now being somewhat illuminated (Wells 2006). Doelle (1981) has stated that the Pima of the middle Gila River were in a frontier or periphery of the system that was in operation at the time of contact with the Spanish, and that there was greater complexity in places like San Xavier in the Tucson Basin. There appear to have been significant changes in the region's Native American cultures; however, very little is known about the period prior to the arrival of Father Kino in the Tucson area in A.D. 1697. The Spanish identified the people living along the Santa Cruz River as the Pima (O'odham) and those along the San Pedro River as the Sobaipuri (Doelle and Wallace 1990; Masse

1981). Differences in the architecture and pottery of the Piman peoples and the Hohokam have led some researchers to question if the Hohokam were the ancestors of the O'odham, or whether the latter moved into the region after the Hohokam decline (Teague 1993).

HISTORIC PERIOD (1681–1950)

Spanish exploration of the Southwest began as early as 1539 with the preliminary scouting expedition of Fray Marcos de Niza, who had been sent to the region by Mexican viceroy Antonio de Mendoza in response to the accounts of Alvar Núñez Cabeza de Vaca and Estevan, who had wandered to Sonora after being shipwrecked in the Gulf of Mexico in 1528. After de Niza returned, Viceroy Mendoza proposed a larger expedition, and selected Vásquez de Coronado as its leader. Coronado's party departed in 1540 in search of the fabled Seven Cities of Cibola. The route of the expedition probably took Coronado through what is now eastern Arizona, although at one time it was speculated that one stop on the journey, Chichilticale or "Red House," was in fact the Hohokam adobe house at Casa Grande. Even though it does not appear that Coronado passed near the middle Gila River region, a preliminary scouting party led by Melchior Diaz journeyed up the San Pedro River and explored the area around the Gila-San Pedro confluence to the "east and west." The exact extent of this survey is unknown, however (Wilson 1999:25, 26).

These early forays into what is now the Southwest notwithstanding, the Historic period truly begins in 1681 with the arrival of Jesuit missionary Padre Eusebio Kino in Sonora. After a poorly documented visit to the Casa Grande area in 1694, Kino made a second *entrada* to the area in 1697 (Wilson 1999:24). Setting out from the Nuestra Señora de Dolores mission, Kino traveled north along the San Pedro River and then followed the Gila River to the west, arriving again at Casa Grande on November 18. He was accompanied by 20 soldiers and native guides and Captain Juan Mateo Manje. Manje, unlike Kino, kept well-written journals of his travels. The chronicle of this expedition notes "six or seven" Piman rancherías along the river in the area around Casa Grande. This appears to be the first known reference to the Pima by Europeans (Debowski et al. 1976:30). Escalante Ruin (AZ U:15:3[ASM]) may have been visited by Sergeant Juan Batista de Escalante, who was one of the military officers accompanying Kino on the 1697 expedition, encountering it after swimming across the Gila River from the southern bank (Lennon et al. 1995:29).

The people inhabiting south-central Arizona and northern Sonora, or the Pimería Alta, were referred to by the early missionaries by various nomenclatures, including the Papabotas (later the Papagos and now known by their traditional name, the Tohono O'odham) for the people living in the desert regions south of the Gila River and the Pima Gileños, or Gila River Pima, who inhabited perennial villages along the Gila River (the Akimel O'odham). Another group of people, referred to as the Cocomaricopas (Maricopas) by the Spanish, resided alongside the Pima Gileños. The Maricopas were Yuman-speaking peoples who had initially settled along the Gila River in the 1500s, probably in response to intertribal warfare.

The subsistence strategies practiced by these native peoples included the direct procurement of several resources (with wild melons and bighorn sheep being particularly important sources of food) and floodwater farming. It appears uncertain if irrigated agriculture was being used at this time (as it had during the Hohokam era), although a 1699 account by Captain Manje states that the Pima did not make use of canals to irrigate their crops, and relied upon floodwater (Wilson 1999:38). However, people in the

San Pedro valley are mentioned obliquely by Kino during an earlier visit as cultivating cotton by irrigated agriculture.

Owing to the efforts of Padre Kino, missionizing of the people of the Pimería Alta continued forward into the early eighteenth century, although after Kino's death in 1711 the mission system in Sonora began to deteriorate, partly as a result of neglect while Spain was distracted by the War of the Spanish Succession (Walker and Bufkin 1979:14). In a 1723 report on the state of the mission system in Sonora, Fray Daniel Januske reported that the native population of the Pimería Alta was declining, the result of poor living conditions at the missions and Apache raiding. The Apache had been raiding Piman settlements at least since the time of Kino's initial contact, and the increase in raiding over time resulted in more and more geographical shifts among the Piman-speaking populace. By 1750, for example, most of the Piman people occupying the San Pedro valley had been forced to move to the Santa Cruz and Altar Valleys. This turned out to be only a temporary solution when the Apache began raiding these locations as well.

In 1736, German-born Jesuit priest Fray Jacobo Sedelmayr arrived in the Pimería Alta and worked there as a missionary for the next 16 years. With the intention of finding a route to the Hopi, who had retained their autonomy against the Spanish since the Pueblo Revolt of 1680, Sedelmayr embarked on an expedition in 1744 that took him through the Casa Grande area. While there, he reported encountering the same people described by Kino half a century earlier, living in three rancherías. The first of these was called Tuquisan; four leagues (approximately 12 miles) downstream was Tussonimo; and the most westerly was Sudacsón (Wilson 1999:47–49). At Sudacsón (which was probably about 30 miles west of Casa Grande), Sedelmayr reported that the villagers were raising wheat (a crop that, unlike cotton, had been introduced by the Spanish) with irrigated agriculture.

King Charles III of Spain expelled the Jesuits from the New World in 1767 and replaced them with the Franciscan Order. Franciscan missionary Francisco Garcés, who took over the administration of San Xavier del Bac following the Jesuit expulsion, made several trips to the middle Gila country. On one of these expeditions (in 1774), he accompanied explorer Juan Bautista de Anza. On de Anza's return trip, Fray Juan Díaz noted that the Pima Gileños lived in consolidated settlements as a defensive measure against raiding Apache groups (Rea 1997:31).

Mexico gained its independence from Spain in 1821, and the period between this independence and 1846 (the year the Mexican-American War began) is when Anglo-Americans first established a substantial presence in the middle Gila region. The first Americans to enter the area appear to have been Sylvester and James Ohio Pattie, father and son beaver trappers who made several trapping excursions along the San Pedro, Gila, and Colorado Rivers during the years 1825–1826 (Walker and Bufkin 1979:17). In 1846, Colonel Stephen Watts Kearny, who had been charged with establishing American control of California and the Southwest, followed the Gila River west toward California after securing New Mexico. Along the way, he met Lieutenant Christopher "Kit" Carson, who informed him that the war in California was essentially over. Kearny continued westward with a minimal contingent of men, sending the rest back to New Mexico. Kearny followed the river, passing by the Piman villages. When he reached California, he found that Carson had exaggerated and that the hostilities there were not quite at an end; nevertheless, his trip had not been wasted, as it provided the opportunity for the first reliable mapping of the Gila River.

The Treaty of Guadalupe Hidalgo ended the Mexican-American War in 1848 and established the Gila River as the Mexican-American border from the western boundary of New Mexico to the confluence of the Gila and Colorado Rivers. Following the discovery of gold in California in 1849, the Gila Trail, as the route established along the Gila River by Kearny had come to be known, became a major thoroughfare for would-be gold miners on their way to California. The Piman peoples living along the Gila River frequently sold food and supplies to the westbound travelers and, when necessary, provided defense and sanctuary against the Apache. Recognizing this aid on the part of the Pima, Congress allocated $10,000 for gifts (in the form of farming implements and other tools) in 1859. An additional $1,000 was also allocated for a survey of Piman land (which is to say, a survey for the establishment of a reservation). Initially, 64,000 acres of land were set aside for the Pima, which was far less territory than they claimed and required for farming and grazing, but in 1869 an additional 81,140 acres were added, followed by another 9,000 acres on the eastern end of the reservation in 1876 (Russell 1908:31, 32).

In 1853, the Gadsden Purchase expanded Arizona from the Gila River south to the present-day Mexican border; 10 years later, the Arizona Territory was established after successful lobbying by Charles D. Poston. Mining camps and towns began to appear in the territory, specifically in the region colloquially referred to as the Copper Basin, a mineral-rich zone that lies between two ecological regions, the Tonto Transition section of the Colorado Plateau semi-desert province to the north and the Sonoran Desert section of the American semi-desert and desert province to the south (Seefeldt 2005:3).

THE PINAL MOUNTAINS AND THE SUPERIOR AREA IN THE HISTORIC ERA

The Pinal Mountains have been historically documented as the territory of the Western Apache, specifically the Pinal Band of the San Carlos group (Goodwin 1942:2). In the beginning of sustained European contact in the 1700s, the Pinal Band was known to the Spanish as "Pinaleños" (Spicer 1962:244). The territory of the Pinal Band included the mountainous areas around the modern town of Globe in the aptly named Pinal Mountains. The Salt River to the north marked the northern extent of the Pinal Band; the Dripping Springs Valley was the southern limit (Goodwin 1942:25). The spring, summer, and fall months were spent in the highest portions of the Pinal Mountains, hunting large game and collecting wild foods such as acorns from the Emory oak and the hearts of various agave species. Agriculture played a significant role in the diet of the Western Apache. Domesticated crops were known to have been cultivated around Wheatfields on Pinal Creek and near the confluence of Pinal Creek and the Salt River (Goodwin 1942:24). During the cold months, lower-elevation camps were established on the southern and southwestern faces of the Pinal Mountains and were used for staging raids on the Piman villages to the west and Mexican settlements to the south (Goodwin 1942:25). The Apache people were dependent economically on raiding and would rely on the acquisition of livestock and foodstuffs during the late winter and early spring months (Goodwin and Basso 1971). As Euroamerican populations increased in Arizona, these conflicts escalated to levels best expressed as open warfare, with atrocities attributed to both sides.

The Pinal Mountains were occasionally frequented by the Southeastern Yavapai, a hunting-and-gathering group that lived in central Arizona. The Yavapai were often confused with the Apache by Europeans due to their adjacent homelands and similar subsistence practices, and were mistakenly called "Mohave-Apaches" (Gifford 1932). They generally kept to the lower-elevation areas to the west and south of the

Pinal Mountains. However, Goodwin (1942:51, 89) reports that the Yavapai sometimes camped in the Pinal Mountains and would occasionally intermarry with the Pinal Band. Gifford (1932) states that the Southeastern Yavapai considered the Pinal Mountains to be within their territory; however, this information is based on limited informant interviews and a substantial Yavapai presence in the Pinal Mountains has not been proven. What is clear is that the Yavapai likely gathered together with the Pinal Band and other Western Apache bands in the western portion of the Pinal Mountains in order to stage raids on the settlements of Anglos, Mexicans, and native agriculturalists in the Gila Valley and Tucson Basin (Goodwin 1942:51). Raiding forays originating in the Pinal Mountains continued into the American period and were common during the 1860s (Thrapp 1967). The steep escarpment known as Apache Leap on the western edge of the Pinal Mountains was a natural fortress from which Apachean peoples could stage attacks on Piman villages and Anglo settlements on the Gila River (Lindeman 2006; Thrapp 1967).

In response to the promise of rich silver deposits, Euroamericans had been prospecting within the Pinal Mountains. Explorers such as King Woolsey and Cal Jackson searched for mineral deposits in the eastern portion of the Pinal Mountains near present-day Globe in the mid- to late 1860s (Bigando 1989). The important territorial town of Florence was established in 1866 along the southern bank of the Gila River 20 miles to the west of the Pinal Mountains. Florence grew rapidly in its first decade, making it one of the largest cities in the territory. When Pinal County was formed in 1875, Florence became the county seat. Increased mining in the mountain ranges to the north and east of Florence (Superstition, Pinal, and Dripping Springs Mountains), especially at Silver King, Mineral Creek (Ray), and Globe, attracted miners and prospectors to Florence to be outfitted and to record their claims (Myrick 1980:555).

Apache and Yavapai raids on the farmers and ranchers living on the Gila River became increasingly common in the early and mid-1860s (Thrapp 1967). This was partially due to the limited military protection afforded to the settlers, as the majority of US soldiers were enmeshed in the Civil War out east (Thrapp 1967). In response, American and Mexican settlers, with the assistance of Pima, Maricopa, and Papago volunteers, formed vigilante groups that were responsible for numerous punitive expeditions against the Apache and Yavapai. In 1865, the government formed the official Arizona Volunteers, a volunteer unit of Mexicans and Piman fighting men led by Anglos and Mexicans. The volunteers went on several expeditions against the Apache, but were officially disbanded in 1866. However, they may have been unofficially involved in punitive expeditions against the Apache until the early 1870s (Spicer 1962). On one occasion—the fabled Apache Leap incident—numerous Apache purportedly leapt to their deaths in the face of an overwhelming military force that may have included Arizona Volunteers (Farish 1918).

The legend of Apache Leap states that sometime in the 1860s or early 1870s, a group of 75 Apache warriors were cornered by US Army troops or civilian volunteers at the edge of a steep escarpment east of Superior (Barnes 1988; Farish 1918; Thrapp 1967:137). Rather than surrender, the Apache chose to leap off the cliff to certain death. By 1882, the escarpment was known as “Apaches Eternal Leap” (Cox 1882), which over time was shortened to Apache Leap. This popular legend has become part of the historical fabric of Arizona, and versions of the tale have been told for generations. There is no definitive historical documentation of the incident (Thrapp 1967:137). However, most scholars of Arizona history concede that there is probably a grain of truth in the legend (Buckles 2007; Thrapp 1967:137). Over the years, the legend has morphed into a commercial gimmick that is used to sell “Apache Tears” (obsidian nodules) to tourists in Superior (Buckles 2007).

The first significant Anglo-American presence in the western Pinal Mountains was in July 1870, when a military camp was established near Tordillo (or Tordilla) Peak (Alexander 1998). This peak was called Picket Post Camp by the troopers. One account suggests that this name was used because the troopers' horses were picketed there while they looked for Apache camps in the Pinal Mountains (Barnes 1988). From Picket Post, General George Stoneman ordered the construction of a trail into the Pinal Mountains, subsequently known as Stoneman's Grade, in order to pursue the Western Apache into the rugged mountains east of the Gila Valley and to open the area up for mining. The soldiers started the trail at the foot of Picket Post Mountain and built it up to the headwaters of Picket Post Creek (later called Queen Creek). They then extended it across what the soldiers called Devils Canyon. A military post named Infantry Camp was established in November 1870 in Mason's Valley and was subsequently renamed Camp Pinal (Alexander 1998; Barnes 1988). General Stoneman was replaced by General George Crook in June 1871. He soon ended the use of Camp Pinal by the military (Alexander 1998; Thrapp 1967). The reason for General Stoneman's removal is not clear. He may have been replaced because of his overall responsibility as commander of the Military District of Arizona for failing to prevent the Camp Grant Massacre in April 1871 in which over 100 members of the Pinal and Aravaipa bands of the Western Apache living near the camp were murdered by members of the Papago tribe (the modern-day Tohono O'odham) led by leading Anglo and Mexican settlers from Tucson (Colwell-Chanthaphonh 2007). Or it could be that he spent too much time building roads, surveying the territory, and dealing with administrative duties and not enough time subduing the Apache.

General Crook was an effective military leader who destroyed the food stores and fields of hostile Apache and employed Apache scouts to find them in their mountain fastness (Thrapp 1967). Soon after he was appointed commander of the US military in the Arizona Territory, General Crook issued an ultimatum to all Apache that they must report to their assigned reservations by February 1872. Toward the end of 1872, Crook began a campaign to round up those groups that had not submitted to his demand (Thrapp 1967). By 1875, all the Western Apache had been sent to live on the San Carlos Apache Reservation near the confluence of the San Carlos and Gila Rivers, where their descendants live to this day.

General Crook's Apache campaigns of 1872 and 1873 opened the way for further Euroamerican settlement in the Pinal Mountains. The first major ore body discovery in the Western Pinal Mountains was made in 1871 south of Stoneman's Grade by several miners who had been soldiers under Captain Kerr (Woody and Schwartz 1977). They recorded a number of claims in late 1871 called, collectively, the Silver Queen Ledge, which eventually became the Silver Queen Mine and the future location of the Magma Mine 30 years later (Walker and Chilton 1991). While the Silver Queen Mine was technically the first registered set of mine claims, it was only discovered after a fruitless search for a far richer mine—the fabled Silver King Mine (Woody and Schwartz 1977).

The story behind the discovery of the Silver King Mine is that in 1871 a Gila Valley rancher named Charles G. Mason was shown a piece of pure silver by John Sullivan. Sullivan, a soldier, had found the silver while working on Stoneman's Grade. Unfortunately for Sullivan, while Mason was interested, no one else wanted to mount an expedition into Apache territory at the risk of their lives. Sullivan eventually left Arizona in late 1874 or 1875 to seek a milder climate (Woody and Schwartz 1977). Prior to his leaving the territory, Mason talked him into giving directions to the ore in exchange for some cash, a pair of boots, and other goods (Woody and Schwartz 1977). Later that year, Mason went to investigate the

area near Stoneman's Grade with a party of miners on their way back from working the Globe Ledger claim (Haak 1991:33). Based on the directions given to Mason—that the spot was a "stone's throw" away from a large prominent boulder near Stoneman's Grade—the ore that would become the famed Silver King Mine was finally rediscovered (Woody and Schwartz 1977). The four prospectors filed their claims in Florence, and within 6 months, 50 men were working at the Silver King Mine (Haak 1991:33). In 1877, the original prospectors sold out to the Silver King Mining Company headed by George Barney (Haak 1991). The Silver King Mine became one of the richest mines in Arizona history, generating over 6 million dollars in silver between 1877 and 1886 (Haak 1991). During the same period, mines in the eastern portion of the Pinal Mountains within the Globe Mining District were also producing rich silver and copper ore (Bigando 1989).

The land in the Pinal Mountains was also attractive to ranchers and, to a lesser extent, farmers, who began to settle the area in the 1870s. Robert A. Irion, a rancher and farmer from Colorado, occupied Camp Pinal in 1878 with his family and renamed it Pinal Ranch (Craig 1975). Irion had learned about the area from his friend Charles G. Mason, the prospector (Craig 1975). Pinal Ranch is located in the beautiful oak-filled alluvial basin surrounded by lofty peaks that became known as Mason's Valley (Barnes 1988). The basin has also been known over the years as Irion's Flat, Sutton Summit, and Top of the World. Pinal Ranch became an important stop for travelers on the Globe-to-Superior pack trail and was an important source of fresh fruit in the area (Cox 1882; Craig 1975; Goodman 2003b).

The town that developed around the Silver King Mine was initially called Happy Hollow Camp. This was later changed to Silver King. Another boomtown, Pinal, grew up around the stamp mill at the base of Picket Post Mountain along Queen Creek. The Picket Post post office was established in 1878 and the name was changed to Pinal or Pinal City in 1879 (Barnes 1988). Pinal in its heyday in the early 1880s had as many as 2,000 residents and contained 123 buildings (Barnes 1988; Wood 1979). The Silver King Mine closed in 1888 and was essentially abandoned by 1891. This was due to a decrease in the quality of the silver ore produced by the mine, which was compounded by a sudden drop in the price of silver on the world market (Haak 1991; Wood 1979). The town lives on in popular novels written in the early 1900s by the noted western writer Dane Coolidge.

The development of the Silver Queen Mine followed a different course. The settlement around the claims was briefly known as Queen, but renamed Hastings by 1882 (Cox 1882; Walker and Chilton 1991). This town did not flourish as the towns of Silver King and Pinal had, probably because the Silver Queen's silver ore deposits were not as rich as the Silver King's and were played out by the early 1880s. The lack of significant silver deposits at the Silver Queen Mine, the demise of the Silver King Mine in 1888, and low silver prices led to ranching becoming the primary economic activity in the region for the final years of the nineteenth century. In the first years of the twentieth century, George Lobb, Sr., a former level boss at the Silver King Mine, worked some claims around Hastings known collectively as the Golden Eagle Group (Walker and Chilton 1991). The operation quickly collapsed, but when copper became a viable commodity around the turn of the century, the old Silver Queen Mine regained its value due to its large copper deposits. Sustained growth began in 1902 with the purchase of the Golden Eagle Group by the Lake Superior and Arizona Mining Company (L.S.&A.), and a townsite was laid out by Lobb, who named the town Superior after the L.S.&A. (Walker and Chilton 1991). No copper deposits were present

at the Silver King Mine, and it was forgotten throughout most of the twentieth century. In 1996, it was reopened for silver mining by the Deen family (San Felice 2006:316).

William Boyce Thompson and his partner George Gunn acquired interests in the Silver Queen Mine in 1910 for $130,000 and renamed it the Magma Mine. This mine is known today as the first air-conditioned mine in North America (ASME website; Walker and Chilton 1991). A large concentrator was built in 1914 to efficiently process the ore. The Magma Arizona Railroad (MARR) was completed in 1915 to provide an efficient means of transporting the ore from the Magma Mine to a spur of the Southern Pacific Railroad near Florence. This stimulated population and economic growth in Superior, which lasted into the 1970s. The MARR was originally built as a narrow-gauge line, but was later replaced with standard-gauge rail in 1922–1923. The main function of the MARR was to transport processed materials from the mines in Superior, although limited passenger and cattle transport services were also provided. The MARR was unique in that its steam operations lasted decades after other railroads had converted to diesel-powered locomotives.

Periods of boom and bust in the mining industry followed throughout the remainder of the twentieth century. The construction of the Globe to Superior segment of U.S. 180 (later U.S. 60) in 1922 stimulated economic activity in the Pinal Mountains and facilitated the transport of goods into a previously isolated portion of Arizona. Later, the Strategic Minerals Act of 1939 helped spur prospecting and mining activity in the Pinal Mountains during the military-industrial buildup prior to World War II (Goodman 2003a:961). An interesting side note to the historical activities in the area during the 1930s was the presence of work programs sponsored by the Civil Works Administration. The New Deal of the 1930s was enacted by the federal government to employ citizens by putting them to work on federally sponsored road improvement projects, trail improvement projects, and other activities on National Forest System lands. A significant Civilian Conservation Corps camp is located at the Oak Flat campground east of Superior (Wright 1993).

ARCHAEOLOGICAL BACKGROUND OF THE PROJECT AREA

The preceding discussion presents the big picture of the cultural events and developments during prehistory and history that affected human populations in central and southern Arizona. The objective of this section is to establish the relevance and representation of this culture history in the context of the current archaeological survey. Previous archaeological studies in the geographic region encompassing the project area are the source of this information.

The current project area is located in an area generally known as the Pinal Mountain Highlands. This area is characterized by rugged mountainous terrain and steep canyons. Looking at watercourses as possible routes of human population movement, interaction, and communication, the drainages provide possible cultural tethers southward and westward to the Hohokam heartland along the Gila River near Florence and Coolidge and along the Salt River near Phoenix; and northward and eastward to the Mogollon, Hohokam, and Salado culture centers in the Tonto Basin and Globe area.

Unquestionably, the most visible and widely scattered archaeological remains in the Pinal Mountain Highlands represent the Late Formative period (A.D. 1100–1450) expression of the Salado culture. The Salado culture is known in part for cobble and rock masonry architecture and distinctive styles of decorated pottery. Archaeological sites with cobble-masonry architecture are common (Clark and Vint 2004; Doyel 1978; Hohmann and Kelley 1988; Lindeman and Whitney 2005; Mitchell et al. 2002; Vickery 1936). The most notable archaeological investigations near the present project are Erich F. Schmidt's studies of Salado sites, particularly the large masonry pueblo of Togetzoge located in Mason's Valley near Superior. The Salado occupation in the area is expressed by large multi-room pueblos and small single-room sites. One broad, sweeping assessment that may be made about Salado sites is that they can be found just about anywhere across the landscape. This extensive footprint of the Salado culture is one overarching characteristic that distinguishes it from the preceding Hohokam culture.

Archaeological evidence from the Pinal Mountain Highlands also reveals the existence of a Hohokam culture presence in the region (Clark and Vint 2004; Doyel 1978; Lindeman and Whitney 2005; Mitchell et al. 2002; Vickery 1945). The Hohokam culture sites date predominantly to the Middle Formative period (A.D. 700–1100) and seem to reflect an expansion of the Hohokam culture from the heartland to the west. The Pinal Mountain Highlands were settled at the same time that Hohokam culture settlements were established in the Tonto Basin to the north, the Gila River area near the San Pedro River confluence to the south, and the Globe area to the east (Clark and Vint 2004; Doyel 1978; Haury 1932; Mitchell et al. 2002; Vickery 1945). The initial Hohokam culture presence in these areas is indicated by sparse but persistent occurrences of Snaketown Red-on-buff pottery diagnostic of the late Hohokam Pioneer period (A.D. 650–750), but substantial settlements are present by the early Colonial period (A.D. 750–850). Unlike the later Salado culture footprint, the Hohokam footprint is typically focused along the alluvial plains and fans associated with streams and rivers. This seems to reflect the Hohokam focus on floodplain agriculture that often relied on canals, ditches, and other means of diverting water flow. The Hohokam footprint away from these alluvial plains and fans is light and reflects Hohokam forays into the hinterlands in pursuit of plant and animal resources.

Very little is known about the region before the Hohokam. Archaeological evidence of Paleoindian era or Early and Middle Archaic period sites is extremely rare. So much so that nothing specifically can be contributed to the preceding discussion. The current standing of the Late Archaic and Early Formative period cultural presence in the area is not quite as dire as the preceding cultural horizons, but these periods are not well represented in the archaeological record of the region either. Some of this probably represents the fact that only recently have archaeologists recognized how Late Archaic and Early Formative period culture characteristics are expressed on the landscape. To the north, excavations in the Tonto Basin in the past couple of decades have established clear evidence of occupation during the Early Formative period (Clark and Vint 2004; Elson and Lindeman 1994). Similarly, relatively recent excavations along the Gila River near Winkelman have identified archaeological expressions of Late Archaic and Early Formative period cultures (Clark 2000). Furthermore, recently completed excavations by Statistical Research, Inc., along U.S. 60 west of the project area uncovered a Late Archaic or Early Formative period settlement along the banks of Queen Creek. Although not well known for the Pinal Mountain Highlands and the immediately adjacent areas, it seems likely that continued research will reveal additional evidence of human adaptation and use of the area before the Hohokam culture tenure.

The Apache presence in the western Pinal Mountains during the protohistoric and historical eras has been confirmed through archaeological surveys, ethnographic studies, and native oral traditions (Goodwin 1942; Lindeman and Whitney 2005; MacNider and Effland 1989). However, an Apache presence on the landscape is often hard to detect archaeologically due to the ephemeral nature of Apache sites. The placement of storage caches and burial niches in nearly inaccessible places by the Apache likewise inhibits detection of Apache sites (Lindeman and Whitney 2005). The higher-elevation areas in the Pinal Mountains were used to gather wild plant foods and hunt large animals during the warm months, and most of the Apache sites in these mountains are related to resource procurement and processing. The Apache often reoccupied prehistoric sites dating to the Late Formative period (Lindeman and Whitney 2005). The western and southern flanks of the Pinal Mountains were lived in during the winter months, and it was from there that raiding parties were sent off to the Pima, Tohono O'odham, Anglo, and Mexican communities (Goodwin 1942). A camp used to stage attacks on these groups is located at the top of Apache Leap (Lindeman and Whitney 2005).

Historical mining activities are represented on the landscape by various types of mineral exploration and mining features (Goodman 2003a; Lindeman and Whitney 2005). These features range from small hand-dug test pits to extensive mine workings within the Pinal Mountains. In relation to the project area, the most extensive mining activity has occurred west of Apache Leap and southeast of Five Point Mountain. Nevertheless, numerous examples of small-scale operations as well as the ubiquitous mining cairn dot the landscape around the project area. Perhaps the most significant archaeological investigation of historical mining in the Pinal Mountains was the Carlota Copper Mine archaeological project (Goodman 2003a).

Ranching in the Pinal Mountains has been ongoing since the late 1870s, and ranching-related features such as cattle tanks, ranch roads, and stone cattle fences dot the landscape. Although little archaeological work has been performed on historical ranch sites in the Pinal Mountains, information on specific ranch operations is generally available from historical records (see Goodman 2003b for some information on ranches in the Pinal Mountains). Cultivation of fruit trees has also been important in the history of the Pinal Mountains (Craig 1975).

Few archaeological studies have been conducted specifically within the project area or the immediately surrounding area, but two projects are noteworthy. In 1977, personnel from the Museum of Northern Arizona (MNA) surveyed the proposed route of the SRP Silver King to Kyrene East End Transmission System (Keller 1978; Yablon 1978a, 1978b). This survey identified two sites that are shown to be within the present project area. According to the records on file at the ASM, NA15692 is reported to be a mining site with a stone feature interpreted as an ore-crusher foundation. The other site, NA15722, is a prehistoric Native American agricultural site with several linear rock alignments and two rectangular stone structures. NA15722 was located just west of Tower 23. This is critical in identifying the location of both NA15722 and NA15692. Following this survey, MNA conducted archaeological excavations at NA15722 prior to the construction of the SKKEETS.

Between October 1993 and February 1994, SWCA conducted an archaeological survey of the Eastern Mining Area transmission system. This survey, which crosses the present project area in two places, identified a single archaeological site in the vicinity of the present project. This site, AZ U:12:74(ASM), is a rock shelter with a scatter of Historic period artifacts. The shelter was apparently used as a habitation.

The project area is located amongst the townsites of Silver King, Superior, and Pinal. Historic period maps of the area show that the original military trail, Stoneman's Grade, and a later wagon road between the townsites of Pinal and Silver King followed the course of Silver King Wash to the west of the project area. Historic era maps also reveal that by 1901 mining was occurring in the area.

SURVEY EXPECTATIONS AND SURVEY PLAN

Based on the environmental setting and archaeological background of the project area, WestLand anticipated the probability of finding archaeological sites relating to prehistoric Native American occupation and use of the area; perhaps protohistoric or early historical Native American use of the area; and Historic period Euroamerican activities most likely related to mining.

SURVEY OBJECTIVES

WestLand's objectives for the current survey were 1) to determine if there were any previously unrecorded cultural properties within the project area, 2) to perform and document a complete inventory of all cultural resources in the project area, and 3) to evaluate and recommend treatment for all historic properties potentially eligible for inclusion in the NRHP. To accomplish these goals, the following specific research objectives were established:

1. Identify and record all archaeological resources.

2. Distinguish between isolated archaeological finds and archaeological sites.

3. Define the spatial extent and archaeological content of all archaeological sites based on land ownership and access permissions.

4. Determine as specifically as possible the cultural affiliation and chronological placement of each archaeological find.

5. Propose a functional classification for each archaeological find based on what is currently known about the archaeological cultures of the region and the archaeological materials observed.

6. Address research questions based on field findings.

METHODS

This archaeological project consisted of three sequential tasks: 1) background research, 2) a field survey, and 3) preparation of this final report. These tasks are described below.

TASK 1. BACKGROUND RESEARCH

Prior to fieldwork, an archaeological overview of the project area and its immediate environs was conducted. Specifically, WestLand archaeologists reviewed existing archaeological information in the site files at the ASM and on the ASM online AZSITE database. A study area was defined that was larger than the project area that included the project area and a surrounding 1.6-kilometer (1-mile) buffer, its purpose to place the archaeological resources located within the project area into context with those resources in the immediate vicinity. In addition to the first-hand search of ASM records, WestLand requested a database from the ASM containing the AZSITE records for all known sites in the study area. This database contains all the documented information about each site. Available General Land Office (GLO) maps, land ownership records administered by the Bureau of Land Management, historical Pinal County road maps, historical mine plats, and historical aerial photographs were also examined for information pertinent to identifying archaeological resources in the project area.

TASK 2. FIELD SURVEY

The survey methods were influenced by the nature of the expected archaeological resources and the character of the landscape. WestLand's archaeologists conducted a pedestrian archaeological survey within the project area by walking transects back and forth across the project area at 20-meter intervals until the entire area had been examined for archaeological resources.

The initial expectation was that much of the evidence for human use of the area would reside in archaeological artifacts, features, and sites attributable to Hohokam (or Formative) and Historic period land-use patterns. Thus field methods focused on collecting basic information about the individual artifacts, features, and sites, including their age, cultural affiliation, associated material culture, and presumed function, as well as basic metric data. Survey methods were also influenced by the expectation that sites, particularly Historic period sites, are often masked or obscured by modern ongoing use. Archaeologists reviewed historical maps and aerial photographs prior to the field survey to identify Historic period features on the landscape that might still exist as archaeological sites. These potential finds were "ground-proofed" by the archaeologists.

Field observations were recorded on standardized forms and later entered into WestLand's Archaeological Information Management System for analysis.

ASM Site Criteria

Evidence of past human activities exists on the landscape in objects, sites, districts, buildings, and structures. The archaeological survey initially identified two types of resources: archaeological artifacts and archaeological features. The former category consists of individual portable objects on the landscape. The latter consists of a variety of archaeological resources, from clusters of two or more objects in close

proximity to one another to more substantial debris scatters and non-portable purposeful constructions, excavations, and deposits.

Every archaeological resource encountered was mapped and recorded, including individual artifacts, individual features, artifact scatters with or without features, and groupings of features. The ASM provides guidelines that identify what is minimally considered an archaeological site. An archaeological site is a special subset of archaeological features that meets at least the minimum criteria. Upon initial discovery of an archaeological artifact or feature, the archaeologists would examine that find to determine whether other associated archaeological materials were present. If the find was an individual occurrence, it was classified as an isolated occurrence and documented accordingly. Its location was mapped and its characteristics were recorded on field forms.

If multiple artifacts or features were found, the following ASM guidelines (1995) were applied to determine whether the archaeological find should be designated and recorded as an archaeological site. According to the ASM, a site is any:

1. Physical remains of past human activity that are at least 50 years old.

Additionally, sites should consist of at least one of the following:

2. 30+ artifacts of a single class (i.e., 30 sherds, 30 lithics, 30 tin cans) within an area 15 m (50 ft) in diameter, except when all pieces appear to originate from a single source (i.e., one ceramic pot, one core, one glass bottle).

3. 20+ artifacts which include at least 2 classes of artifact types (i.e., sherds, ground stone, nails, glass) within an area 15 m (50 ft) in diameter.

