# D.7 Cultural and Paleontological Resources

## D.7.1 Regional Setting and Approach to Data Collection

This section discusses the cultural and paleontological resources located in the general area of the Proposed Project. Background information for the project area is provided (Section D.7.2 and D.7.3) along with a list of applicable regulations (Section D.7.4). Potential impacts and mitigation measures for the Proposed Project are outlined by segment in Sections D.7.6 and D.7.7. Project alternatives are addressed in Sections D.7.8 and D.7.9.

A cultural resource is defined as any object or specific location of past human activity, occupation, or use, identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, building and structural, and traditional resources (DSW EIR, 2005).

Archaeological resources include both historic and prehistoric remains of human activity. Historic resources can consist of structures (cement foundations), historic objects (bottles and cans), and sites (trash deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails.

Building and structural sites can vary from historic buildings to canals, historic roads and trails, bridges, ditches, and cemeteries.

A traditional cultural resource or traditional cultural property (TCP) can include Native American sacred sites (rock art sites) and traditional resources or ethnic communities important for maintaining the cultural traditions of any group.

Paleontology is the study of life in past geologic time based on fossil plants and animals and including phylogeny, their relationships to existing plants, animals, and environments, and the chronology of the Earth's history. A paleontological resource is a locality containing vertebrate, invertebrate, or plant fossils (i.e., fossil location, fossil bearing formation or a formation with the potential to bear fossils). The paleontological resources are considered a fragile and nonrenewable scientific record of the history of life on earth, and so represent an important and critical component of America's natural heritage.

Information for the Proposed Project and Applicant Proposed Alternatives compiled in the following section was gathered from the *Proponent's Environmental Assessment* (SCE, 2005) prepared by SCE and Environmental Planning Group, Inc. (EPG) for SCE, along with archaeological survey reports prepared on SCE's behalf for the: (1) West of Devers segments (Carrico et al., 2005a); (2) California segments of Devers-Harquahala (Carrico et al., 2005b; Carrico et al., 2005c); and (3) Arizona segments of Devers-Harquahala (Dobschuetz et al., 2004). Background research and archaeological surveys on other alternatives was conducted by Applied EarthWorks, Inc. (March 2006) in California and SWCA Environmental Consultants (2006) in Arizona.

## Data Collection Methodology

For the Proposed Project and project alternatives, records searches were conducted by SWCA in Arizona and Applied EarthWorks, Inc. (AE) in California. Record searches conducted include:

- The Eastern Information Center (EIC), Department of Anthropology, University of California, Riverside of the California Historic Resource Information System (CHRIS)
- San Bernardino Archeological Information Center (SBAIC), San Bernardino County Museum of the CHRIS
- Arizona State Museum (ASM)
- U.S. Bureau of Land Management (BLM)–Yuma Office and Phoenix Office

Record searches conducted at the above facilities consisted of a review of relevant historic maps, and excavation and survey reports. Site forms for recorded sites within a 0.5-mile radius of the project route and/or within one mile of the right-of–way centerline were copied.

Abundant cultural resources data for the Proposed Project were available in the archival facilities and in existing cultural resources reports as a result of previous studies conducted for the adjacent DPV1 Project. Intensive (Class III) cultural resources surveys and Native American consultation were completed in the early 1980s (Carrico et al., 1980; Carrico and Quillen, 1982) for purposes of constructing the DPV1 Project and issuance of a Right of Way Grant for the DPV1 Project and a second parallel transmission project (the current Proposed Project). At that time, archaeological sites that were to be affected by the DPV1 Project were evaluated for National Register of Historic Places (NRHP) eligibility. As well, data-recovery investigations were undertaken at NRHP-eligible sites that could not be avoided by construction.

In preparation for the Proposed Project, supplemental field surveys were conducted in order to verify the location of any previously identified cultural resources and to cover previously unsurveyed lands within Areas of Potential Effect (APE) within the approximately 128-mile, 400-foot-wide corridor from Devers to Harquahala and approximately 41.75-mile, 300-foot-wide corridor West of Devers. While the APE for the Proposed Project will be a small portion of these corridors (see discussion, below), cultural resources data were compiled for the wider corridors to enable siting of project towers, roads, and other facilities to avoid impacts to known cultural resources.

Field surveys are useful for identifying aboveground or surface cultural resources and for identifying high-probability areas. However, negative pedestrian survey results do not preclude the possibility that buried archaeological deposits could be discovered.

Intensive pedestrian field surveys in Arizona were conducted by Glenn Darrington, Ph.D. and Kris Dobschuetz in 2003. In 2005/2006 additional surveys were conducted by Eric Petersen, Heather West, Stephen Summers, and Shana McLaurin.

In California field surveys were conducted by K. R. Way, W. T. Eckhardt and L. M. Murone-Dunn (Carrico et al., 2005a; Carrrico et al., 2005c). In 2006 additional surveys were conducted for the California alternatives by Dennis McDougall, Charles Bouscaren, Kimberly Maeyama, Kurt McLean, and Joseph Farrugio (Applied EarthWorks, 2006).

## Area of Potential Effect (APE)

The APE is defined as all acreage that will be affected by new project development and areas of temporary construction activity. Table D.7-1 summarizes APEs for the Proposed Project.

Table D.7-1. Areas of Potential Effect (APEs) – Proposed DPV2 Project Route

| Resource/Site | Description | Amount of Potential Land Affected | Duration |
|---|---|---|---|
| Tower Sites | Footings and maintenance area for each new tower site. | 200 foot radius from each proposed tower site location | Permanent |
| Access Roads | Existing and new access roads will be used. | 18.1 total acres of potential disturbance | Permanent |
| Stub Roads | From access road to each new tower site. | 14' x 130' at every new tower<br>32.8 total acres of potential disturbance<br>(14' x 200' at 25 percent of new tower sites<br>2.8 total acres of potential disturbance – West of Devers) | Permanent |
| Pulling and splicing stations* | Activity related to construction of the transmission line | 1.1 acres every 3 miles<br>(0.6 acres every 3 miles – West of Devers) | Temporary |
| Batch Plant* | Facility related to construction of the transmission line | 2.0 acres, every 30 miles. | Temporary |
| Construction Yard* | Area for construction staging and storage. | 5.0 acres, every 40 miles | Temporary |
| Substations | Modifications to existing facilities and new facilities. | 44.0 total acres of potential disturbance | Permanent |
| Series Capacitor | One site in CA and one site in AZ. | 2 acres capacitor bank site<br>1 acre construction laydown area | Permanent<br>Temporary |
| Shunt Reactor Banks | Two new banks at existing locations | None. | N/A |
| New Structures (West of Devers) | Footings and maintenance area for each new structure. | 0.29 acres at every new structure<br>50.2 total acres of potential disturbance | Permanent |
| Telecommunications | New facilities at Harquahala Mountain and Blythe Optical Repeater | Telecom site – 0.75 to 0.5 acres each<br>Construction laydown area- 1 acre each | Permanent<br>Temporary |

* Locations of construction laydown areas and other temporary disturbance sites have not been determined. The results of the environmental documentation for this project will assist in location identification for these areas.

In Arizona, the APE includes 363 acres. In California, the Devers to Palo Verde portion of the Proposed Project includes 232 acres. The APE within the 10.75 miles of the Proposed Project route that traverses the Palo Verde Valley (from the east face of Palo Verde Mesa to the west bank of the Colorado River) has not yet been surveyed for archaeological resources due to access restriction issues. In California, the entire Devers to Vista Substation corridor (1,518 acres) was surveyed, even though the APE will be limited to small areas of direct impact. Direct impacts, including those resulting from towers, roads, and laydown areas had not been defined within this portion of the Proposed Project prior to the survey.

The APEs for the alternatives have not yet been defined because specific locations of project elements such as towers, stub roads, laydowns, and access roads have not been identified. For analysis of the potential effects of the various alternatives on cultural resources, wide corridors were surveyed to permit facility siting to avoid impacts to significant resources; the corridors analyzed for the Arizona and California alternatives are listed in Table D.7-2.

Table D.7-2. Analyzed Corridors – Alternative Routes

| Alternative | Survey Corridor |
|---|---|
| SCE Harquahala-West | 1.98 miles / 300 ft. width |
| SCE Palo Verde | 20 miles / 150 ft. to 600 ft. width |
| Harquahala Junction Switchyard | 40 acres |
| Desert Southwest Transmission Project | 9.5 miles / 300 ft. width, plus 80 acres |
| Alligator Rock–North of Desert Center | 11.8 miles / 500 ft. width |
| Alligator Rock–Blythe Energy Transmission | 4.6 miles / 200 ft. width |
| Alligator Rock–South of I-10 Frontage | 9.77 miles / 300 ft. width |
| Devers-Valley No. 2 | 41.33 miles / 200 ft. width |

## Arizona Findings Summary

Through field survey and archival research, EPG (Phoenix, AZ) identified 221 cultural resources in Arizona within one mile of the existing DPV1 corridor; EPG recommended that 22 of these were eligible for inclusion on the National Register of Historic Places (NRHP). The eligibility of a property for listing on the NRHP may be on nation, State, or local significance. Properties eligible for listing must demonstrate importance in American history, architecture, archaeology, engineering, or cultural tradition. Criteria for eligibility can be found in Section D.7.5.1 of this document. NRHP eligibility must be determined by the federal lead agency (under NEPA) in consultation with the appropriate State Historic Preservation Officer (SHPO). In some cases, NRHP eligibility was determined formally for archaeological sites within the existing DPV1 Project corridor. However, for the Proposed Project and project alternatives, NRHP eligibility has not been determined by the BLM or SHPO for the majority of known resources. Those determinations will be made formally if impacts to potentially significant resources cannot be avoided during project design. Therefore, this document offers NRHP recommendations for individual resources, based largely on surface observations, but does not make NRHP eligibility determinations.

Of the 22 sites recommended as NRHP-eligible, 15 were found to be within or adjacent to the APE and were revisited by EPG in 2003. In 2006 SWCA surveyed an additional nine sites also located within or adjacent to the APE for the Proposed Project that were either not evaluated in previous surveys, or were recommended in previous surveys eligible for listing on the NRHP. These sites were surveyed by SWCA and recommendations regarding eligibility are made in this EIR/EIS.

As detailed in later sections, many of the sites found in previous surveys have not been relocatable in more recent surveys. Of the sites that have been found, only one recommended eligible site was located within the Arizona APE of the tower sites, spur roads, telecommunications site and series capacitor for the Proposed Project. This site is within the Harquahala to Kofa Segment of the proposed project.

The APEs for other Proposed Project construction related activities/areas such as construction yards, pulling and splicing stations, and batch plants have not been determined. Locations of these activities/areas will be determined based on environmental documents associated with this project. Other recommended eligible cultural sites occur near or within the corridor and should be avoided during construction.

### Arizona Paleontology Summary

All three Arizona segments of the Proposed Project encounter paleontologically sensitive rock units. The units encountered vary in sensitivity from undetermined to high. The rock units traversed are discussed in the segment discussions in Section D.7.2.

### Arizona Alternatives

Two Class III cultural resource surveys of Arizona alternatives have resulted in the identification of eight cultural resources. Of these, one is recommended as eligible for listing on the NRHP. Because the areas of direct impact have not been identified for the alternatives, an APE has not been defined. Therefore, potential impacts to all recommended NRHP-eligible resources within the alternative corridors in Arizona are addressed in this EIR/EIS.

## California Findings Summary

Through intensive archaeological survey and archival research, Mooney/Hayes Associates, LLC (Carrico et al., 2005a) identified 83 cultural resources in California within and adjacent to the high-voltage transmission line corridor (14 sites West of Devers and 69 sites from Devers to the Colorado River). Of these resources, 48 were previously unknown and newly recorded (10 sites West of Devers and 38 sites from Devers to the Colorado River). All cultural resources were recorded or their records updated, including the six previously recorded sites that were not relocated during the current study. Of the 83 identified California sites, only 63 are near or within the APE of the Proposed Project and may experience direct or indirect impacts. Of those, two are listed on the NRHP and 33 others may be eligible for the NRHP or California Register of Historic Resources (CRHR) or would require additional investigation to determine eligibility.

In California, ethnographic research and consultation has identified one sensitive zone of interest to local Native Americans. Edom Hill, within the Indio Hills Complex, is traversed by the Proposed Project. Ongoing consultation between the BLM and local tribes will determine whether this sensitive area qualifies as a TCP.

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups regarding project effects on traditional cultural values. On October 24, 2005 the BLM invited 63 individuals and tribes to participate in project consultation, pursuant to the *Executive Memorandum of April 29, 1994* (see Appendix 8). It is BLM's intent to continue formal consultation with all respondents.

### California Paleontology Summary

All nine California segments of the Proposed Project encounter paleontologically sensitive rock units. The units encountered vary in sensitivity from undetermined to high. The rock units traversed are presented in the segment discussions in Sections D.7.2 through D.7.3.

### California Alternatives

Class III cultural resource surveys of five California alternatives have resulted in the identification of 41 cultural resources. Of these, 17 may be eligible for listing on the NRHP. Because the areas of direct impact have not been identified for the alternatives, an APE has not been defined. Therefore, potential impacts to all recommended NRHP-eligible resources within the alternative corridors in California are addressed in this EIR/EIS.

# D.7.2 Environmental Setting for the Proposed Project – Devers-Harquahala

## Natural Setting and Paleontological Background – Arizona

The Arizona portion of the Proposed Project lies within a broad continental physiographic division called the Intermontane Division, within which, five physiographic provinces exist: Salton Trough, Transverse Ranges, Western Mojave Desert, Eastern Mojave Desert, and Sonoran Desert. The boundaries for the physiographic provinces were modified during investigations by SCE in 1974 in the Eastern Mojave Desert. The following discussion has been adapted from the San Bernardino County Museum report (Scott, 2003).

The Sonoran Desert Province, which includes the eastern portion of the Proposed Project, lies to the south and east of the Eastern Mojave Desert Province (California) and extends into Mexico. Approximately 85 miles of the Proposed Project is located within the Sonoran Desert, which is characterized by discontinuous, subdued mountain ranges that trend northwest to northeast. The Granite Wash, Eagletail, Harquahala, and KOFA NWR mountains rise above alluviated desert plains within the Sonoran Desert Province. In general, the mountains have subdued topography, suggesting advanced stages of the erosion cycle.

The geological formations exposed within the study corridor were grouped into five basic categories for purposes of assessing paleontologic sensitivity: alluvium, non-indurated sedimentary deposits, indurated sedimentary rocks, igneous rocks, and igneous/metamorphic rocks. Rock units traversed by the Proposed Project have been described in the paleontology San Bernardino County Museum report prepared by Scott (2003) and are listed below.

- **Proterozoic Metamorphic Rocks.** These rocks, deposited more than 1.4 billion years ago, are comprised of a wide variety of granitics including granite, granodiorite, tonalite, quartz diorite, and gabbro.
- **Jurassic and Cretaceous Nonmarine Sedimentary Rocks**. These sandstones and conglomerates, deposited between 160 and 80 million years ago, rarely form prominent outcrops.
- **Undivided Quaternary Alluvium**. These sediments were deposited during the later Pleistocene or more recently, during the Holocene.
- **Pleistocene Older Alluvium**. These are older Pleistocene sedimentary units that have been repeatedly demonstrated to be highly fossiliferous.
- **Holocene Alluvium and Holocene River Alluvium.** This sedimentary unit, deposited more than about 10,000 years ago, may overlie older sedimentary rocks. Near the Colorado River these units are comprised of alluvium deriving from overbank activity of the river.

The Arizona segment of the Proposed Project is primarily located within the Sonoran Desertscrub biotic community, as defined by Brown (1994). Within this biotic community, two subdivisions of Sonoran Desertscrub and two series of the subdivisions are represented. These include the Creosotebush–White Bursage series of the Lower Colorado River Valley subdivision and the Paloverde–Cactus–Mixed Scrub series of the Arizona Upland subdivision. However, the eastern portion of the Proposed Project is located in an area where the native vegetation has been removed, and the area was converted to agricultural use. Additionally, the portion of the Proposed Project along the Colorado River and the Arizona-California border is located within the Sonoran Riparian Deciduous Woodland biotic community.

## Natural Setting and Paleontological Background – California

The Proposed Project area is located within the Sonoran Desert, which is located in the vast Colorado Desert Region. Within California, this area is composed of a chain of northwest to southeast trending mountain ranges intersected with broad alluvium-filled basins. Some of these ranges form a natural barrier between the greater Colorado Desert to the west and the Colorado River. Because much of the Proposed Project area is considered low-lying desert basin, elevations remain low. Coachella Valley has the lowest elevation at 100 feet (ft.) above mean sea level (amsl), while Chiriaco Summit reaches a mere 2,000 ft. amsl for the highest elevation. Average elevations along the Colorado River portions vary between 220 and 330 ft. amsl (Schaefer, 2003:13; Carrico et al., 2005c:9).

The California portion of the Proposed Project lies within the Salton Rift, a distinct geomorphologic feature consisting "of a massive graben formed by the interface of portions of the North American and Pacific plates. The San Andreas Fault and Transverse Range are the most prominent geomorphic features of this plate boundary (Schaefer, 2003:14). Ground water settles along these fault fractures and in some areas seeps to the surface to produce and support oasis environments (Carrico et al., 2005a:9). The Coachella Valley has been filled by enormous quantities of colluvial and alluvial sediments due to the ongoing movement within the Salton Trough. The series of great lakes, sometimes referred to as the Blake Sea, Lake LeConte, or Lake Cahuilla, have filled the Salton Trough with massive deposits of lacustrine sediments and miles of residual shoreline formations can be seen today (Schaefer, 2003:14). Even as the trough deepens, the Colorado River continues to fill it with sediments. Before the river was dammed, large amounts of sediment were deposited in the lower delta channels due to the slower flow of the river. Local flooding contributed to more sedimentation on the fan. The general height of the delta was raised and the stream channel margins were lowered due to continuous silt deposition. When large flood events occurred, an enormous freshwater lake would form from the result of "rapid filling of the Salton Trough by waters of the Colorado River. While they lasted, these lakestands became the center of flourishing plant and animal communities that in turn drew human groups from around the region" (Schaefer, 2003:15).

A variety of geologic rock units are traversed by the California portion of the Devers-Harquahala segment of the Proposed Project. These rock units, as described by the San Bernardino County Museum (Scott, 2003), are discussed below, in order from oldest to youngest.

- **Mesozoic Granitic Rocks.** Granitic rocks of several types and ages, primarily Mesozoic but possibly including some pre-Mesozoic rocks. These exposures of granite, quartz monzonite, alaskite, syenite porphyry, diorite and granodiorite have low potential to contain fossil resources.
- **Maniobra Formation.** These marine sandstones and siltstones in the northwestern Orocopia Mountains contain fossils dating to the early and middle Eocene Epoch (Jennings, 1967; Squires and Advocate, 1986; Squires, 1991). The Maniobra Formation consists of brown shales, sandstones, conglomerates and sedimentary breccias deposited on a crystalline basement. Near-shore facies appear to grade into deeper-water facies to the south and southwest.
- **Ocotillo Conglomerate.** The Ocotillo Conglomerate, which overlies the fossiliferous Palm Springs Formation, is a northern extension of the fossiliferous Ocotillo Formation, which in the Anza-Borrego Desert has yielded abundant fossils of mammoths, saber-toothed cats, ground sloths, short-faced bears, horses, camels, birds, reptiles and fish (Downs and Miller, 1994). No significant fossils have been recorded from exposures of the Ocotillo Formation in the Indio Hills or the Mecca Hills.
- **Cabazon Fanglomerate.** The Cabazon Conglomerate is a boulder conglomerate with abundant sand and silt along with some clay derived from the San Bernardino Mountains and transported by the Whitewater River. The formation may be temporally correlative with the Pleistocene beds of the San Timoteo Formation. This fanglomerate has been extensively folded, faulted and dissected, and so it is unlikely that it would contain fossil resources.
- **Pleistocene Older Alluvium (undifferentiated).** Older Pleistocene sediments throughout southern California and the Inland Empire have been repeatedly demonstrated to be highly fossiliferous (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer et al., 1998, 1999; Anderson et al., 2002).

- **Pleistocene Fan Deposits.** Like older Pleistocene alluvial sediments, Pleistocene fan deposits have frequently been demonstrated to be highly fossiliferous (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer et al., 1998,1999).
- **Holocene Alluvium.** This sedimentary unit, deposited more recently than approximately 10,000 years ago, is too young to have potential to contain fossil resources.
- **Holocene Dune Sand.** These windblown sediments are too young to have potential to contain fossil resources.

The Proposed Project tracks through the northern portion of the Colorado Desert Bioregion which comprises nine general "vegetation types including conifer, woodland, shrub, grassland, desert, urban, agriculture, barren, and water" (Carrico et al., 2005a:12). While the majority of the route crosses the desert, the Proposed Project will also pass through urban, agricultural and barren areas. Six floral communities are found within this Bioregion including: creosote bush scrub, stem-succulent scrub, semi-succulent scrub, desert dune sand plant, desert microphyll woodland, and alkali sink scrub (Carrico et al., 2005a:12, 13; Schaefer, 2003:17).

A wide variety of mammals, amphibians, reptiles, fish, insects, and birds are found within the Proposed Project area. The project area includes, but is not limited to, both common species (bighorn sheep, bobcats, owls, and mallards) and rare animals (desert tortoise, flat-tailed horned lizard, and desert pupfish) (Carrico et al., 2005a:13).