4. One or more archaeological features in temporal association with any number of artifacts.

5. Two or more temporally associated archaeological features without artifacts.

All resources satisfying these minimum criteria were designated as archaeological sites and recorded as specified in the ASM site recording manual (ASM 1993). Archaeological features that did not meet these criteria were designated as isolated features and recorded accordingly. Within the boundaries of the archaeological sites, WestLand archaeologists used the following categories to characterize artifact density:

- **Light Density:** 0 to 3 artifacts of any class per 1 m^2
- **Moderate Density:** 3 to 7 artifacts of any class per 1 m^2
- **High Density:** 7 or more artifacts of any class per 1 m^2

Site recording generated the following records: written descriptions, scaled hand-drawn maps, photographs, and electronic data collection with a Trimble Geoexplorer. A primary site datum (PSD) marked with an aluminum tag was placed at each site. UTM coordinates were electronically recorded for each PSD with sub-meter accuracy and initialized to the NAD83 CONUS datum. Site boundaries were

established by the distribution of artifacts and features. Within each archaeological site, the locations of the features and diagnostic tools were mapped. For each newly discovered site, an ASM site number was obtained from the ASM Site Files Office (University of Arizona, Tucson) and an ASM site card was completed and returned to ASM for entry into their site file records and database (AZSITE).

Artifact and Feature Documentation

All non-site archaeological artifacts and isolated features were designated as isolated occurrences. By definition, an object or feature is considered archaeological when it is more than 50 years old. Many artifacts of glass, metal, and synthetic material lack diagnostic characteristics to indicate their age. Because these are abundant in areas around modern settlements and in areas frequently visited for hunting, camping, and other forms of recreation, it is impractical to map and record all glass, metal, and synthetic materials. These industrial-age artifacts were identified as isolated archaeological resources only when clear diagnostic evidence established that they were over 50 years old. The location of each isolated archaeological find was recorded with a hand-held GPS unit. To the extent possible, the isolated finds were categorized into conventional typological categories and attributed to an archaeological culture and chronological period.

Data were consistently collected, regardless of whether an artifact or feature was associated with a site or considered an isolate. Artifacts were described and classified into rudimentary typological categories based on material, form, and manner of decoration. Artifacts representative of each type were drawn or photographed. Stone artifacts were initially assigned to one of three categories: flaked stone, ground stone, or fire-affected. Flaked stone artifacts were further categorized as either debitage or tools. Lithic raw material types were recorded for all observed pieces of flaked and ground stone, if possible. Stone tools were classified to basic quasi-functional-descriptive categories such as biface, projectile point, flaked tool, pebble tool, core/tool, mano, metate, or indeterminate. Additional comments were recorded about whether the tool may have been a scraper, denticulate, handstone, mano, slab metate, basin metate, or trough metate. Glass, metal, and other industrial-made artifacts were similarly classified. Key diagnostic traits were recorded and any diagnostic markings or embellishments were photographed, sketched, or transcribed.

Archaeological features were documented in a consistent manner whether or not they were associated with a site or occurred as isolates. Features were classified into descriptive and quasi-functional categories, described, and measured. Descriptions included notes on the form, composition, material, and construction technique. Most features were drawn and photographed except when vegetation or other impediments prevented the archaeologists from doing so.

TASK 3. FINAL REPORT

This final report of the site files and records search and field investigation has been prepared in accordance with the reporting standards established by the Arizona State Land Department and the ASM.

RESULTS

SITE FILES SEARCH

Seven cultural resource inventories have been conducted within the project area or in the immediate vicinity. Three of these are electrical transmission line surveys, one is a road survey for the emergency escape ramp on U.S. 60 east of Superior, one is a survey for a proposed industrial park west of Superior, one is a survey on the Tonto National Forest (TNF) for a federal land exchange, and one is a survey of a mining claim on TNF lands ***(Table 1; Figure 4)***. The locations of most of these projects are not shown in ***Figure 4***. The ASM and TNF site files document 22 previously recorded cultural resource sites within the project area or the 1.6-kilometer (1-mile) buffer ***(Table 2*** [over]***, Figure 4)***. These sites represent prehistoric Native American, Historic period Apachean, and Historic period Euroamerican activities in the area. Two sites are reportedly located within the project area ***(see Table 2, Figure 4)***. These two sites represent prehistoric Native American habitation and agricultural activities and Euroamerican mining.

Table 1. Previously recorded archaeological projects within 1.6 kilometers (1 mile) of the project area

Project No.	Project Name	Company
1989-93.ASM [1]	Superior Escape Ramp	Archaeological Research Services, Tempe
1998-375.ASM [2]	Town of Superior Industrial Park	David S. Boloyan, Archaeological Services
TNF-1978 [3]	Lake Side-Superior Land Exchange	TNF
TNF-2000 [4]	Archaeological Evaluation of three sites for the Goldfield Silver King 230 kV Transmission Line, near Superior	SWCA, Phoenix
TNF-2004 [5]	Archaeological Survey of the Farlea Mining Claim near Silver King	Northland Research, Tempe
A-77-154? A-77-159? **1** [6]	SRP Silver King to Kyrene East End Transmission Line	Museum of Northern Arizona
1993-369.ASM **2** [7]	EMA Survey	SWCA, Phoenix

Note: The projects **within the project area** are numbered separately at the end of the table.

HISTORICAL MAP REVIEW

WestLand archaeologists and cartographers reviewed several historical maps of the area to identify historical roads. These maps include:

- 1882 Topographical Map of Pioneer Mining District (Cox 1882)
- 1901 USGS Florence 30′ quadrangle
- 1919 Plat of the Claim of the Magma Chief Copper Company known as the Gerald Cansler in Pioneer Mining District, Pinal County, Arizona (Goetz 1919)
- 1926 GLO map for T1S R12E (Kinsey and Vander-Meer 1926)
- 1948 USGS Superior 7.5′ quadrangle
- 1949 Pinal County General Highway Map
- 1949 USGS Superior 7.5′ quadrangle, photo revised 1981

Figure 4 Removed: Sensitive Data

Table 2. Previously identified archaeological sites within 1.6 kilometers (1 mile) of the project area

Site No.		Cultural Affiliation
AR-03-12-02-144(TNF)	1	Historic Euroamerican
AR-03-12-02-145(TNF)	2	Historic Euroamerican
AR-03-12-02-149(TNF) NA15718(MNA)	3	Prehistoric Native American
AR-03-12-02-159(TNF)	4	Prehistoric Native American Historic Euroamerican (Silver King Siding, Happy Camp)
AR-03-12-02-178(TNF)	5	Unknown
AR-03-12-02-405(TNF)	6	Historic Euroamerican
AR-03-12-02-567(TNF)	7	Historic Euroamerican (Silver King Road)
AR-03-12-02-1264(TNF)	8	Historic Euroamerican
AR-03-12-02-1529(TNF)	9	Historic Euroamerican (Pike's Camp)
AR-03-12-02-1530(TNF)	10	Historic Euroamerican Civilian Conservation Corps checkdams
AR-03-12-02-1913(TNF)	11	Historic Native American: Apache
AZ U:12:31(ASU)	12	Not recorded
AZ U:12:74(ASM)	13	Prehistoric Native American Historic Euroamerican
AZ U:12:77(ASM) AR-03-12-02-1242(TNF)	14	Prehistoric Native American Historic Euroamerican
AZ U:12:160(ASM)	15	Historic Euroamerican
AZ U:15:388(ASM) AR-03-12-02-146(TNF)	16	Prehistoric Native American Historic Euroamerican
AZ V:5:198(ASM) AR-03-12-02-1403(TNF)	17	Historic Euroamerican
NA15690(MNA)	18	Prehistoric Native American Historic Euroamerican
NA15691(MNA)	19	Historic Euroamerican
NA15784(MNA)	20	Prehistoric Native American
AZ U:12:218(ASM)	**1** 21	Historic Euroamerican
NA15722(MNA)	**2** 22	Prehistoric Native American

Notes:
- The sites **within the project area** are numbered separately at the end of the table.
- Acronyms: ASM – Arizona State Museum; MNA – Museum of Northern Arizona; TNF – Tonto National Forest

Review of the historical maps identified possible Historic period archaeological resources in the project area. The northern end of the project area falls within the Gerald Cansler mining claim (Kinsey and Vander-Meer 1926). The plat of this claim (Mineral Survey 3483) was filed in the U.S. Surveyors General Office on May 28, 1919, and the survey was completed on April 14, 1918 (Goetz 1919). Records indicate that the improvements on the claim included five cuts, two shafts, and a tunnel, valued at $690. The map also has a notation for a house and a well. The plat map for the Gerald Cansler claim shows that

the claim is bordered on the northwest, northeast, and southeast by unknown claims and on the southwest by the unsurveyed Roland claim.

A review of the 1901 USGS Florence 30′ quadrangle map shows a trail that crosses the present project area from southeast to northwest. This trail was part of a cutoff from Superior to Silver King Road.

FIELD SURVEY

WestLand identified two archaeological sites and 38 isolated archaeological finds ***(Figure 5)***. The sites are described below. The isolated finds are listed in ***Table 3*** and are discussed here. Many of the isolated finds lack any direct evidence that they are archaeological, but most of them are mining-related features found at the northern end of the project area, south of the Gerald Cansler claim.

Table 3. Isolated archaeological finds

Field No.	Type	Description
2	Artifact	Flaked stone, debitage
3	Feature	Cairn; 2.5 × 1.5 × 1.25 ft; unknown age
4	Feature	GLO survey monument, brass cap; 1946
5	Feature	GLO survey monument, brass cap, triangulation point associated with Feature 4; 1946
6	Artifact	Glass; bottle break; 12 shards aqua-colored; 12 × 5 ft; oriented east, southeast
7	Artifact	Metal Log Cabin syrup can; house-cabin shaped
8	Feature	Artifact scatter, including hammered-aluminum pitcher with steel handle, white-enameled metal mixing bowl, clear decorative glass shard, sanitary can; 25 × 2 ft; oriented east
9	Artifact	Glass; bottle break; 6 shards aqua-colored; crown rim; stretch marks on neck; 5-ft diameter
10	Feature	Road; unimproved dirt; 15 to 18 ft wide
11	Feature	Earthen berm across Feature 10; 45.5 × 15 × 3 ft
12	Feature	Earthen berm across Feature 10; 25.5 × 6 × 2 ft
13	Feature	Cairn; 3 × 3 × 1 ft; age unknown
14	Feature	Cairn; 3.5 × 3 × 1.75 ft; age unknown
16	Feature	Cairn; 5 × 4.5 × 2.25 ft; age unknown
17	Feature	Prospect; 13 × 10 × 1.5 ft; age unknown
18	Feature	Road; unimproved; 10 to 12 ft wide
19	Artifact	White enamel metal bowl; 13.25 × 5 in; part of Feature 8
20	Artifact	Hammered-aluminum pitcher with steel-strap handle; 18 × 6.5 in; part of Feature 8
28	Feature	Cairn; 6 × 5 × 1.25 ft; unknown age
29	Feature	Pipeline; 1-in buried iron pipe; partially exposed
34	Feature	Open excavation or trench; 127 × 10–12 × 6 ft
35	Feature	Cairn; 5 × 5 × 2 ft; with fallen wood, 6 × 6 in, post; unknown age
36	Feature	Cairn; 3.5 × 2 × 1 ft; unknown age
37	Feature	Prospect; 12 × 9 × 9 ft; excavated laterally into wash; unknown age
38	Feature	Pipeline; 1-in buried iron pipe; partially exposed
39	Feature	Pipeline; 1-in buried iron pipe; partially exposed
40	Feature	Pipeline; 1-in buried iron pipe; partially exposed
41	Feature	Trail along wash; 6 ft wide; cut into slope
42	Feature	Road or bulldozer push; 12 ft wide; berms alongside are 6 ft wide and 2 ft tall
43	Feature	Cairn; 5 × 5 × 3 ft; unknown age
55	Artifact	Zinc-plated sheet metal
56	Feature	Cairn; 5 × 5 × 3 ft; square wooden post in center; unknown age
57	Artifact	Ground stone; netherstone; local tabular metamorphosed limestone with a pecked and ground area on one side
58	Feature	Road crossing utility corridor
60	Feature	Cairn; 2.5 × 2.5 × 1 ft; with square wooden post and aluminum tag; modern
61	Feature	Cairn; 2.5 × 2.5 × 1 ft; with square wooden post and aluminum tag; modern
62	Feature	Cairn; 4 × 3 × 1 ft; collapsed; unknown age
63	Feature	Cairn; 6 × 4 × 0.8 ft; collapsed and scattered; unknown age

Figure 5 Removed: Sensitive Data

The isolated finds consist of eight artifacts and 30 features. Only two isolated finds, a flaked stone artifact and a netherstone, can be attributed to prehistoric Native American cultures. All the other isolated artifacts and features are attributed to Euroamerican activities in the area. The six isolated Historic period artifacts identified are bottle breaks (n=2), a house-shaped Log Cabin syrup can (n=1), a hammered-aluminum pitcher with a strap-iron handle (n=1), a white-enameled metal mixing bowl (n=1), and a piece of sheet metal (n=1). The pitcher and the mixing bowl are part of an artifact scatter (Isolated Feature 8) that also includes a sanitary steel can and fragments of a decorative glass container, possibly a flower vase. The other 29 isolated features are attributable to the Historic period, but none are definitively archaeological.

The most common isolated feature is the rock cairn (n=14). The ages of these are modern or unknown, but most are probably related to mining in the project area. Mining claims are shown to the east of the project area as early as the *1882 Topographical Map of Pioneer Mining District* (Cox 1882) and, as noted, the northern end of the project is located within the Gerald Cansler claim (Patent 857949; Mineral Survey No. 3483) and the unsurveyed Roland claim. Some of the cairns also appear to be associated with the surveys of the electrical transmission lines.

The next most common isolated features are roads or trails (n=5) and pipelines (n=4). The 1901 USGS Florence 30′ quadrangle map shows a cutoff trail from Superior to Silver King Road. Features 10 and 58 approximate the location of this road. No artifacts are associated with either road to suggest that they were used in the early 1900s. Feature 10 is blocked by two earthen berms (Features 11 and 12). Feature 58 parallels the fence that bounds the active mining area and has been bulldozed. Another road, Feature 18, is a spur that connects the present alignment of Silver King Road (AZ U:12:217[ASM], see site description below) with the older route of Silver King Road (AR-03-12-02-567[TNF]). Nothing was observed in the field to indicate that this road is archaeological, and no indications of the road were shown on the Historic period maps. A trail (Feature 41) and a short road segment (Feature 42) are probably related to mining and provided access along a wash to prospects and excavations.

Four pipelines were observed during the survey. All were exposed sections of buried 1-inch iron pipe. These appeared to follow the washes; most were located in the wash bottom, with some of the longer exposed sections along the edge of the wash. Three open excavations, prospects, or trenches were observed.

Two features identified are a GLO survey monument and an associated triangulation monument. Both are brass caps and are stamped with the date 1946.

NA15722(MNA)

WESTLAND FIELD SITE NUMBER: None assigned

CULTURAL AFFILIATION: Prehistoric Native American

AGE: Late Formative, A.D. 1150–1450

SITE TYPE: Field house and agricultural fields

SITE SIZE: 110 by 40 meters

ELEVATION: 3,160 feet above mean sea level (amsl)

NATIONAL REGISTER OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Unevaluated

SITE DESCRIPTION: NA15722(MNA) was discovered and excavated in preparation for the construction of the SRP SKKEETS electrical line (Keller 1978; Yablon 1978a, 1978b; Yablon and Weaver 1981:39–50). Originally, the site consisted of a two-room rectangular masonry structure and a series of nine checkdams or terraces. ASM records show this site as being within the present project area; however, the report on the excavations at the site show that it was located on the hill slope west of SKKEETS Tower 23 (Yablon and Weaver 1981, Figure 23). This tower is located west of the present project area ***(see Figures 4 and 5)***. A quick inspection of the site location revealed that there are few traces remaining.

AZ U:12:218(ASM) – NA15692(MNA)

WESTLAND FIELD SITE NUMBER: 50

CULTURAL AFFILIATION: Euroamerican

AGE: Historic, ca. 1918

SITE TYPE: Habitation: miner's cabin

SITE SIZE: 120 by 83 feet

ELEVATION: 3,150 feet amsl

NATIONAL REGISTER OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Eligible

Photo 3. Overview of NA15692(MNA)

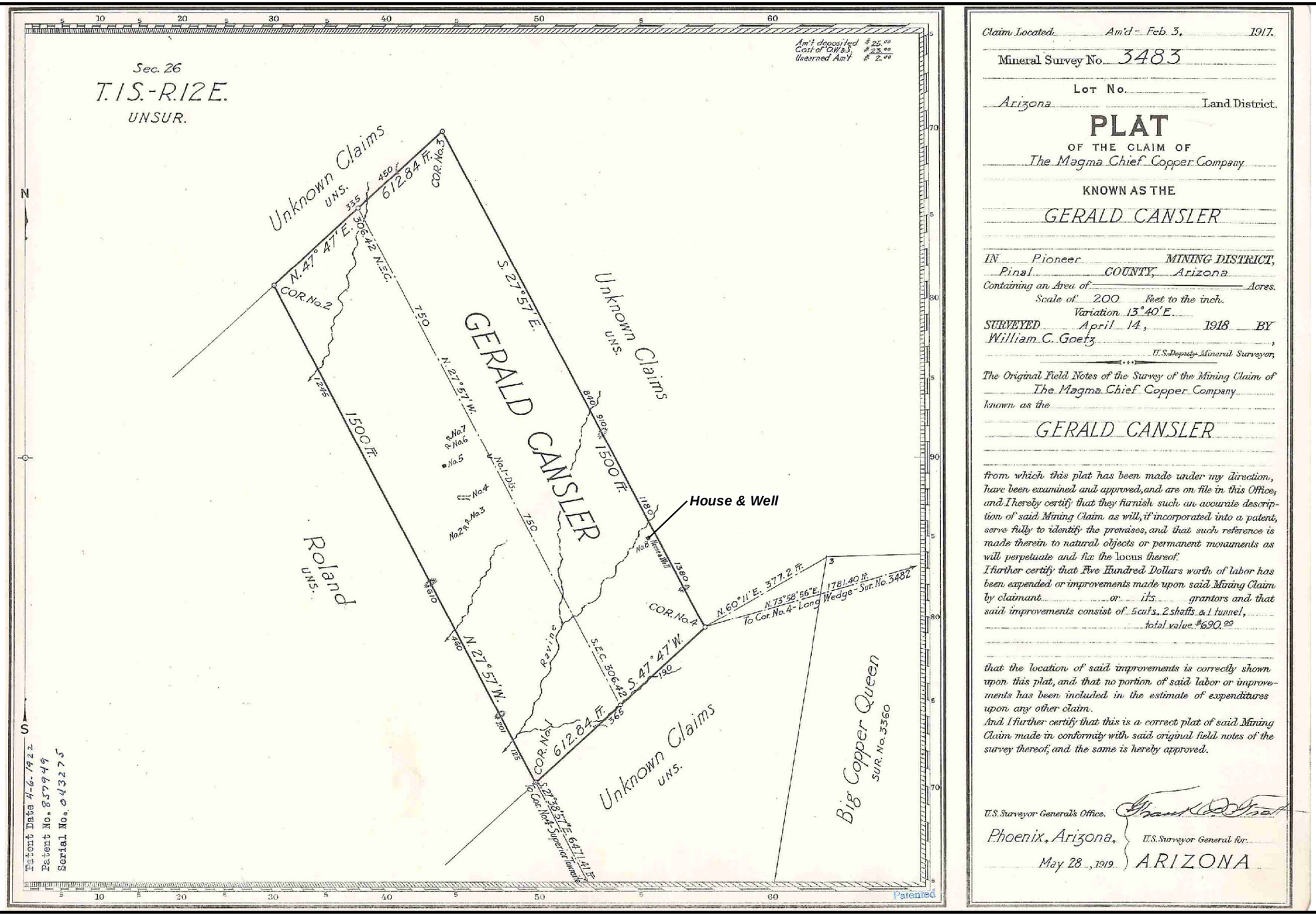
Photo 4. Overview of Feature 31

SITE DESCRIPTION: AZ U:12:218(ASM) is the remains of a stone cabin associated with other features ***(Figure 6)***. The site was first discovered and recorded during the archaeological survey for the SRP SKKEETS electrical line that is just west of the present project area (Keller 1978; Yablon 1978a, 1978b). The structure was originally described as the foundation of a crusher related to ore processing, but is interpreted here as a cabin. The site is located near the center of the Gerald Cansler claim that was surveyed in 1918 (Goetz 1919). The plat description indicates that in 1918, there were five cuts, two shafts, and a tunnel on the property. The plat map also shows the location of a house and a well in the southeastern corner of the claim on the eastern side of a ravine ***(Figure 7)***. AZ U:12:218(ASM) is located near the center of the claim and is located on the western side of a ravine.

SITE SETTING: The site is located in a rincon to the side of a larger wash. The rincon is defined by a large, nearly vertical bedrock outcrop on the north and a steep hillside on the south ***(Photo 3)***. A retaining wall along the mouth of the rincon has held back sediment, creating a relatively flat, level area. The deep alluvium hosts a mesquite bosque. Other than the dense mesquite canopy, the vegetation in and around the site is typical of the project area.

FEATURES: Four features are defined at the site. Feature 31 is the remains of a stone cabin ***(Photo 4)***. The structure is built into the side of a hill overlooking a ravine. Approximately two-thirds of the walls are still standing. The upslope wall is intact and most of the side walls are still standing. The downslope wall has collapsed into the ravine and the rubble is visible on the slope. The standing walls are up to 5 feet-

Figure 6 Removed: Sensitive Data



Claim Located Am'd - Feb. 3, 1917.

Mineral Survey No. 3483

Lot No.

Arizona Land District.

PLAT

OF THE CLAIM OF

The Magma Chief Copper Company

KNOWN AS THE

GERALD CANSLER

IN Pioneer MINING DISTRICT,
Pinal COUNTY, Arizona

Containing an Area of _____ Acres.

Scale of 200 Feet to the inch.

Variation 13° 40' E.

SURVEYED April 14, 1918 BY
William C. Goetz ,
~~U.S. Deputy~~ Mineral Surveyor,

The Original Field Notes of the Survey of the Mining Claim of
The Magma Chief Copper Company
known as the
GERALD CANSLER

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or its grantors and that said improvements consist of 5 cuts, 2 shafts & 1 tunnel, total value $690.00

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office.
Phoenix, Arizona,
May 28, 1919

Frank D. Gist
U.S. Surveyor General for
ARIZONA

Figure 7. Gerald Cansler Claim, GLO Mineral Survey No. 3483

5 inches tall. The interior measurements are about 13 by 9 feet. The walls are built from local rocks set with adobe mud and smaller chinking stones. In some places, the walls are double-rowed, but these are typically capped by larger rocks that served to bond the rows together. The walls are bonded at the corners. There is a dressed edge in the western wall 7 feet from the corner that appears to be a doorway opening into the rincon ***(Photo 5)***. A niche measuring 36 inches across and 32 inches deep is present in the southern (upslope) wall. This niche appears to be a chimney flume; however, the interior is not sooted. This is probably the feature that was originally identified as the foundation for an ore crusher. It is interpreted here as a cabin.


Photo 5. Detail of door of Feature 31

Feature 46 is a cairn, 4.5 by 4.5 by 1.5 feet, at the foot of the rock face at the head of the rincon. Feature 52 is the exposed section of a buried 1-inch iron pipeline. Feature 48 is a long retaining wall, 106 by 2 by 3 feet, across the mouth of the rincon. Little of this feature is visible; most is covered by sediment and vegetation. From what is exposed, the feature appears to be a combination of well-stacked rocks similar to the construction of the cabin and a rock berm. The rock berm may not be wholly manmade and may be a natural gravel bar at the margin of the wash channel. Regardless of the construction, the retaining wall parallels the main wash and has retained approximately 3 feet of sediment. The top of the retaining wall is level with the floor of the cabin. The retaining wall has created a "yard" within the rincon; the doorway of the cabin opens toward this yard. Feature 49 is a rock pile, 7 by 6 by 2 feet. It is perhaps what is left of a stockpile used in the construction of the cabin and retaining wall.

MATERIAL CULTURE: Only two artifacts were observed at the site. Artifact 30 is the base of an aqua-colored bottle. The bottle is embossed: "ICE COLD STOR…" "S.CAL." "BOTTLE IS NO…" The other item, Artifact 47, is a large square metal tray or tub measuring 42 by 42 by 9 5/8 inches on the interior. The bottom is solid metal. The top has a 7-inch flange on all sides.

SITE CONDITION: The site is in good condition. Approximately two-thirds of the cabin's walls are still standing. The retaining wall has not been breached and the leveled "yard" created by the wall is still intact.

INTERPRETATION: The Gerald Cansler claim plat map shows a house and a well within the eastern portion of the claim. The map, if accurate, shows the house and well on the eastern side of a ravine. The present structure is located on the western side of the ravine.

AZ U:12:217(ASM) – Silver King Road

WESTLAND FIELD SITE NUMBER: 21

CULTURAL AFFILIATION: Euroamerican

AGE: Historic ca. 1948–present

SITE TYPE: Transportation: road

SITE SIZE: 25 feet wide; length not recorded

ELEVATION: 3,160 feet amsl

NATIONAL REGISTER OF HISTORIC PLACES ELIGIBILITY RECOMMENDATION: Not eligible

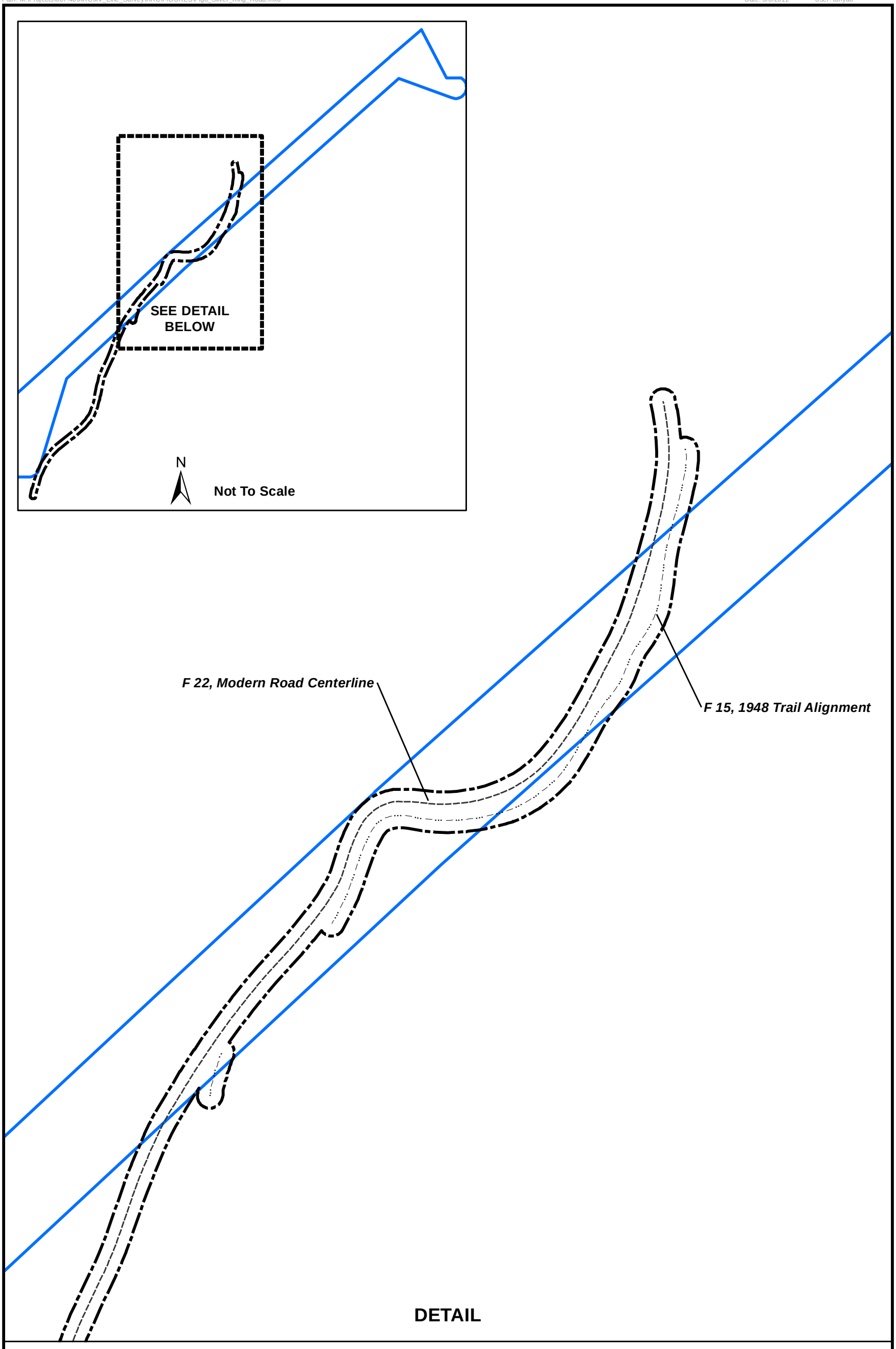
SITE DESCRIPTION: AZ U:12:217(ASM) is the current route of Silver King Road ***(Figure 8)***. The present road alignment follows that shown on the 1948 USGS Superior 7.5′ quadrangle. This road is not shown on earlier maps. The original road from Pinal to Silver King follows the Silver King Wash that is to the west of the present alignment. This older route is located on TNF lands and has been assigned AR-03-12-02-567 in the TNF site inventory. To the northwest of the project area, the current alignment of Silver King Road joins with and follows the older alignment to the site of Silver King.

SITE SETTING: In the project area, the road follows the top of a narrow ridge ***(see Photo 2)***. Vegetation along the road is characteristic of the project area.

FEATURES: Two features are attributed to the road. Feature 22 is the current active roadbed. The roadbed is bordered on both sides by windrows from grading and shallow ditches for the drainage of surface runoff ***(see Photo 2)***. A second feature attributed to this site is Feature 15. This feature is peculiar because it parallels the current roadbed but is located higher up on the hillsides to the east. In places where Feature 15 descends the hillsides, the feature is gullied with a channel about 1.5 to 2 feet deep. In other places, where Feature 15 crosses the side of the hills, the feature is flat and has the appearance of a trail or road that is about 10 to 12 feet wide ***(Photo 6)***. Feature 15 has been truncated on the north by the construction of the pads for two of the SRP SKKEETS transmission line towers. These towers were built after 1981. Feature 15 is also truncated by the spur of another road, Feature 10. The location of Feature 15 aligns well with the route shown on the historical

Photo 6. Feature 15 at AZ U:12:217(ASM)

Path: M:\Projects\807.40\ARC\kV_Line_Survey\ARC\FIGURES\Fig8_Silver_King_Road.mxd Date: 3/6/2012 User: tanyao



DETAIL

Image Source: Cooper Aerial, 2010

WestLand Resources, Inc.
Engineering and Environmental Consultants

0 100 200 Feet
0 30 60 Meters

N

Legend

Site Boundary

Project Area

Figure 8. Silver King Road, 1948 (AZ U:12:217[ASM])

1948 USGS map and may be the original 1948 alignment that has subsequently been replaced by the current alignment represented by Feature 22. Another alternative is that Feature 15 represents an old trail that predated the 1948 road but is not shown on the Historic period maps.

Two other road features are mentioned here, although they are not linked to Silver King Road. Feature 10 is an unimproved road that follows a ridge line and joins with Silver King Road in the project area. The alignment of Feature 10 roughly corresponds to the location of the trail from Superior to Silver King Road shown on the 1901 USGS Florence 30′ quadrangle map. No artifacts were found along Feature 10 to confirm that the present road does in fact date to this period. The present alignment of Silver King Road west and north of the present project area also follows a portion of the approximate route of the cutoff trail shown on the 1901 Florence map. A short spur of Feature 10 truncates Feature 15.

The other road is Feature 18. This is a short spur that connects the original Silver King Road, AR-03-12-02-567(TNF), with the current Silver King Road that is described here. This connection does not appear on any of the Historic period maps reviewed and, again, there is nothing associated with Feature 18 to indicate that it is archaeological.

MATERIAL CULTURE: No artifacts are directly associated with the road, but there is a "halo" of artifacts about 50 to 100 feet wide parallel to the road. These were identified as isolated finds even though some may be trash discarded along the road. Artifacts observed include a house-shaped Log Cabin syrup can (***see Table 3***, Artifact 7); a hammered-aluminum pitcher (***see Table 3***, Artifact 20) ***(Photo 7)***; a white-enameled steel mixing bowl (***see Table 3***, Artifact 19); bottle breaks; and rusted steel cans of indeterminate age. This halo of artifacts is not included within the boundary of the site.

Photo 7. Isolated artifact 20

SITE CONDITION: The active road is maintained and is in good condition. Feature 15 is gullied and eroded, but the route is still recognizable.

INTERPRETATION: AZ U:15:217(ASM) is a Late Historic period road that travels from U.S. 60 to the former mining boomtown of Silver King northeast of the project area. The original Silver King Road followed Silver King Wash and connected the mine site and related boomtown to the mill site that was located on Queen Creek at the old townsite of Pinal. By 1900, the silver was played out at the Silver King Mine and the boomtown of Silver King largely abandoned. The town of Superior then grew into the prominent settlement in the area. The present road may represent an alternative and shorter access route to Silver King Road from the town of Superior.

SYNTHESIS OF FINDINGS

The inventory of the project area resulted in the identification of 38 isolated artifacts and features and two archaeological sites. Most of the isolated features and one of the archaeological sites are related to mining in the area. The northern end of the project area lies within the boundary of the Gerald Cansler claim (Patent 857949) that was surveyed on April 14, 1918, and filed at the U.S. Surveyor General Office in Phoenix on May 28, 1919 (Goetz 1919). AZ U:12:218(ASM) is a miner's cabin and related features and artifacts located near the center of the Gerald Cansler claim. The other mining features include rock cairns, buried 1-inch iron pipelines, open excavations, a trail, and a bulldozer road. These are located within the Roland claim that is shown on the Gerald Cansler plat as unsurveyed.

The other archaeological site identified is the present Silver King Road. The current alignment was established by 1948 as indicated on the 1948 USGS Superior 7.5′ quadrangle map. The survey identified what appears to be two parallel alignments of the road. The one higher up the hill may be the alignment shown on the 1948 map or an older trail that is not shown on earlier Historic period maps.

EVALUATIONS AND RECOMMENDATIONS

The preceding portions of this report have presented background information and an inventory of the archaeological resources. The cultural resources inventory is based on a review of existing archaeological survey data bolstered by supplemental reviews of archaeological site records and archaeological literature, and a pedestrian field reconnaissance of the project area. This section of the report presents the NRHP-eligibility recommendations, an assessment of the potential adverse effects, and recommendations to avoid, minimize, or resolve the potential adverse effects ***(Table 4)***.

Table 4. Archaeological management summary

Site Number (ASM)	Location	Land Status	Age, Cultural Affiliation, and Function	Significance	NRHP Rec-ommendation	Recommended Treatment
AZ U:12:217	T1S R12E Sect 26	Private	Historic, Euroamerican road	Not significant	Not eligible	None
AZ U:12:218	T1S R12E Sect 26	Private	Historic, Euroamerican mining cabin	Significant	Eligible	Avoidance

The significance of cultural resources is evaluated according to the implementing regulations of Section 106 of the National Historic Preservation Act. Federal regulation 36 CFR 60.4 defines the criteria for determining whether or not cultural resources have significance in American history.