## Ethnographic Background – Arizona

Historically and today, the Native American populations of the lower Colorado and Gila River valleys are Yuman (Hokan speakers). The Protohistoric period begins with the Columbian encounter, the arrival of the Spanish in the New World. In the western desert of Arizona, the Protohistoric period is subsumed by Rogers' (1945) Yuman III. Early Spanish forays into the Lower Colorado River area were sporadic. The earliest Spanish presence in the area was that of Alarcón and Diaz in 1540 and Oñate in 1604-05. Kino was in the area between 1699 and 1700, followed by Sedelmary in 1744 and Garcés in 1775 and 1776. These early visitors report that conflict between local groups in the area was relatively common (Gilpin and Phillips, 1997). The earliest visitors report encountering the Quicoma, Coano, and Cumanas (Forbes, 1965). Later reports note that the Cocopa and Mohave were sedentary, while the Halyikwamai, Comeya, and Hagiopa visited the Colorado River seasonally. Gilpin and Phillips (1997:51) note that the Kohuana were in all reports prior to Kino's presence in the area.

### Maricopa

In the 1800s, the Kahwan, Halyikwamai, and Halchidhoma moved out of the Lower Colorado River valley into the Gila River valley joining the Maricopa. The Maricopa are an amalgamation of Yumans who moved into and shared a territory with the O'odham (Piman). This likely first occurred during late prehistoric and early protohistoric times. By the late 1600s, they appear to have been well established in the lower Gila River valley. The Opa Maricopa lived upstream from Gila Bend while the Kavechadom (Maricopa) lived downstream (Ezell, 1963; Gilpin and Phillips, 1997:53). The early Maricopa likely lived in small groups of households whose composition and locations were highly fluid. These groups had headmen and, at a higher-level, subchiefs and a paramount chief also existed. Other positions of authority and leadership included specialists like war leaders, curers, historians, and the keepers of calendar sticks. The Maricopa lifeway grew to include double cropping of agricultural produce, inten-

sive use of mesquite beans, making of basketry, weaving of cotton, paddle and anvil pottery making, and cremation of the dead (Gilpin and Phillips, 1997:54; Harwell and Kelley, 1983).

### Cocopa

The Cocopa were likewise visited by early Spanish explorers, and most likely Francisco de Escobar in 1604-1605 and Father Eusebio Kino in 1702 visited them. At this time they were living in the Colorado River delta beneath the confluence of the Colorado and Gila rivers. By the 1770s Father Francisco Garces had made two attempts to missionize the Cocopa, but both were unsuccessful. In 1826, Lt. R. W. H. Hardy visited the region; being quite likely the first English-speaker to encounter the Cocopa. The Gadsden Purchase of 1853 established an international boundary through the region occupied by the Cocopa; this, coupled with settlements by Euroamerican pioneers, brought the Cocopa into greater contact with outsiders, and many took up English or Spanish, depending on which side of the border they were living. In the second half of the nineteenth century, groups of Cocopa were living near Fort Yuma on either side of the Colorado River; at this time they became active in the river trade, providing steamboats on the Colorado River with wood for fuel. Many of them were utilized by steamboats because of their knowledge of the river delta and their skills as navigators. In 1917, government decrees gave the American Cocopa titles to three small parcels of land, totaling about 1800 acres, as a reservation. The American Cocopa remained largely isolated until the 1960s, when they organized, got help from private sources, and began to modernize their housing, construct tribal buildings, and revise their tribal constitution. They also began to reintroduce traditional crafts such as beadwork, and to revive many of their traditional songs and legends, as taught by the tribal elders. Today Cocopa continue to live on both sides of the U.S.–Mexico border (Alvarez de Williams, 1983).

### Colorado River Indian Tribes

The Colorado River Indian Tribes' (CRIT) reservation is located north of the Proposed Project. The Tribes represented on the reservation include four distinct Tribes — the Mohave, Chemehuevi, Hopi, and Navajo. There are currently about 3,500 active Tribal members. The CRIT Reservation was created in 1865 by the federal government for "Indians of the Colorado River and its tributaries," originally for the Mohave and Chemehuevi, who had inhabited the area for centuries. People of the Hopi and Navajo Tribes were relocated to the reservation in later years. The reservation stretches along the Colorado River, north of the Proposed Project, on both the Arizona and California side. It includes almost 300,000 acres of land, with the river serving as the focal point and lifeblood of the area. The primary community in the CRIT Reservation is Parker, Arizona, which is located on a combination of Tribal land, leased land that is owned by CRIT and land owned by non-Native Americans. There are other, smaller communities on the reservation, including Poston, located 10 miles south of Parker. (CRIT, 2006)

## Ethnographic Background – California

In California, the Proposed Project crosses through the ethnographic territories of the Cahuilla, Chemehuevi, Quechan, and Panya (Halchidhoma) people. The following paragraphs, from *Cultural Resources Inventory of the Proposed Devers to Palo Verde II 500kV Transmission Line, Riverside County, California* (Carrico et al., 2005a:14-16) provide a brief description of each group.

## Cahuilla

The Cahuilla are a Shoshonean-speaking group who inhabited a territory from the San Bernardino Mountains in the north to Borrego Springs and the Chocolate Mountains in the south, a portion of Colorado Desert west of Orocopia Mountain to the east, and the San Jacinto Plain near Riverside and the eastern slopes of Palomar Mountain to the west between A.D. 900 and A.D. 1500 (Bean, 1978:575). Cahuilla territory was bisected by the Cocopa-Maricopa Trail, one element in the Pacific Coast–Great Plains trading routes used by native people beginning in pre-Columbian times (Bean et al., 1978). Similarly, the territory was at the periphery of two other trail systems: the Santa Fe and the Yuman trails (Bean, 1978:575). Subsequently, the Cahuilla regularly interacted with neighboring tribes including the Gabrielino and Serrano (Bean, 1978:575).

The Cahuilla are composed of three subdivisions as determined by linguistic variation and geography: the Pass Cahuilla, the Desert Cahuilla, and the Mountain Cahuilla. Cahuilla society is organized into patrilineal, totemic, and exogamous moieties: the Coyote (Istam) and the Wildcats (Tuktum) (Kroeber, 1925:705; Strong, 1929:89). These moieties are further organized into clans and lineages associated with local places (Bean, 1981).

Cahuilla habitation coincided with the filling of Lake Cahuilla, a freshwater lake that provided them with numerous resources (Carrico et al., 1980:13). As the lake began to dry out approximately 400 to 500 years ago, however, Cahuilla moved into the nearby mountains and upper Coachella Valley around springs and water seeps.

Villages were situated in canyons or on alluvial fans, areas that provided adequate water and food sources as well as protection from strong winds (Bean, 1978:575). Group members left the permanent villages for specific purposes including trade, hunting, or gathering (Bean, 1978:575). The Cahuilla relied on hunting and gathering as a primary subsistence method; hunting rabbit and other small game and gathering acorns, mesquite and screw beans, pinon nuts, and cactus bulbs (Bean, 1978:578). In addition, Cahuilla practiced proto-agriculture where corn, beans, squash, and melon were harvested (Bean, 1978:578). Cahuilla utilized stone mortars and pestles, manos and metates, wooden mortars, baskets, pottery (small-mouthed jars, cooking pots, open bowls, dishes, and pipes), soapstone arrow straighteners, willow and mesquite bows and arrows, and numerous ceremonial instruments (Bean, 1978:578-9).

## Chemehuevi

The Chemehuevi are the southernmost group of the Southern Paiute (Bean et al., 1978:5-19). Archaeological data places the Chemehuevi population within the California deserts by the 1600s (Bean et al., 1978:5-19). This group is characterized as a true Desert Culture which exploited desert resources year round (Laird, 1976). Circa 1600 to circa 1830, the Chemehuevi occupied the region between the Cahuilla and the Halchidhoma (Carrico et al., 1980:13).

Chemehuevi rarely lived in permanent settlements; instead they based temporary habitation sites where food resources were available during a given season (Cowan and Wallof, 1977:27). Chemehuevi utilized numerous desert resources including deer, rabbits, rats, lizards, pinyon pine, honey mesquite, screwbean, yucca, mescal, cacti, and a variety of seeds (Cowan and Wallof, 1977:27). Resource areas were inherited within Chemehuevi culture, as was status (Cowan and Wallof, 1977:27). Post-1830, Chemehuevi settled along the Colorado River Valley on lands once controlled by the Panya (Halchidhoma) (Kroeber, 1925).

### Quechan

The Quechan occupied the Colorado River areas south of Panya (Carrico et al., 1980:14). The Quechan were known for their fighting disposition and frequently had conflicts with neighboring tribes over the fertile lands surrounding the river. Specifically, the Quechan joined with the Mojave to drive the Panya away from the river, consequently expanding their territory northward into the vicinity of Blythe, California (Bean et al., 1978:5-47; Forbes, 1965:323).

The Quechan people produced approximately half of their food supply through farming (Wullenjohn, 2004). The Quechan raised wheat, beans, corn, squash, and a variety of melons. The Quechan also relied on hunting, fishing, and gathering as supplementary subsistence methods. Rabbits, deer, and birds were hunted; however, fish from the Colorado River was the predominant source of animal protein. Similarly, bean pods of the mesquite and screw beans were gathered (Wullenjohn, 2004).

### Panya (Halchidhoma)

The Halchidhoma occupied the Palo Verde Valley area prior to circa 1830 (Carrico et al., 1980:14). They were a sedentary agricultural group, their diet supplemented by hunting, fishing, and gathering (Carrico et al., 1980:14). Main crops included corn, tepary beans, squash, and pumpkin (Castetter and Bell, 1951). The Halchidhoma were forced out of the Palo Verde Valley area by the Quechan and Mojave (Bean et al., 1978:5-10; Forbes, 1965:323). According to recent ethnohistorical research, the Halchidhoma and Maricopa were part of a single ethnic entity known as the Panya (Bean et al., 1978:5-38).

## Prehistoric Background – Arizona

The prehistory of western Arizona has been characterized a number of times, including Ezzo (1994), Ezzo and Altschul (1993), and O'Hara and Ezzo (2006); for DPV2, a culture history for the Arizona side was produced by Dobschuetz et al. (2004). Essentially, the discussion below for the San Dieguito and Amargosa complexes applies to the Arizona side of the project. Around AD 600, Hohokam influences are present, at least in the eastern portion of the Proposed Project in Arizona, which continued until European contact.

The Hohokam culture likely originated in northern Mexico and members of its tradition migrated north at a point in time that is still somewhat uncertain. More recently, the idea of a Hohokam presence on southern Arizona around AD 200 has been replaced by a later date, of around AD 600. This has been based largely on ceramic styles, settlement, and architecture (Deaver and Ciolek-Torrello, 1995). The Hohokam settled most conspicuously in the large river basins of southern Arizona, primarily the Salt-Gila and Tucson basins, where they developed an agricultural way of life based on the farming of Mexican cultigens and living in semi-subterranean structures. The evolution of village life included the presence of ballcourts, which tied a hierarchy of settlements together into multisite communities through ritual and economy (Fish and Fish, 1994). While settlements and population concentrated in the large river basin, the Hohokam spread through the southern half of Arizona and occupied a number of areas away from major watercourses, where they lived in smaller, more disturbed settlements and practices *ak chin* farming, a traditional means of capturing flowing rain water from ephemeral drainages. They also utilized *tinajas* (natural tanks in rocks where water collected) for their needs. Politically, socially, and economically, the Hohokam relied on a complex network of both kin and non-kin relations in the maintenance and development of communities. Kin relations helped to solidify institutional structures within settlements, whereas non-kin ties were critical for exchange and ritual activities that

occurred between settlements. By the Classic period (beginning AD 1150), significant changes in Hohokam behavior became apparent. Whittlesey (1999) describes this as a shift from a below-ground (people of the earth) to an aboveground (people of the sky) orientation. Ballcourts were abandoned, as were pithouses; aboveground masonry structures were constructed as living quarters, and platform mounds became the focus of ritual and ceremonial behavior. Sites became fewer and more densely occupied, and a general retraction in the Hohokam geographical range occurred, with greater emphasis on the Salt-Gila and Tucson basins.

## Prehistoric Background – California

The prehistoric cultural sequence within the DPV2 route in California has been summarized by Carrico at al. (2005a:13-14) as follows. Two major periods are represented: the San Dieguito/Mohave (10,000–1200 B.C.) and the Amargosa (1200 B.C.–A.D. 1200). The Paleoindian Horizon/San Dieguito Complex is subsumed within the Mohave I period, a period lasting between 10,000–4000 B.C. (Carrico et al., 1980:4-2,6). During this period, populations adapted to the cooler and moister conditions of the sub-Pleistocene environment (Carrico et al., 1980:4-6). "Populations are characterized as small, mobile groups, subsisting through a multiple foraging strategy with either an emphasis on a floral/faunal mixed strategy or primary faunal resources" (Carrico et al., 1980:4-6).

The San Dieguito Complex represents the oldest well-documented inhabitants of the project area who occupied the mesas, mountains, and deserts throughout the project region (Warren and True, 1961:252–253; Rogers et al., 1966). The San Dieguito Complex is divided into three distinct phases. San Dieguito sites are typically located high above existing water sources and are characterized by tool assemblages that include ovate bifaces, spokeshaves, bilateral notched pebbles, scraper planes, and chopping tools (Carrico et al., 1980:4-7; Rogers, 1939). San Dieguito II tool assemblages are similar to San Dieguito I; however, the artifacts are "more finely worked blades, somewhat smaller and lighter points, and a larger variety of scrapers and choppers" (Carrico et al., 1980:4-8). Lastly, the San Dieguito III phase "represents a morphological and typological change as indicated by an altered technology" (Carrico et al., 1980:4-8). A wider and more complex variety of tool types, including pressure flaked blades and points, and a refinement in tool manufacture characterize this phase (Carrico et al., 1980:4-8).

The Mohave II period, between 4000–1200 B.C., is often placed within the Milling Stone Horizon (Carrico et al., 1980:4-9). Environmental conditions fluctuated between warm and dry to cool and wet, to warm and wet to warm and dry during this period (Moratto et al., 1978:148–150). Settlement patterns were similar to earlier phases and related to the procurement of fluctuating and widely dispersed resources (Carrico et al., 1980:4-10). Pinto series projectile points characterize this period, along with blade knives, flake knives, drills, scrapers, gravers, stemmed flakes, serrated objects, chipped discs, cores, and utilized flakes (Carrico et al., 1980:4-10). Also, manos and metates appear, possibly indicative of the "collection and processing of seeds and other vegetal materials in contrast to the postulated dominant hunting pattern of the earlier periods" (Warren and Crabtree, 1979).

"The artifact assemblage associated with both the Amargosan periods can be generalized as possessing well-made corner notched points, milling stones, and manos, ground slate pendants and flake scrapers" (Kowta, 1969:43; Rogers, 1939:61–65). The Amargosa I occurred between 1200 B.C.–A.D. 600. A wide range of floral and faunal resources were exploited during this period by regionally specialized hunters and gatherers who used a more scheduled movement across various environmental zones (Carrico et al., 1980:4-11). Food sources including small game, nuts, seeds, and berries were utilized. Diagnostic artifacts include the Elko and Gypsum series projectile points, scraper planes, side-scrapers,

bifaces, and milling equipment (Carrico et al., 1980:4-11). The decrease in projectile point size at the end of this period suggests the introduction of the bow and arrow (Carrico et al., 1980:4-11). The Amargosa II period occurred between A.D. 600–A.D.1200 and is characterized by the increased presence of small diagnostic projectile points, possibly correlating to an increased use of the bow and arrow (Carrico et al., 1980:4-11). Further, milling implements continue to be present, and ceramics appear, possibly indicating contact with Southwestern cultures (Carrico et al., 1980:4-12). Diagnostic points include the Rose Spring, Eastgate, Desert Side-notched, and Cottonwood types (Carrico et al., 1980:4-12). Sites are typically situated near boulder clusters, water holes, springs, and rock shelters (Carrico et al., 1980:4-12).

## Historic Background – Arizona

The first European to explore the area was the Spaniard Francisco de Ulloa, a captain of Hernando Cortéz. De Ulloa sailed the mouth of the Colorado River in 1539. The next year Hernando de Alarcón sailed up to the river possibly as far as the modern town of Parker (Stewart, 1966:27). Alarcón was the first European to make contact with the River Yumans. Sixty-five years later, in 1604, Don Juan de Onate, the Spanish governor of New Mexico, mounted an expedition to seek out a supply route from the Gulf of California into New Mexico. Onate met with people who were probably Mojaves living in the Chemehuevi Valley, somewhere near the present location of the Lake Havasu Landing.

The first semi-permanent Spanish outposts in the area were the Yuma settlement and the Bicner Mission just to the north, both established in 1780. In 1781, the Yumans, tired of foreign hegemony, revolted, killed the priests, and plundered the missions (Walker and Bufkin, 1986). Lieutenant Colonel Pedro Gages led a punitive expedition to the area. They were rebuffed by combined Yuman and Mojave forces; therefore the Spanish were compelled to abandon their attempts to colonize the river (Forbes, 1965; Stewart, 1947).

The Mexican War of 1846-1848 was officially concluded by the Treaty of Guadalupe Hidalgo in 1850. This treaty secured much of the Colorado River Valley for the United States with the Gadsden Purchase of 1853 adding the area south of the Gila River. Subsequently, the United States sent a number of military expeditions to the area. Fort Yuma was established in California in 1849, abandoned, and then re-established in 1851.

Quartzsite, Arizona, was founded on the location of Fort Tyson, a private fort built by Charles Tyson in 1856 to protect the area from Indian raids. The nearby Tyson's Wells was a stage station on the road between Ehrenberg and Prescott. The opening of the Bradshaw Trail, a stagecoach running into the region from the east, in 1862, facilitated movement into the area. By 1877 the Southern Pacific Railroad had been completed, thus making movement into the area even more convenient, and the Bradshaw Trail was used sporadically afterward (WESTEC, 1980). A small mining boom in 1897 necessitated the opening of a short-lived post office in Tyson's Wells. Later the post office was reopened, though because of regulations prohibiting the re-use of names, Tyson's Wells, could not be used. At this time the town name Quartzsite was adopted.

The Kofa National Wildlife Refuge was established in 1939 and is managed by the U.S. Fish and Wildlife Service. The refuge encompasses 665,400 acres of desert that is home to a wide variety of plant and animal species, including the desert bighorn sheep and the California palm (the only native palm in Arizona). In the early part of this century, a number of mines were established in the mountainous areas of the refuge. One of the most notable was the King of Arizona mine. It gave the Kofa Mountains their name — "Kofa" being contracted from King of Arizona.

In the easternmost portion of the project area, the first Europeans to visit were a small party of Spaniards led by Antonio de Espejo in 1583. Another expedition in the early 1600s was led by Juan Marcos Farfan de los Godos, who explored this region of Arizona in search of great wealth purported to exist in and around the Hassayampa River. In both expeditions, the explorers met Yavapai and may have employed Yavapai as their guides. No further recording of contact exist until 1821, when the Mexican government granted a large tract of land in Nuevo Mexico to the heirs of the explorer Luis Maria Cabeza de Vaca; due to conflicting grants, however, they were unable to claim the land. In 1860 the U.S. Congress passed an act giving the Cabeza de Vaca heirs an opportunity to claim land in the New Mexico Territory, which later would become Arizona. They selected an area of approximately 92,160 acres south of the present town of Prescott.

In 1877, the founder of the settlement that was to become the Town of Buckeye led a party of six men, three women and ten children, from Creston Iowa, bound for Arizona. In 1887, Clanton and his family moved to Buckeye, becoming the first permanent Anglo residents. Clanton and Jackson envisioned a need for a town site near the center of the Buckeye Valley, so in 1888 the two, along with William "Bucky" O'Neil, who later became known as a famous Rough Rider, laid out the town site on a portion of the Clanton Homestead. The first post office in the area was established the same year. Advances in transportation put Buckeye on the map. In 1910, the Arizona Eastern Railroad came to Buckeye; the first car in 1911; a steam rail line connected it to Phoenix by 1912; and a State highway by 1915. The coming of the railroad was so significant that the business district was moved to accommodate the location of the railroad station. As a result, Buckeye was booming. By 1912, major buildings were constructed, along with expansion of the business community. Buckeye was incorporated in 1926 and included 440 acres.

## Historic Background – California

The historic context of the California portion of Devers-Harquahala has been summarized by Mooney/ Hayes, LLC (Carrico et al., 2005a:16-18) as follows. The story of the California deserts is one of intrepid explorers, high hopes, low fulfillment, and miles of arid lands with relatively sparse human populations (Bard, 1972). Until the post-World War II era of off-road vehicle use and easier access to desert recreation, mining, dry farming, cattle grazing, and transportation across the desert lands were the focus of settlement and land use. In general, these broad themes of mining, farming, livestock, transportation, and in the post 1940 era, military activities, form a major historical and cultural framework for understanding the history of the region (Warren and Roske, 1978).

Hernando de Alarcón sailed up the Colorado River in 1540 marking the first European entrance into the Arizona/California region. Alarcón stopped at a point near Yuma and did not travel far enough north to enter the study area. More substantial Spanish exploration began with the entradas of Father Jacobo Sedelmayr in 1744 when he traversed the area near what is now Blythe that was then controlled by the Haldhidoma. Almost 30 years passed before Francisco Garcés and his party in 1771 crossed portions of the study area and then returned again in 1776.

While the Spanish established trails and roads that served the San Diego area and the Los Angeles Basin by way of a southern route out of Yuma, Arizona, the study area was rarely traversed until after Mexican independence in 1821. Unlike the coastal areas and foothills of southern California, there were no Spanish or Mexican period ranchos or large-scale land grants established in the study area. José Romero and Juan Maria Estudillo crossed the area via Indio and the Colorado River (Bean and Mason, 1962). As was the case with many early Spanish, Mexican, and American overland routes, the famed Cocomaricopa Trail began as an Indian trail and later served as a mail route between Sonora Mexico and

Alta California and then later as the so-called Bradshaw Trail. Spaniards and Mexican travelers were content to travel across the study area and left no record of permanent settlements or outposts.