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that have yielded, or may be likely to yield, information important in prehistory and history.

A historic context is the analytic framework within which a cultural property's importance can be understood. The dimensions of time, place, and research theme converge to create the historic contexts relevant for evaluating the significance of cultural properties in a specific area. The National Park Service (NPS) (Hardesty and Little 2000:18; National Park Service 1996) has provided a thematic framework for history and prehistory to reflect current scholarship and to represent the full diversity of America's past. The themes and topics of the current NPS thematic framework are:

I. Peopling Places: The statistical study of human population, family, and the life cycle; dynamics such as growth and decline; aggregation and dispersion; migration from outside and within; community; encounters, conflict, and colonization; abandonment; ethnicity, ethnic homelands and cultural identity; and quality of life including health, nutrition, and disease.

II. Creating Social Institutions and Movements: Study of the manners by which people develop groups or organizations within a society and how these are organized including identification of the groups, physical manifestations of the social structures within an individual site and across the landscape, recreational activities, social ranking at the level of the individual and groups, alliance and interaction, effect of cosmology (religion) on the organizational structures, mortuary practice, and symbolic communication.

III. Expressing Cultural Values: Study of educational intellectual currents; visual and performing arts; literature, mass media, architecture, landscape architecture, and urban design; and popular and traditional cultures.

IV. Shaping the Political Landscape: Study of the development and impact of social institutions such as governmental institutions; political ideas, cultures, and theories; military institutions and activities as well as parties, protests, and movements.

V. Developing the American Economy: Study of how society transfers services and materials between individuals and communities, how resources and goods are extracted, produced, distributed, and consumed among the society; transportation and communication including trends related to travel and the transference of information within a society and between societies such as the information that is being conveyed, the mechanisms for transferring the information, and the nature of the communication; workers and work culture; labor organizations and protests; exchange and trade; governmental policies and practices; and economic theory.

VI. Expanding Science and Technology: Study of experimentation and invention; technological applications; scientific thought and theory, and its effects on lifestyle and health.

VII. Transforming the Environment: Generally defined as the study of human techniques and processes of manipulating the natural environment and its resources such as water and soil control, resource management, modifications of the natural landscape, resource identification and procurement, food preservation and storage, architectural design and construction, and production of tools and implements. Also includes adverse consequences and stresses on the environment and protecting and preserving the environment.

VIII. Changing Role of the United States in the World Community: Study of international relations; commerce; expansionism and imperialism; and immigration and emigration policies.

The specific historic contexts necessary for evaluating the quality of significance of the cultural properties discovered in the project area are created by considering the thematic framework presented above with regard to the prehistory and history of the project area as presented in the *Archaeological Background* section of this report. This convergence of local archaeological history and the NPS thematic framework creates the necessary historic contexts for evaluating the significance of individual sites.

The isolated artifacts and features identified during the survey are considered, as a lot, insignificant because they generally lack the quality of association. Only the significance of the two archaeological sites is considered. The two archaeological sites identified during this survey are related to two Historic period themes: transportation and mining. Both of these themes can be linked to the NPS themes *Developing the American Economy* and *Transforming the Environment*.

NATIONAL REGISTER OF HISTORIC PLACES ELIGIBILITY EVALUATIONS

AZ U:12:217(ASM) – Silver King Road (1948)

WestLand recommends that Silver King Road, AZ U:12:217(ASM), is not eligible for inclusion in the NRHP.

Roads in the Superior area were developed in the late 1800s for two purposes. In the 1870s, Stoneman's Grade was constructed to provide access to the military post at Pinal east of the Apache Leap to help quell Apache raids on Euroamerican mines, ranches, and settlements in the area. Stoneman's Grade later became the principal route for transportation of merchandise, people, supplies, and ore between the mining townsite of Silver King and the mill site of Pinal located at the foot of Picket Post Mountain on Queen Creek. Stoneman's Grade also provided a transportation route to the mining towns of Miami and Globe to the east and places in between. During the heyday of the Silver King Mine, people and goods were transported by wagon or stagecoach to Silver King and then packed on mules east to Miami and Globe. The silver at the Silver King Mine played out in the late 1880s and soon the mine and town were abandoned. Superior then became the primary settlement in the area. With the change in demographics in the Superior area, the character of the transportation of merchandise, people, supplies, and ore in the area shifted. By 1882, an alternative route, the Apache Leap Trail, was constructed that connected Florence to the towns of Miami and Superior. In 1922, the Apache Leap Trail was replaced with the Superior-Miami Highway, now generally the route of U.S. 60.

The present Silver King Road appeared on the landscape after the Silver King townsite was abandoned. The road begins at U.S. 60 on the western outskirts of Superior and ends at the old site of the Silver King Mine and ghost town. It is unlikely that this road served the same importance as the main corridor of transportation and commerce held by the original Silver King wagon road. This road now seems primarily to provide recreational and ranching access to TNF lands west and north of the project area. As such, the road is unremarkable and does not have significance in either national or local history.

AZ U:12:218(ASM)

WestLand recommends that AZ U:12:218(ASM) is eligible for inclusion in the NRHP under Criteria (a) and (d) based on its association with the early mining boom in the Superior Mining District and its potential to yield important scientific information about Historic period mining in the region.

The history of the Superior area is closely linked with the history of mining in Arizona, specifically, and in the western U.S., generally. The mineral discoveries in Arizona created a lure that drew people from many other parts of the U.S., Mexico, and other countries. These people came looking to find fortunes in opportunity. The early days of mining are defined by the sweat and efforts of individuals who staked claims in promising areas. As the mineral resources of some of these claims proved out, the claims were developed into or obtained by mining companies. AZ U:12:218(ASM) appears to be the remains of a prospector's camp with a stone cabin and a waterline. The mineral survey for the claim was completed in 1918 and filed with the Surveyor General Office in 1919. At that time, the claim patent was filed with the Magma Chief Copper Company as the owner. It seems likely that the claim was staked before this and worked and developed. As such, AZ U:12:218(ASM) represents an example of the early days of prospecting and mining in the Superior area and has the potential to yield important information about the life and efforts of individual miners.

EVALUATION OF EFFECT

The proposed construction of the 115 kV electrical transmission line has the potential to affect one historic property, AZ U:12:218(ASM). Silver King Road (1948), AZ U:12:217(ASM), will not be affected because this archaeological site lacks significance in American or local history.

RECOMMENDED TREATMENT

WestLand recommends that SRP and Resolution take steps in the design, construction, and maintenance of the transmission line to avoid affecting AZ U:12:218(ASM). If avoidance is not a viable treatment, then WestLand recommends the preparation of a data recovery plan that defines treatments to minimize or resolve the adverse effect. WestLand recommends that the treatments include additional archival research, more detailed and thorough mapping and photographic documentation of the site and features, and field studies to further define the materials present and the extent of the site.

MANAGEMENT SUMMARY

WestLand recommends that SRP and Resolution take steps in the design, construction, and maintenance of the 115 kV line to avoid affecting AZ U:12:218(ASM). If avoidance is not a viable treatment, then WestLand recommends the development of an archaeological program to resolve the adverse effect. In all future work, pursuant to Arizona Revised Statute §41-865, if human remains are encountered anywhere in the project area during ground-disturbing activities, all activity shall cease in the area of the discovery and the Director of the ASM shall be immediately notified. All ground-disturbing activities in the immediate vicinity of the discovery shall cease until a qualified archaeologist assesses the significance of the remains. Work in and around the area shall not resume until so directed by ASM personnel.

REFERENCES

Abbott, David R., Susan L. Stinson, and Scott Van Keuren
2003 The Economic Implications of Hohokam Buff Ware Exchange During the Early Sedentary Period. *Kiva* 67:7–29.

Alexander, David V.
1998 *Arizona Frontier Military Place Names 1846–1912*. Yucca Tree Press, Las Cruces.

Altschul, Jeffrey H.
1994 *From North to South: Shifting Sociopolitical Alliances during the Formative Period in the San Pedro Valley.* Paper presented at the Spring meeting of the Arizona Archaeological Council, April 8 and 9, Tucson.

Arizona State Museum
1993 *Archaeological Site Recording Manual, Version 1.1.* Arizona State Museum, University of Arizona, Tucson.

1995 *Revised Site Definition Policy.* Arizona State Museum, University of Arizona, Tucson.

Barnes, Will C.
1988 *Arizona Place Names.* University of Arizona Press, Tucson.

Bigando, Robert
1989 *Globe, Arizona: The Life and Times of a Western Mining Town 1864–1917.* American Globe Publishing Company, Globe.

Bowen, Thomas
1972 *A Survey and Re-evaluation of the Trincheras Culture, Sonora, Mexico.* Manuscript on file, Arizona State Museum Library Archives, AT-95-85. University of Arizona, Tucson.

Buckles, Avi
2007 *A Preliminary Investigation into the Legend of Apache Leap*. Prepared for Resolution Copper Mining, Report No. 2007-27, WestLand Resources, Inc., Tucson.

Cable, John S., and David E. Doyel
1985 The Pueblo Patricio Sequence: Its Implications for the Study of Hohokam Origins, Pioneer Period Site Structure and the Processes of Sedentism. In *City of Phoenix, Archaeology of the Original Townsite: Block 24-East,* edited by J. S. Cable, K. S. Hoffman, D. E. Doyel, and F. Ritz, pp. 211–270. Soil Systems Publications in Archaeology Number 8. Soil Systems, Inc., Phoenix.

1987 Pioneer Period Village Structure and Settlement Pattern in the Phoenix Basin. In *The Hohokam Village: Site Structure and Organization*, edited by David E. Doyel, pp. 21–70. Southwest and Rocky Mountain Division of the American Association for the Advancement of Science, Glenwood Springs.

Cable, John S., K. Hoffman, David Doyel, and F. Ritz (eds.)
1985 *City of Phoenix, Archaeology of the Original Townsite: Block 24-East*. Soil Systems Publications in Archaeology 8. Phoenix.

Chenault, Mark L.
1996 The Polvorón Phase and the Hohokam Collapse. Ph.D. dissertation. University of Colorado, Boulder.

2000 In Defense of the Polvorón Phase. In *The Hohokam Village Revisited*, edited by David E. Doyel, Suzanne K. Fish, and Paul R. Fish, pp. 277–286. Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, Ft. Collins.

Clark, Caven P. (compiler)
2000 *Archaeological Investigations at AZ V:13:201, Town of Kearny, Pinal County, Arizona*. Cultural Resources Report, No. 114, Archaeological Consulting Services, Tempe.

Clark, Jeffery J., and James M. Vint (eds.)
2004 2000 Years of Settlement in the Tonto Basin: Overview and Synthesis of the Tonto Creek Archaeological Project. Anthropological Papers No. 25. Center for Desert Archaeology, Tucson.

Colwell-Chanthaphonh, Chip
2007 *Massacre of Camp Grant: Forgetting and Remembering Apache History*, University of Arizona Press, Tucson.

Cox, Gustavus
1882 *Topographical Map of Pioneer Mining District and Adjacent Country, Pinal County, Arizona Territory.* No publisher.

Craig, Douglas B.
2000 The Demographic Implications of Architectural Change at the Grewe Site. In *The Hohokam Village Revisited*, edited by David E. Doyel, Suzanne K. Fish, and Paul R. Fish, pp. 139–166. Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, Ft. Collins.

Craig, Helen B.
1975 *Within Adobe Walls: 1877–1973*. Art Press, Phoenix.

Crown, Patricia L.
1991a The Hohokam: Current Views of Prehistory and the Regional System. In *Chaco and Hohokam: Prehistoric Regional Systems in the American Southwest*, edited by Patricia L. Crown and W. James Judge, pp. 135–157. School of American Research Press, Santa Fe.

1991b The Role of Exchange and Interaction in Salt-Gila Basin Hohokam Prehistory. In *Exploring the Hohokam: Prehistoric Desert Peoples of the American Southwest*, edited by George J. Gumerman, pp. 383–415. University of New Mexico Press, Albuquerque.

Crown, Patricia L., and Earl W. Sires

1984 The Hohokam Chronology and Salt-Gila Aqueduct Project Research. In *Hohokam Archaeology along the Salt-Gila Aqueduct Central Arizona Project, Vol. IX: Synthesis and Conclusions*, edited by Lynn S. Teague and Patricia L. Crown. Arizona State Museum Archaeological Series No. 150.

Dean, Jeffery S.

1991 Thoughts on Hohokam Chronology. In *Exploring the Hohokam. Prehistoric Desert Peoples of the American Southwest*, edited by G. J. Gumerman, pp. 61–149. Amerind Foundation New World Studies Series No. 1. University of New Mexico Press, Albuquerque.

Deaver, William L., and Richard Ciolek-Torrello

1995 Early Formative Period Chronology for the Tucson Basin. *The Kiva* 60(4):481–530.

Debowski, Sharon S., Anique George, Richard Goddard, and Deborah Mullon

1976 *An Archaeological Survey of the Buttes Dam Reservoir*. Arizona State Museum Archaeological Series No. 93. University of Arizona, Tucson.

Doelle, William H.

1981 The Gila Pima in the Seventeenth Century. In *The Protohistoric Period in the North American Southwest, A.D. 1450–1700*, edited by David R. Wilcox and W. Bruce Masse, pp. 57–70. Anthropological Research Papers 24. Arizona State University, Tempe.

1985 *Excavations at the Valencia Site, a Preclassic Hohokam Village in the Southern Tucson Basin*. Anthropological Papers No. 3. Institute for American Research, Tucson.

Doelle, William H., and Henry D. Wallace

1990 The Transition to History in Pimería Alta. In *Perspectives on Southwestern Prehistory*, edited by P. E. Minnis and C. L. Redman, pp. 239–257. Westview Press, Boulder.

Downum, Christian E., and Todd W. Bostwick

2003 The Platform Mound. In *Centuries of Decline during the Hohokam Classic Period at Pueblo Grande*, edited by David R. Abbott, pp. 166–200. University of Arizona Press, Tucson.

Doyel, David E.

1974 *Excavations in the Escalante Ruin Group, Southern Arizona*. Arizona State Museum Archaeological Series 37. Tucson.

1978 *The Miami Wash Project: Hohokam and Salado in the Globe–Miami Area, Central Arizona.* Contribution to Highway Salvage Archaeology in Arizona No. 52, Arizona State Museum, University of Arizona, Tucson.

1980 Hohokam Social Organization and the Sedentary to Classic Transition. In *Current Issues in Hohokam Prehistory*, edited by David E. Doyel and Fred Plog, pp. 23–40. Anthropological Research Papers 23. Arizona State University, Tempe.

1981 *Late Hohokam Prehistory in Southern Arizona*. Contributions to Archaeology 2. Gila Press, Scottsdale.

1991a Hohokam Cultural Evolution in the Phoenix Basin. In *Exploring the Hohokam: Prehistoric Desert Peoples of the American Southwest*, edited by George J. Gumerman, pp. 231–278. University of New Mexico Press, Albuquerque.

1991b Hohokam Exchange and Interaction. In *Chaco and Hohokam: Prehistoric Regional Systems in the American Southwest*, edited by Patricia L. Crown and W. James Judge, pp. 225–252. School of American Research Press, Santa Fe.

2000 The Santan Phase in the Phoenix Basin. In *The Hohokam Village Revisited*, edited by David E. Doyel, Suzanne K. Fish, and Paul R. Fish, pp. 221–244. Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, Ft. Collins.

Eighmy, Jeffrey L., and Randall H. McGuire

1989 *Archaeomagnetic Dates and the Hohokam Phase Sequence*. Technical Series 3. Archaeometric Laboratory, Colorado State University, Ft. Collins.

Elson, Mark, and Michael Lindeman

1994 The Eagle Ridge Site, AZ V:5:104/1045 (ASM/TNF). In *The Roosevelt Community Development Study: Introduction and Small Sites*, edited by Mark D. Elson and Deborah L. Swartz, pp. 23–116. Anthropological Papers No. 13, Vol. 1. Center for Desert Archaeology, Tucson.

Farish, Thomas Edwin

1918 *History of Arizona. Vol. XVIII* The Filmer Brothers Electrotype Company, San Francisco.

Faught, Michael K., and Andrea K. L. Freeman

1998 Paleoindian Complexes of the Terminal Wisconsin and Early Holocene. In *Paleoindian and Archaic Sites in Arizona*, by Jonathan B. Mabry, pp. 33–54. Center for Desert Archaeology, Tucson.

Fish, Paul R.

1989 The Hohokam: 1,000 Years of Prehistory in the Sonoran Desert. In *Dynamics of Southwest Prehistory*, edited by Linda Cordell and George Gumerman, pp. 19–64. Smithsonian Institution Press, Washington.

Foster, Michael S., JoAnne Miller, Ruth Van Dyke, and Gary Brown

1995 *A Cultural Resource Management and Treatment Plan for Magma Copper Company's Florence In-Situ Copper Mine, Pinal County, Arizona*. Western Cultural Resource Management, Inc., Boulder.

Freeman, Andrea

1999 Status of the Middle Archaic in Southern Arizona. In *Excavation in the Santa Cruz River Floodplain: The Middle Archaic Component at Los Pozos*. Anthropological Papers No. 20. Center for Desert Archaeology, Tucson.

Gifford, E. W.
1932 *The Southeastern Yavapai*. In University of California Publications in American Archaeology and Ethnology. Volume XXXIX, 1930–1932, pp. 177–252. University of California Press, Berkeley.

Gladwin, Harold S., Emil W. Haury, E. B. Sayles, and Nora Gladwin
1937 *Excavations at Snaketown: Material Culture*. Medallion Papers No. 25. Gila Pueblo, Globe.

Goetz, William C.
1919 Sec. 26, T. 1 S.-R. 12 E., Plat of the claim of the Magma Chief Copper Company known as the Gerald Cansler in Pioneer Mining District, Pinal County, Arizona. On file, Bureau of Land Management, Arizona State Office, Phoenix.

Goodman, John D. II
2003a Site Summaries. In *The Carlota Copper Mine Archaeological Project: Volume 4, Part II: Historic Site Descriptions*, edited by John Goodman II, Jean Ballagh, and Douglas Mitchell. Report #97-191. SWCA, Phoenix.

2003b A Brief History of Mining and Ranching on Middle Pinto Creek. In *The Carlota Copper Mine Archaeological Project: Volume 4, Part I: Historic Site Descriptions*, edited by John Goodman II, Jean Ballagh, and Douglas Mitchell. Report #97-191. SWCA, Phoenix.

Goodwin, Grenville
1942 *The Social Organization of the Western Apache*. The University of Chicago Press, Chicago.

Goodwin, Grenville, and Keith Basso
1971 *Western Apache Raiding and Warfare*. The University of Arizona Press, Tucson.

Gregory, David A.
1987 The Morphology of Platform Mounds and the Structure of Classic Period Hohokam Sites. In *The Hohokam Village: Site Structure and Organization*, edited by David E. Doyel, pp. 183–210. American Association for the Advancement of Science, Glenwood Springs.

Gumerman, George J., and Emil W. Haury
1979 Prehistory: Hohokam. In *Handbook of North American Indians, Volume 9: Southwest*, edited by Alfonso Ortiz, pp. 75–90. Smithsonian Institution, Washington.

Haak, Wilbur A,
1991 Arizona's Silver Belt. In *History of Mining in Arizona*, Volume II, edited by J. Michael Cantly and Michael N. Greeley, pp. 31–36. Mining Club of the Southwest Foundation, Tucson.

Hackbarth, Mark R.
1995 *The Historic Archaeology of Heritage Square*. Anthropological Papers No. 2. Pueblo Grande Museum, Phoenix.

Hardesty, Donald L., and Barbara J. Little
2000 *Assessing Site Significance: A Guide for Archaeologists and Historians*. Altamira Press, Lanham.

Haury, Emil W.
1932 *Roosevelt 9:6: A Hohokam Site of the Colonial Period.* Medallion Papers No. 11. Gila Pueblo, Globe.

1953 Artifacts with Mammoth Remains, Naco, Arizona, I: Discovery of the Naco Mammoth and the Associated Projectile Points. *American Antiquity* 19(1):1–14.

1975 *The Stratigraphy and Archaeology of Ventana Cave* (second printing). University of Arizona Press, Tucson.

1976 *The Hohokam: Desert Farmers and Craftsmen*. University of Arizona Press, Tucson.

Haury, Emil W., E. B. Sayles, and William W. Wasley
1959 The Lehner Mammoth Site, Southeastern Arizona. *American Antiquity* 25(1):2–32.

Haynes, Gary
2002 *The Early Settlement of North America: The Clovis Era*. Cambridge University Press, Cambridge.

Henderson, T. Kathleen
1985 *The Prehistoric Archaeology of Heritage Square*. Anthropological Papers No. 3. Pueblo Grande Museum, Phoenix.

2002 Chronology. In *The Grewe Archaeological Research Project, Volume 1: Project Background and Feature Descriptions,* edited by Douglas B. Craig, pp. 163–208. Anthropological Papers No. 99-1. Northland Research, Inc., Flagstaff and Tempe.

Henderson, T. Kathleen, and Mark R. Hackbarth
2000 What is Going on at the Hohokam Village? A Fourteenth and Fifteenth Century Perspective. In *The Hohokam Village Revisited*, edited by David E. Doyel, Suzanne K. Fish, and Paul R. Fish, pp. 287–316. Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, Ft. Collins.

Hohmann, John W., and Linda B. Kelley
1988 *Erich F. Schmidt's Investigations of Salado Sites in Central Arizona*: *The Mrs. W.B. Thompson Archaeological Expedition of the American Museum of Natural History*. Bulletin No. 56, Museum of Northern Arizona Press, Flagstaff.

Huckell, Bruce B.
1978a *Excavations at AZ Y:2:17, the Dateland Site, a San Dieguito Site in Southwestern Arizona.* Arizona Department of Transportation, Phoenix.

1978b *The Oxbow Hill-Payson Project: Archaeological Excavations South of Payson, Arizona.* Contributions to Highway Salvage Archaeology in Arizona No. 48. Arizona State Museum, Tucson.

1984a The Paleo-Indian and Archaic Occupation of the Tucson Basin: An Overview. *Kiva* 49(3–4):133–145.

1984b *The Archaic Occupation of the Rosemont Area, Northern Santa Rita Mountains, Southeastern Arizona*. Arizona State Museum Archaeological Series No. 147, Vol. 1, University of Arizona, Tucson.

1995 *Of Marshes and Maize: Preceramic Agricultural Settlements in the Cienega Valley, Southeastern Arizona*. Anthropological Papers of the University of Arizona No. 59. University of Arizona Press, Tucson.

1996 The Archaic Prehistory of the North American Southwest. *Journal of World Prehistory* 10(3):305–372.

Huckell, Bruce B., and C. Vance Haynes, Jr.
1995 The Ventana Complex: New Dates and New Ideas on its Place in Early Holocene Western Prehistory. Paper presented at the 60th Annual Meeting of the Society for American Archaeology, Minneapolis.

Irwin-Williams, Cynthia
1967 Picosa: The Elementary Southwestern Culture. In *American Antiquity* 32(4):441–457.

1979 Post-Pleistocene Archaeology 7000–2000 B.C. In *Handbook of North American Indians Vol. 9 Southwest*, edited by Alfonso Ortiz. Smithsonian Institution, Washington D.C.

Keller, Donald R.
1978 *Archaeological clearance survey of 14.8 mi of extra high voltage transmission line corridor, 2.0 mi of substation access road, and 0.9 mi of 115 KV transmission line alignment, Silver King substation area, Tonto National Forest.* MS on file, Museum of Northern Arizona, Flagstaff.

Kinsey, Benjamin J., and Theodore Vander-Meer
1926 Township No. 1 South, Range No. 12 East, Gila and Salt River Meridian, Arizona. On file, Bureau of Land Management, Arizona State Office, Phoenix.

Lennon, Thomas J., et al.
1995 *A Cultural Resource Management and Treatment Plan for Magma Copper Company's Florence In-situ Mine, Pinal County, Arizona*. Western Cultural Resource Management, Tempe.

Lindeman, Michael W.
2006 *Treatment Plan for Cultural Resources on the Resolution Parcel, Pinal County, Arizona*. Desert Archaeology, Inc., Tucson.

Lindeman, Michael W., and Gregory J. Whitney
2005 *The Resolution Project: Results of an Archaeological Survey in Pinal County, Arizona*. Technical Report 2003-10. Desert Archaeology, Inc., Tucson.

Mabry, Jonathan B.
1997 *Archaeological Investigations of Early Village Sites in the Santa Cruz Valley: Descriptions of the Santa Cruz Bend, Square Hearth, Stone Pipe and Canal Sites*, edited by J. B. Mabry. Anthropological Papers No. 18. Center for Desert Archaeology, Tucson.

2000 The Red Mountain Phase and the Origins of Hohokam Villages. In *The Hohokam Village Revisited*, edited by David E. Doyel, Suzanne K. Fish, and Paul R. Fish, pp. 37–63. Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, Ft. Collins.

Mabry, Jonathan B. (ed.)
1998 *Paleoindian and Archaic Sites in Arizona*. Technical Report No. 97-7. Center for Desert Archaeology.

Mabry, Jonathan B., and Gavin H. Archer
1997 The Santa Cruz Bend Site, AZ AA:12:746(ASM). In *Archaeological Investigations of Early Village Sites in the Santa Cruz Valley: Descriptions of the Santa Cruz Bend, Square Hearth, Stone Pipe and Canal Sites*, edited by J. B. Mabry, pp. 9–228. Anthropological Papers No. 18. Center for Desert Archaeology, Tucson.

MacNider, Barbara S., and Richard W. Effland Jr.
1989 Cultural Resources Overview. In *Tonto National Forest Cultural Resource Assessment and Management Plan and Overview*, pp. 1–375. Cultural Resources Inventory Report No. 89-235. Tonto National Forest, Phoenix.

Masse, W. Bruce
1981 A Reappraisal of the Protohistoric Sobaipuri Indians of Southeastern Arizona. In *The Protohistoric Period in the American Southwest, A.D. 1450–1700*, edited by D. R. Wilcox and W. B. Masse, pp. 28–56. Anthropological Research Papers No. 29. Arizona State University, Tempe.

McGuire, Randall H., and María Elisa Villalpondo C.
1993 *An Archaeological Survey of the Altar Valley, Sonora, Mexico.* Archaeological Series No. 184. Arizona State Museum, University of Arizona, Tucson.

Midvale, Frank
1965 Prehistoric Irrigation of the Casa Grande Ruins Area. *The Kiva* 30(3):82–86.

Mitchell, Douglass R., Jean H. Ballagh, Thomas D. Yoder, and M. Zyniecki (editors)
2002 *Carlota Copper Mine Archaeological Project, Volume 2: Prehistoric Sites Investigated During Data Recovery.* Cultural Resources Report No. 97-191. SWCA Environmental Consultants, Tucson.

Montero, Laurene G., and Mark R. Hackbarth
1992 *Archaeological Testing at the Jefferson Street Parking Garage, Block 39, City of Phoenix.* Northland Research City of Phoenix Archaeology Series No. 2. Northland Research, Flagstaff.

Myrick, David F.
1980 *Railroads of Arizona.* Vol. 2. Howell-North Books. La Jolla, California.

National Park Service
1996 *Revised Thematic Framework*. National Park Service, Washington D.C.

North, Chris D., Michael S. Foster, John M. Lindly, and Douglas R. Mitchell
2005 A Newly Discovered Clovis Point from the Phoenix Basin and an Update on Arizona Clovis Point Attributes. *Kiva* 70(3):293–307.

Rea, Amadeo M.
1997 *At the Desert's Green Edge: An Ethnobotany of the Gila River Pima*. University of Arizona Press, Tucson.

Reid, Jefferson, and Stephanie Whittlesey
1997 *The Archaeology of Ancient Arizona*. University of Arizona Press, Tucson.

Rogers, Malcolm J.
1966 *Ancient Hunters of the Far West,* edited by Richard F. Pourade. Union Tribune Publishing Company, San Diego.

Russell, Frank
1908 *The Pima Indians*. Twenty-sixth Annual Report of the Bureau of American Ethnology, Washington.

San Felice, Jack
2006 When Silver Was King: Arizona's Famous 1880s Silver King Mine. Millsite Canyon Publishing, Mesa.

Sayles, E. B.
1945 *The San Simon Branch, Excavations at Cave Creek in the San Simon Valley: Volume 1. Material Culture.* Medallion Papers No. 34. Gila Pueblo, Globe.

1983 *The Cochise Cultural Sequence in Southwestern Arizona*. University of Arizona Anthropological Papers 42, Tucson.

Schiffer, Michael B.
1982 Hohokam Chronology: An Essay on History and Method. In *Hohokam and Patayan: Prehistory of Southwestern Arizona*, edited by Randall McGuire and Michael Schiffer, pp. 299–344. Academic Press, New York.

Seefeldt, Douglas
2005 Creating Kearny: Forging a Historical Identity for a Central Arizona Mining Community. In *The Journal of Arizona History* 46(1):1–32.

Sires, Earl W., Jr.
1984 Excavations at El Polvorón (AZ U:15:59). In *Hohokam Archaeology along the Salt-Gila Aqueduct, Central Arizona Project, Vol. IV(2): Prehistoric Occupation of the Queen Creek Delta,* edited by Lynn S. Teague and Patricia L. Crown, pp. 221–326. Arizona State Museum Archaeological Series Number 150, Volume 9. University of Arizona, Tucson.

Slaughter, Mark C.
1992 Flaked Stone in Arizona. In *Making and Using Stone Artifacts: A Context for Evaluating Lithic Sites in Arizona*, by Mark C. Slaughter, Lee Fratt, Kirk Anderson, and Richard V. N. Ahlstrom, pp. 2.1–2.12. Prepared by SWCA, Inc., Environmental Consultants, Tucson. Distributed by the Arizona State Historic Preservation Office, Phoenix.

Spicer, Edward H.
1962 *Cycles of Conquest: The Impact of Spain, Mexico, and the United States on the Indians of the Southwest, 1533–1960*. University of Arizona Press, Tucson.

Teague, Lynn S.
1993 Prehistory and the Traditions of the O'odham and Hopi. *Kiva* 58:435–454.

Thrapp, Dan L.
1967 *The Conquest of Apacheria.* University of Oklahoma Press, Norman.

Turner, Raymond, and David E. Brown
1994 Sonoran Desertscrub. In *Biotic Communities of the American Southwest*, edited by D. E. Brown. University of Arizona, Tucson.

Tuthill, Carr
1947 *The Tres Alamos Site on the San Pedro River, Southeastern Arizona.* The Amerind Foundation No. 4. Amerind Foundation, Dragoon.

Vanderpot, Rein, and Jeffrey H. Altschul
2007 The Mescal Wash Site: A Persistent Place in Southeastern Arizona. In *Hinterlands and Regional Dynamics in the Ancient Southwest*, edited by Alan P. Sullivan and James M. Bayman, pp. 50–108. University of Arizona Press, Tucson.

Vickery, Irene
1936 Besh-ba-gowa. *The Kiva* 4:19–21.

1945 Inspiration I. *The Kiva* 10:22–28.

Walker, Gladys, and T. G. Chilton
1991 *The History of Mining at Superior.* In History of Mining in Arizona, Volume II, edited by J. Michael Cantly and Michael N. Greeley, pp. 231–236. Mining Club of the Southwest Foundation, Tucson.

Walker, Henry P., and Don Bufkin
1979 *Historical Atlas of Arizona*. University of Oklahoma Press, Norman.

Waters, Michael R.
1996 *Principles of Geoarchaeology: A North American Perspective.* University of Arizona Press, Tucson.

Wells, E. Christian
2006 From Hohokam to O'odham, the Protohistoric Occupation of the Middle Gila River Valley, Central Arizona. GRIC CRMP, Anthropological Research Papers Number 3.

Wilcox, David R.
1991 The Mesoamerican Ballgame in the American Southwest. In *The Mesoamerican Ballgame*, edited by Vernon L. Scarborough and David R. Wilcox, pp. 101–125. University of Arizona Press, Tucson.

Wilcox, David R., and Charles Sternberg
1983 *Hohokam Ballcourts and Their Interpretation.* Arizona State Museum Archaeological Series No. 160. University of Arizona, Tucson.

Wilson, John P.
1999 *Peoples of the Middle Gila: A Documentary History of the Pimas and Maricopas, 1500's–1945*. Researched and written for the Gila River Indian Community, Sacaton, Arizona, 1998 (Revised 1999). Report No. 77. Las Cruces.

Wood, J. Scott
1979 *Settlement and Reoccupation along Queen Creek, Central Arizona.* Cultural Resources Report No. 29. USDA Forest Service, Albuquerque.

Woody, Clara T., and Milton L. Schwartz
1977 *Globe, Arizona.* The Arizona Historical Society, Tucson.

Wright, Thomas E.
1993 *Keeping the Boys Busy: Archeological and Documentary Investigations at AR-03-12-1391, A Civilian Conservation Corps Erosion Control Site in Tonto Basin, Gila County, Arizona, with a Brief Account of CCC Activities in the Tonto National Forest Lands and a Suggested Historic Context and Research Issues for CCC Erosion Control Sites on the Tonto National Forest.* Project No. 93-81. Archeological Research Services, Inc., Tempe.

Yablon, Ronald K.
1978a *Final report for an archaeological clearance survey of tower locations and access road alignments, Silver King-Kyrene, East End, transmission line, Tonto National Forest, Pinal County, Arizona.* MS on file, Museum of Northern Arizona, Flagstaff.

1978b *Final report for an archaeological clearance survey of tower locations and access road alignments, Silver King-Kyrene, East End, transmission line and Silver King-Oak Flat transmission line, Tonto National Forest, Pinal County, Arizona.* MS on file, Museum of Northern Arizona, Flagstaff.

Yablon, Ronald K., and Donald E. Weaver, Jr.
1981 *Archaeological Investigations Salt River Project, Phoenix, Arizona: Investigations at Four Sites Along the Silver King to Kyrene, East End, Transmission Line, Coronado Generating Station Project, Tonto National Forest, Pinal County, Arizona.* Museum of Northern Arizona, Flagstaff.

EXHIBIT C – SPECIAL STATUS SPECIES AND SPECIES OF CONCERN

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state the effects, if any, the proposed facilities will have thereon."*

INTRODUCTION

The U.S. Fish and Wildlife Service (USFWS) lists species as endangered, threatened, candidate, or proposed for listing, under the Endangered Species Act (1973 as amended); all of these categories are identified as special status species. The endangered classification is provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range. A threatened classification is provided to an animal or plant likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Candidate species are those species for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list the species, but issuance of the proposed rule is precluded. A proposed species is any species of animal or plant that is proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act. The Endangered Species Act was designed to protect critically imperiled species from extinction as a consequence of economic growth and development untendered by adequate concern and conservation.

The Bald and Golden Eagle Protection Act (BGEPA) was enacted in 1940, and has been amended several times since. The Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. Forms of take include pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. Take from indirect project related activities also includes disturbance of a previously occupied nest.

Wildlife of special concern in Arizona and plants protected by the Arizona Native Plant Law are considered special status species. Wildlife of special concern in Arizona that are listed by the Arizona Game and Fish Department (AGFD) have populations in the state that may be in jeopardy, have known or perceived threats, or have experienced severe population declines as described by AGFD's listing (formal legislation is pending). Additionally, most desert plants fall into one of four groups specially protected from theft, vandalism, or unnecessary destruction under the Arizona Native Plant Law. Involvement of private land requires notification of the Arizona Department of Agriculture within a specified number of days to allow for salvaging efforts prior to removal of vegetation.

INVENTORY METHODS

Data were gathered from the USFWS and AGFD to develop a list of special status species and species of concern for Pinal County that could occur within the vicinity of the proposed relocation. Aerial photographs, Southwest ReGAP landcover data, soils, and topography data also were reviewed to determine the locations of biologically sensitive areas. WestLand Resources Inc. (WestLand) conducted a field survey of approximately 40 acres within the study area to assess the potential impacts to federally listed species that could occur in the area (WestLand 2012).

INVENTORY RESULTS

The list of special status species and species of concern with potential to occur within Pinal County is provided in Table C-1, along with an evaluation of habitat suitability for each species in the vicinity of the proposed relocation. Table C-2 lists protected native plants found by WestLand during field survey.

Table C-1. Pinal County Special Status Species and Habitat Suitability in the Project Vicinity

Species	Status	Habitat Requirements	Habitat Suitability
PLANTS			
Pima Indian mallow *Abutilon parishii*	SRA	Grows in mesic habitats on rocky hillsides, cliff bases, canyon bottoms, lower side slopes and ledges of canyons among rocks and boulders. Elevation 1,720 to 4,900 feet (525 – 1,495 meters).	**No suitable habitat** in project vicinity.
Hohokam agave *Agave murpheyi*	HSA	Found on benches or alluvial terraces of gentle bajada slopes above major drainages in desertscrub. Elevation 1,300 to 3,200 feet (397 – 976 meters).	**No suitable habitat** in project vicinity.
Toumey agave *Agave toumeyana* var. *bella*	SRA	Grows in open rocky areas, often limestone or basalt slopes of desert scrub, chaparral, and pinon-juniper woodland. Elevation 2,600 to 5,600 feet (800 – 1,700 meters).	**Suitable habitat** in project vicinity. Agave documented in surveyed area may be this species (WestLand 2012).
Arizona hedgehog cactus *Echinocereus triglochidiatus* var. *arizonicus*	LE HSA	Grows on open slopes and cracks and crevices between boulders in interior chaparral and Madrean evergreen woodland habitats at elevations between 3,300 to 5,700 feet (1,005 – 1,740 meters).	**No suitable habitat** in project vicinity. This species occurs in the highlands between Superior and Globe to within about 3 miles (4.8 km) of the project vicinity.
Nichol's Turk's head cactus *Echinocactus horizonthalonius nicholii*	LE HSA	Restricted to Sonoran desertscrub habitats at [the in mountains?] and bajadas with limestone derived substrates. Elevation 2,000 to 3,600 feet (610 – 1,098 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Acuña cactus *Echinomastus erectocentrus acunensis*	C HSA	Grows in small isolated populations between major washes on open, rounded small hills, benches and flats with gravelly to rocky substrates. Elevation 1,300 to 2,000 feet (397 – 610 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Needle-spined pineapple cactus *Echinomastus erectocentrus var. erectocentrus*	SRA	Inhabits desert grasslands, occasionally open woodlands, on low gravelly hills and bajadas, on igneous and calcareous substrates. Elevation 3,000 to 4,900 feet (900 – 1,500 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
San Carlos wild buckwheat *Eriogonum capillare*	SRA	Grows in disturbed sites with substrates from sandy and gravelly alluvium or weathered limestone gravels. Elevation 1,960 to 4,400 feet (598 – 1,342 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Flannel bush *Fremontodendron californicum*	SRA	Occurs on well-drained rocky hillsides and ridges, in chaparral and oak/pine woodland. Elevation 3,500 to 6,500 feet (1,068 – 1,983 meters).	**No suitable habitat** in project vicinity.

Species	Status	Habitat Requirements	Habitat Suitability
Huachuca water umbel *Lilaeopsis schaffneriana var. recurva*	LE HSA	Grows in cienegas or marshy wetlands at 2,000 to 6,000 feet (610 – 2,166 meters) elevation, within Sonoran desertscrub, grassland or oak woodland, and conifer forest.	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Thornber fishhook cactus *Mammillaria thornberi*	SRA	Grows in Sonoran desert scrub on valley floors, typically under shrubs in silty or sandy soils. Elevation 1,300 to 2,000 feet elevation (400 – 600 meters).	**No suitable habitat** and project vicinity lies above the elevation range of the species.
Varied fishhook cactus *Mammillaria viridiflora*	SRA	Grows in semi-desert grasslands, interior chaparral, pinyon-juniper and oak woodlands among crevices, boulders, canyon sides and gravelly igneous substrates. Elevation range between 2,600 to 6,550 feet (1,400 – 2,000 meters).	**No suitable habitat** in project vicinity.
Staghorn cholla *Cylindropuntia versicolor*	SRA	Grows in desert flats, washes, rocky hillsides and canyons in desertscrub. Elevation 1,900 to 4,300 feet (600 – 1,300 meters).	**Suitable habitat** in project vicinity and species documented in surveyed area.
Cantalina beardtongue *Penstemon discolor*	HSA	Grows in bedrock openings in chaparral or pine-oak woodland at 4,400 to 7,200 feet (1,340 – 2,200 meters) elevation.	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Organ Pipe Cactus *Stenocereus thurberi*	SRA	Widespread in Sonoran Desert, adjacent to thorn forests mostly on hills and bajadas. Elevation 1,360 to 3,000 feet (415 – 915 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Tumamoc globeberry *Tumamoca macdougalii*	SRA	Occurs in xeric situations, in the shade of a variety of nurse plants along gullies and sandy washes of hills and valleys in Sonoran desertscrub and Sinaloan thornscrub communities below 3,000 feet (915 meters) elevation.	**No suitable habitat** and project vicinity is outside the geographic range of the species.
AMPHIBIANS			
Western Narrow-mouthed Toad *Gastrophryne olivacea*	WSC	Inhabits semi-desert grasslands and mixed shrub grass communities in lowland valleys. Elevation 1,400 to 4,700 feet (427 – 1,434 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Lowland leopard frog *Rana yavapaiensis*	WSC	A habitat generalist that inhabits aquatic systems from desert grasslands to piñon-juniper woodlands. Breeds in a variety of natural and man-made aquatic systems in both still water and running water habitats. Elevation 480 to 6,200 feet (146 – 2,499 meters).	**No suitable habitat** in project vicinity.
REPTILES			
Sonoran desert tortoise *Gopherus agassizii*	C WSC	Found in bajadas and rocky slopes of Sonoran desertscrub. Elevation 510 to 5,300 feet (155 – 1,615 meters).	**Suitable habitat** in project vicinity.
Tucson shovel-nosed snake *Chionactis occipitalis klauberi*	C	Utilizes creosote-mesquite floodplains with sandy substrates at elevations between 785 and 1,662 feet (239 – 507 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.

Species	Status	Habitat Requirements	Habitat Suitability
BIRDS			
Golden Eagle *Aquila chrysaetos*	BGEPA	Nests in areas with cliffs and steep mountains. Forages widely in both upland and lowland habitats. Elevation 4,000 to 10,000 feet (1,219 – 3,048 meters).	**Suitable habitat** for foraging in project vicinity. Surrounding mountains suitable for nesting. Known breeding sites occur in the nearby surrounding mountains (Corman and Wise-Gervais 2005).
Great Egret *Ardea alba*	WSC	Found in marshes, lakes, ponds, lagoons, mangroves and shallow coastal habitats. Elevation 100 to 1,500 feet (30 – 457 meters).	**No suitable habitat** in project vicinity.
Northern Gray Hawk *Buteo nitidus maxima*	WSC	Occurs in riparian woodlands with large trees (cottonwoods), usually near mesquite forests.	**No suitable habitat** and project vicinity outside the geographic range of the species.
Yuma clapper rail *Rallus longirostris yumanensis*	LE WSC	Fresh water and brackish marshes at elevations less than 4,500 feet (1,372 meters).	**No suitable habitat** in the project vicinity.
Black-bellied whistling duck *Dendrocygna autumnalis*	WSC	Found along rivers, ponds, stock tanks, marshes, and swamps. Usually nests in trees. Elevation 985 to 4,200 feet (300 – 1,280 meters),	**No suitable habitat** in project vicinity.
Bald eagle *Haliaeetus leucocephalus*	WSC	Large trees or cliffs near water with abundant prey. Elevation 460 to 7,930 feet (140 – 2,419 meters).	**No suitable habitat** in project vicinity.
Cactus Ferruginous Pygmy-owl *Glaucidium brasilianum cactorum*	WSC	Occurs in riparian areas with cottonwoods and willows and adjacent mesquite bosques, usually with saguaros nearby. Also occurs in xero-riparian areas with large mesquite, paloverde, ironwood, and saguaro. Elevation 1,300 to 4,000 feet (397 – 1,220 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
American peregrine falcon *Falco peregrinus anatum*	WSC	Found wherever sufficient prey is near cliffs and open expanses. Optimum peregrine habitat for roosting includes steep, sheer cliffs overlooking woodlands, riparian areas, or other habitats supporting abundant avian prey species. Elevation 400 to 9,000 feet (122 – 2,743 meters).	**Nesting habitat** in mountains surrounding proposed relocation area. Potential foraging habitat and perch sites available in project vicinity.
Crested caracara *Caracara cheriway*	WSC	Occurs in open country, including pastureland, cultivated areas, and semi-desert, in both arid and moist habitats. Elevation 1,890 to 3,360 feet (576 – 1,025 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	C WSC	Occurs in large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries). Found at elevations less than 6,500 feet (2,011 meters).	**No suitable habitat** in project vicinity.

Species	Status	Habitat Requirements	Habitat Suitability
Southwestern willow flycatcher *Empidonax traillii extimus*	LE WSC	Occurs in cottonwood-willow and tamarisk vegetation communities next to rivers and streams or in areas flooded by these. Elevation 75 to 9,180 feet (23 – 2,798 meters).	**No suitable habitat** in project vicinity.
Mississippi kite *Ictinia mississippiensis*	WSC	Tall forest, open woodland, prairie, semiarid rangeland, shelterbelts, wooded areas bordering lakes and streams in more open regions, scrubby oaks and mesquite, and lowland/floodplain forests. Elevation 1,400 to 3,040 feet (427 – 927 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Least bittern *Ixobrychus exilis*	WSC	Occurs in freshwater and brackish marshes with dense, tall growths of aquatic or semiaquatic vegetation. Elevation 850 to 1,500 feet (259 – 458 meters).	**No suitable habitat** in project vicinity.
Mexican spotted owl *Strix occidentalis lucida*	LT WSC	Occupies dense old growth mixed-conifer forests located on steep slopes, especially deep, shady ravines. Elevation 2,720 to 9,600 feet (829 – 2,926 meters).	**No suitable habitat** in project vicinity.
Thick-billed kingbird *Tyrannus crassirostris*	WSC	Occurs in deciduous riparian woodlands in semi-arid canyons with sycamores and cottonwoods. Elevation 2,100 to 4,300 feet (641 – 1,312 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
Tropical kingbird *Tyrannus melancholicus*	WSC	Areas with scattered trees, savanna, open woodland, forest edge, plantations, residential areas and agricultural lands. Occurs in lowlands near water in Arizona, often nests in cottonwoods. Elevation 1,070 to 4,100 feet (326 – 1,250 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
MAMMALS			
Mexican long-tongued bat *Choeronycteris mexicanus*	WSC	Occurs in mesic areas in canyons of mixed oak-conifer forests in mountains rising from the desert. Elevation 2,540 to 7,320 feet (774 – 2,233 meters).	**No suitable habitat** and project vicinity is outside the geographic range of the species.
California leaf-nosed bat *Macrotus californicus*	WSC	Found in arid Sonoran desertscrub habitats with roost sites including caves, mines, and deep grottos. Forages through matrix of shrubs, often gleaning prey from shrubs or ground. Elevation 160 to 3,980 feet (49 – 1,214 meters).	**Suitable habitat** for foraging. Roost habitat available in mountainous terrain outside proposed relocation area.
Lesser long-nosed bat *Leptonycteris yerbabuenae*	LE WSC	This migratory species roosts in caves or abandoned mines during the breeding season spring and summer months. Feeding habitat includes columnar cacti and agave. Feeds on nectar and columnar cactus fruits. Known to forage nightly over long distances from the roost. Elevation 1,190 to 7,320 feet (363 – 2,233 meters).	**Potential foraging habitat** in the project vicinity. The project vicinity is outside the known geographic range. This species could occasionally fly over the survey area while foraging.

Species	Status	Habitat Requirements	Habitat Suitability
Ocelot *Leopardus pardalis*	LE WSC	Occupies dense thickets of thorn scrub or mesquite that are almost impenetrable. Generally found at elevations below 4,000 feet (1,200 meters).	**Potential habitat** in project vicinity. The project vicinity lacks suitable dense thorn scrub or mesquite. Verifiable sightings in Arizona are rare. However, a male was killed by a vehicle along Highway 60 between Globe and Superior in April 2010 (Westland 2012).
Western red bat *Lasiurus blossevillii*	WSC	Occurs in riparian and other wooded areas. Roosts by day in trees. May occasion areas away from these habitats while foraging. Elevation 1,900 to 7,200 feet (580 – 2,196 meters).	**No suitable roosting habitat** in project vicinity. Species may forage occasionally in project vicinity.
Western yellow bat *Lasiurus xanthinus*	WSC	Habitat requirements are not well-known. Most often found roosting in palm trees, but will also utilize broad-leaved deciduous trees and tall yuccas (i.e., Joshua trees) as roost sites. Is likely a habitat generalist otherwise. Found in both native and human-influenced habitats. Elevation 550 to 6,000 feet (168 – 1,830 meters).	**No suitable roost habitat** in project vicinity. Project vicinity outside the geographic range of the species.
FISH			
Desert pupfish *Cyprinodon macularis*	LE WSC	Occupies shallow clear waters in springs and backwaters with fine textured substrates.	**No aquatic habitat** in project vicinity.
Gila chub *Gila intermedia*	LE WSC	Uses small headwater streams, cienegas, marshes and springs of Gila River Drainage.	**No aquatic habitat** in project vicinity. Nearby Queen Creek has potential habitat but is outside the geographic range of the species.
Razorback sucker *Xyrauchen texanus*	LE WSC	Occurs in a wide range of aquatic habitats in streams, large rivers, and reservoirs.	**No aquatic habitat** and project vicinity is outside the geographic range of the species.
Spikedace *Meda fulgida*	LE WSC	Lives in small streams with eddies and riffle habitats.	**No aquatic habitat** in project vicinity. Potential habitat may occur in the nearby Queen Creek drainage but is outside the geographic range of the species.
Loach minnow *Tiaroga cobitis*	LE WSC	Occupies large rivers and tributaries with turbulent waters and a rocky substrate.	**No aquatic habitat** in project vicinity. Nearby Queen Creek has potential habitat but is outside the geographic range of the species.
Roundtail chub *Gila robusta*	C WSC	Inhabits warm to cool mid-elevation rivers and streams.	**No aquatic habitat** in project vicinity. Nearby Queen Creek has potential but is outside the geographic range of the species.

Species	Status	Habitat Requirements	Habitat Suitability
Gila topminnow *Poeciliopsis occidentalis occidentalis*	LE WSC	Occurs in small streams, springs, and cienegas in vegetated shallows.	**No aquatic habitat** in project vicinity. Documented from nearby Queen Creek.

SOURCES: USFWS 2012, AGFD 2012

NOTES: Agency or Law: BLM = Bureau of Land Management; ESA = Endangered Species Act

Status Definitions: **ESA:** LE = listed endangered; LT = listed threatened; P = proposed endangered; C = candidate; SC = species of concern. **BLM:** S = sensitive. **State of Arizona:** HSA = highly safeguarded plant in Arizona; SRA = salvage restricted plant in Arizona; WSC = wildlife of special concern in Arizona. **BGEPA:** Protected under the Bald and Golden Eagle Protection Act.

Habitat Suitability Definitions: Suitable habitat = habitat is large enough and has the qualities required by the species; Limited suitable habitat = habitat has the qualities required by the species, but may be too small to support the species; Potential habitat = area may or may not have the qualities required by the species, further field investigation would be necessary.

Table C-2. Protected Native Plants Found During Field Survey

Plant Species Common Name	Plant Species Scientific Name	Protected Status
Agave	*Agave* sp.	Salvage Restricted
Saguaro	*Carnegiea gigantea*	Salvage Restricted
Fishhook barrel cactus	*Ferocactus wislizenii*	Salvage Restricted
Ocotillo	*Fouquieria splendens*	Salvage Restricted
Teddybear cholla	*Cylindropuntia bigelovii*	Salvage Restricted
Jumping cholla	*C. fulgida*	Salvage Restricted
Prickly pear	*Opuntia* spp.	Salvage Restricted
Staghorn cholla	*C. versicolor*	Salvage Restricted
Blue paloverde	*Parkinsonia florida*	Salvage Assessed
Littleleaf paloverde	*P. microphylla*	Salvage Assessed
Velvet mesquite	*Prosopis velutina*	Salvage Assessed
Banana yucca	*Yucca baccata*	Salvage Restricted

IMPACT ASSESSMENT METHODS

The potential impacts to species that are known to occur or could potentially occur in the project vicinity were assessed using natural history and distribution information. Data were obtained from literature sources and from a biological evaluation prepared for the project (WestLand 2012).

IMPACT ASSESSMENT RESULTS

Protected Native Plants

Construction of the transmission line would remove or degrade a small amount of vegetation in the requested transmission line corridor for the proposed relocation. This would remove or degrade habitat for the nine salvage restricted plant species and three salvage assessed species in the project vicinity. Individuals of these species also could be removed when land is cleared during construction. However, adherence to the Arizona Native Plant Law would require prior notice so that these individuals could be salvaged. Alternatively, impacted native plants could be avoided or transplanted on site to the extent feasible.

Sonoran Desert Tortoise

The desert tortoise has not been recorded within 3 miles of the proposed relocation, but it does have limited potential to occur in the area. The requested transmission line corridor for the proposed relocation is within the range of the tortoise and contains Sonoran paloverde mixed-cacti desertscrub habitat that is used by the tortoise. The desert tortoise burrows or shelters on rocky slopes and bajadas, which are lacking in the proposed relocation area. This species was not observed during field surveys and the slopes in the proposed relocation area appear to offer little opportunity for excavation to create shelters.

It is possible that individual tortoises could be encountered during surface disturbance activities. If a Sonoran desert tortoise is encountered, measures for avoiding impacts to the tortoise would be implemented. Pre-construction surveys by qualified biologists that focus on microsites with the greatest potential for supporting tortoises would confirm the presence of the species. If a tortoise is found in the proposed relocation area, activities would be modified to avoid injuring or harming it. If activities cannot be modified, tortoises in harm's way would be moved in accordance with AGFD's "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects", revised October 23, 2007.

Golden Eagle

The proposed relocation area lacks suitable nesting habitat, but golden eagles could nest in the surrounding mountains. The requested transmission line corridor for the proposed relocation could be used for foraging, or golden eagles could use perch sites on existing transmission line towers. Golden eagles could occasionally and temporarily occupy the area during foraging or movement.

The proposed relocation would remove or degrade a small amount of potential foraging habitat. Noise generated during construction could alarm any golden eagles that could be near the area. However, adverse impacts to habitat and from noise would be negligible.

American Peregrine Falcon

The proposed relocation area lacks suitable nesting substrate for the peregrine falcon, but the species could nest in the surrounding mountains. The requested transmission line corridor for the proposed relocation could be used for foraging, or perch sites on existing transmission line towers. Peregrine falcons could occasionally occupy the project vicinity during foraging or movement.

The proposed relocation would remove or degrade a small amount of potential foraging habitat. Also noise generated during construction could alarm any peregrine falcons that could be near the area. However, adverse impacts to habitat and from noise would be negligible.

Western Red Bat

The western red bat is a tree roosting species that primarily utilizes riparian woodlands and forests for foraging and roosting. It may occasionally forage farther into dry habitats. The species is known from Queen Creek near Superior, and it could occur occasionally in the requested transmission line corridor for the proposed relocation during foraging bouts, though the potential habitat would be for secondary use by the species.

The proposed relocation would remove or degrade small amount of potential habitat. The adverse impacts to vegetation would be negligible compared to the available desert scrub habitat outside the proposed relocation area.

Lesser Long-nosed Bat

The lesser long-nosed bat has not been recorded from within 3 miles of the proposed relocation, but there is a small potential that it may utilize the area. The requested transmission line corridor for the proposed relocation occurs along the northeastern extent of the species' range and the area contains foraging plants for this species. Saguaro and agave occur within portions of the proposed relocation area and individual forage plants may be impacted by proposed activities.

This species has not been detected within the Tonto National Forest (Tonto National Forest 2004), which surrounds the private lands that include the proposed relocation area, and there have been no detections of this bat during surveys conducted by AGFD (Bill Burger, AGFD, pers. comm. *in* WestLand 2012) and WestLand (WestLand 2012) in the area. No lesser long-nosed bats are anticipated to be directly impacted and no potential roosts (caves or abandoned mines) would be impacted by the proposed relocation.

Ocelot

The ocelot has not been recorded within 3 miles of the proposed relocation, but has a small potential to occur within the requested transmission line corridor for the proposed relocation. A male ocelot was killed by a vehicle in 2010 between Globe and Superior (approximately 4 miles east of the requested transmission line corridor), and the project vicinity contains desertscrub habitat which can be used by the ocelot. However, the vegetation in the area does not provide the characteristic dense cover that is preferred by the species making it marginally suitable. Confirmed sightings of ocelot in Arizona are rare. Breeding ocelots have never been confirmed in Arizona and there are no confirmed records of female ocelots within Arizona. Any rare occurrences of ocelots in the project vicinity are expected to be disbursing males.

Because the area lacks dense vegetation to provide adequate cover for this species, any occurrences would be temporary, and the likelihood of adverse impacts to ocelot as a result of loss of habitat is improbable. No impacts to ocelot individuals are anticipated.

CONCLUSION

The project would have negligible adverse impacts to special status species. The disturbance area would be small relative to the available Sonoran paloverde mixed-cacti desert scrub surrounding the proposed relocation area. The potential to adversely impact protected native plants is somewhat higher because 12 species are documented from field surveys of the relocation area, and individual plants may be removed during land clearing. However, impacts to individual plants can be mitigated through avoidance, salvage, or onsite transplanting.

Adverse impacts to special status animals would be negligible to improbable. The project vicinity has limited habitat for each of the six animal species that could occur there. Also their use of the area would be transient and construction activities are unlikely to disturb any of these species. Also the loss or degradation of habitat would be negligible compared to the available habitat in the surrounding area.

REFERENCES

Arizona Game and Fish Department. 2007. Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects.

Arizona Game and Fish Department. 2012. Heritage Data Management System: Special status species by county, taxon, scientific name. http://www.azgfd.gov/w_c/edits/documents/ssspecies_bycounty_000.pdf . Accessed April 2012.

Corman, T. E. and C. Wise-Gervais (eds.). 2005. Arizona Breeding Bird Atlas. University of New Mexico Press, Albuquerque, New Mexico, 636pp.

U.S. Fish and Wildlife Service. 2012. Threatened and endangered species, Maricopa County. http://www.fws.gov/southwest/es/arizona/Documents/CountyLists/Maricopa.pdf . Accessed May 2007.

Tonto National Forest. 2000. Species abstracts. Available at: http://www.fs.usda.gov/detail/tonto/landmanagement/resourcemanagement/?cid=fsbdev3_018778 Accessed May 2012.

USGS National Gap Analysis Program. 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

WestLand. 2012. Biological Evaluation: Superior to Silver King 115 Kv Powerline Segment Re-route. WestLand Resources Inc., Tucson, AZ, 18 pp+figures and appendices.

EXHIBIT D – BIOLOGICAL RESOURCES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, the proposed facilities will have thereon.*"

INTRODUCTION

The project study area is located in the Central Highlands Physiographic Province, a biotic and geographic region between the Colorado Plateau and Basin and Range physiographic provinces. The topography is characterized by south to southwest oriented mountain ranges separated by low-lying valley floors. The requested transmission line corridor for the proposed relocation lies near Silver King Wash along a relatively flat-topped ridge at an elevation of about 3,100 feet (945 meters) (WestLand 2012). An unnamed ephemeral wash intersects the northernmost part of the requested transmission line corridor.

Overall, the biotic environment in the vicinity of the proposed relocation has been subject to numerous human land uses that include mineral and mining exploration, cattle grazing, dispersed public recreation on nearby public lands, off-road vehicle use, and recreational shooting. The most apparent disturbance in the requested transmission line corridor for the proposed relocation is along existing unpaved roadways used for recreation access, grazing management, and transmission line maintenance. There are numerous unpaved spur trails or access roads that lead to transmission line towers in the area, along with noticeable disturbance from mining and ranching (WestLand 2012).

INVENTORY METHODS

Aerial photographs, Southwest ReGAP landcover data, soils, and topography data were reviewed to develop an initial characterization of the proposed relocation area and the surrounding vicinity. General species-specific publications, previous environmental survey (WestLand 2012), Arizona Game and Fish Department (AGFD) Heritage Data Management System, and NatureServe Explorer (NatureServe 2012) were consulted to provide additional information. The potential for occurrence of plant and wildlife species within the requested transmission line corridor for the proposed relocation was evaluated based on: (1) previous biological studies by WestLand, (2) evaluation of known range and distribution of species, and (3) qualitative comparisons between the known habitat requirements of each species and biotic and abiotic conditions found in the project area.

INVENTORY RESULTS

Vegetation within the requested transmission line corridor for the proposed relocation is Sonoran paloverde-mixed cacti desert scrub. Dominant plant species include velvet mesquite (*Prosopis velutina*), blue paloverde (*Parkinsonia florida*), littleleaf paloverde (*P. microphylla*), saguaro (*Carnegiea gigantea*), ocotillo (*Fouquieria splendens*), jojoba (*Simmondsia chinensis*), flattop buckwheat (*Eriogonum fasciculatum*), fairy duster (*Calliandra eriophylla*), cholla species (*Cylindropuntia* spp.), prickly pear cactus (*Opuntia* spp.), and fishhook barrel cactus (*Ferocactus wislizenii*) (WestLand 2012). North-facing slopes typically have more dense plant cover than south-facing slopes (WestLand 2012).

The vegetation community changes slightly in the northern part of the requested transmission line corridor. Saguaros are present and the tree density is greater, which is likely due to an increase in moisture due to elevation and an unnamed ephemeral wash that crosses the relocation area. WestLand compiled a general species list of plants observed during field surveys on October 25, 2011 (Table D-1).

Table D-1. List of Plants Observed During Field Surveys in October 2011

Plant Species Common Name	Plant Species Scientific Name	Plant Species Common Name	Plant Species Scientific Name
Catclaw acacia	*Acacia greggii*	Wolfberry	*Lycium* sp.
Agave	*Agave* sp.	Teddybear cholla	*Cylindropuntia bigelovii*
Canyon ragweed	*Ambrosia ambrosioides*	Jumping cholla	*C. fulgida*
Thistle	*Asteraceae*	Prickly pear	*Opuntia* spp.
Saguaro	*Carnegiea gigantea*	Staghorn cholla	*C. versicolor*
Fairyduster	*Calliandra eriophylla*	Blue paloverde	*Parkinsonia florida*
Desert hackberry	*Celtis pallida*	Littleleaf paloverde	*P. microphylla*
Brittlebush	*Encelia farinosa*	Velvet mesquite	*Prosopis velutina*
Jointfir	*Ephedra* sp.	Globe mallow	*Sphaeralcea ambigua*
Fishhook barrel cactus	*Ferocactus wislizenii*	Jojoba	*Simmondsia chinensis*
Ocotillo	*Fouquieria splendens*	Banana yucca	*Yucca baccata*
Broom snakeweed	*Gutierrezia sarothrae*	Gray thorn	*Ziziphus obtusifolia*

Source: WestLand 2012

Wildlife of Sonoran Paloverde-Mixed Cacti Desertscrub

Wildlife species that include widespread generalists, rock-dwelling specialists, and cavity nesters are typical inhabitants of Sonoran paloverde-mixed cacti desertscrub.

Reptiles

Typical reptiles may include the western banded gekko (*Coleonyx variegatus*), eastern collared lizard (*Crotaphytus collaris*), long-nosed leopard lizard (*Gambelia wislizenii*), chuckwalla (*Sauromalus ater*), desert spiny lizard (*Sceloporus magister*), regal horned lizard (*Phrynosoma solare*), tiger whiptail lizard (*Aspidoscelis tigris*), desert nightsnake (*Hypsiglena chlorophaea*), common king snake (*Lampropeltis getula*), gopher snake (*Pituophis melanoleucus)*, the glossy snake (*Arizona elegans*), Sonoran coral snake (*Micruroides euryxanthus*), western diamondback (*Crotalus atrox*), black-tailed rattlesnake (*Crotalus molossus*), and desert tortoise (*Gopherus agassizi*) (Brennan and Holycross 2006).

Birds

Birds typically found in Sonoran paloverde-mixed cacti desertscrub include the turkey vulture (*Cathartes aura*), golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), common ground dove (*Columbina passerina*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), western meadowlark (*Sturnella neglecta*), Harris' hawk (*Parabuteo unicinctus*), Gambel's quail (*Callipepla gambelii*), white-winged dove (*Zenaida asiatica*), greater roadrunner (*Geococcyx californianus*), elf owl (*Micrathene whitneyi*), lesser nighthawk (*Chordeiles acutipennis*), Gila woodpecker (*Melanerpes uropygialis*), western kingbird (*Tyrannus verticalis*), ash-throated flycatcher (*Myiarchus cinerascens*), Say's phoebe (*Sayornis saya*), cactus wren (*Campylorhynchus brunneicapillus*), curve-billed thrasher (*Charadrius vociferus*), Bendaire's thrasher (*Toxostoma curvirostre*), phainopepla (*Phainopepla nitens*), pyrruloxia (*Cardinalis sinuatus*), black-throated sparrow (*Amphispiza bilineata*), and Scott's Oriole (*Icterus parisorum*) (Birds of North America, accessed 2012).

WestLand observed and noted a few bird species during field surveys in 2011. These included the cactus wren (*Campylorhynchus brunneicapillus*), common raven (*Corvus corax*), and curve-billed thrasher (*Toxostoma curvirostre*).

Mammals

Mammalian species that could inhabit the requested transmission line corridor and vicinity include the desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), Harris' antelope ground squirrel (*Ammospermophilus harrisonii*), rock pocket mouse (*Chaetodipus intermedius*), Merriam's kangaroo rat (*Dipodomys merriami*), white throated woodrat (*Neotoma albigula*), cactus mouse *(Peromyscus eremicus)*, collared peccary (*Tayassu tajacu*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), cougar (*Puma concolor*), ringtail (*Bassariscus astutus*), and western spotted skunk (*Spilogale gracilis*) (NatureServe 2012). About 15 species of bat could forage in the vegetation community or locate roost sites in mountainous terrain near the Project vicinity (summary derived from Hoffmeister 1986).

WestLand (2012) documented use by three mammal species in the proposed relocation area. Mule deer were observed during field surveys, as were signs of gray fox (*Urocyon cinereoargenteus*) and collared peccary (*Pecari tajacu*).

IMPACT ASSESSMENT METHODS

The impacts of a proposed project upon species and habitats occurring within the requested transmission line corridor for the proposed relocation were assessed. The project description, environmental setting conditions, and use by a species of the requested transmission line corridor were evaluated to determine anticipated project impacts. The impact evaluation took into account vegetation communities present, the quality of vegetation disturbed, existing human disturbance, the presence of riparian or xeroriparian habitat, and habitats of sensitive species. For this proposed relocation project all native vegetation is of natural high quality, but it was assumed that disturbance was moderate due to multiple human uses in and near the requested transmission line corridor.

IMPACT ASSESSMENT RESULTS

Installation of the new transmission line would disturb a small area to accommodate new transmission line poles, a service road, turn outs, and other project infrastructure. All disturbances would be in Sonoran palo verde mixed-cacti desert scrub and would cross xeroriparian habitat in the northern part of the requested transmission line corridor for the proposed relocation.

Installation of the new transmission line would have no adverse impact on wildlife or wildlife habitat present within the requested transmission line corridor. While the proposed relocation would remove or disturb a small amount of wildlife habitat, two factors contribute to the lack of adverse impacts on wildlife and wildlife habitat. First, species diversity of plants and animals is low due to existing disturbances and land use within and in the vicinity of the requested transmission line corridor. Second, the amount of surface disturbance from the installation of the new transmission line is small relative to the available vegetation and wildlife habitat in the area. Therefore, the poor habitat quality due to existing disturbances and the small area of surface disturbance from installation of the new transmission line would result in no adverse impact on wildlife or wildlife habitat present within the requested transmission line corridor.

Surface disturbance and removal of native vegetation would increase the potential for introduction and establishment of noxious weeds. Invasive plants often thrive on disturbed sites and can out-compete more desirable native plant species. Standard noxious weed control practices would be implemented to minimize the spread and/or introduction of noxious weeds.

REFERENCES

Brennan, T.C. and A.T. Holycross. 2006. A field guide to amphibians and reptiles in Arizona. Arizona Game and Fish Department, Phoenix. 150 pp.

Hoffmeister, D.F. 1986. Mammals of Arizona. University of Arizona Press, 602 pp.

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. Accessed April 2012.

The Birds of North America Online (A. Poole, Ed.). 2007. Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online.

WestLand. 2012. Biological Evaluation: Superior to Silver King 115 Kv Powerline Segment Re-route. WestLand Resources Inc., Tucson, AZ, 18 pp+figures and appendices.

USGS National Gap Analysis Program. 2004. Provisional Digital Land Cover Map for the Southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

EXHIBIT E – SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*Describe any existing scenic areas, historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon.*"

E-1 VISUAL RESOURCES

INTRODUCTION

Visual resources in the study area were identified and inventoried to assess potential visual impacts that could result from the removal of the existing 115kV segment and relocating it approximately 0.25 mile to the north, just south of an existing utility line corridor.