The Mexican-American War led to the takeover of Alta California by the United States and began a gradual increase in travel and commerce in the region. The California Gold Rush of 1849 affected the northern regions of the State but had little effect on inland areas of the south. Men with gold wanderlust poured into the gold regions of northern California by a variety of routes but very few tempted the dry and inhospitable passage across the Mojave and Colorado Deserts. Nonetheless, some small scale, limited mining took place within the study area in the 1860–1890 era as a result of strikes near Blythe. Individuals, rather than formal mining companies, eked out a living working claims in the La Paz and Castle Dome areas (Vredenburgh et al., 1981). One of these prospectors, William Bradshaw, established an overland stage route that linked the mining boom town of La Paz, Arizona with San Bernardino. Known as the Bradshaw Trail, the route followed ancient Cahuilla and Maricopa trails that linked wells and springs. Near the study area, a portion of the Bradshaw Trail crosses the Mule Mountains and Palo Verde Mesa near Blythe. A designated landmark, the Bradshaw Trail is managed by the Bureau of Land Management and is used by off-roaders and campers.

The coming of the railroads to the deserts would change the face of the region (Fickewirth, 1992). In the early 1880s the Atlantic and Pacific Railroad (now the Santa Fe Railway) completed its track system across the California desert (Myrick, 1962). The rail system included railroad sidings, water tanks, and section houses. These sidings and stations were given alphabetical names including Amboy, Bristol, Cadiz, and so on. Until the coming of paved roads and automobiles in the 1930s, the railroad served as the major transportation artery across the deserts.

With the rails came adventurous men who were convinced that fame and fortune lay in the next shovel full of glistening sand and gravel. The occasional small strike of gold or silver raised hopes that somewhere in the vast reach of the desert a mother lode awaited (Miller, 1968). The first major strike occurred in the Old Woman Mountains in 1898 and led to a boomlet that lasted until 1901. Tungsten, gold, and silver were coaxed from the soils in the Old Woman Mountains and the Chuckwallas (Bateman and Irwin, 1954). Some found riches in salt mining at Bristol and Danby Lakes in the first decades of the 1900s. Salt and gypsum mines coupled with iron deposits in the Eagle Mountains after World War II have been the most successful and enduring mining activities in the desert (Lomax, 1941). The Eagle Mountain Railroad was built in 1946-1947 and opened in 1948 to serve the Eagle Mountain (Kaiser Steel) Mine by linking it to the Southern Pacific Railroad at Duramid.

The advent of the automobile and trucks allowed for expansion of settlement and land use beyond the limited reach of the rail systems. By the 1930s washboard roads and hard packed trails supported hard rubber tires of gasoline and steam driven trucks and automobiles. Paved roads spread uncertainly from towns on the Colorado River such as Needles and Yuma towards their larger cousins in the inland valleys such as Riverside and San Bernardino. Notable settlements included Desert Center and Chambless, while others sprung up in the arid desert only to wilt away when major roads bypassed them or automobiles became more dependable and less likely to need a quick stop at a local service station.

Water has always played an important role in the development of southern California and the study area stood poised to support aqueducts, pumping stations, and canals. The construction of the Metropolitan Water District (MWD) aqueduct between 1934 and 1941 fueled a torpid economy in the midst of the Great Depression. Desert Center and Rice became boom towns and the roads rumbled with the sounds of trucks carrying supplies, food, and construction material. MWD established company towns at several of their pumping plants further changing the desert landscape. With the construction of Boulder

Dam in the 1930s and development of the hydroelectric facilities there, the stage was set for the first of many trans-desert transmission lines. Small settlements such as the one at Camino rose to service the budding electrical industry. The current proposed electric transmission lines are part of an industrial continuum that extends back more than 70 years.

Although of short duration (1942-1944) the development and use of General George Patton's Desert Training Center (DTC) had a significant effect on both the economy of the time and on the desert landscape. As is well documented by Bishoff (2000), the DTC served as the training grounds for-soldiers and equipment that were bound for the deserts of Africa and decisive victories over German forces there. The DTC spread over many square miles and included not only the semi-permanent operations facilities but also outlying tank training grounds, infantry camps, and outposts. Radiating out from the central command area, which is still marked with aligned and painted rocks, structural ruins, and airfields carved from the desert pavement, the archaeological record on the ground rapidly diminishes until it is represented by tank tracks, piles of rusting cans, and fox holes futilely resisting the desert sands.

In the postwar era, America embraced the automobile as never before. The boom years of the 1950s and early 1960s led to a new phenomenon, the off-road vehicle. Enamored with four wheel drive, powerful engines, and large tires, a new breed of American sped across the California desert. These off-road enthusiasts sought recreation and the sense of freedom that the wide-open spaces of the desert afforded. Magazines of the era including Desert Magazine and Off Roader extolled the virtues of relic collecting, visiting ghost towns, and penetrating the far-flung corners of the desert that would have been virtually unthinkable only a few decades before.

Taken as a whole the Euro-American period of history in the study area is dominated by transportation systems (roads, aqueducts, and transmission lines), by mining, and in the past 50 years by off-road vehicle use. The military, cattle ranchers, and the occasional farmer have left his or her mark on the desert too, but to a far lesser extent.

### D.7.2.1 Harquahala to Kofa National Wildlife Refuge

#### Cultural Resources

A Class I records search of the Arizona general project location identified 56 documented archeological studies in the area. Major studies used for the EIR/EIS include the studies done in 1972 (Kemrer et al.), 1977 (Stone), 1982 (Carrico and Quillen), and 2004 (Dobscheutz et al.) In previous surveys, 31 cultural resources were identified within or immediately adjacent to the transmission line corridor for the Harquahala to Kofa National Wildlife Refuge segment of the Proposed Project. Seven of these sites were located within the APE for this segment.

Only one site, AZ S:8:1, was located within the APE and may be eligible for listing on the NRHP. Site AZ S:8:1 is described as a large lithic scatter dispersed for 0.9 miles along the transmission corridor and within the footprint of four tower sites. It was first recorded in 1972 and was later revisited in 1982 and 2003. The site consists of rhyolite lithic debitage and was determined, in past studies, to be eligible for listing on the NRHP. Data recovery was performed on a portion of the site in 1979 and in 1982 both excavation and surface sample collection was conducted. Subsurface testing was conducted within the proposed tower locations and did not identify any subsurface remains. The site was revisited in 2003. A few surface artifacts were identified within two of the tower locations. These artifacts were similar to those collected and analyzed in 1982.

Owing to the lack of data potential and/or loss of integrity, the other six sites within the APE (AZ S:6:12 (rock feature site), AZ S:6:21 (lithic scatter), AZ S:7:1 (artifact scatter), AZ S:8:10 (lithic scatter and rock rings), AZ S:8:17 (lithic scatter & rock rings), and AZ S:8:20 (lithic scatter) appear to be ineligible for listing on the NRHP. Since these resources appear to be ineligible or non-existent, no further management of these sites would be recommended.

Four additional sites were located within or adjacent to the general transmission corridor but were not within designated APEs. Project activities that do not have a designated APE such as construction or maintenance of the transmission line could occur in the vicinity of these sites. Of these four sites, three seem to have a high potential to be listed on the NRHP and one has not been evaluated.

#### Paleontological Resources

The Harquahala to Kofa National Wildlife Refuge portion of the Proposed Project traverses a variety of rock units including Holocene alluvium and Pleistocene older alluvium. The paleontological sensitivity (defined in Section D.7.5.1) of the eastern portion of this segment (from MP E0.0 to MP E6) is undetermined. However, the Bouse Formation, which underlies the alluvium, has been known to produce Miocene invertebrates and terrestrial plants. The remaining portion of this segment (from MP E6 to the eastern edge of the Kofa National Wildlife Refuge) ranges from low to high sensitivity. High-sensitivity areas are those of Pleistocene older alluvium and Plio-Pleistocene alluvium. Low sensitivity areas are those of volcanic rock, Holocene alluvium, and Mesozoic granitics.

### Harquahala Telecommunications Site

The proposed Harquahala Mountain facility would be located on BLM land, approximately seven miles north of the Harquahala to Kofa National Wildlife Refuge transmission line portion of the Proposed Project in the Harquahala Mountains. There is an existing telecommunications facility owned, maintained, and operated by the Central Arizona Water Control District (CAWCD) at this site. An existing 10-mile dirt road leads to Harquahala Mountain. A temporary construction area adjacent to the new facility would be established for vehicle parking and material storage. This area would be fenced and gated. It is estimated that the temporary construction area would occupy approximately one acre and the permanent facility would occupy approximately 0.5 acres.

An intensive (Class III) cultural resource survey of the telecommunications site APE was completed by Dobscheutz (2006). The Harquahala Peak Observatory and associated interpretive displays are within 100 feet of the APE. The Observatory is listed on the NRHP as the Harquahala Mountain Smithsonian Solar Observatory, Site AZ S:3:1 (ASM), and is part of an NRHP district that includes six resources.

## D.7.2.2 Kofa National Wildlife Refuge

#### Cultural Resources

Previous archaeological surveys have identified 27 cultural resources within or immediately adjacent to the transmission line corridor for the Kofa National Wildlife Refuge segment of the Proposed Project. Three of these sites, AZ S:5:15 (lithic scatter), AZ R:8:52 (lithic scatter, rock ring & cleared circle), and AZ R:8:55 (artifact scatter, trails & rock ring), were located within the APE for this segment; however, owing to the lack of data potential and/or loss of integrity these appear to be ineligible for listing on the NRHP. In 1982 data recovery was conducted on sites AZ R:8:52 (lithic scatter, rock ring & cleared circle), AZ R:8:48 (temporary camp), and AZ R:8:55 (artifact scatter, trails & rock ring).

Mapping, surface collection and excavation were undertaken at each of these sites. Because these resources appear to be ineligible or no longer exist, no further management of these sites would be recommended.

Two additional sites, AZ R:8:51 (lithic scatter & rock ring) and AZ S:5:2 (temporary camp & rock ring), were located within or adjacent to the general transmission corridor but were not within designated APEs. Project activities that do not have a designated APE such as construction or maintenance of the transmission line could occur in the vicinity of these sites. Both of these sites appear to be eligible for listing on the NRHP.

### Paleontological Resources

The Kofa National Wildlife Refuge portion of the Proposed Project traverses a variety of rock units including Holocene alluvium, Pleistocene older alluvium, volcanic rock, Cretaceous nonmarine sedimentary rocks, and undivided Quaternary sediments. The paleontological sensitivity (defined in Section D.7.5.1) of this segment varies from undetermined to high sensitivity depending on the rock unit encountered. For example, volcanic rocks would have low sensitivity (low possibility of fossil occurrence) and the Pleistocene older alluvium has a high sensitivity.

## D.7.2.3 Kofa National Wildlife Refuge to Colorado River

### Cultural Resources

Previous archaeological surveys have identified 33 cultural resources within or immediately adjacent to the transmission line corridor for the Kofa National Wildlife Refuge to Colorado River segment of the Proposed Project.

Three of these sites, AZ R:7:53 (artifact scatter), AZ R:7:54 (trail), and AZ R:7:64 (trail), were located within the APE for this segment; however, owing to the lack of data potential and/or loss of integrity these appear to be ineligible for listing on the NRHP. In 1982 data recovery was conducted on site AZ R:7:53 in which mapping, surface collection and excavation were undertaken. Because these resources appear to be ineligible or no longer exist, no further management of these sites would be recommended.

Four sites, AZ R:7:66 (temporary camp–multicomponent site with prehistoric ceramics, historical structure, and 3 rock cairns), AZ R:7:61 (temporary camp & historical scatter), AZ R:8:42 (lithic scatter), and AZ R:8:49 (temporary camp), were located within or adjacent to the general transmission corridor but were not within designated APEs. These are included because project activities that do not have a designated APE such as construction or maintenance of the transmission line could occur in the vicinity of these sites.

### Paleontological Resources

The Kofa National Wildlife Refuge to Colorado River portion of the Proposed Project traverses a variety of rock units including Pleistocene older alluvium, volcanic rock, Cretaceous nonmarine sedimentary rocks, undivided Quaternary sediments, undivided Jurassic and Cretaceous nonmarine sedimentary rocks, and Plio-Pleistocene alluvium. The paleontological sensitivity (defined in Section D.7.5.1) of this segment varies from undetermined to high sensitivity depending on the rock unit encountered. For example, volcanic rocks would have low sensitivity (low possibility of fossil occurrence) and the Plio-Pleistocene alluvium and Pleistocene older alluvium from MP E93 to MP E101 have a high sensitivity.

## D.7.2.4 Palo Verde Valley (Colorado River to Midpoint Substation)

### Cultural Resources

A single prehistoric site (CA-RIV-1823) is located within this segment of the Proposed Project. Previous testing of CA-RIV-1823 recovered more than 100 sherds of Salton Buff ceramics and lithics.

Owing to lack of data potential and loss of integrity, site CA-RIV-1823 appears to be ineligible for listing on the NRHP or the CRHR. Therefore, no further management of this site would be recommended.

### Paleontological Resources

The area from MP E112.2 to MP E113.3 is designated as a High Paleontologic Sensitivity Area due to Pleistocene older alluvium sediments and the potential for encountering undiscovered fossil remains. All other areas along this segment were considered to have either a Low or Undetermined paleontologic sensitivity.

## D.7.2.5 Midpoint Substation

### Cultural Resources

A single prehistoric site (P33-14387) is located on the site for the proposed Midpoint Substation. Site P33-14387 is a cobble assay located within the footprint of the substation.

Owing to lack of data potential and loss of integrity, site P33-14387 appears to be ineligible for listing on the NRHP or the CRHR. Because this resource appears to be ineligible for NRHP or CRHR, no further management of this site would be recommended.

### Paleontological Resources

All areas at the Midpoint Substation are considered to have a Low paleontologic sensitivity.

## D.7.2.6 Midpoint Substation to Cactus City Rest Area

### Cultural Resources

A total of 46 cultural resources were located near or within the Proposed Project APEs. These include 17 historic structures or deposits and 29 prehistoric sites. Historic sites consist of:

- One historic foundation and associated debris (CA-RIV-7489)
- Two historic refuse deposits (P-33-13593 and P-33-13597)
- Two stacked rock cairns (P-33-13573 and P-33-13590)
- Twelve World War II–related sites (CA-RIV-1117H(a), CA-RIV-1117H(b), CA-RIV-1809H, CA-RIV-1810H, CA-RIV-7490, P-33-13588, P-33-13596, P-33-13598, P-33-13600, P-33-13601, P-33-13602, and P-33-13603).

Prehistoric resources include:

- One rock art site (CA-RIV-1383, which is listed on the NRHP)
- Two quarry sites (CA-RIV-1814, also listed on the NRHP, and CA-RIV-1819)
- Two ceramic scatters (CA-RIV-1817 and CA-RIV-1818)
- Eight trails and trail segments (CA-RIV-53T(c), CA-RIV-53T(d), CA-RIV-250T, CA-RIV-343T(b), CA-RIV-343T(c), CA-RIV-650T, CA-RIV-673T, and CA-RIV-1115)
- Eight lithic scatters (CA-RIV-1811, CA-RIV-1820, CA-RIV-7488, P-33-13571, P-33-13574, P-33-13578, P-33-13587, and P-33-13599)
- Eight prehistoric temporary encampments, rock rings, and procurement sites (CA-RIV-1018, CA-RIV-1813, CA-RIV-1815, CA-RIV-1816, CA-RIV-1821, CA-RIV-1822, P-33-13586, and P-33-13604).

Both of the sites listed on the NRHP, CA-RIV-1814 (the North Chuckwalla Mountains Quarry District) and CA-RIV-1383 (the North Chuckwalla Mountains Petroglyph District) are within the Alligator Rock Areas of Critical Environmental Concern (ACEC). Many of these sites have been previously impacted from the construction and maintenance of the existing DPV1 transmission line, illegal refuse dumping, and recreation access. Several sites have also been disturbed as a result of vehicle traffic associated with military activity from the operations of the World War II–era Desert Training Center (DTC/C-AMA).

Owing to lack of data potential and/or loss of integrity, several sites (P-33-13597, P-33-13573, P-33-13590, CA-RIV-1817 and CA-RIV-1818) appear to be ineligible for listing on the NRHP or the California Register of Historical Resources (CRHR). Because these resources appear to be ineligible for NRHP or CRHR, no further management of these sites would be recommended.

Four additional sites were located near the APE of this segment of the Proposed Project but were not within designated APEs and will not be affected by the Proposed Project. All four of these sites appear to have a low potential for NRHP eligibility.

### Paleontological Resources

The area from MP E176.5 to MP E177.4 is designated as a High Paleontologic Sensitivity Area due to Maniobra Formation (Eocene) sediments overlain in washes by Pleistocene alluvium sediments and the potential for encountering undiscovered fossil remains. All other areas along this segment were considered to have either a Low or Undetermined paleontologic sensitivity.

## D.7.2.7 Cactus City Rest Area to Devers Substation

### Cultural Resources

Within this segment of the Proposed Project, five cultural resources were identified. These include one sparse historic refuse deposit (P-33-13567), one prehistoric trail segment with an associated lithic scatter (P-33-13576), one prehistoric lithic scatter (P-33-13563), a small prehistoric ceramic scatter (CA-RIV-1118), and a prehistoric temporary encampment with associated artifacts (CA-RIV-1119). Most of these sites have been previously impacted by the construction and maintenance of the existing transmission line, illegal refuse dumping, and recreation access.

Owing to lack of data potential and/or loss of integrity, sites P-33-13567 and CA-RIV-1118 appear to be ineligible for listing on the NRHP or the CRHR. Because these resources appear to be ineligible for NRHP or CRHR, no further management of these sites would be recommended.

Four additional sites were located near the APE of this segment of the Proposed Project but were not within designated APEs. All four of these sites appear to have a low potential for NRHP eligibility.

### Paleontological Resources

Three areas along this segment are designated as High Paleontologic Sensitivity Areas. The first area from MP E192 to MP E192.5 contains Pleistocene older alluvium sediments and the potential for encountering undiscovered fossil remains. The remaining two areas between MP E201 and MP E201.9 and MP E202.8 and MP E206.4 are sensitive due to Pliocene nonmarine sediments (possibly the Palm Springs Formation) and the potential for encountering undiscovered fossil remains. All other areas along this segment are considered to have either a Low or Undetermined paleontologic sensitivity.

## D.7.3 Environmental Setting for the Proposed Project – West of Devers

### Natural Setting and Paleontological Background

While this portion of the Proposed Project area is decidedly more urban, it is similar to the Devers-Harquahala segment and composed of a chain of northwest to southeast trending mountain ranges intersected with broad alluvium-filled basins. The route travels from the deserts of Palm Springs and Desert Hot Springs through the San Bernardino and San Jacinto mountains to the city of Grand Terrace. Elevations vary from 487 ft. amsl in Palm Springs to 2,616 ft. amsl at the San Gorgonio Pass.

A variety of geologic rock units are traversed by the West of Devers segment of the Proposed Project. These rock units, as described by the San Bernardino County Museum (Scott, 2003), are discussed below, in order from oldest to youngest.

- **Canebrake Conglomerate.** During the late Miocene Epoch and the early Pliocene Epoch, the ancestral Sea of Cortez extended well northwards into California. This marine embayment extended as far north as Whitewater in the Coachella Valley, which indicates that the Salton Trough was already well defined during this time. Geologic formations exposed in this area record a gradual change to continental deposition as the Colorado delta developed. The marine waters of the Sea of Cortez were cut off from the Salton Trough by growth of the Colorado River delta, resulting in the closed basin present today. The deltaic deposits consist of interbedded sands, silts, clays, and pebble conglomerates. The Pliocene Canebrake Conglomerate is composed of these coarse basin margin facies.
- **Palm Springs Formation.** The Plio-Pleistocene Palm Spring Formation was deposited for the most part in a lacustrine, deltaic, or distal fan environment, and commonly consists of upward-fining sequences of conglomerate, sandstone, and siltstone. The lower Palm Spring Formation consists mainly of thickly bedded white to buff sandstones interbedded with thinner gray-green siltstones deposited in a deltaic to distal fan environment. The upper Palm Spring Formation is made up of poorly consolidated, buff to red-brown sandstone and siltstone, mudstone, and lesser amounts of conglomerate. This unit appears to represent a transition from deltaic to distal fan depositional environments, as the unit tends to coarsen upwards and is in gradational to angular unconformable contact with the overlying Quaternary Ocotillo Conglomerate.