INVENTORY METHODS

The methodology for the visual resources inventory was derived from the scenery management system established by the U.S. Forest Service as well as experience with past visual resource studies conducted for similar projects in the region. The Forest Service approach was used because Tonto National Forest is an adjacent land manager and Pinal County, where the project is located, does not have specific guidance for evaluating impacts of projects on visual resources. However, Pinal County has an environmental stewardship vision that includes protection of sensitive areas and viewsheds and the energy element of its comprehensive plan states that energy generation and distribution facilities need to be located to minimize the impact on key visual resources (Pinal County 2009).

Existing conditions related to visual resources were assessed using aerial photography and verified by field photography. Information on planned land uses, which could potentially alter future visual conditions, was acquired from Pinal County (Pinal County 2009) and the Town of Superior (Town of Superior 2009).

Scenic Class

The visual resource inventory included an evaluation of landscape character, scenic attractiveness, and landscape visibility to determine scenic classes (FS 1995).

Landscape character is the particular natural and cultural attributes and traits that make an area identifiable or unique. Once a landscape is described (characterized), it can be compared to other landscapes in the region, and used as a basis to determine scenic attractiveness. Scenic attractiveness is based on landscape elements such as landform patterns and features, surface water characteristics, vegetation patterns, and land use patterns and cultural features. It is divided into one of the following ratings:

> **Distinctive:** Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Typical: Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Normally they would form the basic matrix within the ecological unit.

Indistinctive: Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform of any consequence are missing in indistinctive landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Landscape visibility addresses the concern for a landscape by viewers and the distance at which the landscape is viewed. Concern levels indicate the relative importance and sensitivity of what can be seen and are ranked as high, moderate, or low. It is based on a combination of type of viewers and their interest in scenery, number of viewers, duration of views, and angle of views. Distances are divided into foreground (0-0.5 mile), middleground (0.5-4 miles), and background (4 miles-horizon).

Scenic classes measure the relative importance or value of areas with discrete landscape character. The classes are determined by combining scenic attractiveness and landscape visibility (concern levels and distance zones) using the matrix in Table E-1.

Table E-1. Scenic Classes

		Landscape Visibility (Distance Zone and Concern Level)								
		Fore. High	Middle. High	Back. High	Fore. Mod.	Middle. Mod.	Back. Mod.	Fore. Low	Middle. Low	Back. Low
Scenic Attrac-tiveness	Distinctive	1	1	1	2	2	2	2	3	3
	Typical	1	2	2	2	3	4	3	5	5
	Indistinctive	1	2	3	2	4	5	5	6	7

Source: FS 1995

Generally, Scenic Classes 1 and 2 have high public value, 3 through 5 have moderate value, and 6 and 7 have low value.

Existing Scenic Integrity

The visual resource inventory also included an evaluation of scenic integrity, which is a measure of the intactness and wholeness of the landscape character (FS 1995). The scenic integrity levels are as follows:

Very High: Unaltered. The valued landscape character is intact with only minute, if any, deviations.

High: Appears unaltered. The valued landscape character appears intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape.

Moderate: Slightly altered. The valued landscape character appears slightly altered. Noticeable deviations must remain visually subordinate to the landscape.

Low: Moderately altered. The valued landscape character appears moderately altered. Deviations begin to dominate the landscape but they borrow attributes such as size, shape, edge effect and pattern of natural openings, vegetation type changes or architectural styles outside the landscape being viewed. The deviations must be compatible or complementary to the landscape within.

Very Low: Heavily altered. The valued landscape character appears heavily altered. Deviations may strongly dominate the landscape. They may not borrow attributes such as size, shape, edge effect and pattern of natural openings, vegetation type changes or architectural styles within or outside the landscape being viewed.

INVENTORY RESULTS

Scenic Class

The proposed relocation area is located in the Central Highlands Physiographic Province, a biotic and geographic region between the Colorado Plateau and Basin and Range physiographic provinces. The topography in the area is characterized by south to southwest oriented mountain ranges separated by low-lying valley floors. The relocation area lies near Silver King Wash along a relatively flat-topped ridge. An unnamed ephemeral wash intersects the northernmost part of the Project Area. The area is at an elevation of about 3,100 feet (945 meter) (WestLand 2012).

Vegetation within the area is Sonoran paloverde-mixed cacti desert scrub. Dominant plant species include small trees or tall shrubs such as velvet mesquite (*Prosopis velutina*), blue paloverde (*Parkinsonia florida*), littleleaf paloverde (*P. microphylla*), saguaro (*Carnegiea gigantea*), and ocotillo (*Fouquieria splendens*) and small shrubs such as jojoba (*Simmondsia chinensis*), flattop buckwheat (*Eriogonum fasciculatum*), fairy duster (*Calliandra eriophylla*), cholla (*Cylindropuntia* spp.), prickly pear cactus (*Opuntia* spp.), and fishhook barrel cactus (*Ferocactus wislizenii*) (WestLand 2012).

The existing landscape character of the vicinity of the proposed removal and relocation of an existing 115kV line segment is a slightly disturbed area with unpaved (two-track and bladed) roads; 115kV, 230kV, and 500kV transmission lines; and mine tailings ponds. The topography is composed of generally parallel ridges with narrow valley bottoms. The landscape is common in the region.

The scenic attractiveness is "Typical" to "Indistinctive" for the landscape of the proposed 115kV removal and relocation area. The topography and vegetation provide limited variety and are typical in the region. The landscape is relatively intact and unified along the proposed route, although it does have dirt roads and a transmission line corridor. The landscape has disturbances related to mining and utilities along the existing transmission line route.

The landscape visibility has an overall rating of "Moderate to Low Concern / Foreground Distance." Agency and public involvement efforts for this proposed relocation has revealed little interest in the proposed visual changes. Potentially the most concerned viewers of the existing line and its proposed relocation are residents in the Town of Superior and recreationists who travel along the Silver King Mine Road (Forest Road 229) or other nearby roads. Residents are typically considered to have a high concern level because of the number of viewers and the permanent duration of views from their houses, yards, and streets. However, the residents have views of the previously disturbed mining area in the foreground with no views of the existing 115kV transmission line or the proposed location (Photograph 1). Therefore, residents have expressed little concern regarding the visual impacts of the proposed relocation.

Recreationists in designated areas such as a national forest who participate in passive activities such as sightseeing and visiting historic areas are typically considered to have a high concern level because their interest in scenery is typically high. However, recreationists traveling along the bladed Silver King Mine Road through the private property parcel are considered to have a moderate to low concern for visual scenery in the vicinity of the proposed line removal and relocation. Although recreationists have relatively long duration and elevated views of the area, they are at the edge of national forest land with an existing transmission line corridor and overlook foreground and middleground views of mining activity

and the Town of Superior. Recreational use of the road is restricted and assumed to be relatively minor compared to more popular areas such as the Oak Flat Campground and Boyce Thompson Arboretum State Park. The distances from the road to the transmission lines range from immediate foreground to middleground (Photograph 2).

Photograph 1. View from the residential area in the Town of Superior.

Photograph 2. View of the existing 230kV and 500kV transmission lines in the vicinity of Silver King Mine Road.

The Scenic Class ranges from 2 to 5 based on the Typical to Indistinct Scenic Attractiveness, Moderate to Low Concern, and Foreground to Middleground Distance Zone. This is generally considered to mean that the landscape has high to moderate public value (FS 1995).

Existing Scenic Integrity

The scenic integrity in the vicinity of the proposed line removal is Very Low and in the vicinity of the relocation is Low. The form, line, color, texture, and pattern of the three sets of transmission towers do not repeat those landscape character elements of the landforms and vegetation. However, the conductor lines roughly parallel the horizontal and diagonal lines of the topography, and the lattice towers lose dominance with distance. Ground disturbance (vegetation removal and cut and fill) created by the roads and 230kV and 500kV transmission tower pads along the proposed route do not visually dominate the landscape. The tailings ponds and other ground disturbances related to mining along the existing 115kV route dominate the view.

IMPACT ASSESSMENT METHODOLOGY

Potential visual impacts to the landscape from proposed changes are determined by comparing the existing scenic integrity to the anticipated scenic integrity with the proposed changes. How well the changes fit in with the existing scenic integrity is a function of the dominance of the proposed changes to the planned future landscape, and the visual absorption capability of the future landscape. Proposed changes can be subdominant, co-dominant, or dominant in relation to the landscape based on the landscape character elements of form, line, color, texture, and pattern. The visual absorption capability is rated high, moderate, or low and is a measure of the ability of the landscape to accept changes without loss of landscape character or scenic condition. It uses factors such as landform slope, vegetative cover, and soils and geology. These factors can either screen views of the changes or make them more or less noticeable based on degree of visual contrast.

IMPACT ASSESSMENT RESULTS

The future landscape in the vicinity of the existing 115kV line and proposed relocation includes a planned rock storage area in the location of the existing 115kV line. The removal of the existing segment of transmission line would include removing approximately six structures. The foundations would remain in place. The process of removing the structures could temporarily dominate the landscape; however, once the structures are removed, the remaining foundations, if not covered by the planned rock storage area, would be subdominant and overall dominance would be decreased. The varied topography, shrubby vegetation, existing roads, mining disturbances, and planned rock storage would have a high level of visual absorption capability of the remaining foundations. Although the existing towers would be removed, the scenic integrity level is anticipated to remain Very Low because of the mining disturbances. The potential visual impact from the line removal would be unnoticeable to slightly beneficial.

The construction of the relocated segment parallel to the existing 230kV and 500kV lines could make it co-dominant with these lines. Once the construction is completed, the relocated segment would be sub-dominant to co-dominant with the existing higher voltage lines. Approximately nine new structures are planned to match the spans of the existing structures, and the preference is for self-weathering single-shaft poles with an average height of 85 feet. The form, color, and texture of the new monopoles would contrast with the 230kV and 500kV structures and would be more visible than the lattice poles of the existing line. The new structures and conductor lines would be on ridges and would contrast especially when viewed against the sky. However, the relocated 115kV line would parallel the existing 230kV and 500kV lines, which are taller and could be more dominant in the view, especially when closer to the viewer. The absorption capability of the landscape would be moderate for the relocated line. The scenic integrity level within the relocation area would continue to remain Low.

Compared to the existing 115kV towers, which are weathered lattice and wood structures farther away from the Silver King Mine Road and downhill from where most would view them, the new monopoles in the new location nearer the road would be more dominant. However, since the new poles would be close to and parallel with the more dominant or co-dominant existing transmission line corridor, the overall visual impact on the area would remain similar to the existing condition.

CONCLUSION

Relocation of the 115kV line would not cause highly noticeable or adverse impacts on visual resources along the existing route or along the proposed route because the relocated 115kV line would be closer to and parallel to the existing transmission corridor. Although the Scenic Class indicates that the public value of scenery in this landscape is from high to moderate, the scenic integrity levels would not be diminished as a result of this project given the existing corridor adjacent to the proposed relocation area.

E-2 HISTORIC SITES AND STRUCTURES AND ARCHAEOLOGICAL SITES

INTRODUCTION

As stipulated by the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219, SRP, working with Resolution Copper Mining, LLC, assessed the potential impacts that the proposed relocation of a segment of the Superior to Silver King 115kV transmission line could have on historic sites and structures and archaeological sites. The assessment also supports Arizona Corporation Commission compliance with other historic preservation regulations as follows:

- the State Historic Preservation Act [Arizona Revised Statutes 41-861 through 41-864], which requires state agencies to consider impacts of their programs on historic properties listed in or eligible for the Arizona Register of Historic Places (Arizona Register)
- gubernatorial Executive Order 2006-14, Consultation and Cooperation with Arizona Tribes, which directs executive branch agencies to consult with tribes about actions and policies that could affect tribal communities
- the Arizona Burial Law of 1990 (Arizona Revised Statutes 41-865), which requires landowners to obtain written permission from the Arizona State Museum prior to disturbing prehistoric or historical human remains and funerary objects more than 50 years old on private land

INVENTORY METHODS

Resolution Copper Mining, LLC, retained a consultant, WestLand Resources Inc., to identify cultural resources that might be affected by the proposed relocation of a segment of the Superior to Silver King 115kV transmission line. Westland reviewed records and reports of prior studies and conducted an intensive pedestrian survey to identify historical sites and structure and archaeological sites.

The records and literature review covered a corridor 1 mile wide along the alignment of the proposed relocation. The review relied primarily on information on file at the Arizona State Museum and electronic data obtained from the AZSITE Cultural Resource Inventory, which is a geographic information system database that includes records of the AZSITE Consortium members (Arizona State Museum, Arizona State University, Museum of Northern Arizona, and State Historic Preservation Office) and other participating agencies, such as the Bureau of Land Management. The consultant also examined historic maps (General Land Office plats, Pinal County road maps, and mine plats), Bureau of Land Management land ownership records, and aerial photographs.

The consultant intensively surveyed a corridor centered on the proposed relocation alignment by walking transects no more than 65 feet wide. The survey covered an area approximately 1.2 miles long and 200 feet wide. Prior intensive cultural resource survey of the existing alignment of the Superior to Silver King 115kV transmission line found no historical sites or structures or archaeological sites along the segment of the line that would be relocated (Motsinger et al. 1996).

Archaeological and historical sites and isolated occurrences of artifacts and features were defined in accordance with Arizona State Museum (1995) guidelines, and sites were recorded as specified by the Arizona State Museum (1993) site recording manual.

Criteria for listing in the Arizona Register (Arizona Administrative Code, Title 12, Chapter 8, Article 3, R12-8-302) were used to evaluate the significance of archaeological and historical resources (the criteria for listing in the Arizona Register are identical to those for listing in the National Register of Historic Places). To be eligible, properties must (1) be 50 years old (unless they have special significance);

(2) possess integrity of location, design, setting, materials, workmanship, feeling, and association; and (3) have national, state, or local significance in American history, architecture, archaeology, engineering, or culture by meeting at least one of four criteria:

A: be associated with important historical events or trends

B: be associated with important people

C: have important characteristics of style or type, or have artistic value

D: have yielded or have potential to yield important information

The goals, methods, and results of the records and literature review and intensive field survey are documented in a report prepared in accordance with State Historic Preservation Office and Arizona State Museum guidelines (Deaver 2012). A copy of the report is included in Exhibit B.

INVENTORY RESULTS

The records and literature review identified 22 cultural resources previously recorded within 1 mile of the proposed relocation area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 sites with both prehistoric and historic components, and 2 sites of indeterminate affiliation. Two of those 22 sites were mapped within the survey corridor. The field survey determined that one of those sites, NA 15722, was incorrectly mapped and is outside the project area. That site had been discovered during an archaeological survey prior to construction of the adjacent SRP Silver King to Kyrene 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams (Keller 1978; Yablon 1978a, 1978b). Studies were conducted in 1978 and 1979 to recover and preserve artifacts and information from the site to mitigate the impacts of constructing the 500 kV transmission line (Yablon and Weaver 1981). The proposed relocation of a segment of the Superior to Silver King 115kV line segment would not affect any remnants of that site.

The other previously recorded site within the area is site AZ U:12:218(ASM), a historic mining site that also was discovered and originally recorded as site NA 15692 during the survey conducted prior to construction of the Silver King to Kyrene 500kV transmission line (Table E-1) (Keller 1978; Yablon 1978a, 1978b). When first found, the site was interpreted as a possible foundation for an ore crusher, but after being inspected again during the survey for the proposed transmission line relocation and after reviewing a 1919 plat of the Gerald Cansler mining claim, the site was reinterpreted as the remnants of a miner's cabin. The site was evaluated as eligible for the Arizona Register under Criterion D for its potential to yield important information about historic mining in the region (Table E-2).

Table E-2. Archaeological and Historical Resources in the Project Area

	Site Name/ Number	Cultural Affiliation	Description	Register Status
1	Silver King Road AZ U:12:217(ASM)	Euro-American	historic road	ineligible
2	AZ U:12:218(ASM) NA 15692	Euro-American	remnants of historic mining cabin	eligible, Criterion D
3	Superior to Silver King 115kV transmission line, as part of the Eastern Mining Area transmission system	Euro-American	historic transmission line	eligible, Criteria A and C

NOTE: Register = Arizona Register of Historic Places and National Register of Historic Places (which have identical criteria)

The intensive survey also recorded the Silver King Road [AZ U:12:217(ASM)]. The road was developed sometime before 1948 to connect U.S. Highway 60 and the site of the former mining town of Silver King, apparently replacing the original route that followed Silver King Wash between the Silver King Mine and the town of Pinal. The original road is west of the surveyed corridor in the Tonto National Forest and

would not be affected by the transmission line relocation. Because the segment of the Silver King Road in the project area was developed long after the Silver King Mine and the town of Pinal were abandoned, it was evaluated as lacking historical significance and ineligible for the Arizona Register.

The intensive survey also discovered and recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric (a piece of flaked stone and a grinding stone); the other artifacts and features are of historic age or more recent and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. All of the isolated occurrences were evaluated as ineligible for the Arizona Register.

The Superior to Silver King 115kV transmission line itself also is of historic age. As part of the SRP Eastern Mining Area transmission system, the line was previously evaluated as eligible for the Arizona Register under Criterion A. Some "windmill" lattice structures along the earliest part of the transmission system also are considered eligible under Criterion C, but none of those were used for the Superior to Silver King transmission line, which is a later part of the system that preliminary research indicates was built in 1958. To mitigate the effects of past and future modifications of the Eastern Mining Area transmission system, SRP previously compiled Historic American Engineering Record documentation (drawings, photographs, and historical narrative) for the system (Glaser 1996).

SRP consulted with 12 tribes that might have an interest in the project (Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Tohono O'odham Nation, Hopi Tribe, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, White Mountain Apache Tribe, Fort McDowell Yavapai Nation, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe) to notify them of the proposed project, and provide information about the project and the inventory of cultural resources and assessment of potential impacts for their review and comment. Five tribes responded (Table E-3). Copies of the correspondence are included in Exhibit J.

Table E-3. Summary of Tribal Contacts

	Tribe	Date of Response	Response	Follow Up
1	Ak-Chin Indian Community	20 April 2012 letter	defer review to the Gila River Indian Community	none warranted
2	Fort McDowell Yavapai Nation	28 May 2012 telephone call	no concerns with or comments about the project	none warranted
3	Gila River Indian Community	None		
4	Hopi Tribe	None		
5	Salt River Pima-Maricopa Indian Community	None		
6	San Carlos Apache Tribe	None		
7	Tohono O'odham Nation	4 April 2012 email	concur with evaluation of archaeological sites, and asked (1) if relocation is related to proposed mine in Oak Flats (and if so, mine impacts should be assessed), (2) have impacts on cultural and natural landscapes been assessed, and (3) has San Carlos Tribe been consulted	email sent on 31 May 2012 acknowledging comments
8	Tonto Apache Tribe	none		
9	White Mountain Apache Tribe	4 May 2012 letter	agree with determination of no adverse effect, urge caution to avoid impacts on Apache sites and burials	none warranted
10	Yavapai-Apache Nation	None		
11	Yavapai-Prescott Indian Tribe	18 April 2012 letter	concurred with findings and identified no concerns	none warranted
12	Zuni Pueblo	none		

NOTE: SRP sent letters to the tribes on 29 March 2012 to notify them of the project, provide information about the cultural resource inventory and impact assessment, and solicit their comments. Subsequent contacts were made by telephone and email messages to encourage responses, as needed. Copies of correspondence are included in Exhibit J.

Only the Tohono O'odham Nation requested additional information, and SRP emailed a reply (with a copy to the San Carlos Apache Tribe) acknowledging receipt of the emailed comments and stating that (1) the proposed project would involve removal and replacement of approximately six structures[1] of an SRP-owned transmission line at the request of the owner of the private property on which the structures are located, (2) SRP is complying with the process for obtaining a Certificate of Environmental Compatibility as required by Arizona state law, and (3) as part of that process SRP has communicated with potentially interested parties.

IMPACT ASSESSMENT METHODS

The potential effects of the proposed relocation of a segment of the Superior to Silver King 115kV transmission line on historic sites and structures and archaeological sites were assessed by considering whether the project would substantially alter the integrity of their location, setting, design, materials, workmanship, feeling, or association. Examples of adverse effects include the following:

- physical destruction, damage, or alteration of all or part of a property
- removal of a property from its physical location
- change of the character of the use of a property or of physical features in the setting of a property that contribute to its historic significance
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the significant historic features of a property

IMPACT ASSESSMENT RESULTS

The records review and cultural resource survey identified two Arizona Register-eligible resources that could be affected by the proposed transmission relocation. One is historic archaeological site AZ U:12:218(ASM), which includes remnants of a historic mining cabin. Conceptual engineering indicates that the site can be avoided and construction activities are not expected to disturb the site. The other historic resource is the Superior to Silver King 115kV transmission line itself, which was previously evaluated as eligible for the Arizona Register as a component of the Eastern Mining Area transmission system. The Superior to Silver King segment does not include windmill structures that are some of the earliest and most unusual aspects of the system. The relocation would involve removal of approximately three steel lattice structures and two wood structures of the historic line and replacement with single-pole structures. Because historical documentation has been previously compiled (Glaser 1996), SRP concludes that no additional documentation of the line is warranted.

The transmission line relocation could disturb parts of the Silver King Road [AZ U:12:217(ASM)] and some of the 38 isolated occurrences of artifacts and features found along the alignment of the proposed relocation, but those resources have been evaluated as lacking historical significance, and no measures to avoid those resources or mitigate the impacts are warranted.

[1] Subsequent to this response letter, the estimated number of structures necessary for the relocation increased from six structures to approximately nine structures.

CONCLUSION

The proposed Superior to Silver King 115kV transmission line relocation project is not expected to substantially alter or demolish the one Arizona Register-eligible archaeological site, AZ U:12:218(ASM), identified along the route of the proposed relocation. The relocation would remove a few of the structures of the historic Superior to Silver King 115kV transmission line, but historic documentation of the line and the larger Eastern Mining Area system of which it is a part, was previously compiled.

The State Historic Preservation Office found the cultural resource inventory completed for the project to be adequate, concurred with the evaluation of the eligibility of the identified archaeological and historical resources for the Arizona Register, and agreed with the assessment of impacts and the conclusion that no additional historical documentation is warranted as long as site AZ U:12:218(ASM) is avoided. Because the assessment of impacts is based on conceptual engineering for the proposed transmission line relocation, SRP would update the assessment as final designs are prepared. If SRP determines that areas could be disturbed beyond the areas that have been surveyed for cultural resources, or if resources would be affected in previously unrecognized ways, SRP would prepare a supplemental cultural resource overview, conduct additional field survey, and work with the State Historic Preservation Office to appropriately document any affected historical sites or structures or archaeological sites in accordance with the State Historic Preservation Act.

REFERENCES

Arizona State Museum. 1993. *Archaeological Site Recording Manual, Version 1.1*. Arizona State Museum, University of Arizona, Tucson, Arizona.

_____. 1995. *Revised Site Definition Policy*. Arizona State Museum, University of Arizona, Tucson, Arizona.

Deaver, William T. 2012. *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona.* Cultural Resources Report 2011-51. WestLand Resources, Tucson, Arizona.

Environmental Protection Agency. 2010. *Primary Distinguishing Characteristics of Level III Ecoregions of the Continental United States*. Retrieved June 6, 2010 from http://www.epa.gov/wed/pages/ecoregions.htm.

Environmental Protection Agency. 2011. *Level III and IV Ecoregions of the Conterminous United States*. Retrieved September 12, 2011 from http://www.epa.gov/wed/pages/ecoregions.htm.

Fenneman, Nevin M. 1931. Physiography of Western United States. London: McGraw Hill.

Glaser, Leah. 1996. *Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona*. Historic American Engineering Record No. AZ-6-B. Salt River Project, Phoenix, Arizona, and National Park Service, Denver, Colorado.

Keller, Donald R. 1978. *Archaeological Clearance Survey of 14.8 Miles of Extra High Voltage Transmission Line Corridor, 2.0 Miles of Substation Access Road, and 0.9 Mile of 115kV Transmission Line Alignment, Silver King Substation Area, Tonto National Forest*. Museum of Northern Arizona, Flagstaff, Arizona.

Motsinger, Thomas N., Heidi Roberts, and Richard V.N. Ahlstrom. 1996. *The Eastern Mining Area 115kV Transmission Line Survey: Archaeological Resources in the Salt-Gila Uplands of Central Arizona*. Archaeological Report 94-43. SWCA Environmental Consultants, Tucson, Arizona.

Pinal County. 2009 (updated 2011). *We Create Our Future: Pinal County Comprehensive Plan*. Florence, Arizona.

Town of Superior 2009. *Town of Superior General Plan Update*, adopted December 18, 2003, amended February 19, 2009. Superior, Arizona.

U.S. Department of Agriculture (USDA), Forest Service (FS). 1995. *Landscape Aesthetics: A Handbook for Scenery Management*. USDA Agriculture Handbook No. 701. Washington.

Yablon, Ronald K. 1978a. *Final Report for an Archaeological Clearance Survey of Tower Locations and Access Road Alignments, Silver King-Kyrene, East End, Transmission Line, Tonto National Forest, Pinal County, Arizona*. Museum of Northern Arizona, Flagstaff, Arizona.

_____. 1978b. *Final Report for An Archaeological Clearance Survey of Tower Locations and Access Road Alignments, Silver King-Kyrene, East End, Transmission Line and Silver King-Oak Flat Transmission Line, Tonto National Forest, Pinal County, Arizona*. Museum of Northern Arizona, Flagstaff, Arizona.

Yablon, Ronald K., and Donald E. Weaver, Jr. 1981. *Archaeological Investigations Salt River Project, Phoenix, Arizona: Investigations at Four Sites Along the Silver King to Kyrene, East End, Transmission Line, Coronado Generating Station Project, Tonto National Forest, Pinal County, Arizona*. Museum of Northern Arizona, Flagstaff, Arizona.

EXHIBIT F – RECREATIONAL PURPOSES AND ASPECTS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.*"

The existing and proposed transmission line routes are on private mining property with limited public access, except for the public Silver King Mine Road. There are no plans of the property owner or the neighboring Tonto National Forest to develop recreational opportunities associated with the line relocation.

Although new access segments may be created for maintenance of the relocated line, recreationists will most likely continue to use the existing bladed Silver King Mine Road (Forest Road 229) and two-track roads, including the access road for the existing 230kV and 500kV line corridor.

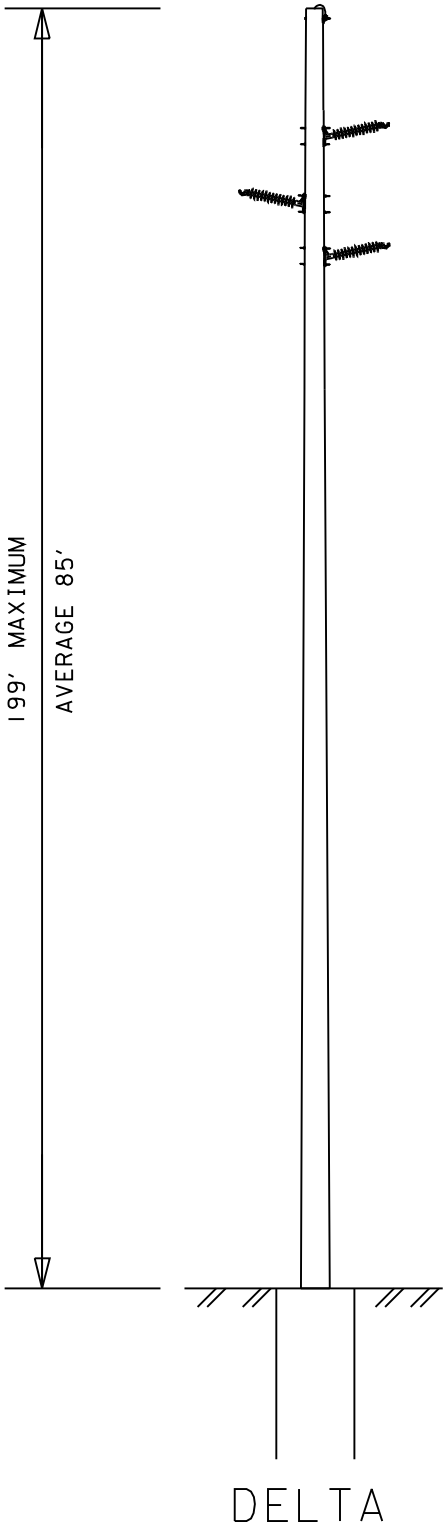
EXHIBIT G – CONCEPTUAL DRAWINGS OF TRANSMISSION FACILITIES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

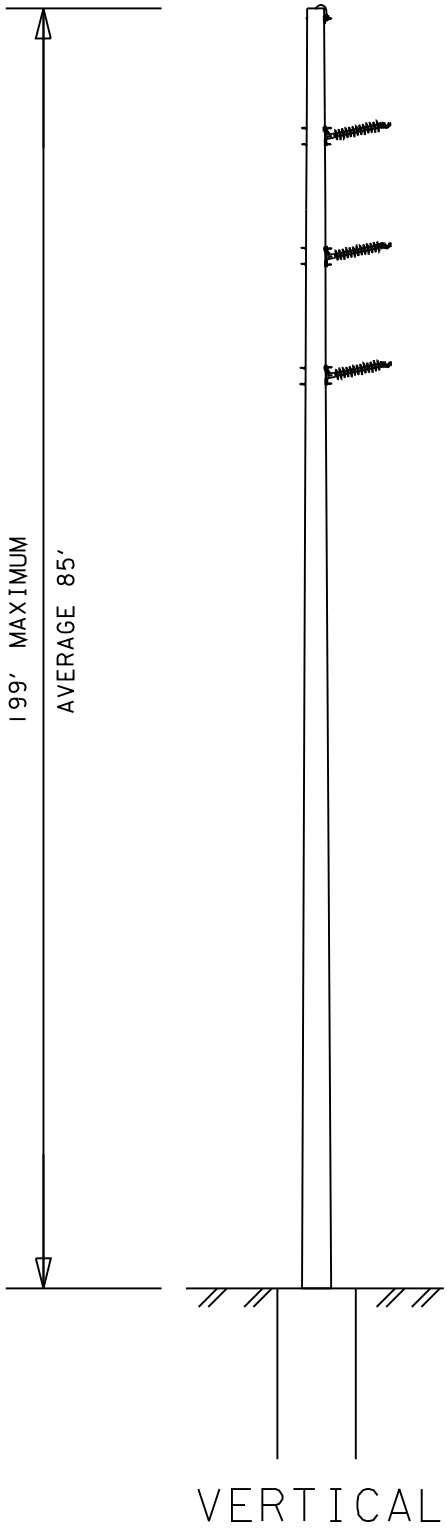
> *"Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards, which applicant believes may be informative to the Committee."*

The five illustrations on the following pages represent conceptual design information for the transmission line structures:

Exhibit G-1	Single Circuit 115kV Weathering Steel Pole with Line Posts
Exhibit G-2	Single Circuit 115kV Weathering Steel Pole with Braced Line Posts
Exhibit G-3	Single Circuit 115kV Weathering Steel Pole with Dead-end Insulators
Exhibit G-4	Single Circuit 115kV Weathering Steel and/or Wood H-frame with Suspension Insulators
Exhibit G-5	Single Circuit 115kV Weathering Steel Pole Transition with Dead-End Insulators



DELTA

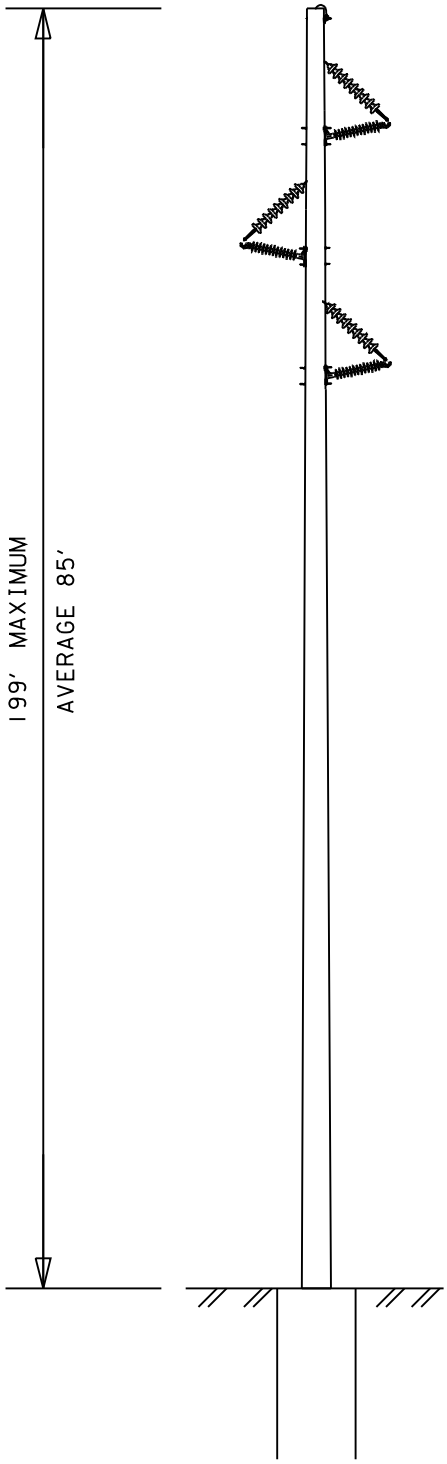


VERTICAL

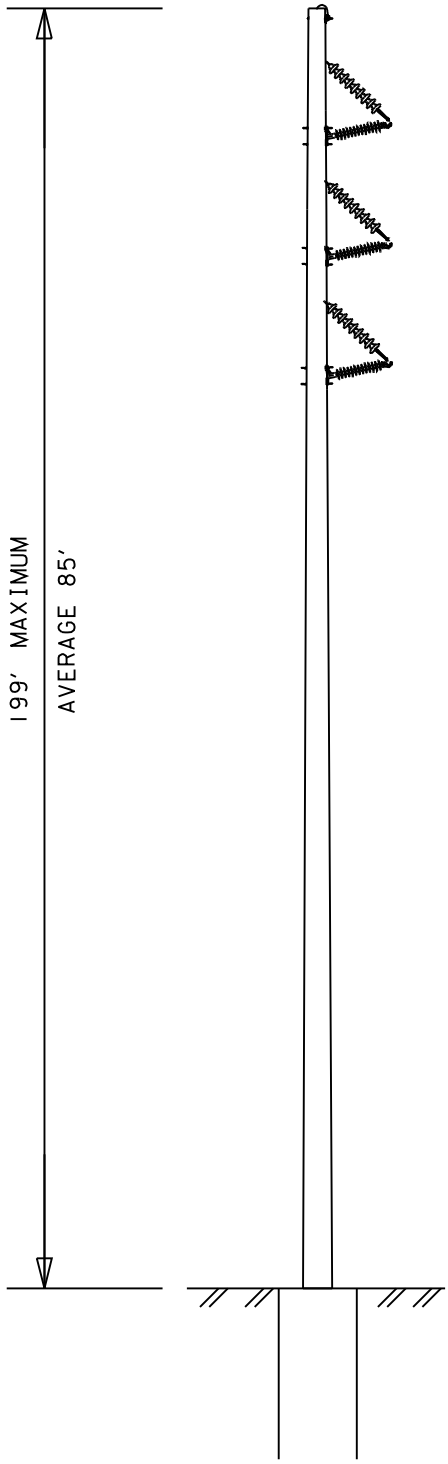
SUPERIOR TO SILVER KING 115kV TRANSMISSION LINE SEGMENT RELOCATION PROJECT

SINGLE CIRCUIT 115KV WEATHERING STEEL POLE WITH LINE POSTS

DATE: 3/14/12	EXHIBIT G-1	RAA/JRH

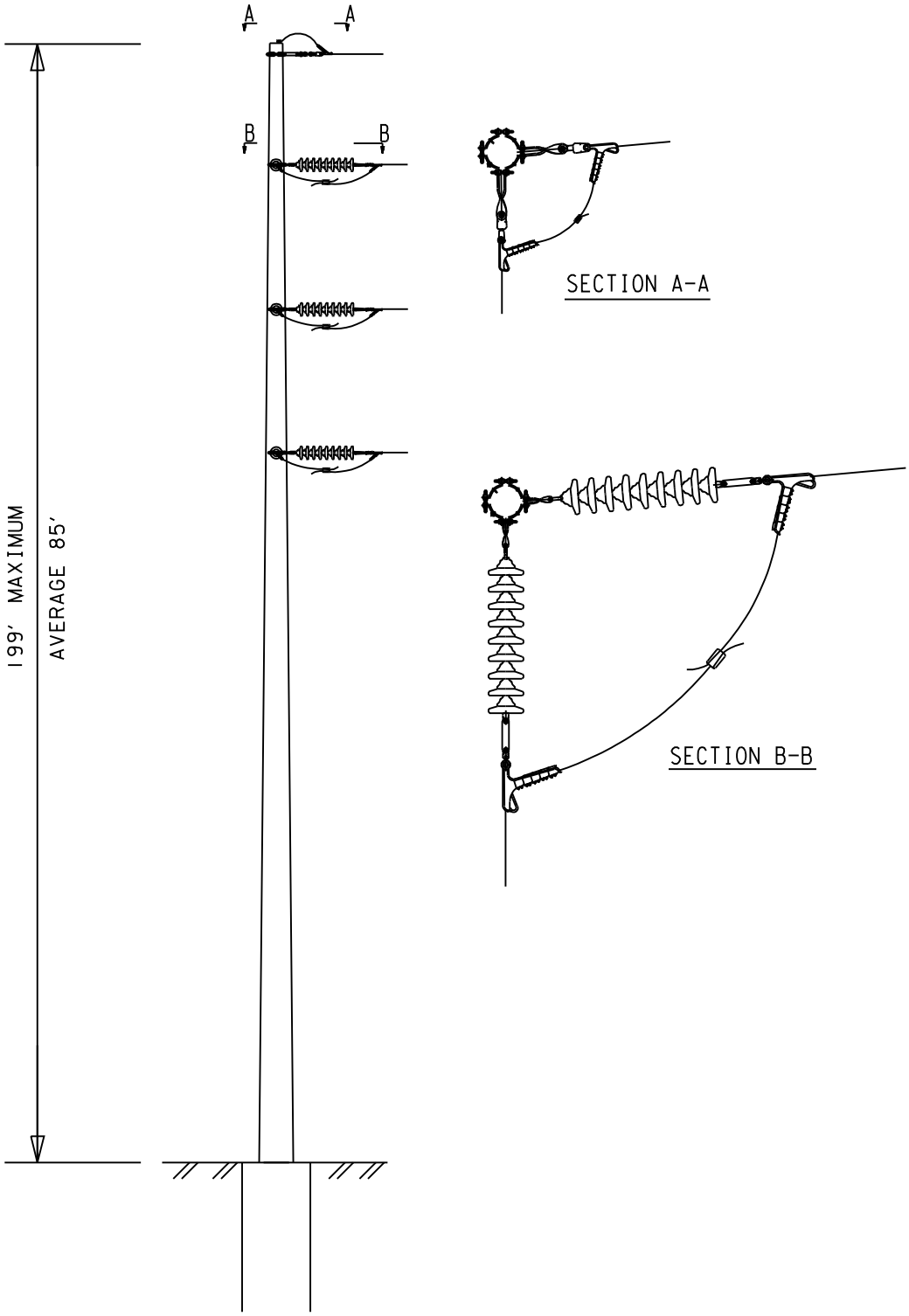


DELTA
BRACED POST



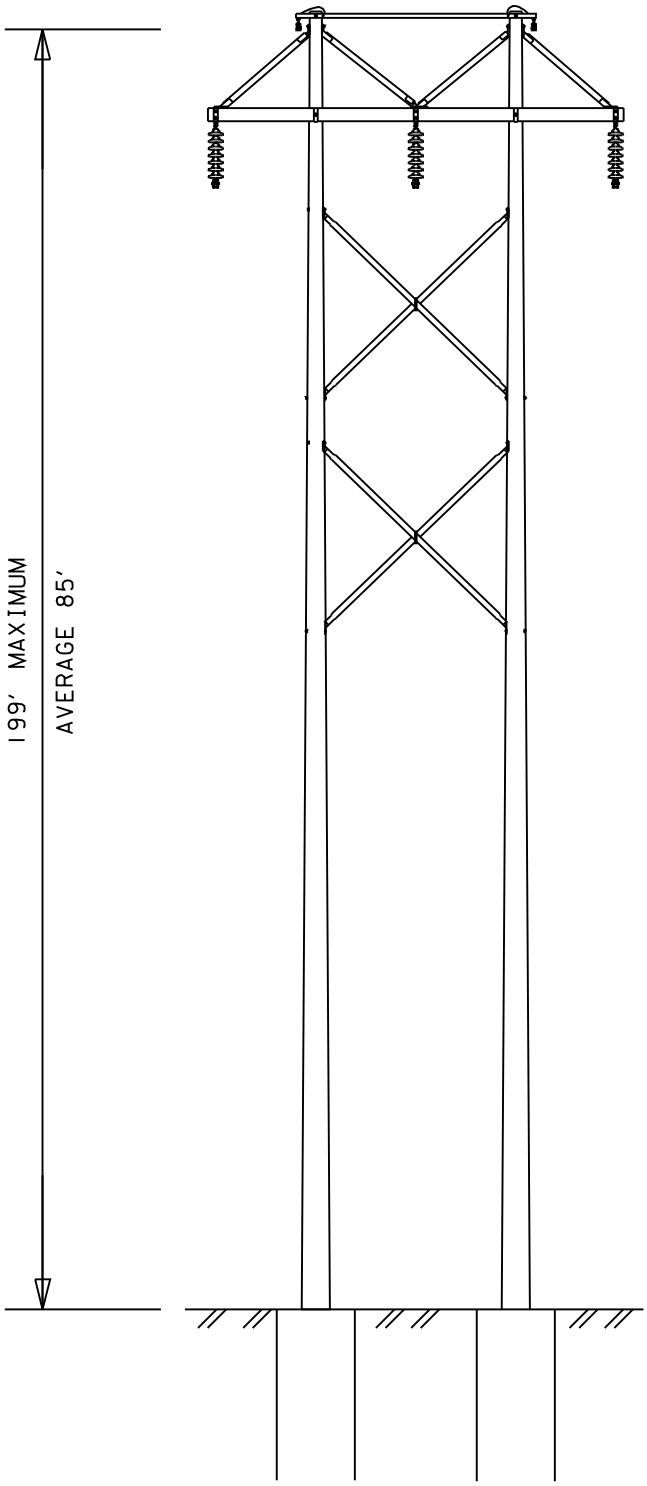
VERTICAL
BRACED POST

SUPERIOR TO SILVER KING 115kV TRANSMISSION LINE SEGMENT RELOCATION PROJECT		
SINGLE CIRCUIT 115KV WEATHERING STEEL POLE WITH BRACED LINE POSTS		
DATE: 3/14/12	EXHIBIT G-2	RAA/JRH



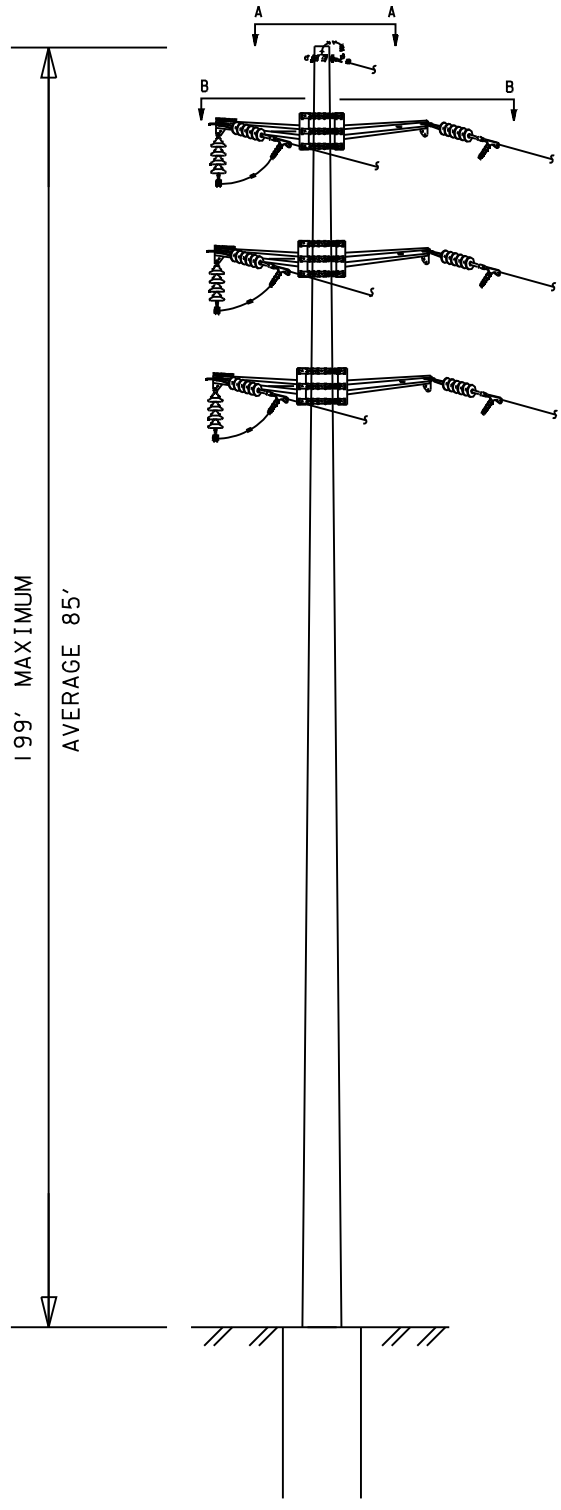
DEAD-END

SUPERIOR TO SILVER KING 115kV TRANSMISSION LINE SEGMENT RELOCATION PROJECT		
SINGLE CIRCUIT 115KV WEATHERING STEEL POLE WITH DEAD-END INSULATORS		
DATE: 3/14/12	EXHIBIT G-3	RAA/JRH

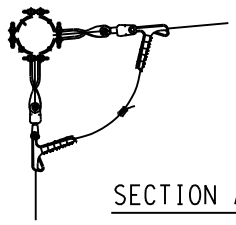


H-FRAME

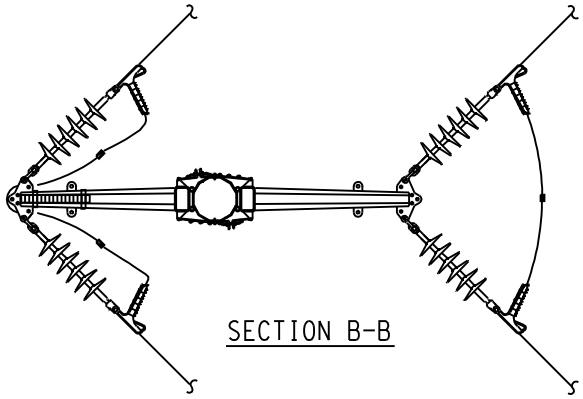
SUPERIOR TO SILVER KING 115kV TRANSMISSION LINE SEGMENT RELOCATION PROJECT		
SINGLE CIRCUIT 115KV WEATHERING STEEL AND / OR WOOD H-FRAME WITH SUSPENSION INSULATORS		
DATE: 3/14/12	EXHIBIT G-4	RAA/JRH



DEAD-END



SECTION A-A



SECTION B-B

SUPERIOR TO SILVER KING 115kV TRANSMISSION LINE SEGMENT RELOCATION PROJECT		
SINGLE CIRCUIT 115KV WEATHERING STEEL POLE TRANSITION WITH DEAD-END INSULATORS		
DATE: 3/14/12	EXHIBIT G-5	RAA/JRH

EXHIBIT H – EXISTING PLANS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

> "*To the extent applicant is able to determine, state the existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site or route.*"

EXISTING PLANS OVERVIEW

Based on the area of the proposed relocation on private land in unincorporated Pinal County, the primary plans relevant to the area are from Pinal County. In addition, plans from the nearby jurisdiction of the Town of Superior and the nearby land administrator, the U.S. Forest Service, were acquired and reviewed. The plans reviewed and considered in evaluating the proposed relocation included the following:

Jurisdictional General Plans

Pinal County Comprehensive Plan (*We Create Our Future: Pinal County Comprehensive Plan,* 2009, updated 2011)

Pinal County Development Code (*Pinal County Development Services Code*, 2012)

Pinal County Zoning Ordinance (*Zoning Ordinance*, 2012)

Town of Superior General Plan (*Town of Superior General Plan Update,* adopted December 18, 2003, amended February 19, 2009)

Town of Superior Zoning (Official Zoning Map of the Town of Superior, 2000)

Other Agency General Plans

Tonto National Forest Plan 1985 (*Tonto National Forest Plan,* 1985, amended 2006)

Future Development

No specific plans were available for future development. However, the request from Resolution Copper Mining, LLC for the 115kV transmission line relocation has indicated that the future plan for its private land in the vicinity of the existing 115kV line would be for rock storage.

EXHIBIT I – ANTICIPATED NOISE EMISSION LEVELS, AND POTENTIAL INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in the Arizona Corporation Commission Rules of Practice R14-3-219:

> *"Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities."*

This section addresses potential noise, radio and television interference, and electric and magnetic fields associated with this project. Corona discharge generates audible noise (AN), radio interference (RI), and television interference (TVI) along electrical transmission lines. Current and voltage associated with electric transmission lines transmit energy and produce electric and magnetic fields (EMF). However, the effects of corona will be minimized by line location, line design, and construction practices and there are no expected health and safety effects related to EMF associated with this project.

CORONA

Corona is a luminous discharge that emanates from an energized conductor due to ionization of the surrounding air and is caused by a voltage gradient, which exceeds the breakdown strength of air. Corona is a function of the voltage gradient at the conductor surface. This voltage gradient is controlled by engineering design and is a function of voltage, phase spacing, conductor diameter, conductor bundle, height of conductors above ground, line geometry, and meteorological conditions. In particular, irregularities on the surface of the conductor such as nicks, scratches, contamination, insects, and water droplets increase the amount of corona discharge. Consequently, during periods of rain and foul weather, corona discharge increases. This corona activity contributes to power loss and is the source of transmission line AN, RI, and TVI. For the 115kV line designs considered for this project, the maximum calculated voltage gradient at the conductor surface will be lower than corona inception and extinction levels. Successful operation of 115kV transmission lines with similar gradients indicates that the project would not create adverse corona effects. All of the corona related effects of the relocated line will be minimal compared to the impact of existing adjacent 230 and 500kV lines.

Transmission Line Audible Noise

AN is a result of corona discharge along electrical transmission lines and is a function of line voltage. The amount of AN is directly related to the level of corona activity, which in turn is affected by the conductor physical condition, contamination and meteorological conditions, most notably rain. Transmission line AN is characterized by crackling, frying, hissing, sputtering, and low frequency tones, which are best described as humming sounds.

AN from transmission lines primarily occurs during foul weather conditions. AN increases with rain or during dust storms; however, AN is generally masked by the background noise of rain and wind. In dry or fair weather conditions, 115kV conductors operate below the corona-inception level and power line AN typically will not be perceptible.

Considering the relatively few hours of audible noise producing weather, and the absence of residential land uses associated with the proposed alignment, no audible noise problems are expected even during foul weather. Ambient noise within the project study area would include transportation along unimproved rural roads, aircraft, and industrial activity. No local regulatory noise limits apply to project construction, operation, and maintenance activities.

Noise generated by the construction and operation of the project would be consistent with other industrial development that exists in the vicinity of the proposed alignment.

Radio Interference

Based on the design parameters and physical configuration of the proposed facilities, no objectionable noise and interference with radio signals is anticipated. High voltage transmission line radiated noise measurements, made by the Applicant over the past several years, indicate that the average ambient field intensity level will not be significant outside the transmission line right-of-way.

Statements of average radiated noise levels can only be considered valid under specific measurement conditions with instruments of standard characteristics. Average ambient field intensity levels at 200 feet apply to measurements made at a frequency of 1 megahertz (center of AM Broadcast Band) during typical dry weather conditions and daytime hours. Radiated noise also varies seasonally, hence the ambient level can only be described as an "average." The radiated noise field intensity diminishes with increasing frequency. At frequencies above 30 megahertz, the radiated noise field intensity is so low it is difficult to detect. Thus FM radio reception and cellular telephone communications are above the frequency range where RI has been experienced with previous projects, and no objectionable interference is expected with this project.

The Applicant utilizes field intensity instrumentation capable of measuring radiated noise and interference from 150 kilohertz up to 1 gigahertz. These instruments are used for investigating reports of unusual relatively high transmission line noise, as well as for compiling ambient noise level data.

In the unlikely event a complaint is received, the Applicant is ready to address RI resulting from construction and operation of the proposed transmission line with corrective measures, which can be implemented to eliminate RI complaints.

Television Interference

Predicting TVI is not as advanced as radio interference, primarily because the number of cases of TVI is small and limited. Generally, TVI results from microsparks, which can be identified and corrected. However, based on the design parameters and alignment of the line, no objectionable noise and interference with television communication signals is anticipated.

The Applicant is ready to address TVI resulting from construction and operation of this transmission line with corrective measures that can be implemented to eliminate TVI complaints.

ELECTRIC AND MAGNETIC FIELD EFFECTS

EMF effects consist of voltages and currents that are induced in nearby conductive objects by the voltage and current on the line. EMFs exist around overhead and underground power lines, house wiring, computers, power tools, appliances, and anything that carries or uses electricity.

The proposed 115kV transmission line relocation will move an area of EMF exposure from the existing to a nearby transmission line right-of-way. The strength of the electric field is a function of the line voltage. The magnetic field is directly proportional to the conductor load current, and is affected by the line geometry, direction of power flow, circuit phasing, and the distance from the conductors. EMF decreases with distance from the line.

The Applicant will meet established regulations related to EMFs. The transmission line will be designed to limit the steady-state current due to the electric field to 5 milliAmperes or below. As specified in the National Electrical Safety Code, this limit applies to the largest anticipated truck or vehicle under the line, short-circuited to ground.

Magnetic field profiles will vary depending on the amount of power being transmitted and height of the conductors above ground. The magnetic field profiles for all structure and design options being considered would not present discernable health and safety impacts meriting consideration in the selection of structure design type. The EMFs associated with the project's relocated transmission line will not change appreciably compared to the existing transmission line.

In conclusion, there are no expected health and safety effects related to EMF associated with construction, operation and maintenance of the project.

EXHIBIT J – SPECIAL FACTORS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219,

> "*Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application.*"

PUBLIC OUTREACH

This exhibit contains materials and tools used in the public outreach plan including responses received from agencies and the general public. Activities of the public outreach plan included stakeholder briefings, agency letters of notification and public open houses. Although the project is on private property, and public outreach is not required, Salt River Project (SRP) conducted a thorough public outreach and communication plan as part of the Superior to Silver King 115kV Transmission Line Segment Relocation Project.

The outreach plan included the following activities for distributing materials and communicating information about the project to various stakeholders and the general public. Details of each activity are described as follows:

- Stakeholder briefings
- Correspondence in support of the project
- Agency and tribal notification letters
- Agency and tribal responses
- Newsletter
- Display advertisement
- Open house meetings
- Project website

Stakeholder Briefings

The objective for the stakeholder briefings was to introduce the project to public officials, solicit any concerns or feedback related to their jurisdictions, and to emphasize SRP's desire to maintain open dialogue with the area stakeholders and public. The briefings included a description of the project purpose and need, where the project would occur on private land, the public outreach plan, the project schedule, and SRP contact information. In addition, each official was invited to attend one of the open house meetings. A copy of the general information provided during the briefings is included in Exhibit J-1.

Briefings were presented separately to the Pinal County Supervisor, Pinal County Manager, Town of Superior Interim Town Manager, and Superior Mayor and Town Council (see Table J-1). There were no significant concerns identified from any of the officials during the briefings. Salt River Project received comments seeking clarification regarding the type of poles that would be used, road closures, SRP's service area (as the Town of Superior residents are served by Arizona Public Service), and anticipated land use subsequent to the transmission line relocation.

Table J-1. Stakeholder Briefings

Date	Agency/Entity	Contact/Represented By	Agenda Topics
	COUNTY		
2/28/12	**Pinal County**	Supervisor Pete Rios	Representatives of SRP and URS provided an overview of the project; solicited input on engaging stakeholders and public for the project.
3/12/12	**Pinal County**	County Manager Fritz Behring	Representatives of SRP and URS provided an overview of the project; solicited input on engaging stakeholders and public for the project.
	LOCAL		
2/21/12	**Town of Superior**	Interim Town Manager Rita Wentzel	Representatives of SRP and URS provided an overview of the project; solicited input on engaging stakeholders and public for the project.
4/5/12	**Town of Superior**	Mayor, Town Council and Council Meeting attendees	Representatives of SRP provided an overview of the project; solicited questions, and invited all to attend the April 17 Open Houses.

Correspondence in Support of the Project

SRP received a letter of support from Pinal County Supervisor, Pete Rios, acknowledging his support for the project. In addition, the Superior Town Council also provided a letter of support for the project. The letters are included in Exhibit J-2.

Agency and Tribal Notification Letters

Project information was provided to the Superior School District Superintendent, the Governing Board of the Superior School District and the President of the Superior Chamber of Commerce, who were formally invited by letter and by telephone to the town council meeting and open house. A project newsletter was included with the letter.

In addition, various tribes and agencies were contacted regarding the project via formal letter (see Table J-2). The letters were sent to inform them of the project, briefly describe the potential impacts, notify them of the Certificate of Environmental Compatibility (CEC) process, and encourage them to participate by submitting comments and if desired, reviewing a copy of the CEC application once it is submitted. Copies of letters and the project location map which were sent to agencies and tribes are provided as Exhibit J-3 and J-4.

Agency and Tribal Responses

SRP received several responses to the agency and tribal notification letters. These responses are summarized in Table J-2 below. Copies of the responses received are provided as Exhibit J-5.

Table J-2. Agency and Tribal Correspondence

Agency or Tribe	Date of Response	Response
Tonto National Forest	None	
Arizona Game and Fish Department	April 30, 2012 letter	Recommended information be obtained from USFWS
Arizona State Historic Preservation Office	April 12, 2012 letter	Concurrence, with note that AZ U:12:218 is eligible only under Criterion D
Superior School District	None	

Agency or Tribe	Date of Response	Response
Superior Chamber of Commerce	None	
Ak-Chin Indian Community	April 20, 2012 letter	Defer review to the Gila River Indian Community
Fort McDowell Yavapai Nation	May 28, 2012 telephone call	No concerns with or comments about the project
Gila River Indian Community	None	
Hopi Tribe	April 23, 2012 letter	Indicated that no historic properties significant to the Hopi Tribe would be affected
Salt River Pima-Maricopa Indian Community	None	
San Carlos Apache Tribe	None	
Tohono O'odham Nation	April 4, 2012 email May 31, 2012 SRP emailed acknowledgment of the comments and provided additional information	Concurred with evaluation of archaeological sites, and asked (1) if relocation is related to proposed mine in Oak Flats (and if so, mine impacts should be assessed), (2) have impacts on cultural and natural landscapes been assessed, and (3) has San Carlos Tribe been consulted SRP response stated that (1) the proposed project would involve removal and replacement of approximately six structures[1] of an SRP-owned transmission line at the request of the owner of the private property on which the structures are located, (2) SRP is complying with the process for obtaining a certificate of environmental compatibility as required by Arizona state law, and (3) as part of that process SRP has communicated with potentially interested parties
Tonto Apache Tribe	None	
White Mountain Apache Tribe	May 4, 2012 letter	Agree with determination of no adverse effect, urge caution to avoid impacts on Apache sites and burials
Yavapai-Apache Nation	None	
Yavapai-Prescott Indian Tribe	April 18, 2012 letter	Concurred with findings and identified no concerns
Zuni Pueblo	None	

Newsletter

In April 2012, SRP sent a one-page project introduction and call for public comment in the Superior sewer bills. Sewer bills were chosen as a means to reach out to Town residents at the suggestion of the Interim Town Manager. The newsletter provided a project area map and announced the dates for the open house meetings (in English and Spanish). A copy of the first project newsletter is provided in Exhibit J-6.

A second newsletter, also to be distributed by way of the sewer bills, will announce the hearing dates for review of this CEC application.

[1] Subsequent to this response letter, the estimated number of structures necessary for the relocation increased from six structures to approximately nine structures.

Display Advertisement

The open house meetings were announced in a paid newspaper advertisement in *The Superior Sun* on April 11, 2012. A copy of the advertisement is provided in Exhibit J-7.

Open House Meetings

On April 17, 2012, open house meetings were held at the Senior Center in the afternoon and at the Junior/Senior High School in the evening. Several SRP Representatives attended the meetings to staff the display boards and answer questions. URS, the Environmental Consultant for the project, had two staff members in attendance to address questions as well.

At the first open house, three members of the public signed in, which included one representative of Resolution Copper, one representative from Arizona Water Company, and one representative from the media.

At the second open house, four members of the public signed in, which included two representatives of Resolution Copper and a citizen of Superior who inquired about access to hunting in the project area and the proposed structure type for the relocated line. Also, a representative of the group "Concerned Citizens and Retired Miners" was in attendance and indicated other members of that group contacted him after receiving the newsletter to ask about the project. He stated he was there to represent that group, and to provide information to its members.

No written comments were submitted during the meetings. Verbal comments focused on access to hunting in the area, and the future mining operations proposed by Resolution Copper (with recognition that future permitting processes would be necessary for any expanded mining operations).

Display boards containing information and maps detailing the project were available for review and comment. Boards showing aerial photography provided the terrain detail to demonstrate the visibility of the relocated transmission line. Comment forms were on hand for attendees to share their thoughts. Copies of the display boards and comment form are included in Exhibit J-8.

Project Website

All public outreach materials and project information were made available on the SRP website, www.azpower.org/ssk115kVrelo/ (Exhibit J-9).

EXHIBIT J-1 STAKEHOLDER BRIEFING PRESENTATION

SALT RIVER PROJECT

SUPERIOR-SILVER KING

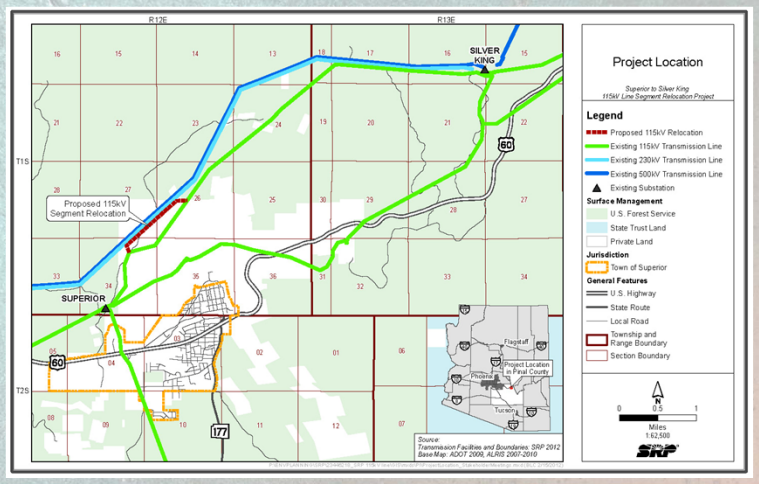
115KV RELOCATION PROJECT

April 2012

What we are doing and why

- Responding to industrial customer request
- Relocate approximately one mile of existing 115kV line approximately 0.25-mile northwest *on private property*
- Line will be located adjacent to an existing transmission line corridor
- Requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission

Superior – Silver King 115kV Relocation Project



Outreach Plan

- Stakeholder briefings
  - Town of Superior Manager, Mayor & Council
  - Pinal County Manager
  - County Supervisor, District 1
- Letters to agency and area stakeholders
- Newsletters to residents

Outreach Plan

- Public Open House Meetings April 17, 2012
  - 1:30-3:30 PM
    Superior Senior Center
  - 6:00-8:00 PM
    Superior Senior High School
- Project Website – www.azpower.org
- Info Line – 602-236-2872 or 800-380-6123

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

Project Schedule

- Stakeholder Briefings: February-May 2012
- Public Outreach: April 2012
- Environmental Studies: February-April 2012
- Submit CEC Application: June 2012
- Line-Siting Hearing: Summer 2012
- ACC Open Meeting: Fall 2012
- Relocation Complete: 2013

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

Contact Us

- Tom Novy, Project Manager
  Transmission Planning
- Project Website: www.azpower.org
- Project Info Line:
  602-236-2872 or 800-380-6123

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

EXHIBIT J-2 CORRESPONDENCE IN SUPPORT OF THE PROJECT

Supervisor Pete Rios
District 1

PINAL • COUNTY
Wide open opportunity

County Supervisors Association (CSA)

Pinal County Board of Health

Pinal County CORP Detention Officer Retirement Board

Employee Benefits Trust

June 7, 2012

Mr. Thomas Novy; Project Manager
Salt River Project
1521 N. Project Drive
Tempe, AZ 85281

Dear Mr. Novy,

I am writing in my capacity as Pinal County District 1 Supervisor to express my support for the Salt River Project's (SRP) Application for a Certificate of Environmental Compatibility (CEC) for the Superior-Silver King 115 kV relocation project. The Application seeks a CEC to move 1 mile of an existing transmission line approximately 1/4 mile to the northwest to parallel an existing transmission line corridor. I understand the relocation of this small portion of the transmission line is necessary to accommodate a request from Resolution Copper Mining, LLC that will allow Resolution to use its property to better serve its mining operations near the Town of Superior.

SRP's outreach surrounding this proposed project is greatly appreciated. I understand that SRP held a Council briefing as well as two public open houses in the Town of Superior to discuss the project with residents, even though the mine is located beyond the Town's boundary. Additionally, I appreciate that you and Ms. Rohovit, as well as members of your project team, personally briefed me on the proposed project.

I have represented the citizens of the "Copper Corridor" in the Legislature and I now serve as their County Supervisor. I understand how important the continued operation of the mine is to the mining communities and to our State. This project, as proposed by SRP, has my full support.

Sincerely

Pete Rios
Board of Supervisor, Dist. 1

TOWN OF SUPERIOR

Town Hall • 199 N. Lobb Ave., PO Box 218 • Superior, Arizona 85173
520-689-5752 • Fax: 520-689-5822 • TDD Relay 1-800-367-8938

June 21, 2012

Mr. Thomas Novy
Project Manager
Salt River Project
1521 N. Project Drive
Tempe, AZ 85281

Dear Mr. Novy,

We are writing on behalf of the Superior Town Council regarding the Salt River Project's (SRP) Application for a Certificate of Environmental Compatibility for the relocation of a portion of an existing 115 kV transmission line from Superior to Silver King. We understand that Resolution Copper Mining, LLC has requested the minor line relocation so that it may utilize its property to better serve its mining operations near the Town of Superior. Moreover, we understand that the relocation of the line is entirely within Resolution Copper Mining's private property, which is outside the jurisdiction of the Town of Superior.

We appreciate SRP's public involvement efforts, holding multiple public open houses in the Town of Superior to discuss the project with our residents. The continued operation of the mine provides local jobs and is important to improving the economy in Arizona. Therefore, we have no objection to this project as proposed by SRP.

Sincerely,

Jayme Valenzuela

Jayme Valenzuela, Mayor
Town of Superior

EXHIBIT J-3 AGENCY AND TRIBAL NOTIFICATION LETTERS

URS

April 10, 2012

Ms. Rebecca Hoffman
Forest Supervisor's Office
Tonto National Forest
2324 E. McDowell Rd.
Phoenix, Arizona 85006

Re: **Superior to Silver King 115kV Line Segment Relocation Project**

Dear Ms. Hoffman:

Salt River Project (SRP) received a request from Resolution Copper Mining, LLC (Resolution), a private property owner and SRP customer, to relocate a segment of the existing Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. This relocation would occur entirely on Resolution's private property and would accommodate development of rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately 1 mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor (refer to attached map).

SRP has previous experience in relocating its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights. At this time, the impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

The relocation project requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. SRP retained URS Corporation to provide assistance in preparing a CEC application. The project would not use federal land, nor have requirements for federal permits been identified at this time. In addition, no federal funding has been made available for the project. Though there does not appear to be a federal decision for this effort, I am contacting you on behalf of SRP to initiate coordination with the Tonto National Forest as a potential project stakeholder given the project's proximity to the forest. You are invited and encouraged to provide input on this project.

URS Corporation
7720 North 16th Street, Suite 100
Phoenix, AZ 85020
Tel: 602.371.1100
Fax: 602.371.1615

We look forward to your comments and, at your request, will provide you with a copy of the CEC application after it is submitted. The Arizona Corporation Commission will schedule and announce the date(s) for the public hearing(s). If you have any questions or wish to discuss the project, please call me at 602.861.7406 or contact me via e -mail: Jennifer.Frownfelter@urs.com.

Thank you in advance for your cooperation.

Sincerely,

URS Corporation

Jennifer Frownfelter
Vice President, Project Manager

cc: Chris Lacosse, Tonto National Forest, Globe District, Recreation Staff
Tom Novy, SRP Project Manager

Attachments: Project location map, newsletter

URS

April 10, 2012

Mr. Chris Lacosse
Globe District Office
Tonto National Forest
7860 S. Six Shooter Canyon Road
Globe, Arizona 85501

Re: **Superior to Silver King 115kV Line Segment Relocation Project**

Dear Mr. Lacosse:

Salt River Project (SRP) received a request from Resolution Copper Mining, LLC (Resolution), a private property owner and SRP customer, to relocate a segment of the existing Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. This relocation would occur entirely on Resolution's private property and would accommodate development of rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately 1 mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor (refer to attached map).