- **San Timoteo Formation.** This formation is extremely fossiliferous. Fossil mammals recovered from the San Timoteo Formation include mastodon, horse, camel, antelope, dog, bear, rodent and rabbit. These vertebrate fossils are Pliocene or early Pleistocene Epoch in age, and are referable to the Blancan North American Land Mammal Age (Savage and Russell, 1983) and the early Irvingtonian NALMA (Savage and Russell, 1983; Reynolds and Reeder, 1986, 1991; Repenning, 1987; Albright and Woodburne, 1993; Albright, 1997, 2000). These fossils may have been deposited between 1.3 million years ago (mya) and 4.0 mya.
- **Cabazon Fanglomerate.** The Cabazon Conglomerate is a boulder conglomerate with abundant sand and silt along with some clay derived from the San Bernardino Mountains and transported by the Whitewater River. The formation may be temporally correlative with the Pleistocene beds of the San Timoteo Formation. This fanglomerate has been extensively folded, faulted and dissected, and so it is unlikely that it would contain fossil resources.
- **Pleistocene Older Alluvium (undifferentiated).** Older Pleistocene sediments throughout southern California and the Inland Empire have been repeatedly demonstrated to be highly fossiliferous (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer et al., 1998, 1999; Anderson et al., 2002).
- **Pleistocene Fan Deposits.** Like older Pleistocene alluvial sediments, Pleistocene fan deposits have frequently been demonstrated to be highly fossiliferous (Jefferson, 1991; Reynolds and Reynolds, 1991; Woodburne, 1991; Springer and Scott, 1994; Scott, 1997; Springer et al., 1998, 1999).
- **Holocene Alluvium.** This sedimentary unit, deposited more recently than ~10,000 years ago, is too young to have potential to contain fossil resources.

The Proposed Project area courses over several fault zones (including the San Jacinto Fault and the Loma Linda Fault) and four geological formations "consisting of recent alluvium, Mesozoic granitic rocks, Pleistocene nonmarine sedimentary deposits, and undivided Pliocene nonmarine sedimentary rocks" (Carrico, 2005c:6).

Within the project area, the natural environment is characterized by five vegetation communities including buckwheat, creosote, sumac or coast mixed shrub, scrub oak, and urban agricultural complex (Carrico, 2005c:5). A wide variety of mammals, amphibians, reptiles, insects, and birds are found within the Proposed Project area.

## Ethnographic Background

The following paragraphs from *Cultural Resources Inventory of the Proposed Vista to Devers Transmission Line, Riverside and San Bernardino Counties, California* (Carrico et al., 2005b:8-11) provide a brief description of the ethnography for the Vista to Devers transmission line route.

The Protohistoric/Shoshonean period occurred between A.D. 1200 and contact. This period is a continuation of the prehistoric Amargosan period, with similar subsistence strategies and settlement patterns (Carrico et al., 1980:4-12). Desert Side-notched and Cottonwood Triangular series projectile points are common, as are flaked stone tools, basketry, ground stone, and wooden items (Carrico et al., 1980:4-12). Local production of brown ware pottery and ceramic trade is also prevalent (Carrico et al., 1980:4-12). In addition, mortars and pestles, shell beads, and knife blades are common (Wallace, 1955; 1962:177).

"Ethnographic and ethnohistorical studies have identified the prehistoric and protohistoric populations in this area with historic Shoshonean speaking Cahuilla and Serrano" (Carrico et al., 1980:4-12). The Serrano and Cahuilla were highly mobile and utilitarian based societies (Bean, 1960; Kroeber, 1925; Strong, 1929). The Serrano were located north of the project area, while the Cahuilla were located south of the project area. These groups operated between the wetter oak-laden, higher elevations and the arid desert floor, and are characterized as central-based wanderer who hunted and gathered across several environmental zones (Carrico et al., 1980:4-14).

### Serrano

The Serrano are composed of four subdivisions on the basis of similarity of dialect: Takhtam, Kitanemuk, Alliklik, and Vanyume (Carrico et al., 1980:4-14). The Takhtam group occupied areas in the project including San Timoteo Canyon and San Gorgonio Pass (Carrico et al., 1980:4-14).

### Cahuilla

The Cahuilla are composed of three subdivisions as determined by linguistic variation and geography: the Pass Cahuilla, the Desert Cahuilla, and the Mountain Cahuilla. Within the project area, the San Gorgonio Pass and the adjacent San Gorgonio and San Jacinto mountains from San Timoteo Canyon to Whitewater were occupied by the Pass or Wanakik Cahuilla (Bean, 1960:115–116; 1981). Cahuilla society is organized into patrilineal, totemic, and exogamous moieties: the Coyote (Istam) and the Wildcats (Tuktum) (Kroeber, 1925:705; Strong, 1929:89). These moieties are further organized into clans and lineages associated with local places (Bean, 1981).

"In the canyon area north of Beaumont where the Little San Gorgonio Creek flows, the Ackit Wanakik had a settlement known as Akavat" (Bean, 1981:149–150). At the mouth of Banning Water Canyon was the territory of the Pisata Wanakik, a Shoshonean speaking Cahuilla affiliate (Bean, 1981:150). The area is also referred to as Pihatupiat and the lineage Pihatupayam (Benedict, 1924). Kroeber (1925) also includes the Tamukwvayam lineage, while Strong (1929) adds the Disatanavitcem lineage.

### Ethnohistoric Village

An ethnohistoric village site (CA-RIV-197) was reidentified during the current study at Bean's Pisata Wanakik location. This ethnohistoric village site is also referred to as San Gorgonio Ranch and the Banning Water Canyon site. The archaeological record received from the Eastern Information Center (EIC) includes additional informant information, including statements made by Isaac Morongo, on December 1, 1964 and January 13, 1965 to Francis J. Johnston. Isaac Morongo was a 70-year-old Native American living at the site locale, within the Morongo Indian Reservation. On December 1, 1964, Isaac Morongo stated the Tamukwvayam, Pihatupayam, and Disatanavitcem lineages were all Maringa (Johnston, 1965). "He claimed that they had been there a long time and also identifies himself as being in direct decent from Cio Morongo" (Johnston, 1965). Mary Mike Morongo, age about 67, another informant to Johnston, did not support Isaac Morongo's contentions regarding the Maringa lineages. On January 2, 1965, Mary Mike Morongo "noted that her mother was Nellie Morongo, her father Bill Mike from 29 Palms. She showed [Francis J. Johnston] 'My mother's house.' It was located in Banning Water Canyon about 50 yards north of where the Morongos now live" (Johnston, 1965). Isaac Morongo "identifies himself as Tamukwvayam, the place as Pihatupiat and confirms the historical presence of the Wanakik lineage there as well as his own" (Johnston, 1965). On January 13, 1965, Isaac Morongo "specified the area of Maringa occupation in the canyon as involving three oak trees now standing and including the present site of his cabin. He reported finding a portable mortar, now stolen, and a metate in his possession"

(Johnston, 1965). He also reports that there used to be many artifacts, though few are presently observable (Johnston, 1965). Isaac Morongo stated that "the Wanakik were there after the Maringas and lived in their site to the east along the wash from the above specified use area" (Johnston, 1965). He continues and states "that there are two Wanakik burials just to the east of his cabin. He claimed that there are no Wanakiks left on the reservation, that they are all dead now (contra claims of the other faction)" (Johnston, 1965). Isaac Morongo said clearly that "there is a difference in the language between the Wanakik and the Cahuilla" (Johnston, 1965).

The CA-RIV-197 site record also includes information regarding Spanish-Mexican contact with the site in 1823. "Lieut[enant] Don Jose Maria Estudillo writes on Dec[ember] 25, 1823, 'We continued [from the Serrano rancho of Yucaipa] following the same route east until 5:00 in the afternoon when we arrived at the last rancho, called San Gorgonio, and in the vernacular, Piatopa'" (Bean and Mason, 1962). Estudillo "gives the leagues from Yucaipa as ten (about 25 miles), and describes the place, 'At the entrance to the canyon of the northern mountains were the corrals for the cattle, and where there is a small Indian house, there is a dry arroyo. It has a little water in small pools. . .'" (Bean and Mason, 1962). "On the return journey, Jan[uary] 24, 182[4] he adds, '. . . the man in charge there, Juan Bermudez" (Bean and Mason, 1962). By the late nineteenth century, "Serranos had moved into the pass, having married into pass lineages" (Bean, 1981:150).

The ethnohistoric site (CA-RIV-197) was initially recorded by the University of California, Riverside in 1960. Francis J. Johnston conducted interviews of Isaac Morongo and Mary Mike Morongo during 1964 and 1965, though Johnston conducted a cursory survey of the area during the interviews and failed to observe any artifacts. A later survey in 1969 failed to reveal the site's presence. The current study conducted by Mooney/Hayes Associates, LLC resulted in the reidentification of a portion of the site on the Morongo Indian Reservation in Riverside County. The southern boundary edge is approximately 95 meters from the northern edge of the proposed Vista to Devers transmission line corridor. Materials observed during this reconnaissance included a brownware sherd, a granitic metate fragment, a scatter of glass fragments, 1-gallon cans, a 2½-gallon can, a small grease gun, a wheelbarrow wheel, and various pieces of light-gauge sheet metal. The site was believed to extend some distance to the north, but this was not addressed under the parameters of the current study. The site has undoubtedly been disturbed by erosion and deposition associated with the Banning Water Canyon Creek, as well as human access.

## Prehistoric Background

Section D.7.2 of this report describes the prehistoric background for the California Devers-Harquahala sequence, which can be applied to the West of Devers sequence as well.

## Historic Background

The following paragraphs from *Cultural Resources Inventory of the Proposed Vista to Devers Transmission Line, Riverside and San Bernardino Counties, California* (Carrico et al., 2005b:11-13) provide a brief description of the historic context for the Vista to Devers transmission line route.

"Beginning in the mid-16th century, Spanish explorers forged trails across the southwestern United States as far west as the lower Colorado River" (Ashkar et al., 2000:16). One of the first major Spanish excursions into southern California occurred when Father Francisco Garcés entered the Imperial Valley from Sonora, Mexico, in 1771 (Beck and Haase, 1988:15). Garcés established El Camino del Diablo, a principal route that entered present day Imperial County from Mexico, crossed western Riverside County

and the southwestern corner of San Bernardino County and on into Los Angeles County. Garcés made another trip through southern California in 1774 when he crossed the Mojave Desert in San Bernardino County (Beck and Haase, 1988:15). Another early explorer was Juan Bautista de Anza, who made a trek similar to that of Garcés' 1771 route (Beck and Haase, 1988:15). Between 1776 and 1781, the Anza Trail was utilized by an estimated 35 to 50 percent of the colonists who settled in California (Beck and Haase, 1988:15).

"As a result of these expeditions, and others along the coast, the Spanish succeeded in establishing a tri-partite colonization system consisting of missions, presidios, and pueblos that lasted from 1769 to 1822" (Ashkar et al., 2000:16). "By the early 1820s, EuroAmerican traders and trappers had also journeyed into Southern California" (Ashkar et al., 2000:16). Mexico achieved its independence from Spain in 1821 and eventually the Secularization Act of 1833 gave the Mexican governor in California the power to distribute mission land in the form of grants (Ashkar et al., 2000:16). In western Riverside County, 16 land grants were distributed, including the San Gorgonio rancho located near the proposed Vista to Devers transmission line project area (Ashkar et al., 2000:17).

Two of the earliest settlers within the project area were Daniel Sexton and Pauline Weaver in 1841 or 1842 (Carrico et al., 1980:4-79). The pair traveled north from San Gorgonio Pass and into Edgar Canyon (present-day Little San Gorgonio Creek) within the San Gorgonio Rancho (Carrico et al., 1980:4-79; Smith et al., 1982:12). There they set up a primitive sawmill that operated for several years, with local aborigines amicably supplying labor for the mill (Ingersoll, 1904:357). Both men were offered land and timber in the area by the Mexican authorities because the San Bernardino Valley interests wanted to defend against incursion from desert aborigines, but both refused the offer (Carrico et al., 1980:4-79). Further, no significant aboriginal raids were ever launched through the San Gorgonio Pass (Carrico et al., 1980:4-79).

Pauline's brother, D. G. Duff Weaver, another early settler in the region, arrived in California in 1849 and settled in San Timoteo Canyon in the early 1850s (Smith et al., 1982:12). "In 1853, William P. Blake, geologist for the Williamson railroad expedition, passed by Weaver's house and described the area as follows, 'We camped in a wide grassy valley, without trees, within sight of a solitary house on a slight eminence, known as Young Weaver's" (Blake, 1956:89; Smith et al., 1982:12).

The San Timoteo Canyon was a common travel route both prehistorically and historically. The route being surveyed by Blake in 1853 eventually became the Southern Pacific Railroad, which was completed through the canyon in 1870 (Frink, 1936). In San Bernardino County, one of the communities the railroad passed through was Colton, a city established in 1873 and located at the western edge of the proposed Vista to Devers project area. Colton grew to become a major station along the line (Ashkar et al., 2000:19). The railroad initiated the development of several small railroad communities, including El Casco and Cabazon, both located near the transmission line corridor project area (Ashkar et al., 2000:19). Likewise, shipping station towns developed, including San Gorgonio, a cattle shipping station also located near the project area (Ashkar et al., 2000:19). The Southern Pacific Railroad is situated north and roughly parallel to the Proposed Project corridor and crosses the project area near the tract between San Jacinto and San Gorgonio. The Railroad then runs roughly parallel and south of the project area.

The southern transcontinental line, also known as the Sunset Route, was completed on January 12, 1883 and soon after provided passenger service from New Orleans, Louisiana through southern California and into San Francisco, California (Southern Pacific Company, 1955:18–25). The railroad created an even greater influx of people into southern California. As people moved in greater numbers to southern

California, the increasing interest in agriculture created a growing requirement for water. Irrigation systems and canals began to appear in the late 1800s to irrigate the arid West.

Construction of a canal in the 1870s to supply water within the City of Riverside was very successful and the town expanded and flourished. Matthew Gage seized on the interest in agriculture and the success of the earlier canal and began construction of the Gage Canal, a feature that courses through the Proposed Project area. Gage completed construction of the first 11.9 miles of the Gage Canal in 1886 (Scott, 1976). A second 8.2-mile segment was completed in 1888 (Scott, 1976). Subsequently, the canal played an important role in the development of the Riverside area. The canal was reidentified during the current study, although, at this location, the original canal has been modified to the extent that there is little or no archaeological value to the resource, the open concrete-lined ditch having been replaced by a subterranean pipeline and a more elaborate system that involves siphons to bypass the natural gravitational flow of the original waterway.

Another water conveyance system, the Cabazon Land and Water Company irrigation ditch, was built in 1887. A portion of this canal also bisects the proposed Vista to Devers transmission line corridor and was reidentified during the current study. The canal represented a critical element to the development and growth of agriculture and commerce in the Cabazon/Banning area during the late 1800s and early 1900s. Presently, the canal is out of service and partially filled in. The historical Cabazon irrigation ditch is approximately 20 feet west of the present-day aqueduct that runs parallel along the same route.

As populations continued to swell, homesteads and ranches continued to appear throughout southern California. An example is the Vanderventer Ranch site (CA-RIV-2262H) that is visible on historic maps as early as 1896 as "Vanderventer's Barn." The southern portion of this ranch site is situated within the proposed Vista to Devers transmission line corridor and was reidentified during the current study. The ranch is said to have been built by Byron Vanderventer (Smith et al., 1982:16). The ranch was sold to Charlie Singleton at a later unknown date. The site was abandoned around 1967, and has been substantially vandalized since that time.

Following the second World War, private cars and trucks began replacing railroads and other forms of public transportation as the primary means of people moving into southern California. Modern interstate highways, including Interstate 10 located near the project area, were funded during the 1950s and continue to bring people into southern California.

## D.7.3.1 Devers Substation to East Border of Banning

### Cultural Resources

The historic Cabazon Land and Water Company irrigation ditch or conduit (P-33-007888) represents the single significant cultural resource that bisects this segment of the Proposed Project. However, an isolated rhyolite flake (P-33-13433) found within the vicinity of this segment was previously recorded.

An additional site was located within the corridor of the Proposed Project but is not within a designated APE. This site appears to have a no potential for NRHP eligibility.

### Paleontological Resources

All areas along this segment are considered to have a Low paleontologic sensitivity.

## D.7.3.2 Banning and Beaumont

### Cultural Resources

This segment of the Proposed Project contains five cultural resources. These include one prehistoric site and four historical structures or sites. The single prehistoric site, CA-RIV-197, is the San Gorgonio Ranch/ Banning Water Canyon site, an ethnohistorical Cahuilla village, which was relocated and found to lie outside of proposed new tower locations. Two historic refuse scatters (CA-RIV-7462 and P-33-13432), one historic agricultural irrigation system (P-33-13428), and the historic Vanderventer Ranch site (CA-RIV-2262H) were identified along this segment.

Owing to lack of data potential and/or loss of integrity, sites P-33-13432 and P-33-13428 appear to be ineligible for listing on the NRHP or the CRHR. Therefore, no further management of these two sites would be recommended.

### Paleontological Resources

Two portions of this segment are designated as areas of High paleontologic sensitivity. The first area from MP W18.7 to MP W19.5 contains Pleistocene older alluvium sediments and the potential for encountering undiscovered fossil remains. The second area, from MP W20.2 to MP W28.7, also has Pleistocene older alluvium sediments, but in major washes, the sediments are incised by Holocene alluvium. All other areas along this segment were considered to have either a Low or Undetermined paleontologic sensitivity.

## D.7.3.3 Calimesa and San Timoteo Canyon

### Cultural Resources

One historic foundation (P-33-13431) represents the single cultural resource located within the APE in this segment. However, owing to lack of data potential and loss of integrity this site appears to be ineligible for listing on the NRHP or the CRHR. Therefore, no further management of this site would be recommended.

Two additional sites were located within the corridor of the Proposed Project but are not within designated APEs. These sites appear to have a low potential for NRHP eligibility.

### Paleontological Resources

One portion of this segment is designated as an area of High paleontologic sensitivity. This highly sensitive area is from MP W29.5 to MP W40 due to the San Timoteo Formation and the potential for encountering undiscovered fossil remains. All other areas along this segment were considered to have either a Low or Undetermined paleontologic sensitivity.

## D.7.3.4 San Bernardino Junction to Vista Substation

### Cultural Resources

This segment of the Proposed Project contains three historical resources. CA-SBR-11624H is a historical homestead or farm site, CA P-36-020240 is a possible historical residential site, and CA-RIV-4768H/

CA-SBR-7168H is the historic Gage Canal. This active water conveyance system stretches through both Riverside and San Bernardino Counties and, elsewhere, has been recommended as eligible for the NRHP. The portion of the Gage Canal that falls within the APE has been modified to the extent that there is little or no archaeological value to the resource, although it may retain other cultural values.

#### Paleontological Resources

Two portions of this segment are designated as areas of High paleontologic sensitivity. The first area from MP V0.0 to MP V2.7 is within the San Timoteo Formation and has the potential for yielding undiscovered fossil remains. The second segment, from MP V3.5 to MP V4.6, contains Pleistocene old fan deposits and the potential for encountering undiscovered fossil remains. All other areas along this segment are considered to have a Low paleontologic sensitivity.

### D.7.3.5 San Bernardino Junction to San Bernardino Substation

#### Cultural Resources

No ground-disturbing impacts are anticipated within this segment; therefore no archaeological survey was conducted.

#### Paleontological Resources

All areas along this segment are considered to have a Low paleontologic sensitivity.

## D.7.4 Applicable Regulations, Plans, and Standards

### Federal

**National Historic Preservation Act (36 CRF Part 60.6).** For the section of the Proposed Project that lies within Arizona (MP E0.0 to MP E102.2), the basis for determining significance of cultural resources is driven by the National Historic Preservation Act (NHPA) (36 CRF Part 60.6). Four criteria are used in the evaluation process. These criteria involve districts, sites, buildings, structures, or objects that possess integrity of location, design, setting, material, workmanship, feeling, and association, and meet one or more of the following criteria:

a. Associated with events that have made a significant contribution to the broad pattern of our history

b. Associated with the lives of persons significant in our past

c. 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

d. Have yielded, or may be likely to yield, information important in prehistory or history.

Criterion d is most frequently applied to prehistoric sites, and often applied to historical–period sites as well. Because of the general nature of the criterion, it is necessary to develop pertinent research themes (also referred to as "historic contexts") to provide a systematic framework by which each cultural resource can be evaluated. A principal component of each research theme is the delineation of data requirements that can be used as a baseline for evaluating each site. A determination that a particular site possesses significant data and integrity qualifies the site for listing on the NRHP. Consequently, the site is

protected under the conditions set forth in the Historic Preservation Act, and requires mitigation measures before the undertaking can proceed.

**National Environmental Policy Act of 1969 (NEPA).** Under NEPA, agencies have broad responsibilities to be concerned about the impacts of their activities on the environment, including historic properties. To an extent, NEPA addresses some of the same concerns as the NHPA, for instance regarding identification of irreversible effects. Although Section 106 is a totally separate authority from NEPA, and is not satisfied simply by complying with NHPA, it is perfectly reasonable for agencies to coordinate studies done and documents prepared under Section 106 with those done under NEPA. The Advisory Council on Historic Preservation (ACHP) regulations provide guidance on how the NEPA and Section 106 processes can be coordinated. They also set forth the manner in which a federal agency can use the NEPA process and documentation to comply with Section 106.

**Archeological and Historic Preservation Act of 1974 (AHPA).** If a project will affect historic properties that have archeological value, the AHPA may impose additional requirements on an agency. Notifying the Department of the Interior that you are doing something under AHPA does not constitute compliance with Section 106.

**Archeological Resources Protection Act of 1979 (ARPA)**. If federal or Indian lands are involved, ARPA may impose additional requirements on an agency. ARPA: (1) Prohibits unauthorized excavation on federal and Indian lands; (2) Establishes standards for permissible excavation; (3) Prescribes civil and criminal penalties; (4) Requires agencies to identify archeological sites; and (5) Encourages cooperation between federal agencies and private individuals.

**American Indian Religious Freedom Act of 1978 (AIRFA)**. AIRFA affirms the right of Native Americans to have access to their sacred places. If a place of religious importance to American Indians may be affected by an undertaking, AIRFA promotes consultation with Indian religious practitioners, which may be coordinated with Section 106 consultation. Amendments to Section 101 of NHPA in 1992 strengthened the interface between AIRFA and NHPA by clarifying that: (1) Properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register; and (2) In carrying out its responsibilities under Section 106, a federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described in subparagraph (1).

**Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).** For activities on federal lands, NAGPRA requires consultation with "appropriate" Indian tribes (including Alaska Native villages) or Native Hawaiian organizations prior to the intentional excavation, or removal after inadvertent discovery, of several kinds of cultural items, including human remains and objects of cultural patrimony. For activities on Native American or Native Hawaiian lands, which are defined in the statute, NAGPRA requires the consent of the Indian tribe or Native Hawaiian organization prior to the removal of cultural items. The law also provides for the repatriation of such items from federal agencies and federally assisted museums and other repositories.

NAGPRA defines Native American cultural items as: (1) Human remains; (2) Associated funerary objects; (3) Unassociated funerary objects; (4) Sacred objects; and (5) Cultural patrimony.

In brief, NAGPRA requires agencies to: (1) Inventory Native American cultural items; (2) Repatriate Native American cultural items; and (3) Consult with Native American groups about permits to excavate on federal or tribal lands.

1992 amendments to NHPA strengthened NAGPRA by encouraging "protection of Native American cultural items . . . and of properties of religious or cultural importance to Indian tribes, Native Hawaiians, or other Native American groups" [Section 112(b)(3)] and by stipulating that a federal ". . . agency's

procedures for compliance with Section 106 . . . provide for the disposition of Native American cultural items from federal or tribal land in a manner consistent with Section 3(c) of the Native American Graves Protection and Repatriation Act . . . ."

**Executive Order 11593 (1971), Protection and Enhancement of the Cultural Environment.** The federal government shall provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation. This executive order (EO) addresses the NRHP and provides guidance to those involved with federal properties that should be inventories and nominated for listing on the NRHP.

**Executive Order 13007 (1996).** Protection and Preservation of Native American Sacred Sites. This EO is meant to improve the management of these sites. The EO strives to protect and preserve Indian religious practices. Section 1 of the EO states that:

> *(a) In managing Federal lands, each executive branch agency with statutory or administrative responsibility for the management of Federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites.*

## State

### Arizona

Cultural resources may also be evaluated using the National Register criteria for inclusion in the Arizona Register of Historic Places. The Arizona Historic Sites Review Committee (HSRC) is Arizona's official State and NRHP review board as mandated by State law and federal regulations. Its nine members represent the fields of history, archaeology, architecture, and related fields. The committee holds public meetings three times a year (usually in February, June, and October) to review nominations and advise the SHPO on properties that should be placed in the National and Arizona Registers of Historic Places. Once a nomination has been reviewed and approved by the Arizona Historic Sites Review Committee, the property is placed in the Arizona Register of Historic Places and forwarded to the Keeper of the National Register for a final review and listing in the NRHP.

### California

The Proposed Project is being evaluated under the California Environmental Quality Act (CEQA) by the CPUC as the designated State Lead Agency. The following State public resource codes and CEQA regulations apply.

#### *California Environmental Quality Act (CEQA) Public Resources Code Sections 5020.1, 5024.1, 21083.2, 21084.1, et seq.*

CEQA requires analysis of potential impacts of proposed projects on significant cultural resources and application of feasible mitigation measures.

**Title 14, Public Resources Code, Section 5020.1** defines several terms, including the following: (f) "DPR Form 523" means the Department of Parks and Recreation Historic Resources Inventory Form; (i) "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California; (j)"local reg-

ister of historical resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution; (l) "national Register of Historic Places" means the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture as authorized by the NHPA of 1966 (Title 16 United States Code Section 470 et seq.); (q) "substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired.

- **Title 14, Public Resources Code, Section 5024.1** establishes a California Register of Historic Places; sets forth criteria to determine significance; defines eligible properties; lists nomination procedures.
- **Title 14, Public Resources Code, Section 5097.5** – any unauthorized removal or destruction of archaeological, paleontological resources on sites located on public lands is a misdemeanor.
- **Title 14, Public Resources Code 5097.98** prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn; sets penalties.
- **Title 14, Public Resources Code, Section 21083.2** – the lead agency determines whether a project may have a significant effect on unique archaeological resources. If a potential for damage to unique archaeological resources can be demonstrated, such resources must be avoided; if they cannot be avoided, mitigation measures shall be required; discusses excavation as mitigation; discusses cost of mitigation for several types of projects; sets time frame for excavation; defines "unique and non-unique archaeological resources"; provides for mitigation of unexpected resources; sets limitation for this section.
- **Title 14, Public Resources Code, Section 21084.1** – indicates that a project may have a significant effect on the environment if it causes a substantial change in the significance of a historic resource; the section further describes what constitutes a historic resource and a significant historic resource.
- **Guidelines for the Implementation of CEQA.** Section 15064.5 specifically addresses effects on historic and prehistoric archaeological resources, in response to problems that have arisen in the application of CEQA to these resources.
- **Title 14, Penal Code, Section 622.5** – anyone who damages an item of archaeological or historic interest is guilty of a misdemeanor.
- **CEQA Guidelines: California Code of Regulations, Sections 15000, et seq., Appendix G (j)**, specifically defines a potentially significant environmental effect as occurring when the Proposed Project will ". . . disrupt or adversely affect . . . an archeological site, except as part of a scientific study."
- **Public Resources Code, Section 5097.5**. Any unauthorized removal of archaeological resources on sites located on public lands is a misdemeanor. As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the State, or any city, county, district, authority or public corporation, or any agency thereof.
- **CEQA: Public Resources Code Sections 15064.5(e) and 15064.5(d), et seq.,** requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans as identified by the Native American Heritage Commission and the lead agency, under certain circumstances, should develop an agreement with the Native Americans for the treatment and disposition of the remains.
- **Public Resources Code, Section 5097.9**. Stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine.

- **California Health and Safety Code, Section 7050.5 and Public Resources Code, Section 5097.98**. If human remains are exposed during construction, these provisions must be followed regarding identification and disposition of the remains.

### Local

Review of county and local ordinances, plans, and regulations that pertain to the treatment of cultural resources are presented in Appendix 2 (Policy Screening Report) of this EIR/EIS.

## D.7.5 Significance Criteria and Approach to Assessment of Potential Effects

This section explains how potential effects are assessed in Sections D.7.6 through D.7.9. Section D.7.5.1 presents the significance criteria on which effects determinations are based. In addition, Section D.7.5.2 lists the Applicant Proposed Measures (APMs) relevant to Sections D.7.6 through D.7.9, while Section D.7.5.3 lists all potential effects identified for the Proposed Project and alternatives.

### D.7.5.1 Significance Criteria

#### Cultural Resources Criteria

Cultural resources are places or objects that are important for historical, scientific, and religious reasons and are of concern to cultures, communities, groups, or individuals. These resources may include buildings and architectural remains, archaeological sites and other artifacts that provide evidence of past human activity, human remains, or TCPs.

In the context of a federally permitted undertaking, such as the Proposed Project, the "significance" of cultural resources must be determined by the Federal Lead Agency under NEPA official in consultation with the SHPO and other interested parties. Any action, as part of an undertaking, that could affect a "significant" cultural resource is subject to review and comment under Section 106 of the NHPA of 1966. Cultural resources that retain integrity and meet one or more of the criteria of significance [36 CFR 60.4] qualify as significant and are eligible for listing on the NRHP; such resources must be managed in compliance with the Advisory Council's regulations (36 CFR 800).

Within the State of California there are also provisions in the CEQA statutes, the State CEQA Guidelines, and the California Public Resources Code for the protection and preservation of significant cultural resources (i.e., "historical resources" and "unique archaeological resources"). California guidelines for assessing significant cultural resources parallel the federal criteria (Section 15064.5(a)(3) of the CEQA Guidelines (as amended)). The State CEQA Guidelines also require consideration of unique archaeological sites (Section 15064.5) (see also Public Resources Code Section 21083.2[h]).

Resources included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified as significant in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code), also are considered "historical resources" for the purposes of CEQA. A resource must also retain the integrity of its physical identity that existed during its period of significance. Integrity is evaluated with regard to retention of location, design, setting, materials, workmanship, feeling, and association.

Finally, under both federal and California State law, Native American human remains and associated grave goods are granted special significance.

The following significance criteria apply to cultural resources:

- The Proposed Project would cause an adverse effect or substantial adverse change in the characteristics of a historic property or Traditional Cultural Property as defined by federal guidelines.
- The Proposed Project would cause a substantial adverse change in the characteristics of a significant cultural resource or unique archaeological site as defined by State of California guidelines.
- The Proposed Project would cause a substantial adverse change in the characteristics of a cultural resource included in a local register of historical resources.
- The Proposed Project could uncover, expose, and/or damage Native American human remains.

### Paleontology Criteria

Paleontologic resources are a limited, nonrenewable, very sensitive scientific and educational resource and, in California, are afforded protection under federal and State of California environmental legislation, including NEPA (P.L. 91-190; 31 Stat. 852, 42 U.S.C. 4321-4327; the Archaeological and Historic Preservation Act of 1974 (P.L. 93-291; 88 Stat. 174, U.S.C. 469); and the CEQA (13 Public Resources Code: 21000 et seq.).

The paleontologic importance (high, moderate, low, none, unknown) of a rock unit is the measure most amenable to assessing the importance of the paleontologic resources in an area under investigation because the aerial distribution of a rock unit can be delineated on a map. The paleontologic importance of a rock unit reflects (1) its potential productivity and (2) the scientific importance of the fossils it has produced locally.

The potential productivity (high, moderate, low, none, undetermined) of a rock unit in a particular alignment is based on the densities of fossil specimens and sites in exposures of the unit in or near the alignment. A rock unit exposed in the alignment is most likely to yield fossils similar in number and kind to those previously recorded from the unit in the alignment and/or vicinity. The criteria for establishing the potential productivity of a rock unit is as follows:

**(1) High Potential.** Rock unit contains high density of recorded fossil sites and has produced numerous fossil remains in alignment and/or vicinity, and is very likely to yield additional remains in alignment.

**(2) Moderate Potential.** Rock unit contains moderate density of recorded fossil sites and has produced some fossil remains in alignment and/or vicinity, and is somewhat likely to yield additional remains in alignment.

**(3) Low Potential.** Rock unit contains no or very low density of recorded fossil sites and has produced very few or no fossil remains in alignment vicinity, and is not likely to yield any remains in alignment.

**(4) Undetermined Potential.** Rock unit has limited exposure in alignment, is poorly studied, and contains no recorded fossil site. However, in other areas, the same or a similar rock unit contains sufficient sites to suggest rock unit in alignment has at least a moderate potential for yielding fossil remains and sites (note: elsewhere in southern California, exposures of rock units with few or no prior recorded fossil sites have recently proven abundantly fossiliferous during surveying, monitoring, or processing of fossiliferous rock as part of mitigation programs for other construction projects).

**(5) No Potential.** Unfossiliferous igneous and high-grade metamorphic rock units with no potential for yielding any fossil remains.

Any fossil site containing identifiable fossil remains and the fossiliferous bed are considered highly important paleontologically, regardless of the paleontologic importance of the rock unit in which the site and bed occur.

A fossil specimen is considered scientifically highly important if it is (1) identifiable, (2) complete, (3) well preserved, (4) age diagnostic, (5) useful in environmental reconstruction, (6) a type of topotypic specimen, (7) rare taxon, (8) or part of a diverse assemblage. Identifiable land mammal fossils, for example, are considered paleontologically highly important because they are comparatively rare in the geologic record and allow very accurate age determinations and environmental reconstructions for the rock units in which they occur.

The following significance criterion applies to paleontologic resources:

- The Proposed Project would cause a substantial adverse change in the characteristics of a significant paleontologic resource.

## D.7.5.2 Applicant Proposed Measures (APMs)

APMs were identified by SCE in its CPCN Application to the CPUC. Table D.7-3 presents the APMs that are relevant to this section. Impact analysis assumes that all APMs will be implemented as defined in the table; additional resource evaluation and mitigation measures are recommended in this section if it is determined that APMs do not fully mitigate the impacts for which they are presented. Adoption of APMs to protect or treat effects to historic properties will be determined in consultation with the appropriate SHPO. The APMs and other adopted mitigation measures would be stipulated in an agreement document (Programmatic Agreement, Historic Properties Treatment Plan, or Management Plan) with the SHPO.

Table D.7-3. Applicant Proposed Measures – Cultural and Paleontological Resources

| APM No.[1] | Description |
|---|---|
| APM C-1 | Prior to construction and all other surface disturbing activities, the Holder[5] shall have conducted and submitted for approval by the Authorized Officer an inventory of cultural resources within the project's APE. The nature and extent of this inventory shall be determined by the Authorized Officer in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon project engineering specifications. (BLM B-9.1)[4] |
| APM C-2 | As part of the inventory, the Holder shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, and any other projected impact areas outside of the previously surveyed corridor. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded cultural resource locations. The selected right-of-way shall be staked prior to the cultural resource field surveys. (BLM B-9.2) |
| APM C-3 | As part of the inventory report, the Holder shall evaluate the significance of all affected cultural resources and provide recommendations with regard to their eligibility for the NRHP. Determinations of NRHP eligibility will be made by the Authorized Officer in consultation with the appropriate SHPO. (BLM B-9.3) |
| APM C-4 | Upon approval of the inventory report by the Authorized Officer, the Holder shall prepare and submit for approval a cultural resource treatment plan for NRHP-eligible cultural resources to mitigate identified impacts. Avoidance, recordation, and data recovery will be used as mitigation alternatives. (BLM B-9.4) |
| APM C-5 | The Authorized Officer may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values. (BLM B-9.5) |

Table D.7-3. Applicant Proposed Measures – Cultural and Paleontological Resources

| APM No.[1] | Description |
|---|---|
| APM C-6 | If avoidance of specific cultural resources is not feasible, treatment shall be carried out as determined by the Authorized Officer in consultation with the appropriate SHPO. (BLM B-9.6) |
| APM C-7 | When necessary to relocate the proposed line, ancillary facilities, temporary facilities, or work areas as a result of inventory, onsite avoidance decisions, or the Holder's approved request for relocation, the Holder shall inventory the proposed new locations for cultural resources and provide inventory results to the Authorized Officer prior to construction. Any mitigation deemed necessary by the Authorized Officer shall be completed prior to undertaking any surface disturbing activities. (BLM B-9.7) |
| APM C-8 | All cultural resource work undertaken by the Holder on public lands shall be carried out by qualified professionals designated on a currently valid Cultural Resource Use Permit for the appropriate State. (BLM B-9.8) |
| APM C-9 | Notices to proceed will be issued following completion, and approval by the Authorized Officer, of any fieldwork determined necessary through the inventory, evaluation, and consultation process described above. (BLM B-9.9) |
| APM C-10 | Vehicles and equipment shall be confined and operated only within areas specified by the Authorized Officer. (BLM B-9.10) |
| APM C-11 | Unauthorized collection of artifacts or other cultural materials on or off the right-of-way by the Holder, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws. Unauthorized collection may constitute grounds for the issuance of a stop work order. (BLM B-9.11) |
| APM P-1 | Impacts to significant paleontological resources will be mitigated by conducting a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens will occur in project areas of high sensitivity. (SCE) |
| APM B-3 | Vehicular travel must be on established roads to the maximum extent practicable. Any off-road vehicle use should be strongly discouraged. This will benefit many of the species covered by the [Coachella Valley Multiple Species Habitat Conservation] plan. (SCE) |
| APM B-17 | Access – To the maximum extent possible, access for transmission line construction and maintenance should occur from public roads and designated routes. (SCE) |
| APM W-1 | During the first year following construction, potential soil erosion sites will be inspected by the Holder[5] after each major rainstorm as access permits. For the purpose of this measure, a major rainstorm is defined as any singular storm where the total precipitation exceeds the arithmetic mean for similar events in the area and results in flooding. Examples include cloudbursts (high quantity, short duration) or storms where saturated soils produce runoff (high quantity, long duration). (BLM B-4.1)[4] |
| APM W-3 | Erosion control and hazardous material plans will be incorporated into the construction bidding specifications to ensure compliance. (BLM B-4.3) |
| APM W-9 | Cut and fill slopes will be minimized by a combination of benching and following natural topography where possible. (BLM B-4.9) |
| APM G-10 | New access roads and soil disturbance will be avoided or minimized in all areas designated as having high erosion hazards or potential slope instability. If the Authorized Officer, after consultation and review of alternatives (including helicopter or helicopter assisted construction), deems the proposed new access road feasible, design plans must be submitted for approval, in writing, prior to construction. (BLM B-3.1. Note: Text here omits references to specific figures and maps in the original (1987-88) DEIR and DEIS.) |
| APM G-11 | New access roads, which are required, will be designed to minimize ground disturbance from grading. They will follow natural ground contours as closely as possible and include specific features for road drainage, including water bars on slopes over 25 percent. Other measures could include drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings are constructed, the crossings will be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area. (BLM B-3.2) |
| APM L-3 | New access road construction will be kept to a minimum. (BLM B-1.2) |

Source: SCE, 2005a.

[1] APM refers to Applicant Proposed Measures. If there is a measure in the 1989 BLM ROW Grant that is not identified in the PEA as an APM, this FLM Grant measure presented in a shaded row and is labeled BLM followed by its reference in the ROW Grant.

[2] Refers to the Devers-Harquahala 500 kV transmission line.

[3] Refers to the West of Devers 230 kV transmission line upgrade.

[4] Reference in parentheses denotes the origin of the APM. "(SCE)" is a Proponent's mitigation measure. "(BLM)" is a Proponent's measure derived from a requirement in the BLM Right-of-Way Grant 1989. Numbers such as B-4.1 refer to the specific BLM measure in the 1989 Grant.

[5] Holder is BLM's reference to the ROW Grant holder. Holder is SCE, the project proponent.

### D.7.5.3 Potential Effects Identified

Table D.7-4 lists the potential effects to cultural and paleontological resources identified for the Proposed Project and alternatives, along with the significance of each impact. Impacts/Effects are classified as Class I (significant/adverse, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (less than significant), or Class IV (beneficial). Detailed discussions of each impact and the specific locations where each is identified are presented in the following sections.

Table D.7-4. Potential Effects Identified – Cultural and Paleontological Resources

| Impact No. | Description | Impact Significance |
|---|---|---|
| Proposed Project and All Alternatives | | |
| C-1 | Construction of the project would cause an adverse change to known historic properties | Class I, II, or No Impact |
| C-2 | Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains | Class I, II, or No Impact |
| C-3 | Construction of the project could cause an adverse change to Traditional Cultural Properties | Class II |
| C-4 | Construction of the project could destroy or disturb significant paleontological resources | Class II |
| C-5 | Operation and long-term presence of the project could cause an adverse change to known historic properties | Class II |

## D.7.6 Environmental Impacts and Mitigation Measures for the Proposed Project – Devers-Harquahala

This section presents discussion of potential impacts and mitigation measures for the 500 kV portion of the Proposed Project. The discussion is divided into six geographic areas, three in Arizona and three in California. Within each area, both potential construction impacts and operational impacts are addressed.

### D.7.6.1 Harquahala to Kofa National Wildlife Refuge – Arizona

One known archaeological site (AZ S:8:1) that is recommended as NRHP-eligible is located within this segment of the Proposed Project and could be impacted by project construction and operation. As well, the Harquahala Peak Observatory, listed on the NRHP, would be affected by the proposed Harquahala Telecommunications site. Also, there is potential to encounter undiscovered cultural and paleontological resources. Therefore, the following impacts could occur during project construction or operation.

#### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

Within this segment of the Proposed Project, one potentially NRHP eligible cultural resource site, AZ S:8:1 (lithic scatter), occurs within the APEs of several tower sites. In previous studies the site was recommended as eligible for listing on the NRHP. However, owing to the low number of artifacts observed,

similarity in the types observed, and previous data recovery on the site, the 2003 study suggested no impacts to the site would occur from the transmission project. If direct impacts to this site cannot be avoided, the BLM, in consultation with the Arizona SHPO would make a final determination of eligibility and effect. Four other sites within the APE either could not be relocated or appear to be ineligible for NRHP-listing (see Table D.7-5).

Table D.7-5. Potential Effects to Cultural Resources – Harquahala to Kofa National Wildlife Refuge

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| AZ S:6:12 | Rock Feature Site | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:1 | Lithic Scatter | Significant (d) | Within several tower sites | ✔ | - | - | - | Avoidance or Data Recovery |
| AZ S:8:10 | Lithic Scatter and Rock Rings (not relocated) | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:20 | Lithic Scatter | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:17 | Lithic Scatter, Rock Ring (not relocated) | Not Significant | Within | ✔ | - | - | - | No Effect |

Four additional eligible cultural resource sites are located within or adjacent to the general transmission corridor. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access or spur roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespass out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final tower locations are defined, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed. The APEs for these activities have not been determined, thus planning for these activities must account for the sites recommended as eligible.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the avoidance and protection measures in listed in Mitigation Measures C-1a through C-1f, below; this is the preferred treatment for all cultural resources. Once final design is completed and APE locations have been determined, additional surveys and evaluations must occur as discussed in Mitigation Measure C-1a (Inventory and evaluate cultural resources in Final APE). Using cultural resource studies conducted for this project, as well as past studies, known locations of cultural resources recommended as NRHP-eligible have been determined and should attempt to be avoided by project redesign and engineering modifications as described in Mitigation Measure C-1b (Avoid and protect potentially significant resources). If cultural resources are identified through additional surveys or construction activities, then Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as detailed below, shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites.