SRP has previous experience in relocating its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights. At this time, the impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

The relocation project requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. SRP retained URS Corporation to provide assistance in preparing a CEC application. The project would not use federal land, nor have requirements for federal permits been identified at this time. In addition, no federal funding has been made available for the project. Though there does not appear to be a federal decision for this effort, I am contacting you on behalf of SRP to initiate coordination with the Tonto National Forest as a potential project stakeholder given the project's proximity to the forest. You are invited and encouraged to provide input on this project.

URS Corporation
7720 North 16th Street, Suite 100
Phoenix, AZ 85020
Tel: 602.371.1100
Fax: 602.371.1615

We look forward to your comments and, at your request, will provide you with a copy of the CEC application after it is submitted. The Arizona Corporation Commission will schedule and announce the date(s) for the public hearing(s). If you have any questions or wish to discuss the project, please call me at 602.861.7406 or contact me via e -mail: Jennifer.Frownfelter@urs.com.

Thank you in advance for your cooperation.

Sincerely,

URS Corporation

Jennifer Frownfelter
Vice President, Project Manager

cc: Rebecca Hoffman, Tonto National Forest, Supervisor's Office, Lands
Tom Novy, SRP Project Manager

Attachments: Project location map, newsletter

URS

April 16, 2012

Ms. Laura Canaca
Arizona Game and Fish Department
WMHB – Project Evaluation Program
5000 W. Carefree Highway
Phoenix, AZ 85086-5000

Re: **Superior to Silver King 115kV Line Segment Relocation Project**

Dear Ms. Canaca:

Salt River Project (SRP) received a request from Resolution Copper Mining, LLC (Resolution), a private property owner and SRP customer, to relocate a segment of the existing Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. The relocation is needed to provide space for development of rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately one mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor (refer to attached map). The new alignment for the 115kV line and all necessary construction activities associated with relocation of the line would occur entirely on Resolution's private property.

SRP has previous experience in relocating its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights. At this time, the impacts to the surrounding environment are expected to be minimal because the current and proposed locations are on private mining land, within partially disturbed landscapes, that include other transmission lines and access roads.

The relocation project requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. SRP retained URS to provide assistance in preparing a CEC application. In accordance with CEC application requirements, Exhibits C and D of the application will describe biological resources including threatened and endangered species, state and other special status species, vegetation, habitat and connectivity, and general wildlife in the vicinity of the proposed facilities, and describe the effects that the proposed facilities could have on those biological resources. In the attached Project Evaluation Request form, URS is requesting information from Arizona Game and Fish Department regarding species within the project area. I am contacting you to also initiate coordination with the Arizona Game and Fish Department as a project stakeholder.

URS Corporation
7720 North 16th Street, Suite 100
Phoenix, AZ 85020
Tel: 602.371.1100
Fax: 602.371.1615

We look forward to your comments and will provide you with a copy of the CEC application after it is submitted. The Arizona Corporation Commission will schedule and announce the date(s) for the public hearing(s). If you have questions, you can contact me by telephone (602) 861-7406 or e-mail (jennifer.frownfelter@urs.com).

Thank you in advance for your cooperation.

Sincerely,

URS Corporation

Jennifer Frownfelter
Vice President, Project Manager

cc: Tom Novy, SRP
Robert DeBaca, URS

Attachments: Project Location Map
Project Evaluation Request Form
Project Newsletter

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Louis J. Manuel Jr., Chairman
Ak-Chin Indian Community
42507 W. Peters & Nall Road
Maricopa, Arizona 85138

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Manuel:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Caroline Antone, Cultural Resource Department, Ak-Chin Indian Community, 42507 W. Peters & Nall Road, Maricopa, Arizona 85138 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Dr. Clinton M. Pattea, President
Fort McDowell Yavapai Nation
P.O. Box 17779
Fountain Hills, Arizona 85269

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear President Pattea:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Gary Loutzenheiser, Cultural Representative, Elementary Principal, H'man'shawa ECDC, Fort McDowell Yavapai Nation, P.O. Box 17779, Fountain Hills, Arizona 85269 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Gregory Mendoza, Governor
Gila River Indian Community
315 West Casa Blanca
Sacaton, Arizona 85247

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Governor Mendoza:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Barnaby Lewis, Tribal Historic Preservation Officer, Gila River Indian Community, P.O. Box 2140, Sacaton, Arizona 85147 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Leroy Ned Shingoitewa, Chairman
Hopi Tribe
P.O. Box 123
Kykotsmovi, Arizona 86039

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Shingoitewa:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and

structures. I am contacting you to determine if your community has an interest in or concerns about the project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice

structures along the transmission system also are considered eligible under Criterion C. To mitigate the effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office, P.O. Box 123, Kykotsmovi, Arizona 86039 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Arlen P. Quetawki Sr., Governor
Pueblo of Zuni
P.O. Box 339
Zuni, New Mexico 87327-0339

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Governor Quetawki:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Kurt Dongoske, Tribal Historic Preservation Officer, Zuni Cultural Resources Enterprise, Pueblo of Zuni, P.O. Box 1149, Zuni, New Mexico 87327-0339 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Diane Enos, President
Salt River Pima-Maricopa Indian Community
10005 E. Osborn Road
Scottsdale, Arizona 85256

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear President Enos:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Shane Anton, Supervisor, Cultural Preservation Program, Salt River Pima-Maricopa Indian Community, 10005 E. Osborn Road, Scottsdale, Arizona 85256 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Terry Rambler, Chairman
San Carlos Apache Tribe
P.O. Box O
San Carlos, Arizona 85550

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Rambler:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Vernelda J. Grant, Director/Tribal Historic Preservation Officer, Historic Preservation and Archaeology Department, San Carlos Apache Tribe, P.O. Box O, San Carlos, Arizona 85550 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Ned Norris Jr., Chairman
Tohono O'odham Nation
P.O. Box 837
Sells, Arizona 85634

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Norris:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Peter Steere, Tribal Historic Preservation Officer, Tohono O'odham Nation, P.O. Box 837, Sells, Arizona 85634 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Ivan Smith, Chairman
Tonto Apache Tribe
Tonto Apache Reservation 30
Payson, Arizona 85541

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Smith:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Wally Davis, Jr., Tonto Apache Tribe, Tonto Apache Reservation 30, Payson, Arizona 85541
(w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Ronnie Lupe, Chairman
White Mountain Apache Tribe
Fort Apache Indian Reservation
P.O. Box 700
Whiteriver, Arizona 85941

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Lupe:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Mark Altaha, Tribal Historic Preservation Officer, White Mountain Apache Tribe, P.O. Box 507, Fort Apache, Arizona 85926 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable David Kwail, Chairman
Yavapai-Apache Nation
2400 W. Datsi Street
Camp Verde, Arizona 86322

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Kwail:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Christopher Coder, Archaeologist, Cultural Resources, Yavapai-Apache Nation, 2400 W. Datsi Street, Camp Verde, Arizona 86322 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Ernest Jones Sr., President
Yavapai-Prescott Indian Tribe
530 E. Merritt Street
Prescott, Arizona 86301

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear President Jones:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Gregory T. Glassco, Culture Research Department, Yavapai-Prescott Indian Tribe, 530 Merritt Street, Prescott, Arizona 86301-2038 (w/ enclosures)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

Mr. David Jacobs
Compliance Specialist/Archaeologist
State Historic Preservation Officer
Arizona State Parks
1300 W. Washington Street
Phoenix, Arizona 85007

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Mr. Jacobs:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the

proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to solicit the State Historic Preservation Office's review of potential impacts on properties listed in or eligible for the Arizona Register of Historic Places (Arizona Register) so that review comments can be included in the CEC application and considered by the Commission.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey. A copy of the report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* is enclosed for your review.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines,

and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

To support the Arizona Corporation Commission compliance with the Arizona Governor's Executive Order 2006-14 regarding consultation and cooperation with Arizona tribes, SRP is contacting tribes that might have an interest in the project (Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Tohono O'odham Nation, Hopi Tribe, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, White Mountain Apache Tribe, Fort McDowell Yavapai Nation, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe), and will work to address any concerns they might have. Please let us know if you think additional tribes should be consulted.

In summary, we request your comments about the adequacy of the cultural resource inventory, the determination that site AZ U:12:218(ASM) is eligible for the State Register under Criteria A and D, that site AZ U:12:217 and the 38 isolated artifacts are not eligible, and that the proposed transmission line location would not substantially alter or demolish any properties listed in or eligible for the State Register as long as site AZ U:12:218(ASM) is avoided during construction and maintenance of the relocated segment. If final design of the transmission line relocation determines that avoidance of the site is not possible, we would consult further to develop and implement a plan to compile appropriate documentation in accordance with State Historic Preservation Office standards as stipulated by the State Historic Preservation Act.

We look forward to your comments and will provide you with a copy of the CEC application after it is submitted. The Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

Enclosures

EXHIBIT J-4 PROJECT LOCATION MAP

This Project Location Map was enclosed with each of the letters sent to agencies and tribes.

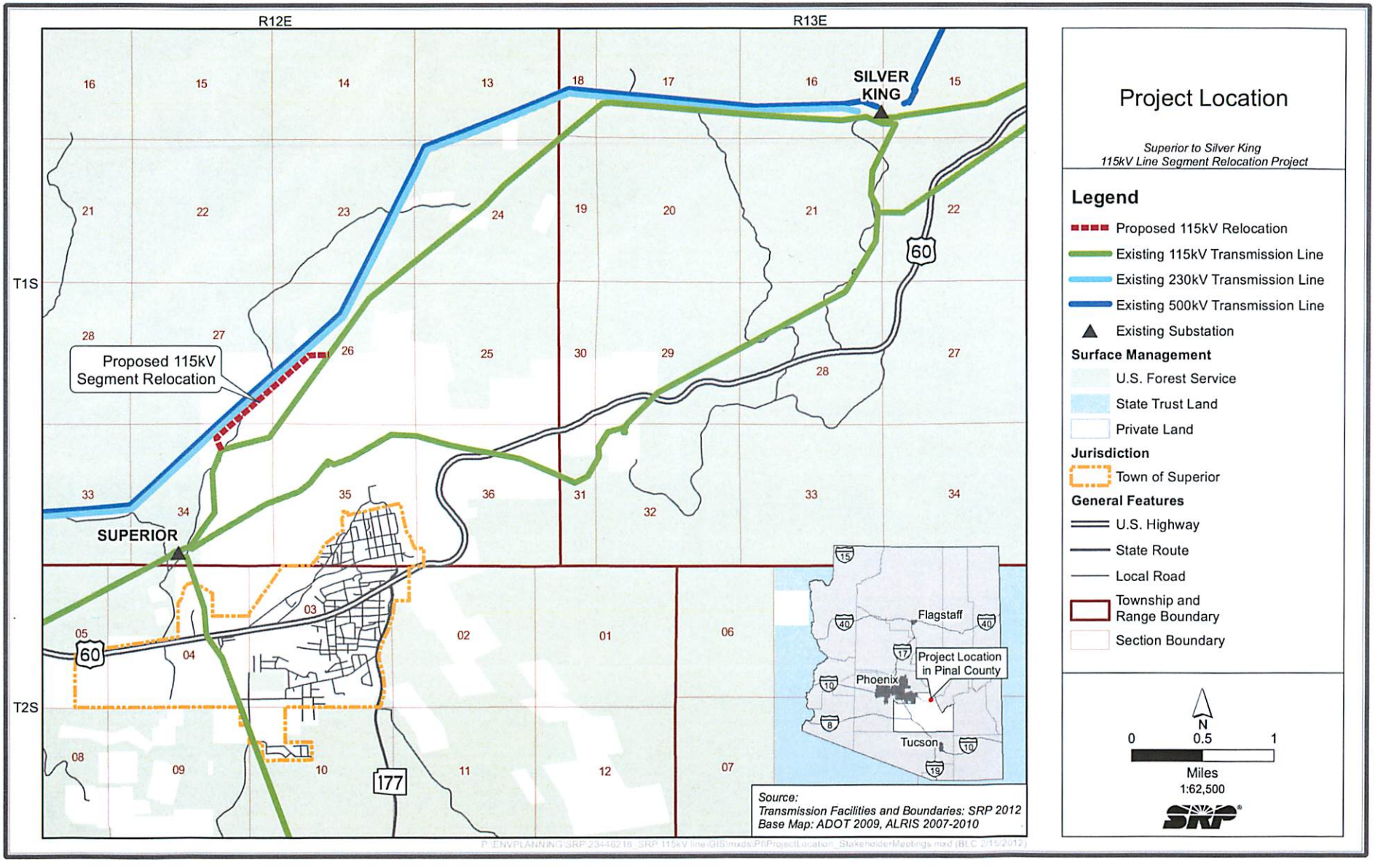

R12E
R13E
T1S
T2S
SILVER KING
SUPERIOR
Proposed 115kV Segment Relocation
60
177
Flagstaff
Phoenix
Tucson
Project Location in Pinal County
Source:
Transmission Facilities and Boundaries: SRP 2012
Base Map: ADOT 2009, ALRIS 2007-2010
Project Location
Superior to Silver King
115kV Line Segment Relocation Project
Legend
Proposed 115kV Relocation
Existing 115kV Transmission Line
Existing 230kV Transmission Line
Existing 500kV Transmission Line
Existing Substation
Surface Management
U.S. Forest Service
State Trust Land
Private Land
Jurisdiction
Town of Superior
General Features
U.S. Highway
State Route
Local Road
Township and Range Boundary
Section Boundary
N
0
0.5
1
Miles
1:62,500
SRP

EXHIBIT J-5 AGENCY AND TRIBAL RESPONSES

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

GOVERNOR
JANICE K. BREWER
COMMISSIONERS
CHAIRMAN, NORMAN W. FREEMAN, CHINO VALLEY
JACK F. HUSTED, SPRINGERVILLE
J.W. HARRIS, TUCSON
ROBERT E. MANSELL, WINSLOW
KURT R. DAVIS, PHOENIX
DIRECTOR
LARRY D. VOYLES
DEPUTY DIRECTORS
GARY R. HOVATTER
BOB BROSCHEID

April 30, 2012

Jennifer Frownfelter
URS Corporation
7720 North 16th Street, Suite 100
Phoenix, Arizona 85020

Re: Superior to Silver Kinng 115kV Line Segment Relocation Project

Dear Ms. Frownfelter

The Arizona Game and Fish Department (Department) has received and reviewed your letter of April 16, 2012 regarding the above referenced project. A review of the Department's HDMS data base using the Department's On-line Environmental Review Tool, (receipt # 20120430017757) has identified multiple special status species within 3 miles of your project site (Desert Pupfish LE; Arizona Hedgehog Cactus LE, Sonoran desert tortoise C, and Gila topminnow). The U.S. Fish and Wildlife service has regulatory authority for making determinations of effects on these species. We suggest you contact them for their assessment of potential impacts.

The Department has no further comments at this time. If you have questions or concerns regarding this letter, please give me a call at 623 236-7513.

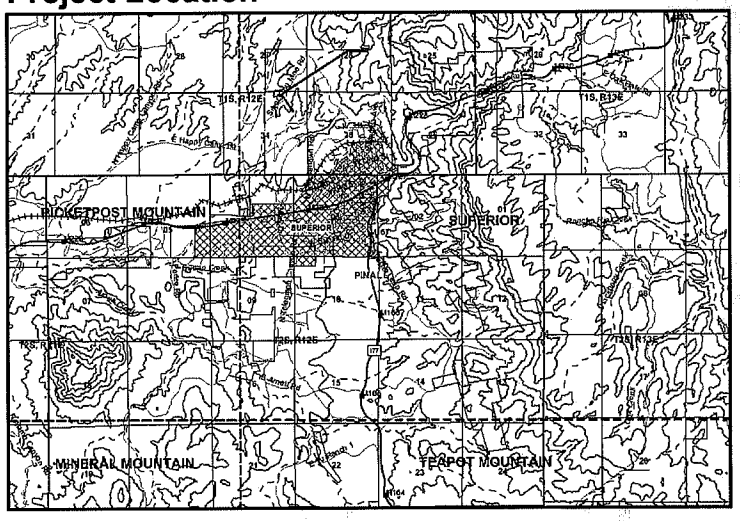
Sincerely,

Daniel E. Nelson
Project Evaluation Specialist

CC: Kelly Wolfe-Krauter, AGFD; Debra Bills USFWS
M12-04255940

Arizona's On-line Environmental Review Tool
Search ID: 20120430017757
Project Name: Superior to Silver King 115kV Line relocation
Date: 4/30/2012 2:30:36 PM

Project Location



Project Name: Superior to Silver King 115kV Line relocation
Submitted By: PEP Project Evaluation Program
On behalf of: CONSULTING
Project Search ID: 20120430017757
Date: 4/30/2012 2:30:27 PM
Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric realignment
Project Coordinates (UTM Zone 12-NAD 83): 489895.152, 3685571.972 meter
Project Length: 2313.958 meter
County: PINAL
USGS 7.5 Minute Quadrangle ID: 1361
Quadrangle Name: SUPERIOR
Project locality is not anticipated to change

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Bat Colony					
Cyprinodon macularius	Desert Pupfish	LE			WSC
Echinocereus triglochidiatus var. arizonicus	Arizona Hedgehog Cactus	LE			HS
Eumops perotis californicus	Greater Western Bonneted Bat	SC	S	S	
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S	WSC
Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise	C	S		WSC
Myotis yumanensis	Yuma Myotis	SC			
Nyctinomops femorosaccus	Pocketed Free-tailed Bat		S		
Phyllorhynchus browni	Saddled Leaf-nosed Snake		PS		
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE			WSC
Rana yavapaiensis	Lowland Leopard Frog	SC	S	S	WSC

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

 APPLICATION INITIALS: _____

Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: http://arizonaes.fws.gov/.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

 APPLICATION INITIALS: _____

management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Energy Storage/Production/Transfer,Energy Transfer,power line/electric realignment

Project Type Recommendations:

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Based on the project type entered; coordination with State Historic Preservation Office may be required http://azstateparks.com/SHPO/index.html

Based on the project type entered; coordination with U.S. Fish and Wildlife Service (Migratory Bird Treaty Act) may be required (http://arizonaes.fws.gov/)

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants http://www.azda.gov/PSD/quarantine5.htm. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

Impacts to raptors by above ground power lines and poles have been well documented. A number of structural improvements can minimize potential impacts to raptors and other migratory birds. Arizona Public Service (APS) offers guidelines to reduce mortality to these species http://www.aps.com/my_community/Environmental/Environmental_10.html. In addition, indirect affects to wildlife due to construction (timing of activity, clearing of rights-of-way, associated bridges and culverts, affects to wetlands, fences) should also be considered and mitigated. Please contact the Project Evaluation Program for further recommendations regarding trenching and power line associated activities.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

 APPLICATION INITIALS: _____

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act .
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area,

 APPLICATION INITIALS: _____

location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.
5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature:_____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

 APPLICATION INITIALS: _____

Agency/organization: _____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

 APPLICATION INITIALS: _____

SHPO-2012-0331 (100580)

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

RECEIVED
APR 04 2012
DJ
ARIZONA STATE PARKS/S.H.P.

29 March 2012

Mr. David Jacobs
Compliance Specialist/Archaeologist
State Historic Preservation Officer
Arizona State Parks
1300 W. Washington Street
Phoenix, Arizona 85007

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Mr. Jacobs:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the

proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to solicit the State Historic Preservation Office's review of potential impacts on properties listed in or eligible for the Arizona Register of Historic Places (Arizona Register) so that review comments can be included in the CEC application and considered by the Commission.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey. A copy of the report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* is enclosed for your review.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines,

and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

To support the Arizona Corporation Commission compliance with the Arizona Governor's Executive Order 2006-14 regarding consultation and cooperation with Arizona tribes, SRP is contacting tribes that might have an interest in the project (Ak-Chin Indian Community, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Tohono O'odham Nation, Hopi Tribe, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, White Mountain Apache Tribe, Fort McDowell Yavapai Nation, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe), and will work to address any concerns they might have. Please let us know if you think additional tribes should be consulted.

In summary, we request your comments about the adequacy of the cultural resource inventory, the determination that site AZ U:12:218(ASM) is eligible for the State Register under Criteria A and D, that site AZ U:12:217 and the 38 isolated artifacts are not eligible, and that the proposed transmission line location would not substantially alter or demolish any properties listed in or eligible for the State Register as long as site AZ U:12:218(ASM) is avoided during construction and maintenance of the relocated segment. If final design of the transmission line relocation determines that avoidance of the site is not possible, we would consult further to develop and implement a plan to compile appropriate documentation in accordance with State Historic Preservation Office standards as stipulated by the State Historic Preservation Act.

We look forward to your comments and will provide you with a copy of the CEC application after it is submitted. The Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

Enclosures

CONCUR

12 APRIL

Arizona State Historic Preservation Office

NOTE: AZ U:12:218(ASM) only eligible under Criterion D.

EC14507.0312

AK-CHIN INDIAN COMMUNITY

Community Government

42507 W. Peters & Nall Road • Maricopa, Arizona 85138 • Telephone: (520) 568-1000 • Fax: (520) 568-1001

April 20, 2012

RECEIVED

APR 2 4 2012

Environmental Services
Environmental Compliance

Mr. Richard A. Anduze, Senior Environmental Scientist
SRP – Salt River Project
P.O. Box 52025
Mail Station: PAB352
Phoenix, Arizona 85072-2025

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Mr. Anduze:

The Ak-Chin Indian Community did receive your letter regarding the proposal to relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona.

Due to the location of this project, the Ak-Chin Indian Community does not have any comments and will defer any concerns to the Gila River Indian Community, Tribal Historic Preservation Office, Sacaton, AZ.

Thank you for informing the Ak-Chin Indian Community about this project. If you should have any questions, please contact Mrs. Caroline Antone, Cultural Resources Manager at (520) 568-1372, or Mr. Gary Gilbert, Cultural Resources Technician II at 520-568-1369.

Sincerely,

Louis J. Manuel Jr., Chairman
Ak-Chin Indian Community

RECEIVED
APR 2 4 2012
Environ... ...mpliance

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

29 March 2012

The Honorable Leroy Ned Shingoitewa, Chairman
Hopi Tribe
P.O. Box 123
Kykotsmovi, Arizona 86039

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear Chairman Shingoitewa:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and

structures. I am contacting you to determine if your community has an interest in or concerns about the project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice

RECEIVED
APR 2 4 2012
Environ... & Compliance

structures along the transmission system also are considered eligible under Criterion C. To mitigate the effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

no historic properties significant to the Hopi Tribe affected
for
Kuwanwisiwma
4-25-12

cc: Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office, P.O. Box 123, Kykotsmovi, Arizona 86039 (w/ enclosures)

From: Peter Steere [mailto:Peter.Steere@tonation-nsn.gov]
Sent: Wednesday, April 04, 2012 4:29 PM
To: Anduze Richard A (Rick)
Cc: Vernalda Grant
Subject: Superior to Silver King 115 -Kilovolt Transmission Line

MEMORANDUM

DATE: April 4, 2012

TO: Richard Anduze, Senior Environmental Scientist
Biological and Cultural Resources Services
Salt River Project

CC: Vernalda Grant, THPO, San Carlos Apache Reservation

FROM: Peter L. Steere, THPO, Tohono O'odham Nation

RE: Superior to Silver King 115-Kilovolt transmission Line Segment Relocation

---

Thank you for consulting with the Tohono O'odham Nation on the proposed Relocation of the Superior to Silver King 115-Kilovolt Transmission line Segment.

Questions and comments:

1. Is this proposed powerline relocation connected in any way with the proposed copper mine that would impact Oak Flats and the Apache Leap TCP and sacred site ?

2. If so, then the impacts of the proposed copper mine must be considered when issuing a CEC for this line relocation (ACC just did this for the proposed Rosemont Mine TEP powerline)

3. Concurs with site eligibility recommendations for AZ U:12:218(ASM) & AZ U:12:217(ASM)

4. Has an evaluation been completed on the possible impacts to the cultural and natural landscapes of the proposed project area ?

5. Have the Apache Tribes been consulted regarding any TCPs that be located in the project area ?

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 507
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Richard A. Anduze, Senior Environmental Scientist Salt River Project

Date: May 4, 2012

Project: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, March 29, 2012 . In regards to this, please attend to the following checked items below.

► ***There is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.***

N/A - The proposed project is located within an area of probable cultural or historical importance to the White Mountain Apache tribe (WMAT). As part of the effort to identify historical properties that maybe affected by the project we recommend an ethno-historic study and interviews with Apache Elders. The tribe's ***Cultural Heritage Resource Director Mr. Ramon Riley*** may be contacted at (928) 338-3033 for further information should this become necessary.

► Please refer to the attached additional notes in regards to the proposed project:

We have received and reviewed the Cultural Resources Report 2011-51 regarding 115 kV Transmission Line Reroute, in Pinal County, Arizona, and we have determined the proposed action/plans ***will not have an adverse effect*** on the White Mountain Apache tribe's (WMAT) historic properties and/or traditional cultural resources. However, extra caution should be implemented as Apache archaeology are elusive and dificult to identify. Further, we recommend any/all proposed ground disturbing activities be monitored ***if*** there are reasons to believe that there are human remains and/or funerary objects are present, and if such remains and/or objects are encountered all project activities should cease and the proper authorities and/or ***affiliated*** *tribe(s)* be notified to evaluate the situation.

Thank you. We look forward to continued collaborations in the protection and preservation of place of cultural and historical significance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe

Historic Preservation Office

P. O. Box 52025
Phoenix, AZ 85072-2025
(602) 236-5900
www.srpnet.com

Mail Station: PAB352
Phone: (602) 236-2804
Fax: (602) 236-3407
Email: Rick.Anduze@srpnet.com

RECEIVED
APR 04 2012
By

29 March 2012

The Honorable Ernest Jones Sr., President
Yavapai-Prescott Indian Tribe
530 E. Merritt Street
Prescott, Arizona 86301

Re: Superior to Silver King 115-Kilovolt Transmission Line Segment Relocation

Dear President Jones:

Resolution Copper Mining, LLC (Resolution), a Salt River Project (SRP) customer, has requested that SRP relocate a segment of the Superior to Silver King 115-kilovolt (kV) transmission line near the Town of Superior in Pinal County, Arizona. Resolution has requested that approximately 1 mile of the 115kV line be moved to the northwest, adjacent and parallel to a corridor with 230kV and 500kV transmission lines, to accommodate storage of waste rock from mining activity (refer to enclosed map). The relocation would be entirely within Resolution's private property. SRP has previously relocated its transmission lines at the request of customers, provided the customers fund the work and provide equivalent or better land rights.

The relocation requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission. The Commission has authorized SRP to act as the Commission's agent in consulting with the State Historic Preservation Office and other interested parties, pursuant to the State Historic Preservation Act, about the proposed relocation.

The project would not use federal land. No requirements for federal permits have been identified, and no federal funding would be used for the relocation. Therefore, the project is not a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. If requirements for federal permits were identified or if federal funding should be made available, SRP would assess impacts pursuant to the National Environmental Policy Act and support compliance with Section 106.

The impacts to the surrounding environment are expected to be minimal because:

- The current and proposed locations are on private mining land, where disturbed landscapes and manmade features, including other transmission lines, already dominate views.
- The topography in the area is undulating, and views of the line would be very restricted.
- The line would be relocated away from the Town of Superior and scenic U.S. Highway 60, and closely parallel the existing 500kV and 230kV lines in the area.

In accordance with Arizona Corporation Commission requirements, Exhibit E of the CEC application will include descriptions of any historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects that the proposed facilities could have on those sites and structures. I am contacting you to determine if your community has an interest in or concerns about the

project or if you have any additional information about cultural resources significant to your community that are in the project vicinity and should be considered.

Resolution retained WestLand Resources Inc. (WestLand) to identify cultural resources that might be affected by construction and maintenance of the proposed rerouted transmission line. WestLand conducted a records and literature review as well as an intensive pedestrian survey.

The records and literature review identified 22 cultural resources recorded within 1 mile of the project area, including 3 prehistoric archaeological sites, 12 historic sites and structures, 5 multi-component sites, and 2 sites of unknown affiliation. Two of those sites are mapped within the proposed transmission line relocation project area, but the field survey determined that one of these, site NA 15722, is actually outside the project area. Site NA 15722 was discovered during an archaeological survey for the adjacent SRP Silver King to Kyrene, East End 500kV transmission line and was described as having a prehistoric, 2-room masonry structure with a series of 9 check dams. Studies were conducted at the site in 1978 and 1979 to recover and preserve artifacts and information as mitigation for the impacts of constructing the 500kV transmission line. The proposed relocation of the SRP Superior to Silver King 115kV line segment would not affect the remnants of that site.

The other previously recorded site mapped within the project area is site AZ U:12:218(ASM), a historic mining site that also was discovered during the survey for the SRP Silver King to Kyrene, East End 500kV transmission line and originally recorded as site NA 15692. When discovered, the site was interpreted as an ore crusher foundation, but based on a 1919 plat of the Gerald Cansler mining claim, the WestLand report interpreted the site as the remnants of a miner's cabin. The WestLand report recommended that the site be considered eligible for listing in the National Register of Historic Places under Criteria A and D for its association with the early mining boom in the Superior Mining District and for its potential to yield important information about historic mining in the region. (Because the criteria for listing in the National Register of Historic Places are identical to those for the Arizona Register, that evaluation is valid for review under the State Historic Preservation Act.) SRP plans to work with Resolution Copper to avoid disturbance of the site.

The WestLand survey also discovered the Silver King Road, which was designated AZ U:12:217(ASM). The road was developed sometime before 1948 to connect U.S. Highway 60 to the former mining boom town of Silver King, apparently replacing the older route that followed Silver King Wash between the Silver King Mine and a mill site in the town of Pinal. The original alignment of the road is west of the surveyed corridor within the Tonto National Forest and would not be affected by the proposed transmission line relocation. Because the segment of the Silver King Road in the project area was constructed long after the Silver King Mine and town were abandoned, WestLand recommended that the road be considered ineligible for the National Register.

WestLand also recorded 38 isolated occurrences of artifacts and features within the surveyed area. Only two of these occurrences are prehistoric; the other artifacts and features are historic and mostly associated with mining activities. The historic features include rock cairns, roads, trails, and pipelines, and the artifacts include bottle glass, a can, an aluminum pitcher, and a piece of sheet metal. WestLand recommended that all the isolated occurrences be considered ineligible for the National Register.

In addition to the cultural resources discussed in the WestLand report, the Superior to Silver King 115kV transmission line itself is of historic age and, as part of the SRP Eastern Mining Area transmission system, was previously evaluated as eligible for the National Register under Criterion A. Some "windmill" lattice structures along the transmission system also are considered eligible under Criterion C. To mitigate the

effects of past and future modifications of the transmission line system, SRP compiled Historic American Engineering Record documentation for the line [*Eastern Mining Area Transmission Line (The 115kV System), Gila County, Arizona,* HAER No. AZ-6-B, 1996, prepared by Leah Glaser]. We conclude that no additional documentation of the line itself is warranted.

By copy of this letter, I am sending your tribal staff reviewer a copy of the WestLand survey report titled *Salt River Project: Superior to Silver King 115kV Transmission Line Reroute, Pinal County, Arizona* for review. We look forward to your response, and would appreciate receiving your comments within three weeks of your receipt of this letter.

Once we complete and submit a CEC application, the Arizona Corporation Commission will schedule and announce the date(s) for a public hearing(s). If you have questions, you can contact me by email (rick.anduze@srpnet.com) or telephone (602-236-2804). Thank you for your cooperation.

Sincerely,

Richard A. Anduze
Senior Environmental Scientist
Biological and Cultural Resources Services
Environmental Management, Policy, and Compliance

cc: Gregory T. Glassco, Culture Research Department, Yavapai-Prescott Indian Tribe, 530 Merritt Street, Prescott, Arizona 86301-2038 (w/ enclosures)

☐ CONCUR

☒ CONCUR - NO CONCERNS

☐ SEE ATTACHED

Gregory T. Glassco April 18, 2012
YAVAPAI-PRESCOTT INDIAN TRIBE
CULTURE RESEARCH DEPARTMENT
COMPLIANCE OFFICER

EC14497.0312

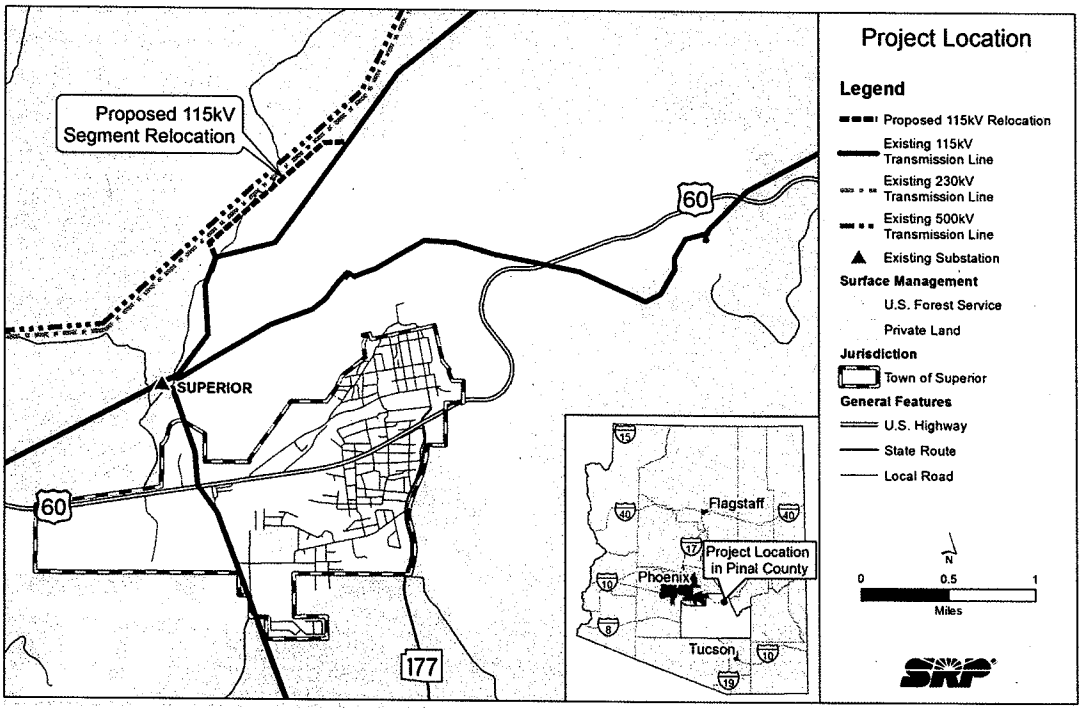
EXHIBIT J-6 NEWSLETTER

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

YOUR OPPORTUNITY FOR PUBLIC COMMENT

WHAT'S HAPPENING

SRP received a request from Resolution Copper Mining, LLC, ("Resolution") a private property owner and SRP customer, to relocate a portion of the existing Superior to Silver King 115kV transmission line, near the Town of Superior. The relocation would occur entirely on Resolution's private property and would accommodate development rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately one mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor (identified on the following map).