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

In APMs C-1, C-2, and C-3, the Applicant commits to cultural resources inventories and NRHP evaluations; however, Mitigation Measure C-1a (Inventory and evaluate cultural resources in Final APE) presents additional detail and therefore supersedes these APMs. In APM C-5, the Applicant commits to relocation of project facilities to reduce impacts to cultural resources; however, Mitigation Measure C-1b (Avoid and protect potentially significant resources) presents additional detail and therefore supersedes this APM C-5. In APM C-4 the Applicant commits to preparing a treatment plan for NRHP-eligible cultural resources; however, Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) presents additional detail and therefore supersedes this APM. In APM C-6 the Applicant commits to carry out treatment of specific resources that cannot be avoided (also BLM B-9.6); however, Mitigation Measure C-1d (Conduct data recovery to reduce adverse effects) presents additional detail and therefore supersedes this APM. In APM C-11 the Applicant commits to restricting artifact collection by project personnel; however; Mitigation Measure C-1f (Train construction personnel) presents additional detail and therefore supersedes this APM.

**Harquahala Peak.** Harquahala Peak is the site of communications facility proposed by SCE to be located outside of the corridor of the Proposed Project. As described in Section B.3.6.1 and Table B-5, the facility would include the following components:

- A prefabricated building (12 by 36 feet)
- A 110-foot tall self-supporting tubular steel tower/antenna
- A 30 kilowatt solar panel
- An emergency generator with two 500-gallon fuel tanks
- Two air conditioning systems
- Three microwave systems for communications

SCE estimates that the temporary construction area would occupy approximately 1 acre and the permanent facility would occupy approximately 0.5 acres. Harquahala Peak has been designated as a communication site and there is an existing facility on the peak. A microwave repeater and solar panels constructed for the Central Arizona Project is located 35 feet beyond the proposed location of the SCE telecommunications facility.

At this site, there is an NRHP District that includes six resources. The Harquahala Mountain Smithsonian Solar Observatory Archaeological District is linear shaped and includes the Solar Observatory, the Harquahala Mountain Pack Trail, the Harquahala Mountain Base Camp, Ellison's Camp, a corral, and the Harquahala Mountain Waterworks site. Each of these facilities was integral to the development and maintenance of the Solar Observatory.

The Harquahala Mountain Smithsonian Solar Observatory, Site AZ S:3:1 (ASM), consists of a standing two-story adobe structure sheathed in galvanized sheet metal, as well as the concrete foundation for a second building, a cistern, and associated artifacts (Table D.7-6). A pack trail was created to haul supplies up the mountain, but that trail has been disturbed in the vicinity of the Observatory by creation

of a modern dirt road. Currently, the Observatory has several interpretive signs and a visitor trail for viewing the structure (Dobschuetz, 2006).

The Harquahala Mountain Smithsonian Solar Observatory District was listed on the NRHP on October 3, 1975. This property is significant for its contributions to science (Criterion a). The Solar Observatory was the only one of this kind of structure in the United States between 1920 and 1925 (Hackbarth, 1995). The observatory was home to astrophysicists who collected data about the "solar constant," the total flux of solar power per unit area and unit time. The information was gathered in an attempt to more accurately predict weather patterns through the correlations between fluctuations in solar energy and climatic patterns (Hackbarth, 1995).

The Area of Potential Effect (APE) of the telecommunications tower is defined as the area that would include both direct and indirect impacts. The APE falls within the Harquahala Mountain Smithsonian Solar Observatory Archaeological District. This facility could adversely affect the visual integrity and setting of the Observatory, (which has already been compromised by the existing facility).

The proposed SCE telecommunication facility will have a significant indirect effect on the Solar Observatory as a visual intrusion. The proposed facility would be located approximately 100 feet northwest of the Solar Observatory and approximately 35 feet south of the existing CAP facility. It would be within line of sight of the Observatory, which is the focus of public interpretive signage describing the history and significance of the Observatory.

Harquahala Peak and its historical and recreational resources are considered especially valuable by BLM for the following reasons:

- **Cultural Resources and the NHPA -** The Harquahala Mountain Smithsonian Observatory site, AZ S:3:1 (ASM) is a significant historic site. In addition to the Observatory building, the site also includes outbuilding foundations, artifact scatter and dump, radio aerial tie downs, telephone line, historic pack trail, and croquet court. Many of these features are located north of the building, so the boundaries of the site are larger than the footprint of the building and connect to the historic pack trail that led to the valley below. The entire Harquahala Mountain Smithsonian Solar Observatory Archaeological District is listed on the National Register of Historic Places under Criteria a and d.

  The NRHP listing was amended and expanded in 1995 to include all six of the associated sites and the historic pack trail. The pack trail shape is linear and connects all of the associated archaeological and historic site polygons.

- **Resource Management Plans** - The Agua Fria National Monument and Bradshaw-Harquahala Draft Resource Management Plan and Draft Environmental Impact Statement was recently distributed by BLM for public comment. The preferred alternative for this area proposes an ACEC (Area of Critical Environmental Concern) designation and VRM II for Harquahala Mountain.

In addition, SCE's proposed laydown site for construction at Harquahala Peak is located at the Eagle Eye Staging Area and Camp that was constructed and funded as part of the same project as the Harquahala Mountain interpretive facilities and associated amenities. This facility features a large parking area for trailers, loading dock for ATV use, bathrooms, ramada with interpretive and informational signs. A construction laydown site is incompatible use for this established recreational and interpretive site.

The effect of the proposed communications tower and laydown area on the historic site and associated interpretive exhibits is significant and unavoidable (Class I). While Mitigation Measure C-1g could lessen the severity of the impact through evaluation and implementation of one of several options, the impact would remain significant.

Table D.7-6. Potential Effects to Cultural Resources – Harquahala Peak Communication Site

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| AZ S:3:1 (ASM) | Harquahala Mountain Smithsonian Solar Observatory | Listed (a) | Near | - | - | - | - | Redesign (compatible design and interpretation), relocation, consolidation with CAP facility, or interpretive mitigation |

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1a** **Inventory and evaluate cultural resources in Final APE.** Prior to construction and all other surface disturbing activities, the Applicant shall have conducted and submitted for approval by the BLM and CPUC an inventory of cultural resources within the project's final Area of Potential Effect. The nature and extent of this inventory shall be determined by the BLM and CPUC in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon project engineering specifications. Results of this inventory shall also be filed with appropriate State repositories and local governments. As part of the inventory, the Applicant shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction, reconductoring activities, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, new tower sites, and any other projected areas of potential ground disturbance outside of the previously surveyed potential impact areas. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations. The selected right-of-way and tower locations shall be staked prior to the cultural resource field surveys. As part of the inventory report, the Applicant shall evaluate the significance of all affected cultural resources on the basis of surface observations and provide recommendations with regard to their eligibility for the National Register of Historic Places (NRHP) or local registers. Preliminary determinations of NRHP eligibility will be made by the BLM, in consultation with the CPUC and appropriate local governments, and the appropriate SHPO.

**C-1b** **Avoid and protect potentially significant resources.** On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1a) the BLM and CPUC may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural

resource values. Where operationally feasible, potentially NRHP-eligible resources shall be protected from direct project impacts by project redesign.

Where the BLM and CPUC decide that potentially NRHP-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the CPUC and the appropriate State Historic Preservation Officer (SHPO) and shall be based upon final project engineering specifications. Evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

All potentially NRHP-eligible resources (as determined by the BLM and CPUC) that will not be affected by direct impacts, but are within 50 feet of direct impact areas will be designated as Environmentally Sensitive Areas (ESAs). Protective fencing, or other markers, at the BLM's discretion, shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. Construction personnel and equipment shall be instructed on how to avoid ESAs. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of the Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESAs.

**C-1c** **Develop and implement Historic Properties Treatment Plan.** Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility evaluations by the BLM and CPUC, consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for NRHP-eligible cultural resources to mitigate or avoid identified impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations. Avoidance, recordation, and data recovery will be used as mitigation alternatives. The HPTP shall be submitted to the BLM and CPUC for review and approval.

As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP-eligible sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where burials, cremations, or sacred features are discovered that cannot be avoided.

The HPTP shall define and map all known NRHP-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP-eligibility. A cultural resources protection plan shall be included that details how NRHP-eligible properties will be avoided and protected during construction. Measures shall include, at a minimum, designation and marking of Environmentally Sensitive Areas (ESAs), archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail: what measures

will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.

The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP-eligible cultural resources, including burials, cremations, or sacred features. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing NRHP-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, the consultation procedures, and the timelines for assessing NRHP-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM and CPUC, appropriate local governments, appropriate Native Americans, and the appropriate State Historic Preservation Officer prior to implementation.

The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary of the Interior's Standards (per 36 CFR 61).

**C-1d** **Conduct data recovery to reduce adverse effects.** If National Register of Historic Places (NRHP)-eligible resources, as determined by the BLM and CPUC, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP-eligibility. For sites eligible under Criterion d, significant data would be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM and CPUC for their review and approval, as well as to appropriate State repositories and local governments. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM or CPUC, as appropriate.

**C-1e** **Monitor construction.** The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP). Full-time monitoring shall occur when ground-disturbing activities take place at all archaeological High-Sensitivity Areas described above and at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM and CPUC. Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM and CPUC. A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.

Compliance with and effectiveness of the cultural resources monitoring plan shall be documented by the Applicant in a monthly report to be submitted to the BLM and CPUC for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted by the archaeological monitor until authorization to resume work has been granted by the BLM and CPUC. The Applicant shall notify the BLM of any damage to cultural resource ESAs. The Applicant shall consult with the BLM and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

**C-1f** **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.

- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.
- Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist will consult with the BLM or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs.

**C-1g** **Minimize impacts at Harquahala Peak**. SCE shall consult with BLM's Phoenix Area Office to define and implement the most effective actions to reduce impacts of the proposed telecommunications tower at Harquahala Peak on cultural, visual, and recreational resources. Options for consideration shall include the following:

- SCE shall work with BLM to evaluate and analyze different locations for the communications facility, and shall document each site as to its adequacy for SCE's needs. If a different site (or sites) appears to be feasible and acceptable to BLM, SCE shall complete biological and cultural resources surveys and provide reports to BLM.
- SCE shall design and finish the tower for the proposed new facility to emulate the existing facilities. In addition, the location of the proposed new tower shall be relocated to the place determined by BLM to minimize effects on the interpretive site.
- SCE shall provide visitor facilities or enhanced historic interpretive information in order to better convey to the public the scientific contributions that the Observatory has made to history, and which make it worthy of NRHP listing under Criterion a.
- SCE shall consult with CAP and BLM to develop a co-located communications facility requiring only one tower to serve both parties.
- Based on consultation with BLM, SCE shall relocate the laydown area to a site that minimizes effects on visitors to Harquahala Peak.

After consultation with BLM on the options defined above, SCE shall submit a revised description of the Harquahala Peak facilities and laydown area along with detailed construction plans for review and approval by BLM's Phoenix Area Office at least 60 days prior to the start of construction.

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains(Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but by virtue of the fact that such resources would be discovered after

final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c** **Develop and implement Historic Properties Treatment Plan.**

**C-1d** **Conduct data recovery to reduce adverse effects.**

**C-1e** **Monitor construction.**

**C-1f** **Train construction personnel.**

**C-2a** **Consult agencies and Native Americans.** If human remains are discovered during construction, all work will be diverted from the area of the discovery and the BLM authorized officer will be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM.

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no Traditional Cultural Properties (TCPs) have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete Consultation with Native Americans and other Traditional Groups) would reduce impacts to TCPs to a level that is less than significant (Class II).

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a** **Complete consultation with Native American and other Traditional Groups.** The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the Proposed Project on Traditional Cultural Properties or other resources of Native American concern. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

As shown in Table D.7-7, paleontological resources within the Harquahala to Kofa segment vary in sensitivity from low to high. In addition, the sensitivity of some rock units has not been determined. Highly sensitive areas are found at MPs E6 to E12.5, E13.5 to E22.5, E33.6 to E39, and E41 to E43. Impacts and mitigation measures are discussed below.

As shown in Table D.7-7, paleontologically sensitive resources are located within this segment of the Proposed Project and could be impacted by construction. In addition, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel) allow provisions for the discovery and treatment of significant fossil remains and would reduce project effects to these resources to a level of less than significant (Class II).

Table D.7-7. Paleontologic Sensitivity Areas – Harquahala to Kofa National Wildlife Refuge

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E0.0–E4.8 | Pleistocene older alluvium and Holocene alluvium (undifferentiated) | Undetermined (Pleistocene = High) | — |
| E4.8–E6 | Proterozoic metamorphics, overlain intermittently by Pleistocene and/or Holocene sediments | Undetermined | — |
| E6–E12.5 | Pleistocene older alluvium | High | — |
| E12.5–E13.5 | Volcanic Rock | Low | — |
| E13.5–E22.5 | Pleistocene older alluvium | High | — |
| E22.5–E33.6 | Holocene alluvium | Low | — |
| E33.6–E39 | Pleistocene older alluvium | High | — |
| E39–E41 | Volcanic Rock | Low | — |
| E41–E43 | Pleistocene older alluvium, intermittently overlain by Holocene alluvium | High | — |

In APM P-1 SCE commits to inventory paleontological resources; however, based on requirements in the BLM Right-of-Way Grant (1989) Mitigation Measure C-4a (Inventory paleontological resources in Final APE) presents additional detail and therefore supersedes this APM. Also in APM P-1 SCE commits to monitoring construction for discovery of paleontological resources; however, Mitigation Measure C-4c (Monitor construction for paleontology) presents additional detail and therefore supersedes this APM. In APM P-1 SCE commits to salvage significant paleontological specimens; however, based on requirements in the BLM Right-of-Way Grant (1989), Mitigation Measure C-4d (Conduct paleontological data recovery) presents additional detail and therefore supersedes this APM. In APM C-11 SCE commits to restricting artifact collection by project personnel; however; Mitigation Measure C-4e (Train construction personnel) presents additional detail and therefore supersedes this APM.

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a** **Inventory paleontological resources in Final APE**. Prior to construction and all other surface-disturbing activities, the Applicant shall have conducted and submitted for approval an inventory of potentially significant paleontological resources, based on field inspection of areas of high or undetermined paleontological sensitivity that will be affected by the project as determined by the BLM and CPUC. As part of the inventory report, the Applicant shall evaluate and refine the paleontological sensitivity modeling of sediments that will be affected.

**C-4b** **Develop Paleontological Monitoring and Treatment Plan.** The Applicant shall, upon approval of the paleontological inventory report by the BLM and CPUC, prepare and submit for approval a plan to mitigate identified impacts. The Paleontological Monitoring and Treatment Plan shall identify construction impact areas of high sensitivity for encountering significant resources and the depths at which those resources are likely to be discovered. The Plan shall outline a coordination strategy to ensure that all construction disturbance in high sensitivity sediments will be monitored full-time by qualified professionals. Sediments of undetermined sensitivity will be spot-checked. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, post-excavation preparation and analysis of specimens, final curation of specimens at a federally recognized, accredited facility, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified professionals on a currently valid Paleontological Collecting Permit for the appropriate State. Notices to proceed will be issued by the BLM and CPUC following approval of the Paleontological Monitoring and Treatment Plan.

**C-4c** **Monitor construction for paleontology.** Based on the paleontological sensitivity assessment and Monitoring and Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring in areas where and when sediments of high paleontological sensitivity will be disturbed. Construction activities shall be diverted when data recovery of significant fossils is warranted.

**C-4d** **Conduct paleontological data recovery.** If avoidance of significant paleontological resources is not feasible or appropriate, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance with the approved Treatment Plan per Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

**C-4e** **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of all paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of federally protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried paleontological deposits, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.
- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing paleontological resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of potential buried paleontological materials by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM and CPUC and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

## Operational Impacts

### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

Direct and indirect impacts may occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. These impacts are potentially significant, but can be mitigated to a level that is less than significant (Class II) by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

### *Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties*

**C-2a** **Consult agencies and Native Americans.**

**C-3a** **Complete consultation with Native American and other Traditional Groups.**

**C-5a** **Protect and monitor NRHP-eligible properties.** The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project-related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.

Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.

If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)-eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

## D.7.6.2 Kofa National Wildlife Refuge- Arizona

Within this segment of the Proposed Project, there are no NRHP-eligible sites within designated APEs for tower sites, series capacitor, and stub roads. Because, there is a potential to encounter undiscovered cultural and paleontological resources, the following impacts could occur during project construction or operation.

## Construction Impacts

### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

No known eligible cultural sites are located within the current APEs for this segment. However, there are two known sites (AZ R:8:51 and AZ S:5:2) that are recommended as NRHP-eligible that are located within in the general corridor for this segment and impacts to those or other newly discovered NRHP-eligible resources could result from construction activities that require earth-disturbing effects. The construction impacts are most likely associated with erecting towers, creating tower pads, access road grading, digging of tower footings, and conductor pulling and splicing. Telecommunication or series capacitor facilities do not occur in this segment, and therefore would not create impacts to known cultural resource sites. Known APEs are those associated with tower placement and stub road grading. APEs for other activities such as pulling and splicing have not been determined, and thus all potentially eligible sites within or adjacent to the general transmission corridor were included in impact analysis. The impact analysis for this segment would be similar to that detailed in Section D.7.6.1.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through the implementation of avoidance and protection measures. Using cultural resource studies conducted for this project, as well as past studies, known locations of cultural resources recommended as NRHP-eligible have been determined and should be avoided by project redesign and engineering modifications as described in Mitigation Measure C-1b (Avoid and protect potentially significant resources). Once final design is completed and APE locations have been determined, additional surveys and evaluations must occur as discussed in Mitigation Measure C-1a (Inventory and evaluate cultural resources in Final APE). If cultural resources are identified through additional surveys or construction activities then Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as detailed in Section D.7.6.1, shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites.

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1a Inventory and evaluate cultural resources in Final APE.**

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout the Kofa NWR segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within the Kofa NWR segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measures C-3a (Complete consultation with Native Americans and other Traditional Groups) and C-5a (Protect and monitor NRHP-eligible properties) should reduce impacts to TCPs to a level that is less than significant (Class II), and would ensure the appropriate protection and treatment of TCPs during construction of the Proposed Project.

### *Mitigation Measures for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

As shown in Table D.7-8, sensitive areas for paleontological resources are located from MP E43 to E60, E65.5 to E68, and E71 to E73 and could be impacted by construction (Table D.7-8). In addition, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Implementation of the following mitigation measures allow provisions for the discovery and treatment of significant fossil remains and would reduce project effects to these resources to a level of less than significant (Class II): Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-8. Paleontologic Sensitivity Areas – Kofa National Wildlife Refuge

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E43–E60 | Pleistocene older alluvium, intermittently overlain by Holocene alluvium | High | — |
| E60–E64 | Volcanic Rock | Low | — |
| E64–E65 | Cretaceous nonmarine sedimentary rocks | Undetermined | — |
| E65–E65.5 | Volcanic Rock | Low | — |
| E65.5–E68 | Pleistocene older alluvium | High | — |
| E68–E69 | Volcanic Rock | Low | — |
| E69–E71 | Cretaceous nonmarine sedimentary rocks | Undetermined | — |
| E71–E73 | Pleistocene older alluvium | High | — |
| E73–E75 | Cretaceous nonmarine sedimentary rocks | Undetermined | — |
| E75–E86 | Undivided Quaternary sediments | Undetermined (Pleistocene = High) | — |

### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are two known sites that appear to be eligible for listing on the NRHP located within or adjacent to the Kofa NWR segment of the Proposed Project. None are located within known APEs. Direct and indirect impacts may occur to properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties.***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.6.3 Kofa National Wildlife Refuge to Colorado River- Arizona

Within the Kofa National Wildlife Refuge to Colorado River segment of the Proposed Project, no NRHP–eligible sites occur within designated APEs for tower sites, series capacitor, and stub roads. However, because there is a potential to encounter undiscovered cultural and paleontological resources, the following impacts could occur during project construction or operation.

### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

Although no known eligible cultural sites are located within the APEs for this segment, there are four known sites (AZ R:7:66, AZ R:7:61, AZ R:8:42 and AZ R:8:49) recommended as NRHP-eligible that are located within the general corridor for this segment. Impacts to those or other newly discovered NRHP-eligible cultural resources could result from construction activities that require earth-disturbing effects. The construction impacts are most likely associated with erecting towers, creating tower pads, access road grading, digging of tower footings, and conductor pulling and splicing. Telecommunication or series capacitor facilities did not occur in this segment, and therefore would not create impacts to known cultural resource sites. Known APEs are those associated with tower placement and stub road grading. APEs for other activities such as pulling and splicing have not been determined and thus all sites recommended as NRHP-eligible within or adjacent to the general transmission corridor were included in impact analysis. As detailed in Section D.7.6.1, the impact analysis would be similar for this segment.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the implementation of avoidance and protection measures. Using cultural resource studies conducted for this project, as well as past studies, known loca-

tions of cultural resources recommended as NRHP-eligible have been determined and should be avoided by project redesign and engineering modifications as described in Mitigation Measure C-1b (Avoid and protect potentially significant resources). Once final design is completed and APE locations have been determined, additional surveys and evaluations must occur as discussed in Mitigation Measure C-1a (Inventory and evaluate cultural resources in Final APE). If cultural resources are identified through additional surveys or construction activities then Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as detailed in Section D.7.6.1, shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites.

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1a Inventory and evaluate cultural resources in Final APE.**

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout the Kofa to Colorado segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects),

C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans**.

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within the Kofa to Colorado segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA, has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measures C-3a (Complete consultation with Native Americans and other Traditional Groups) and C-5a (Protect and monitor NRHP-eligible properties) should reduce impacts to TCPs to a level that is less than significant (Class II).

#### *Mitigation Measures for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

#### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

As shown in Table D.7-9, areas sensitive for Paleontological resources are located from MP E93 to MP E101 and could be impacted by construction. Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Implementation of the following mitigation measures would reduce project effects to these resources to a level of less than significant (Class II): Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-9. Paleontologic Sensitivity Areas – Kofa National Wildlife Refuge to Colorado River

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E86–E89.5 | Undivided Jurassic and Cretaceous nonmarine sedimentary rocks | Undetermined | — |
| E89.5–E93 | Volcanic rocks | Low | — |
| E93–E101 | Plio-Pleistocene alluvium | High | — |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are four known cultural resource sites that have been recommended as NRHP-eligible within the Kofa NWR to Colorado River segment of the Proposed Project. None are located within known APEs. Direct and indirect impacts may occur to properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.6.4 Palo Verde Valley (Colorado River to Midpoint Substation)

One known prehistoric site (CA-RIV-1823) is located within this segment of the Proposed Project. Because this resource appears to be ineligible for the NRHP or CRHR, no further management of this site would be recommended. Because there is a potential to encounter undiscovered cultural and paleontological resources, the following impacts could occur during project construction or operation.

## Construction Impacts

### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

There are no known NRHP-eligible sites located within this segment. However, as detailed in Section D.7.6.1, ground-disturbing activities for the Proposed Project could impact other NRHP-eligible sites (or *de facto* eligible for the California Register of Historic Resources or certain local registers) identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the avoidance and protection measures listed in Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources). In addition, if cultural resources are identified through additional surveys or construction activities, then Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as detailed in Section D.7.6.1, shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites.

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1a Inventory and evaluate cultural resources in Final APE.**

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated

sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native Americans and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from MP 112.2 to MP E113.3 and could be impacted by construction (Table D.7-10). Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-10. Paleontologic Sensitivity Areas – Palo Verde Valley (Colorado River to Midpoint Substation)

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E102–E112.2 | Holocene alluvium | Low | — |
| E112.2–E113.3 | Pleistocene older alluvium | High | — |
| E113.3–E117.5 | Holocene alluvium | Low | — |
| E117.5–E119 | Holocene dune sand | Low | — |

### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

## Operational Impacts

### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There are no known NRHP-eligible sites within this segment. However, others may be identified during additional surveys or during construction. Direct and indirect impacts may occur to properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups)..

### *Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties*

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.6.5 Midpoint Substation

One known prehistoric site (P-33-14387) is located within this area of the Proposed Project. This resource appears to be ineligible for the NRHP or CRHR. Therefore, no further management of this site would be recommended. Because, there is a potential to encounter undiscovered cultural resources, the following impacts could occur during project construction or operation.

### Construction Impacts

***Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)***

The potential to discover unanticipated cultural resources during construction exists within the Midpoint Substation portion of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

***Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains***

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

***Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)***

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

***Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties***

**C-3a Complete consultation with Native American and other Traditional Groups.**

## D.7.6.6 Midpoint Substation to Cactus City Rest Area

Forty-one known historic and prehistoric sites are located within this segment of the Proposed Project and could be impacted by project construction and operation. Also, there is potential to encounter undiscovered cultural and paleontological resources. Therefore, the following impacts could occur during project construction or operation.

### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

There are 41 known historical and prehistoric sites located within this segment, and the following is a discussion of specific construction impacts that would potentially occur to these sites.

Sites CA-RIV-1117H(a) (Desert Training Center site), CA-RIV-1117H(b) (Desert Training Center site), CA-RIV-7488 (lithic scatter), P-33-13571 (lithic scatter), P-33-13574 (lithic scatter), and CA-RIV-1813 (2 rock rings & procurement site) would be impacted by one or more of the following actions: proposed construction of a new tower and stub road, maintenance and use of access through-road (Table D.7-11). These sites may be eligible for listing on the NRHP, but have not been evaluated. If the BLM determines or assumes that these resources are NRHP-eligible, direct impacts would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Sites P-33-13593 (historic refuse deposit), P-33-13588 (Desert Training Center site), P-33-13598 (Desert Training Center site), P-33-13600 (Desert Training Center site), P-33-13587 (lithic scatter), and P-33-13599 (lithic scatter) would be impacted by one or more of the following actions: proposed construction of a new tower and stub road, maintenance and use of access through-road, and temporary construction activity (Table D.7-11). These sites appear to be ineligible for listing on the NRHP. Therefore, no further management of these sites would be recommended. If the SHPO determines that any of these

resources are NRHP-eligible, direct impacts would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Sites CA-RIV-1819 (lithic quarry), CA-RIV-1811 (lithic scatter), CA-RIV-1820 (lithic scatter), CA-RIV-1018 (temporary encampment), CA-RIV-1821 (temporary encampment), and CA-RIV-1822 (temporary encampment) would be impacted by one or more of the following actions: proposed construction of a new tower and stub road, maintenance and use of access through-road, and temporary construction activity (Table D.7-11). Archaeological excavations in 1982 (Carrico et al., 1980) determined that the research potential of these sites had been exhausted and that the sites were ineligible for NRHP-listing. If the BLM and SHPO concur that these sites are no longer eligible for listing on the NRHP, no further management would be recommended. If additional studies are required to determine the current NRHP-eligibility of these sites, Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1, would be employed to reduce potential project effects.

Sites CA-RIV-7489 (historic foundation & debris), CA-RIV-7490 (Desert Training Center site), P-33-13596 (Desert Training Center site), CA-RIV-53T(c) trail segment & lithic scatter), CA-RIV-250T (junction of multiple trail segments, CA-RIV-343T(b) (trail segment), CA-RIV-343T(c) (trail segment bisecting RIV-1822 & RIV-1821), CA-RIV-650T (trail segment bisecting RIV-1821), CA-RIV-673T (2 parallel trail segments), CA-RIV-1115 (2 trail segments & artifacts), P-33-13578 (lithic scatter), CA-RIV-1815 (rock ring & lithic scatter), P-33-13586 (rock ring & lithic scatter), and P-33-13604 (rock ring & procurement site) would be impacted by one or more of the following actions: proposed construction of a new tower and stub road, maintenance and use of access through-road, and temporary construction activity (Table D.7-11). Because these sites appear to have good data potential, if direct impacts are unavoidable through project redesign, further studies would be required to evaluate the NRHP-eligibility of these sites. If the BLM and SHPO determine that these sites are ineligible for the NRHP, no further management or mitigation would be required. If the BLM and SHPO determine that these sites are NRHP-eligible and avoidance is not feasible, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Sites CA-RIV-1809H (Desert Training Center site), CA-RIV-1810H (Desert Training Center site), P-33-13601 (Desert Training Center site), P-33-13602 (Desert Training Center site), P-33-13603 (Desert Training Center site), CA-RIV-53T(d) (trail segment & lithic scatter), and CA-RIV-1816 (temporary encampment) are outside or near, but not within areas of direct impact of the Proposed Project (Table D.7-11). These sites have not been evaluated for NRHP-eligibility, but may be determined or presumed eligible by the BLM on the basis of surface observations. Potential project construction impacts to these sites can be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Table D.7-11. Potential Effects to Cultural Resources – Midpoint Substation to Cactus City Rest Area

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-7489 | Historic foundation & debris | Insufficient Data | Within | ✔ | - | E | - | Avoidance or Evaluation & Treatment |
| P-33-13593 | Historic refuse deposit | Not Significant | Within | ✔ | - | N | - | No Effect |
| CA-RIV-1117H(a) | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1117H(b) | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1809H | Desert Training Center site | Insufficient Data | Near | - | E | - | - | Avoidance |
| CA-RIV-1810H | Desert Training Center site | Insufficient Data | Near | - | E | - | - | Avoidance |
| CA-RIV-7490 | Desert Training Center site | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Treatment |
| P-33-13588 | Desert Training Center site | Not Significant | Within | ✔ | E | N | - | No Effect |
| P-33-13596 | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| P-33-13598 | Desert Training Center site | Not Significant | Within | - | E | - | ✔ | No Effect |
| P-33-13600 | Desert Training Center site | Not Significant | Within | - | E | - | - | No Effect |
| P-33-13601 | Desert Training Center site | Insufficient Data | Near | ✔ | - | N | - | Avoidance |
| P-33-13602 | Desert Training Center site | Insufficient Data | Near | - | - | - | - | Avoidance |
| P-33-13603 | Desert Training Center site | Insufficient Data | Near | - | - | - | - | Avoidance |
| CA-RIV-1383 | N. Chuckwalla Mtns. Petroglyph District | Listed | Within | * | * | * | * | - |
| CA-RIV-1814 | N. Chuckwalla Mtns. Quarry District | Listed | Within | ** | ** | ** | ** | - |
| CA-RIV-1819 | Lithic quarry | Not Significant | Within | - | E | - | ✔ | No Effect |
| CA-RIV-53T(c) | Trail segment & lithic scatter | Insufficient Data | Within | - | E | - | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-53T(d) | Trail segment & lithic scatter | Insufficient Data | Near | - | - | - | - | Avoidance |
| CA-RIV-250T | Junction of multiple trail segments | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-343T(b) | Trail segment | Insufficient Data | Near | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |
| CA-RIV-343T(c) | Trail segment bisecting RIV-1822 & RIV-1821 | Insufficient Data | Within | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |
| CA-RIV-650T | Trail segment bisecting RIV-1821 | Insufficient Data | Within | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |

Table D.7-11. Potential Effects to Cultural Resources – Midpoint Substation to Cactus City Rest Area

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-673T | 2 parallel trail segments | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1115 | 2 trail segments& artifacts | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1811 | Lithic scatter | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-1820 | Lithic scatter | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-7488 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13571 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13574 | Lithic scatter | Insufficient Data | Near | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13578 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13587 | Lithic scatter | Not Significant | Within | ✔ | - | N | - | No Effect |
| P-33-13599 | Lithic scatter | Not Significant | Within | ✔ | - | N | - | No Effect |
| CA-RIV-1018 | Temporary encampment | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-1813 | 2 Rock rings & procurement site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1815 | Rock ring & lithic scatter | Insufficient Data | Within | ✔ | - | E | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1816 | Temporary encampment | Insufficient Data | Outside | - | - | - | - | Avoidance |
| CA-RIV-1821 | Temporary encampment | Not Significant | Within | ✔ | E | N | ✔ | No Effect |
| CA-RIV-1822 | Temporary encampment | Not Significant | Within | - | E | - | ✔ | No Effect |
| P-33-13586 | Rock ring & lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13604 | Rock ring & procurement site | Insufficient Data | Within | - | E | - | ✔ | Avoidance or Evaluation & Data Recovery |

E = Existing, N = New, * See Table D.7-12, ** See Table D.7-13,

Two sites within this segment have been listed on the NRHP as archaeological districts; both are extensive and particularly sensitive. Potential impacts to each are discussed separately, below.

Site CA-RIV-1383 is the North Chuckwalla Mountains Petroglyph National Register District, which contains 170 petroglyph panels in six major loci and six isolated occurrences. Other cultural constituents at the site include evidence of temporary encampment and maintenance activities, including seven loci with

rock ring features and cleared circles, three trail segments, seven flaked stone scatters or isolates, two loci with bedrock milling features, and two with scattered ceramics. The NRHP district is approximately 90 acres, and the cultural loci are scattered and discrete. As a result, only 12 of the loci are within or near the APE of the Proposed Project (see Table D.7-12). Four of those have been completely collected during previous investigations and no further management would be recommended. Direct project impacts to the remaining eight loci in and near the APE would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible for all sensitive loci, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Table D.7-12. Potential Effects to CA-RIV-1383 – North Chuckwalla Mountains NRHP Petroglyph District

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1383 | Unmeasured levels of impact from previous surface collection & sub-surface testing, DTC/C-AMA training activities, construction & maintenance of existing transmission line & recreation access | Listed (d) | Within | - | - | - | - | - |
| Locus A | Single oversized rock ring feature; cultural relationship (prehistoric vs. historic) unclear | Contributing | Near | - | - | - | - | Avoidance |
| Locus B | Single rock ring feature; previously destroyed by excavation | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus C | One rock ring feature & three cleared circles; rock ring feature previously excavated; unmeasured levels of engineering survey impacts | Non-Contributing | Within | ✔ | - | - | - | No Effect |
| Locus D | Single rock ring feature; unmeasured levels of impact from existing gas pipeline & use & maintenance of access through-road | Non-Contributing | Within | - | E | - | - | No Effect |
| Locus FF | Three petroglyph panels | Contributing | Near | - | - | - | - | Avoidance |
| Locus G | Single rock ring feature; unmeasured levels of impact from engineering survey activities | Contributing | Near | - | - | - | - | Avoidance |
| Locus H | Single rock ring feature with associated wooden & metal wire debris (historic engineering surveys?) | Contributing | Near | - | - | - | - | Avoidance |
| Locus J | Pot drop locus; 59 sherds previously collected | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus K | Nine rock art panels | Contributing | Near | - | - | - | - | Avoidance |
| Locus N | Single petroglyph panel | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| Locus P | Single rhyolite core – previously collected | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus Q | Lithic scatter – previously collected | Non-Contributing | Near | - | - | - | - | No Effect |

E = Existing

Site CA-RIV-1814 is the North Chuckwalla Mountains Quarry National Register District, a large quarry region, covering more than 800 acres, where aplite, a fine-grained intrusive felsite rock was procured and reduced. There is a main quarry area, but more than 80 other known prehistoric loci radiate out from it. These include remnants of temporary shelters (rock rings and cleared circles), lithic scatters, trails, hunting blinds, and a natural rock shelter. As with the National Register Petroglyph District, the Quarry District contains cultural loci that are scattered over a large area and that are fairly discrete. As a result, only 12 prehistoric loci are within the APE of the Proposed Project (see Table D.7-13). Direct project impacts to those loci in the APE would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible for all sensitive loci, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Four additional sites (CA-RIV-1635H, P-33-13579, P-33-13592, and P-33-13594) were located near the APE of this segment of the Proposed Project but were not within designated APEs. All four of these sites appear to be ineligible for NRHP listing.

Table D.7-13. Potential Effects to CA-RIV-1814 – North Chuckwalla Mountains NRHP Quarry District

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1814 | Unmeasured levels of impact from previous surface collection & subsurface testing, construction & maintenance of existing transmission line & recreation access | Listed (d) | Within | - | - | - | - | - |
| Locus 27-3 | Bifacial aplite flake | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| Locus 29-1 | Trail segment | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| Locus 30-1 | Sparse lithic scatter | Contributing | Within | ✔ | - | N | - | Avoidance or Data Recovery |
| Locus 31-3 | Large, dense lithic scatter impacted by existing stub road & existing tower 163-1 | Contributing | Within | - | - | E | - | Avoidance or Data Recovery |
| SCE.052-59 | Portable metate & quartz reduction locus | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.052-60 | Sparse lithic scatter | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| SCE.053-07 | Large, dense lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-08 | Dense lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-09 | Sparse lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |

Table D.7-13. Potential Effects to CA-RIV-1814 – North Chuckwalla Mountains NRHP Quarry District

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| SCE.053-10 | Modern camp, hearth & vehicle trackway present | Non-Contributing | Intrusive | - | - | - | - | No Effect |
| SCE.053-12 | Rock cairn feature & sparse lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-13 | Quartz biface fragment | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-15 | Porphyry core & quartz lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| 50 Additional Loci | Various | Contributing | Near | - | - | - | - | Avoidance |

E = Existing, N = New

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the avoidance and protection measures in listed in Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel). However, if direct impacts to NRHP-eligible properties are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I).

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native Americans and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

#### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from MP E176.5 to MP E177.4 and could be impacted by construction (Table D.7-14). Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and

Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-14. Paleontologic Sensitivity Areas – Midpoint Substation to Cactus City Rest Area

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E119–E122 | Holocene dune sand | Low | — |
| E122–E128 | Holocene dune sand | Low | — |
| E128–E142 | Holocene alluvium | Low | — |
| E142–E142.2 | Pleistocene older fan deposits | Undetermined | — |
| E142.2–E145 | Holocene alluvium | Low | — |
| E145–E146 | Pleistocene older fan deposits, overlain in washes by Holocene alluvium | Undetermined | — |
| E146–E147 | Holocene alluvium | Low | — |
| E147–E148 | Pleistocene older fan deposits | Undetermined | — |
| E148–E148.7 | Holocene alluvium | Low | — |
| E148.7–E151 | Pleistocene older fan deposits, overlain in washes by Holocene alluvium | Undetermined | — |
| E151–E152.2 | Mesozoic granitics | Low | — |
| E152.2–E153 | Pleistocene older fan deposits | Undetermined | — |
| E153–E155.5 | Holocene alluvium | Low | — |
| E155.5–E156.5 | Mesozoic granitics | Low | — |
| E156.6–E157.4 | Pleistocene older fan deposits, overlain in washes by Holocene alluvium | Undetermined | — |
| E157.4–E159 | Holocene dune sand | Low | — |
| E159–E162 | Pleistocene older fan deposits, overlying Mesozoic granitics and overlain in washes by Holocene alluvium | Undetermined | — |
| E162–E169.8 | Holocene alluvium | Low | — |
| E169.8–E174 | Mesozoic granitics, overlain in washes by Holocene alluvium | Low | — |
| E174–E176.5 | Holocene alluvium | Low | — |
| E176.5–E177.4 | Maniobra Formation (Eocene); overlain in washes by Pleistocene alluvium | High | — |
| E177.4–E188.5 | Holocene alluvium | Low | — |
| E188.5–E191.5 | Pleistocene older alluvium (= Ocotillo Conglomerate?) | Undetermined | — |
| E191.5–E192 | Mesozoic granitics | Low | — |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are 41 known archaeological sites within this segment; others may be identified during additional surveys or during construction. Direct and indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Sites CA-RIV-1117H(a) (Desert Training Center site), CA-RIV-1117H(b) (Desert Training Center site), CA-RIV-7488 (lithic scatter), P-33-13571 (lithic scatter), P-33-13574 (lithic scatter), CA-RIV-1813 (2 rock rings & procurement site), P-33-13593 (historic refuse deposit), P-33-13588 (Desert Training Center site), P-33-13598 (Desert Training Center site), P-33-13600 (Desert Training Center site), P-33-13587 (lithic scatter), P-33-13599 (lithic scatter), CA-RIV-1819 (lithic quarry), CA-RIV-1811 (lithic scatter), CA-RIV-1820 (lithic scatter), CA-RIV-1018 (temporary encampment), CA-RIV-1821 (temporary encampment), CA-RIV-1822 (temporary encampment), CA-RIV-7489 (historic foundation & debris), CA-RIV-7490 (Desert Training Center site), P-33-13596 (Desert Training Center site), CA-RIV-53T(c) (trail segment & lithic scatter), CA-RIV-250T (junction of multiple trail segments, CA-RIV-343T(b) (trail segment), CA-RIV-343T(c) (trail segment bisecting RIV-1822 & RIV-1821), CA-RIV-650T (trail segment bisecting RIV-1821), CA-RIV-673T (2 parallel trail segments), CA-RIV-1115 (2 trail segments & artifacts), P-33-13578 (lithic scatter), CA-RIV-1815 (rock ring & lithic scatter), P-33-13586 (rock ring & lithic scatter), P-33-13604 (rock ring & procurement site), CA-RIV-1809H (Desert Training Center site), CA-RIV-1810H (Desert Training Center site), P-33-13601 (Desert Training Center site), P-33-13602 (Desert Training Center site), P-33-13603 (Desert Training Center site), CA-RIV-53T(d) (trail segment & lithic scatter), CA-RIV-1816 (temporary encampment), CA-RIV-1383 (N. Chuckwalla Mtns. Petroglyph District), and CA-RIV-1814 (N. Chuckwalla Mtns. Quarry District) could be impacted by one or more of the following actions: operation and long-term presence of the Proposed Project and maintenance and use of access through-road.

Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups)..

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.6.7 Cactus City Rest Area to Devers Substation

Three known prehistoric sites P-33-13576 (trail segment & lithic scatter), P-33-13563 (lithic scatter), CA-RIV-1119 (temporary encampment) and one possible TCP (Edom Hill) are located within this segment of the Proposed Project and could be impacted by project construction and operation. Also, there is potential to encounter undiscovered cultural and paleontological resources. Therefore, the following impacts could occur during project construction or operation.

## Construction Impacts

### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

There are three known prehistoric sites located within this segment (Table D.7-15). The following is a discussion of potential construction impacts to these sites.

Site P-33-13576, a trail segment and prehistoric lithic scatter, would be impacted by proposed construction of a new tower and stub road. The site may be eligible for listing on the NRHP, but has not been evaluated. If the BLM and SHPO determine or assume that this resource is NRHP-eligible, direct impacts would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Site P-33-13563, a prehistoric lithic scatter, would be impacted by proposed conductor stringing and maintenance and use of an access through-road. The site appears to be ineligible for listing on the NRHP; it consists of only two isolated artifacts. If the SHPO concurs with this determination, no further management of the site would be required. If the SHPO and BLM determine or assume that this resource is NRHP-eligible, direct impacts would be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). If avoidance is not feasible, project effects would be reduced by implementation of Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Site CA-RIV-1119, a prehistoric temporary encampment, would be impacted by proposed construction of a new tower and stub road, as well as by an existing access road. Archaeological excavations in 1982 (Carrico et al., 1980) determined that the research potential of the site had been exhausted and that the site was ineligible for NRHP-listing. If the BLM concurs that the site is no longer eligible for listing on the NRHP, no further management would be required. If additional studies are required to determine the current NRHP-eligibility of the site, Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), as described in Section D.7.6.1.