SRP is required to obtain a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission for this relocation. SRP would like to hear from the public regarding the relocation of this 115kV transmission line segment. Your input will be part of the environmental studies being conducted and included in the CEC application.

YOUR OPPORTUNITY – *WHEN, WHERE, AND HOW*

You are invited and encouraged to provide input on the Superior-Silver King 115kV transmission line relocation project. **Please join us at one of the following public open houses on April 17, 2012 in the Town of Superior:**

1:30-3:30 p.m.
Superior Senior Center
360 W. Main Street

6:00-8:00 p.m.
Superior Senior High School
100 Mary Drive

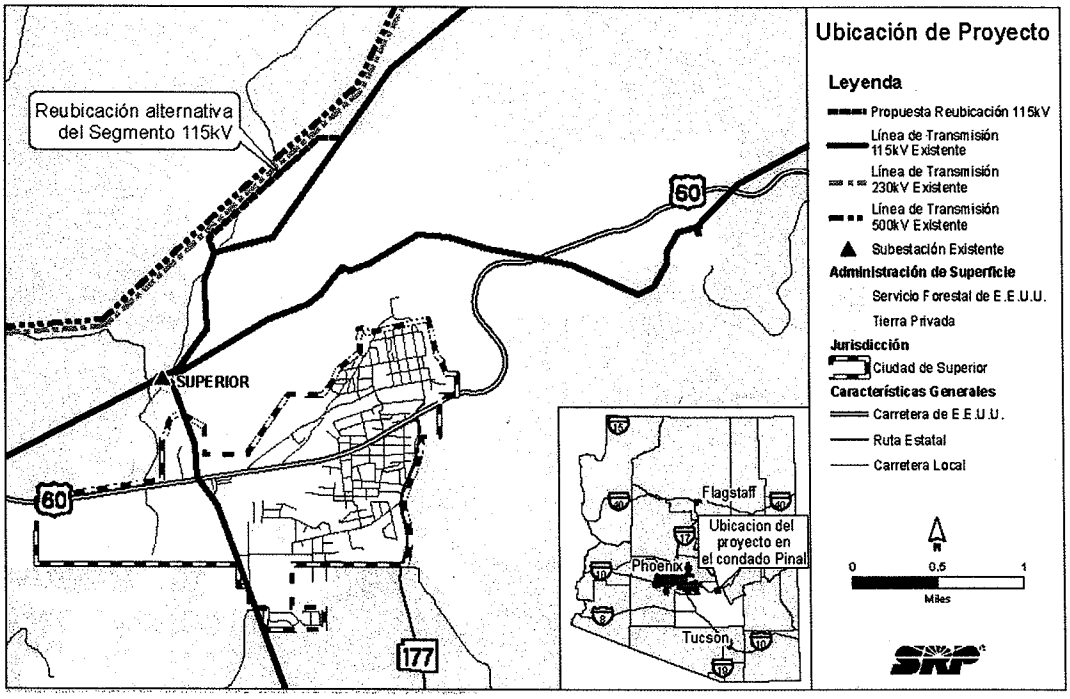
For additional information please visit the project website at www.azpower.org. Comments and questions also may be submitted via e-mail to webmaster@azpower.org or by phone at (602) 236-2872 or (800) 380-6123.

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

SU OPORTUNIDAD PARA HACER UN COMENTARIO PÚBLICO

¿QUÉ ESTÁ SUCEDIENDO?

SRP recibió una petición de Resolution Copper Mining, LLC, ("Resolution") un dueño de propiedad privada y cliente de SRP, para reubicar una porción de la línea de transmisión de 115kV entre Superior y Silver King, cerca de la ciudad de Superior. La reubicación ocurriría totalmente dentro de la propiedad privada de Resolution y ayudaría a prevenir que los almacenamientos de piedras terminen en pozos y en actividades de desarrollo subterráneos. Como respuesta a la petición de Resolution, SRP está proponiendo reubicar aproximadamente una milla de la línea existente de 115kV al noroeste, adyacente y paralelo a un corredor de línea de transmisión existente (identificado en el siguiente mapa).



Es requerido que SRP obtenga un Certificado de Compatibilidad Ambiental (CEC por sus siglas en inglés) de la Comisión de Corporación de Arizona para esta reubicación. SRP quiere escuchar las opiniones del público acerca de la reubicación del segmento de la línea de transmisión de 115kV. Sus comentarios serán parte de los estudios ambientales que se están llevando a cabo y que se incluirán en la solicitud del CEC.

SU OPORTUNIDAD – *CUÁNDO, DÓNDE, Y CÓMO*

Le invitamos y solicitamos sus comentarios acerca del proyecto de la reubicación de la línea de transmisión Superior-Silver King 115kV. **Favor de acompañarnos en una de las siguientes reuniones abiertas el 17 de abril, 2012 en la Ciudad de Superior.**

1:30-3:30 p.m.
Superior Senior Center
360 W. Main Street

6:00-8:00 p.m.
Superior Senior High School
100 Mary Drive

Para información adicional favor de visitar la página web del proyecto en www.azpower.org. También se pueden hacer comentarios y preguntas por correo electrónico a webmaster@azpower.org o por teléfono al (602) 236-2872 o (800) 380-6123.

EXHIBIT J-7 DISPLAY ADVERTISEMENT

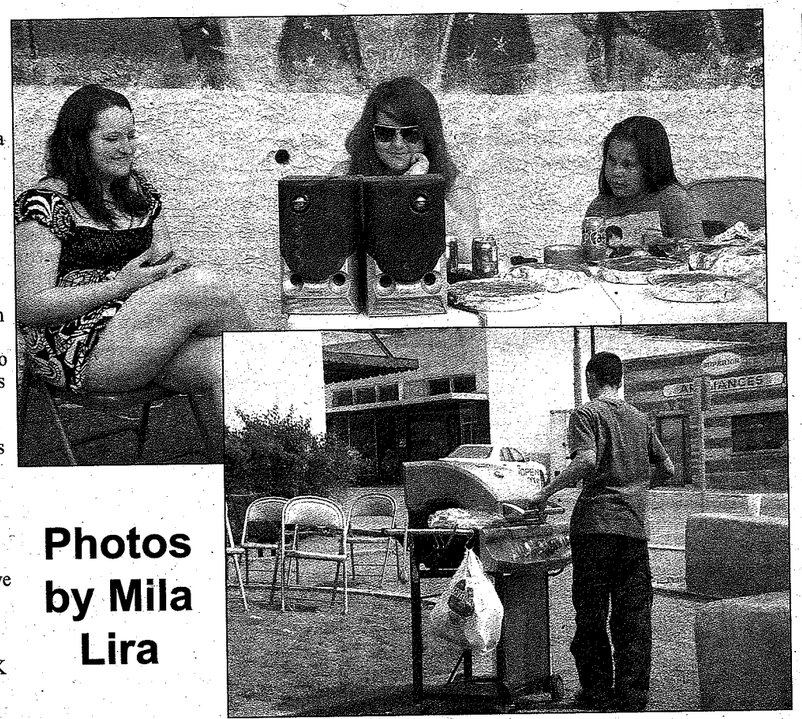
Easter in the Park a success for the 26th year

By Mila Lira

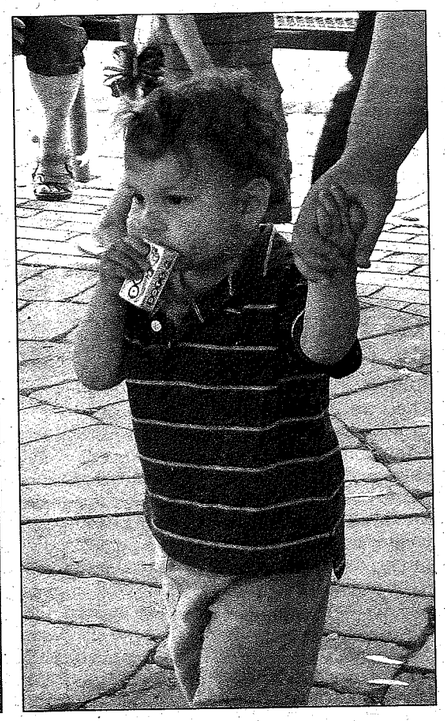
Families in Superior who were not out enjoying picnics and parties in the desert were treated to a fun filled Easter in the Park Saturday.

Parks and Recreation director Barbara Arriola worked hard to collect more than $1,000 in donations to make the event a success. The children were treated to an egg hunt with prizes for the person who collected the most eggs, a bonnet contest and a cake walk. The cakes for the cake walk were donated by Marie Aboud, Caitlyn Thompson and Sy Thompson. Vice Mayor Olga Lopez was also on hand to help get the event started and members of the Public Work Staff helped to cook the hot dogs.

Local businesses providing donations were: Save Money Market, Superior Head Start, Resolution Copper, Cindy Tracy, La Serna General Store, Southwest Towning, Edwardo's Pizza, Farmers Market, Rose's Roses, Copper Gecko, Something Fishy, Steve McNeely's, Rosati's in Gold Canyon, Eastern Buffet in Mesa, Safeway, Jade Grill, Porters Café, Nancy Jung, Felicia's Ice Cream Shop and Circle K of Superior.



Photos by Mila Lira



YOUR OPPORTUNITY FOR PUBLIC COMMENT

WHAT'S HAPPENING

SRP received a request from Resolution Copper Mining LLC ("Resolution"), a private property owner and SRP customer, to relocate a portion of the existing Superior to Silver King 115kV transmission line, near the Town of Superior. The relocation would occur entirely on Resolution's private property and would accommodate development rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately one mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor.

SRP is required to obtain a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission for this relocation. SRP would like to hear from the public regarding the relocation of this 115kV transmission line segment. Your input will be part of the environmental studies being conducted and included in the CEC application.

YOUR OPPORTUNITY — *WHEN, WHERE AND HOW*

You are invited and encouraged to provide input on the Superior-Silver King 115kV transmission line relocation project. **Please join us at one of the following public open houses on April 17, 2012, in the Town of Superior:**

1:30–3:30 p.m.
Superior Senior Center
360 W. Main St.

6–8 p.m.
Superior Senior High School
100 Mary Drive

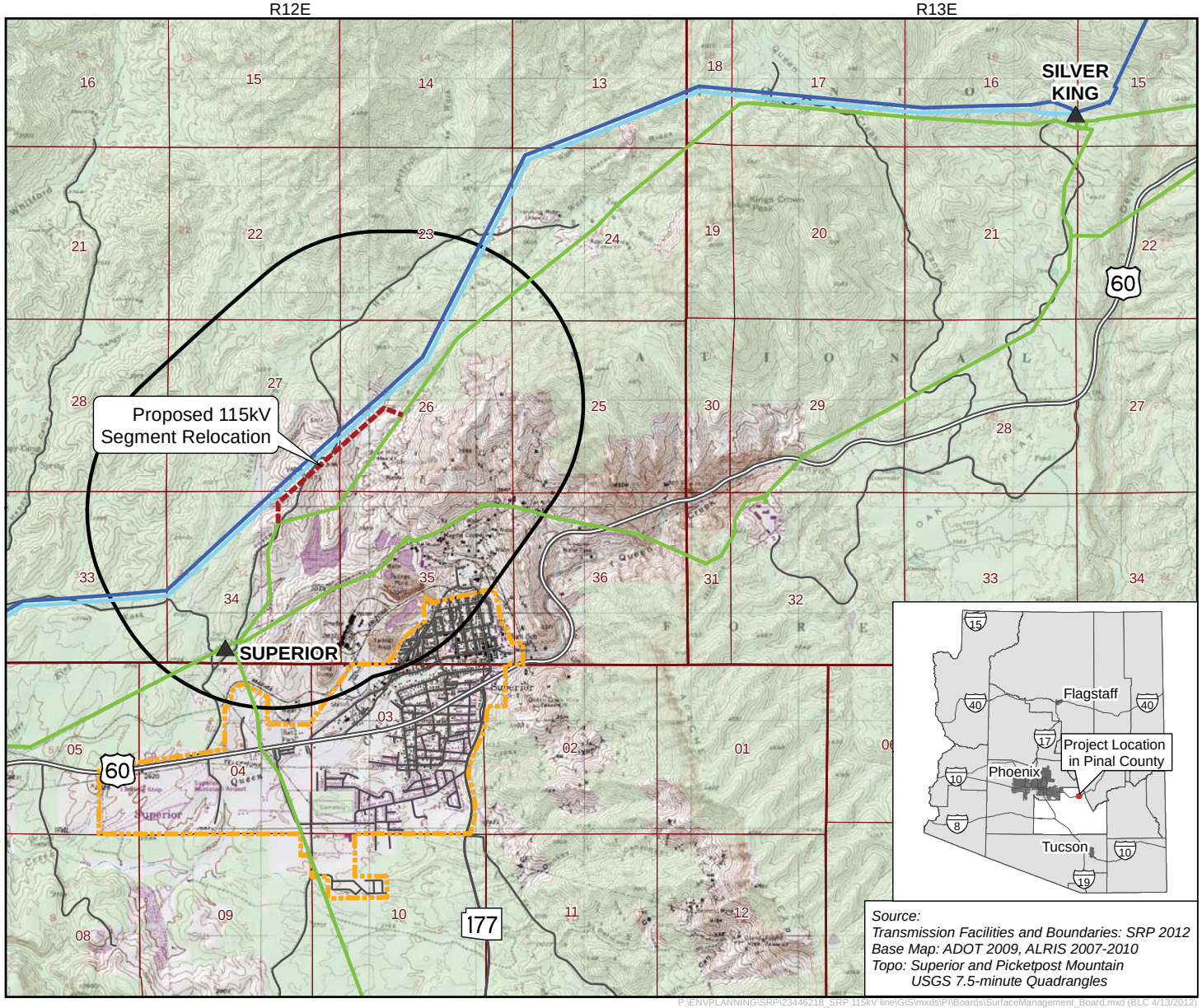
For additional information, please visit the project website at **www.azpower.org**. Comments and questions may also be submitted via email to webmaster@azpower.org or by phone at (602) 236-2872 or (800) 380-6123.

SRP
Delivering more than power.™

EXHIBIT J-8 OPEN HOUSE DISPLAY BOARDS AND COMMENT FORM

Project Description

- Responding to industrial customer request
- Relocate approximately one mile of existing 115kV line approximately 0.25 mile to the northwest *on private property*
- Line will be located adjacent to an existing transmission line corridor
- Requires a Certificate of Environmental Compatibility (CEC) from the Arizona Corporation Commission



Surface Management and Jurisdiction

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road
- Township and Range Boundary
- Section Boundary

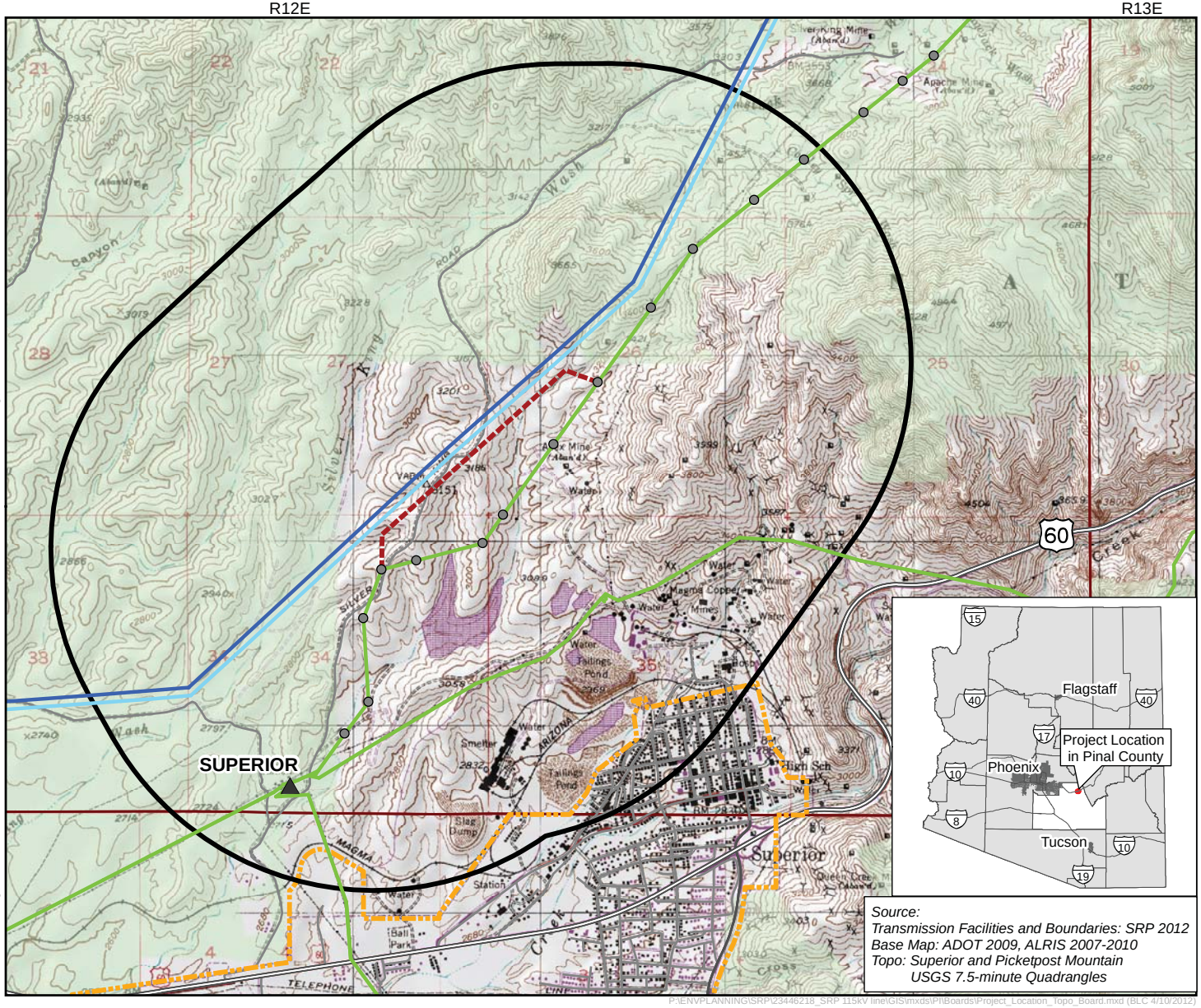
N

0 0.5 1

Miles

P:\ENVPLANNING\SRP\23446218_SRP 115kV line\GIS\mxds\PI\Boards\SurfaceManagement_Board.mxd (BLC 4/13/2012)

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT



Project Location (Topography)

Superior to Silver King
115kV Line Segment Relocation Project

Legend

- Proposed 115kV Relocation
- Study Area
- Existing 115kV Transmission Line
- Existing 230kV Transmission Line
- Existing 500kV Transmission Line
- Existing Substation
- Existing Transmission Structure

Surface Management

- U.S. Forest Service
- Private Land

Jurisdiction

- Town of Superior

General Features

- U.S. Highway
- State Route
- Local Road
- Township and Range Boundary

N

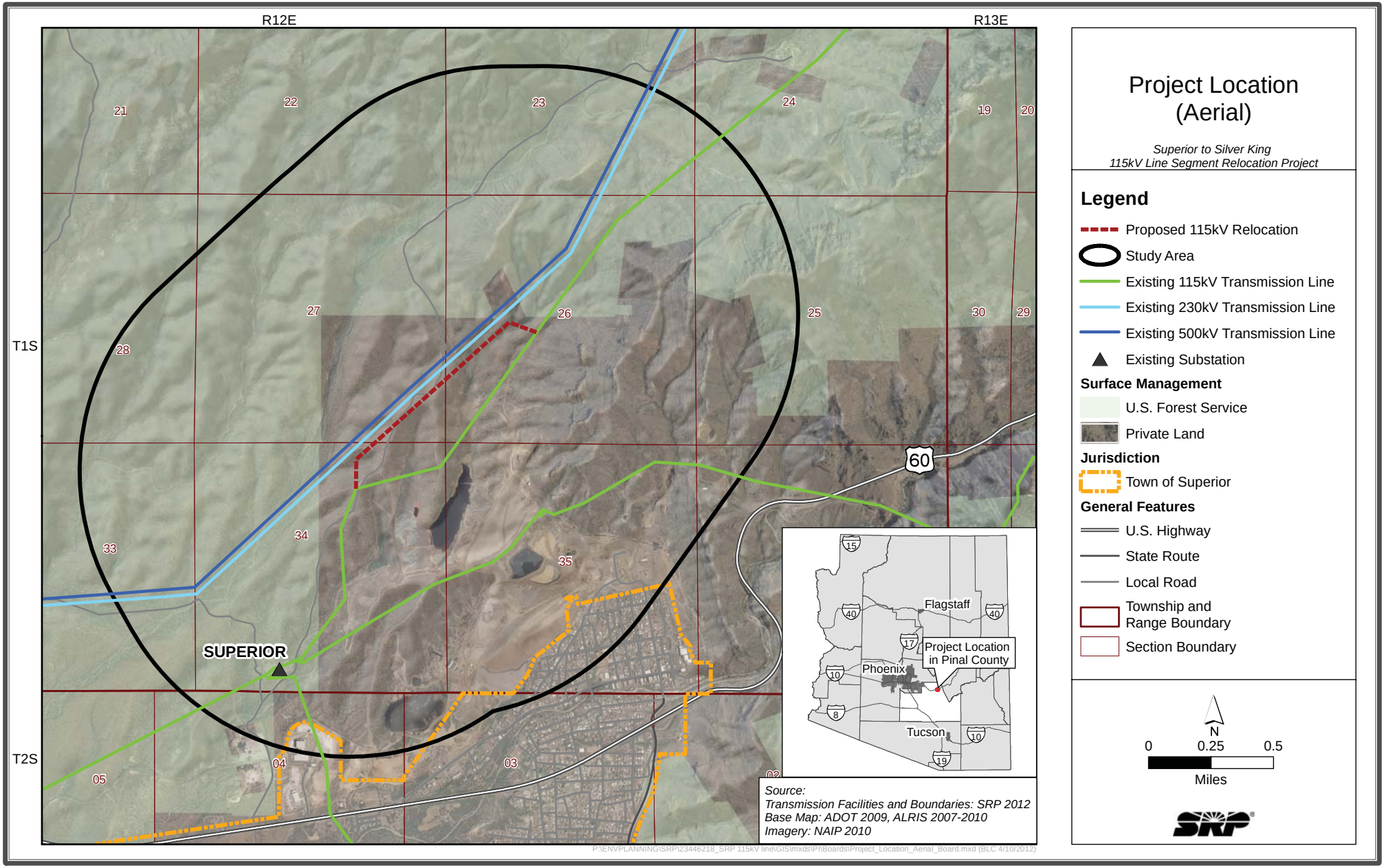
0 0.25 0.5

Miles

Source:
Transmission Facilities and Boundaries: SRP 2012
Base Map: ADOT 2009, ALRIS 2007-2010
Topo: Superior and Picketpost Mountain USGS 7.5-minute Quadrangles

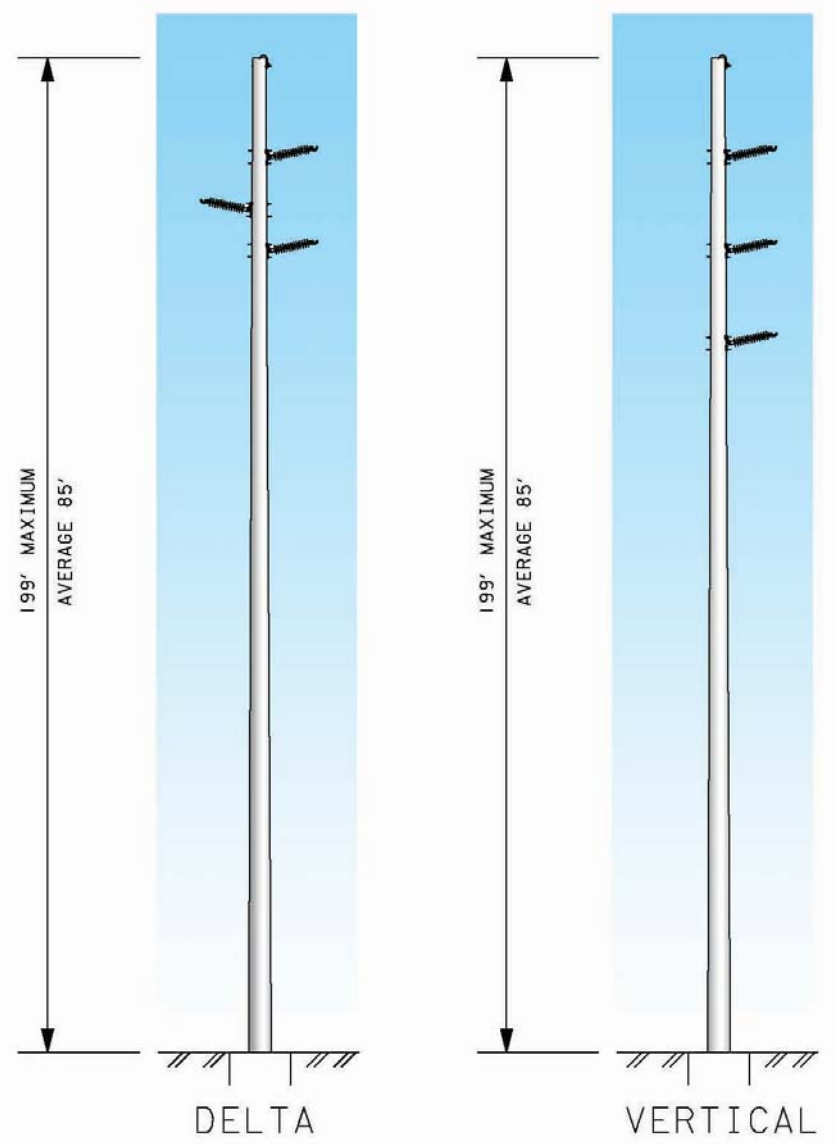
P:\ENVPLANNING\SRP\23446218_SRP 115kV line\GIS\mxds\PI\Boards\Project_Location_Topo_Board.mxd (BLC 4/10/2012)

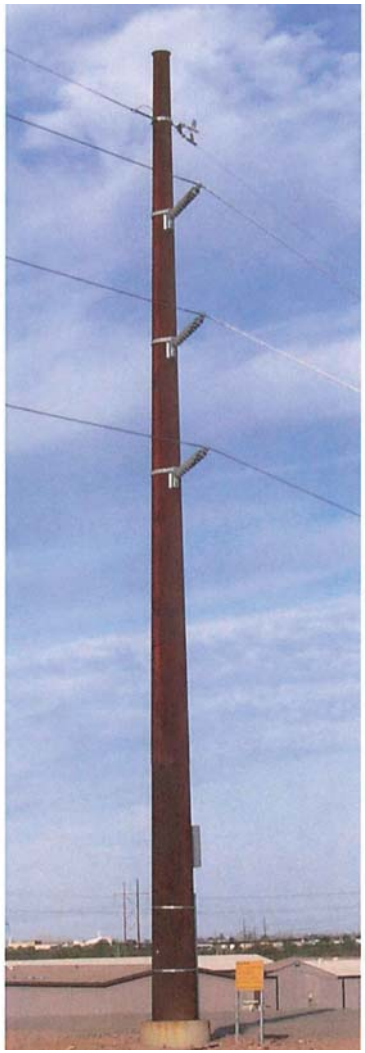
SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

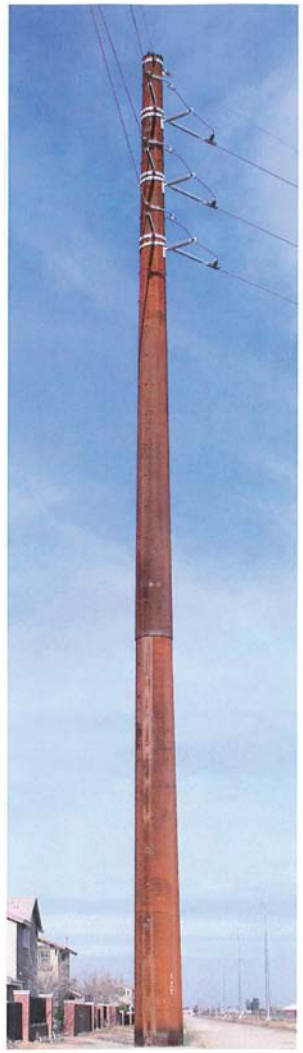


SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

Typical Structures







Environmental Analyses

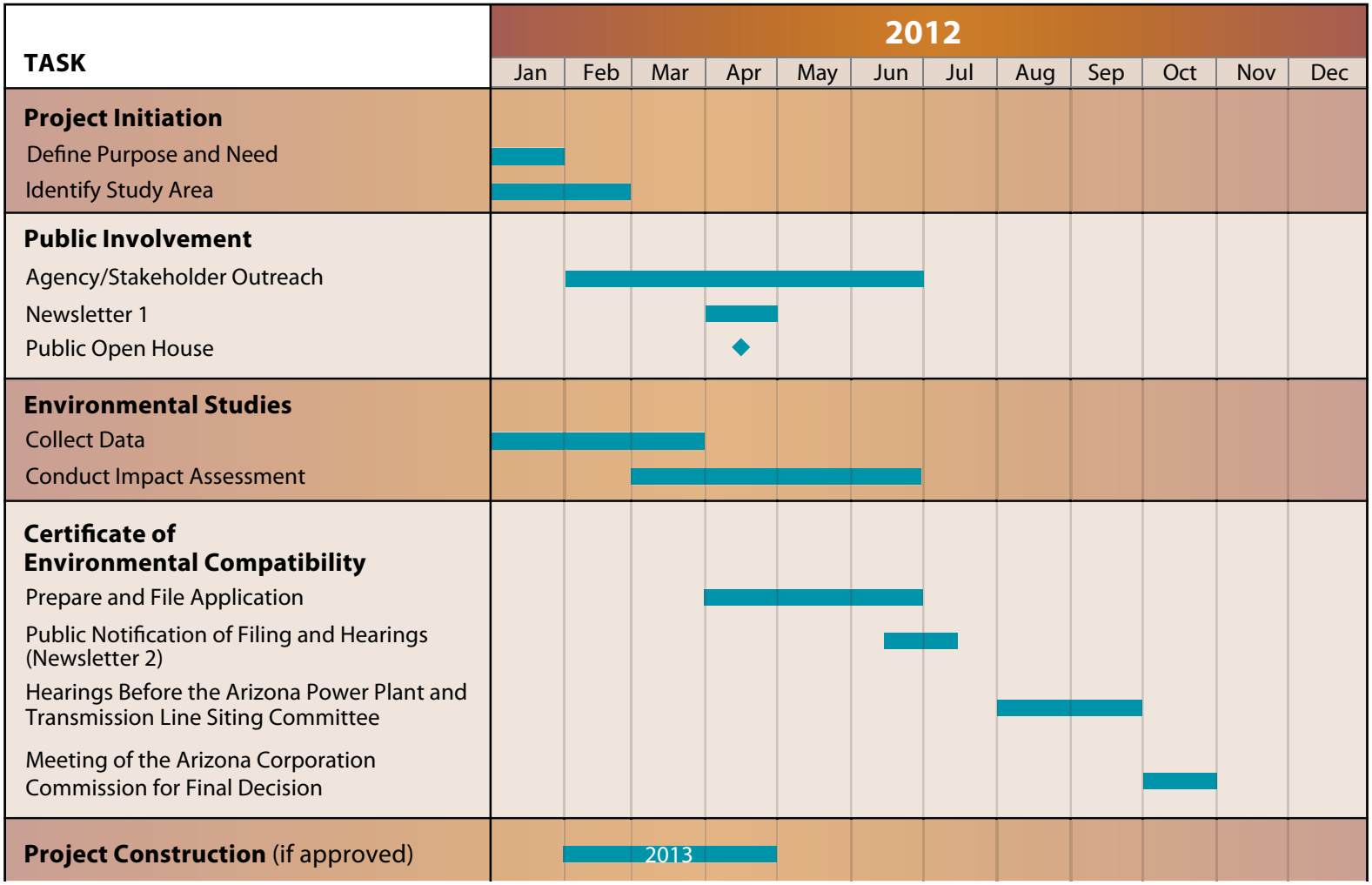
Existing and Future Land Use

Natural Resources (Vegetation, Wildlife, Wildlife Habitat)

Visual and Scenic Areas

Historical and Archaeological Sites

Project Schedule



Next Steps

- Submit application for a Certificate of Environmental Compatibility (CEC) to the Arizona Corporation Commission (ACC)
- Public hearing(s) on CEC application before the Arizona Power Plant and Transmission Line Siting Committee
- Siting Committee recommendation to ACC
- Open meeting and final decision by ACC

SUPERIOR-SILVER KING
115KV RELOCATION PROJECT

YOUR OPPORTUNITY FOR PUBLIC COMMENT

Por favor aproveché la occasion para hacer comentarios sobre este proyecto.

Your comments are important to us. Please take a few minutes to give us your input on the SRP Superior-Silver King 115kV Relocation Project.

COMMENTS / COMMENTARIOS:

For additional information please visit the project website at www.azpower.org. Comments and questions also may be submitted via e-mail to webmaster@azpower.org or by phone at (602) 236-2872 or (800) 380-6123.

NAME / NOMBRE: _____

ADDRESS / DIRECCIÓN PARA CORREO:_____

TELEPHONE / TELÉFONO:_____

E-MAIL / CORREO ELECTRÓNICO:_____

EXHIBIT J-9 SRP WEBSITE

Superior-Silver King 115kV relocation project

SRP received a request from Resolution Copper Mining, LLC, ("Resolution") a private property owner and SRP customer, to relocate a portion of the existing Superior-to-Silver King 115kV transmission line, near the Town of Superior. The relocation would occur entirely on Resolution's private property and would accommodate development rock storage from shaft sinking and underground development activities. In response to Resolution's request, SRP is proposing to relocate approximately one mile of the existing 115kV line to the northwest, adjacent and parallel to an existing transmission line corridor.

SRP required to obtain a CEC

SRP will submit an application for a Certificate of Environmental Compatibility (CEC) to the Arizona Corporation Commission later this year. Public comments will be included in the application as part of the environmental studies being conducted.

Public outreach

SRP held two open houses in Superior on April 17, 2012.

- Presentation from Superior open houses (PDF)

Maps

- Proposed project area map (PDF)

Contact us

Your comments regarding this project are welcome.

You may use our online comment form.

For more information about the project, please call (602) 236-2872 or (800) 380-6123.

Back to top