Four additional sites (CA-RIV-164T, CA-RIV-53T(b), P-33-13561, and P-33-13569) were located near the APE of this segment of the Proposed Project but were not within designated APEs. All four of these sites appear to be ineligible for NRHP listing.

Table D.7-15. Potential Effects to Cultural Resources – Cactus City Rest Area to Devers Substation

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| P-33-13576 | Trail segment & lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13563 | Lithic scatter | Not Significant | Within | - | E | - | ✔ | No Effect |
| CA-RIV-1119 | Temporary encampment | Not Significant | Within | ✔ | E | N | - | No Effect |

E = Existing, N = New

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the avoidance and protection measures in listed in Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel). However, if direct impacts to NRHP-eligible properties are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I).

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

Edom Hill, within the Indio Hills Complex, has been identified as a sensitive zone of interest to local Native Americans. However, other TCPs could be identified along this segment of the Proposed Project. The BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups regarding project effects on traditional cultural values. That consultation will determine whether there are other TCPs that could be affected within this segment. Implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel), C-2a (Consult agencies and Native Americans), and C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II).

#### *Mitigation Measures for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from MP E192 to E192.5, MP E201 to E201.9 and MP E202.8 to E206.4 and could be impacted by construction (Table D.7-16). Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-16. Paleontologic Sensitivity Areas – Cactus City Rest Area to Devers Substation

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| E192–E192.5 | Pleistocene older alluvium | High | — |
| E192.5–E193 | Ocotillo Conglomerate | Undetermined | — |
| E193–E193.3 | Holocene wash sediments incising Ocotillo Conglomerate | Undetermined | — |
| E193.3–E200 | Ocotillo Conglomerate, overlain in washes by Holocene alluvium | Undetermined | SBCM 5.9.19 |
| E200–E201 | Holocene alluvium | Low | — |
| E201–E201.9 | Pliocene nonmarine sediments (possibly Palm Springs Formation) | High | — |
| E201.9–E202.8 | Holocene alluvium | Low | — |
| E202.8–E206.4 | Pliocene nonmarine sediments (possibly Palm Springs Formation) | High | SBCM 5.8.1<br>SBCM 5.8.3 – 5.8.5<br>SBCM 5.8.7 – 5.8.15 |
| E206.4–E208.5 | Holocene alluvium | Low | SBCM 5.8.4 |
| E208.5–E210.4 | Holocene dune sands | Low | — |
| E210.4–E218 | Holocene alluvium | Low | — |
| E218–E222.2 | Ocotillo Conglomerate | Undetermined | SBCM 5.8.2 |
| E222.2–E223 | Holocene alluvium | Low | — |
| E223–E227.4 | Holocene alluvium | Low | — |
| E227.4–E228.3 | Cabazon Fanglomerate | Low | — |
| E228.3–W0.0 | Holocene alluvium | Low | — |

### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are three known archaeological sites within this segment; others may be identified during additional surveys or during construction. Direct and indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Site P-33-13576 (trail segment & lithic scatter), P-33-13563 (lithic scatter), and CA-RIV-1119 (temporary encampment) could be impacted during operation and long-term presence of the Proposed Project by access through-roads. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.7 Environmental Impacts and Mitigation Measures for the Proposed Project – West of Devers

This section presents discussion of impacts and mitigation measures for the 230 kV transmission upgrade portion of the DPV2 project. The discussion is divided into five geographic areas, all located in California. Within each area, both potential construction impacts and operational impacts are addressed.

### D.7.7.1 Devers Substation to East Border of Banning

One known historical site P-33-007888, the historical Cabazon Land and Water Company irrigation ditch, is located within this segment of the Proposed Project and could be impacted by project construction and operation. Because, there is a potential to encounter undiscovered cultural resources, the following impacts could occur during project construction or operation. No High Paleontological Sensitivity Areas were identified within this segment of the Proposed Project.

#### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

There is one known historical site located within this segment. Site P-33-007888, the historical Cabazon Land and Water Company irrigation ditch, is outside or near, but not within areas of direct impact of the Proposed Project (Table D.7-17). Some areas of direct impact, such as access through-roads and stub roads, as well as, temporary laydown areas have not been specified yet. It appears that this site can be avoided by careful design of these project elements. This site has not been evaluated for NRHP-

eligibility, but may be determined or presumed eligible by the BLM on the basis of surface observations. Potential project construction impacts to this site can be avoided by implementation of Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel), as detailed in Section D.7.6.1.

One additional site (P-33-13434) was located near the APE of this segment of the Proposed Project but was not within a designated APE. This site appears to have no potential for NRHP eligibility.

Table D.7-17. Potential Effects to Cultural Resources – Devers Substation to East Border of Banning

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| P-33-007888 | Cabazon Land and Water Company irrigation ditch or conduit | Insufficient data | Near | - | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the following avoidance and protection mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). However, if direct impacts to NRHP-eligible properties are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I).

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

***Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)***

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains

or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations of the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measures for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### Operational Impacts

#### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There is one known archaeological site within this segment; others may be identified during additional surveys or during construction. Site P-33-007888, the historical Cabazon Land and Water Company irrigation ditch, could be impacted during operation and long-term presence of the Proposed Project by access through-roads. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.7.2 Banning and Beaumont

Three known cultural resources CA-RIV-197 (ethnohistorical Cahuilla village), CA-RIV-7462 (historic refuse deposit), and CA-RIV-2264H (historic Vanderventer Ranch site) are located within this segment of the Proposed Project and could be impacted by project construction and operation. Also, there is potential to encounter undiscovered cultural and paleontological resources. Therefore, the following impacts could occur during project construction or operation.

### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

There are three known historical and prehistoric sites located within this segment. Sites CA-RIV-197 (Ethnohistorical Cahuilla Village), CA-RIV-7462 (historic refuse deposit), and CA-RIV-2262H (historic Vanderventer Ranch site) are outside or near, but not within areas of direct impact of the Proposed Project (Table D.7-18). Some areas of direct impact, such as access through-roads and stub roads, as well as, temporary laydown areas have not been specified yet. It appears that these sites can be avoided by careful design of these project elements. These sites have not been evaluated for NRHP-eligibility, but may be determined or presumed eligible by the BLM on the basis of surface observations.

Table D.7-18. Potential Effects to Cultural Resources – Banning and Beaumont

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-197 | Ethnohistorical Cahuilla Village | Significant (d) | Near | - | ? | ? | ? | Avoidance |
| CA-RIV-7462 | Historic refuse deposit | Insufficient Data | Near | - | ? | ? | ? | Avoidance |
| CA-RIV-2262H | Historic Vanderventer Ranch site | Insufficient Data | Near | - | ? | ? | ? | Avoidance |

As detailed in Section D.7.6.1, ground-disturbing activities for the Proposed Project could impact known NRHP-eligible cultural resources (or *de facto* eligible for the California Register of Historic Resources or certain local registers) or other NRHP-eligible sites identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the following avoidance and protection mitigation measures: C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I). and effects would be considered adverse.

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

***Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)***

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations of the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II).

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

As shown in Table D.7-19, areas sensitive for paleontological resources are located from MP W18.7 to W19.5 and MP W20.2 to W28.7 and could be impacted by construction. Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-19. Paleontologic Sensitivity Areas – Banning and Beaumont

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| W11–W17 | Holocene alluvium | Low | — |
| W17–W17.5 | Holocene alluvium | Low | — |
| W17.5–W18.7 | Canebrake Conglomerate or Palm Springs Formation | Undetermined | — |
| W18.7–W19.5 | Pleistocene older alluvium | High | — |
| W19.5–W20.2 | Canebrake Conglomerate or Palm Springs Formation | Undetermined | — |
| W20.2–W28.7 | Pleistocene older alluvium, incised in major washes by Holocene alluvium | High | — |
| W28.7–W29.5 | Holocene alluvium | Low | SBCM 5.3.40 – 5.3.42<br>SBCM 5.3.51 – 5.3.53 |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

## Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are three known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites CA-RIV-197 (Ethnohistorical Cahuilla Village), CA-RIV-7462 (historic refuse deposit), and CA-RIV-2262H (historic Vanderventer Ranch site) are outside or near, but not within areas of direct impact of the Proposed Project. These sites could be impacted during operation and long-term presence of the Proposed Project by access through-roads. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.7.3 Calimesa and San Timoteo Canyon

No known cultural resources were identified within the APEs for this segment of the Proposed Project. However, because there is a potential to encounter undiscovered cultural and paleontological resources, the following impacts could occur during project construction or operation.

### Construction Impacts

#### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

There are no known NRHP-eligible sites located within this segment. However, two additional sites **(**P-33-13429 and P-33-13430**)** were located near the APE of this segment but were not within designated APEs. As detailed in Section D.7.6.1, ground-disturbing activities for the Proposed Project could impact other NRHP-eligible sites (or *de facto* eligible for the California Register of Historic Resources or certain local registers) identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespass out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the following avoidance and protection mitigation measures: Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

***Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties***

**C-3a Complete consultation with Native American and other Traditional Groups.**

***Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)***

Areas sensitive for paleontological resources are located from MP W29.5 to W40 and could be impacted by construction (Table D.7-20). Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-20. Paleontologic Sensitivity Areas – Calimesa and San Timoteo Canyon

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| W29.5–W40 | San Timoteo Formation | High | SBCM 5.3.34 – 5.3.37<br>SBCM 5.3.3<br>SBCM 5.3.225<br>SBCM 5.3.5<br>SBCM 5.3.6<br>SBCM 5.3.61 – 5.3.63<br>SBCM 5.3.160 – 5.3.164<br>SBCM 5.3.228 – 5.3.245<br>SBCM 5.3.262 – 5.3.266<br>SBCM 5.3.7<br>SBCM 5.3.256 – 5.3.257<br>SBCM 5.3.114 |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

## Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are no known NRHP-eligible sites within this segment. However, others may be identified during additional surveys or during construction. Direct and indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion

could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.7.4 San Bernardino Junction to Vista Substation

Three known historical sites are located within this segment of the Proposed Project and could be impacted by project construction and operation. Also, there is potential to encounter undiscovered cultural and paleontological resources. Therefore, the following impacts could occur during project construction or operation.

### Construction Impacts

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

There are three known historical sites located within this segment. Sites CA-SBR-11624H (historical homestead or farm site) and P-36-020240 (Possible historical residential site) are outside or near, but not within areas of direct impact of the Proposed Project (Table D.7-21). These are not recommended as eligible for NRHP-listing. Another known historical site (CA-RIV-4768H/CA-SBR-7168H: the Gage Canal) is located within this segment of the Proposed Project. This canal has been recommended as eligible for the NRHP in other portions of Riverside and San Bernardino Counties. However, the portion of the canal near the APE has not been evaluated to determine whether it is a contributing element of the historical water conveyance system. Some areas of direct impact, such as access through-roads and stub roads, as well as, temporary laydown areas have not been specified yet. It appears that these sites can be avoided by careful design of these project elements.

As detailed in Section D.7.6.1, ground-disturbing activities for the Proposed Project could impact known NRHP-eligible cultural resources (or *de facto* eligible for the California Register of Historic Resources or certain local registers) or other NRHP-eligible sites identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-21. Potential Effects to Cultural Resources – San Bernardino Junction to Vista Substation

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-SBR-11624H | Historical homestead or farm site | Not Significant | Near | - | ? | ? | ? | No Effect |
| P-36-020240 | Poss. Historical residential site | Not Significant | Near | - | ? | ? | ? | No Effect |
| CA-RIV-4768H / CA-SBR-7168H | Historical Gage Canal | Significant (a,b,c,d) | Near | - | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by the avoidance and protection measures in listed in Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel). However, if direct impacts to NRHP-eligible properties are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I).

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

***Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)***

The potential to discover unanticipated cultural resources during construction exists throughout this segment of the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native

Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the Proposed Project. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from MP V0.0 to V2.7 and MP V3.5 to V4.6 and could be impacted by construction (Table D.7-22). Also, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-22. Paleontologic Sensitivity Areas – San Bernardino Junction to Vista Substation

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| V0.0–V2.7 | San Timoteo Formation | High | — |
| V2.7–V3.1 | Holocene wash sediments | Low | — |
| V3.1–V3.5 | Cretaceous granitics | Low | — |
| V3.5–V4.6 | Pleistocene old fan deposits | High | SBCM 1.102.2 |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### Operational Impacts

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are three known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites CA-SBR-11624H (historical homestead or farm site), P-36-020240 (possible historical residential site), and CA-RIV-4768H/CA-SBR-7168H (the Gage Canal) are outside or near, but not within areas of direct impact of the Proposed Project. These sites could be impacted during operation and long-term presence of the Proposed Project by access through-roads. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.7.5 San Bernardino Junction to San Bernardino Substation

No known cultural resources or High Paleontological Sensitivity Areas were identified within this segment of the Proposed Project. Because no direct impacts are anticipated along this segment of the Proposed Project, no further management of cultural resources in this segment is recommended.

# D.7.8 Devers-Harquahala Alternatives

## D.7.8.1 SCE Harquahala-West Alternative

### Environmental Setting – Cultural Resources

The SCE Harquahala-West Alternative is a 21-mile alternative that would traverse BLM, State (Arizona), and private lands. Class I and Class II surveys were conducted in 2004 which identified four sites near or within the proposed corridor for this alternative, AZ S:7:41, AZ S:7:42, AZ S:11:5/NA 14786. AZ S:12:14. All of these sites were originally recorded using map UTMs rather than GPS. The locations of these sites were revisited during field survey in 2004 in order to check the accuracy of their location in relation to the alternative. None of these sites could be relocated in the field at the recorded locations. Further field investigation was conducted but did not result in their location (Luhnow, 2004a and 2004b).

### Environmental Setting – Paleontological Resources

Three portions of the SCE Harquahala-West Alternative are designated as areas of High paleontologic sensitivity and one additional portion along this alternative is designated High sensitivity at depth. Areas along this alternative from MP 0.0 to 2.1, MP 10.1 to 17.9, and MP 18.3 to 21.0 consist of middle to later Pleistocene alluvium and have the high potential for yielding undiscovered fossil remains. The area between MP 2.1 to 10.1 consists of Holocene alluvium over Pleistocene alluvium and has a high potential to contain undiscovered fossil remains. The area between MP 17.9 to 18.3 consists of Tertiary volcanics and is considered to have a low paleontologic sensitivity.

### Impacts and Mitigation Measures

#### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

No cultural resources are known to exist within or adjacent to the general corridor for this alternative; however, the possibility always exists for the discovery of unknown cultural resources during construction and/or operation of the project. As detailed in Section D.7.6.1, ground-disturbing activities for the alternative could impact other NRHP-eligible sites identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) by implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the alternative. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from the SCE Harquahala-West Alternative MP 0 to 17.9 and MP 18.3 to 21.0 and could be impacted by construction (Table D.7-23). Also, there is potential to encounter undiscovered paleontological resources within this segment of the alternative. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-23. Paleontologic Sensitivity Areas – Harquahala-West Alternative

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| 0.0–2.1 | Middle to later Pleistocene alluvium | High | — |
| 2.1–10.1 | Holocene alluvium over Pleistocene alluvium | High (at depth) | — |
| 10.1–17.9 | Middle to later Pleistocene alluvium | High | — |
| 17.9–18.3 | Tertiary volcanics | Low | — |
| 18.3–21.0 (end) | Middle to later Pleistocene alluvium | High | — |

### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are no known archaeological sites within this alternative. However, others may be identified during additional surveys or during construction. Direct and indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the alternative. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.2 SCE Palo Verde Alternative

### Environmental Setting – Cultural Resources

The SCE Palo Verde Alternative diverges from the Proposed Project and extends southeast interconnecting with the Palo Verde Switchyard. Ten sites were recorded within the project corridor for this alternative. Four of the ten, AZ T:9:86 (ceramic scatter), AZ T:9:87 (ceramic scatter), AZ S:12:35 (stone scatter), and AZ S:12:36 (historic artifact scatter), were newly recorded during the field survey in 2004. Six of the sites, AZ: T:9:13 (rock ring), AZ S:12:32 (historic mining, prospect, pits, trash scatter and rock cairns), AZ T:9:86 (ceramic scatter), AZ T:9:87 (ceramic scatter), AZ S:12:35 (stone scatter), and AZ S:12:36 (historic artifact scatter), do not appear to be eligible for inclusion on the NRHP. Site AZ T:9:12 (rock rings) was recommended as eligible in previous surveys; however, surveyors in 2004 were hesitant to make this recommendation. Site AZ T:9:64 (artifact scatter) is located within the general corridor. However, the survey in 2004 recommended that the site is eligible, but that the portion within the corridor may be a non-contributing element of the site. Sites AZ T:9:21 (temporary camp) and AZ T:9:65 (farmstead foundation) were both relocated in 2004 and were recommended as eligible by surveyors.

### Environmental Setting – Paleontological Resources

Five portions of the SCE Palo Verde Alternative are designated as areas of High paleontologic sensitivity, while the other three portions are considered Low sensitivity. Areas along this alternative from MP 0.0 to 1.0, MP 9.9 to 12.4, MP 12.8 to 13.2, and MP 13.6 to 14.7 consist of middle to later Pleistocene alluvium and have a high potential to contain significant nonrenewable paleontologic resources. The area between MP 4.4 to 9.9 consists of Pliocene to Pleistocene alluvium and has a high potential to contain undiscovered fossil remains. The other areas along this alternative consist of tertiary volcanics and Holocene alluvium and are considered to have Low paleontologic sensitivity.

## Impacts and Mitigation Measures

### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

There are four known sites located within the general corridor for this alternative, AZ T:9:12 (rock rings) AZ T:9:21 (temporary camp) AZ T:9:64 (artifact scatter), and AZ T:9:65 (farmstead foundation) that may be eligible for NRHP listing (Table D.7-24). As detailed in Section D.7.6.1, ground-disturbing activities for the alternative could impact known NRHP-eligible cultural resources or other NRHP-eligible sites identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-24 summarizes the cultural resources within this alternative with Moderate or High potential for listing on the NRHP.

Table D.7-24. Potential Effects to Cultural Resources – SCE Palo Verde Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Stub Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| AZ T:9:12 | Rock Rings | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:21 | Temporary Camp | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:64 | Artifact Scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:65 | Farmstead Foundation | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following avoidance and protection mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this segment of the alternative. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located from the SCE Palo Verde Alternative MP 0.0 to 1.0, MP 4.4 to 12.4, MP 12.8 to 13.2, and MP 13.6 to 14.7 and could be impacted by construction (Table D.7-25). Also, there is potential to encounter undiscovered paleontological resources within this segment of the alternative. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-25. Paleontologic Sensitivity Areas – SCE Palo Verde Alternative

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| 0.0–1.0 | Middle to later Pleistocene alluvium | High | — |
| 1.0–4.4 | Tertiary volcanics | Low | — |
| 4.4–9.9 | Pliocene to Pleistocene alluvium | High | — |
| 9.9–12.4 | Middle to later Pleistocene alluvium | High | — |
| 12.4–12.8 | Holocene alluvium | Low | — |
| 12.8–13.2 | Middle to later Pleistocene alluvium | High | — |
| 13.2–13.6 | Tertiary volcanics | Low | — |
| 13.6–14.7 (end) | Middle to later Pleistocene alluvium | High | — |

### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There are four known NRHP-eligible archaeological sites within this alternative; others may be identified during additional surveys or during construction. Direct or indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the alternative. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.3 Harquahala Junction Switchyard Alternative

### Environmental Setting – Cultural Resources

The Harquahala Junction Switchyard Alternative requires construction of a new switching station on approximately 6 to 40 acres of private land near the intersection of 451st Avenue and the Thomas Road alignment, in the southwest corner of Section 25, Township 2 North, Range 8 West. No historical surveys have been completed for this property, owing to access restrictions**.**

### Environmental Setting – Paleontological Resources

The Harquahala Junction Switchyard Alternative requires construction of a new switching station on approximately 6 to 40 acres of land comprised of middle to later Pleistocene alluvium, which is considered to have a high potential for yielding undiscovered fossil remains.

### Impacts and Mitigation Measures

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

As detailed in Section D.7.6.1, ground-disturbing activities for the alternative could impact any NRHP-eligible sites identified when additional intensive surveys are completed following final project design. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

To date, no TCPs have been identified within this alternative. However, the BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs that could be affected within

this segment. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

#### *Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)*

Areas sensitive for paleontological resources are located on the approximately 6 to 40 acres of land that would be used for the alternative site and could be impacted by construction. Also, there is potential to encounter undiscovered paleontological resources within this segment of the alternative. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

#### *Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources*

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

#### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

Archaeological sites may be identified within this alternative during surveys or during construction. Direct and indirect impacts may occur to NRHP-eligible properties within and in the vicinity of the project area during operation and long-term presence of the alternative. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

#### *Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties*

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.4 Desert Southwest Transmission Project Alternative

### Environmental Setting – Cultural Resources

Class III surveys of the Desert Southwest Transmission Project Alternative (Schaeffer, 2003; Applied Earth-Works, 2006) identified 10 cultural resources within the 9.5-mile, 300-foot-wide corridor. These include two historical structures or features, four prehistoric sites, and four isolated artifacts. Historical sites consist of one scatter of historical construction debris (P-33-14207), and one historical road segment (perhaps part of the National Old Trails Road system) with cement survey markers (AE-DPV2-12H). Prehistoric resources include one trail segment (CA-RIV-53T(a)) and three prehistoric temporary encampments, rock rings, and procurement sites (P-33-13650, P-33-14162, and AE-DPV2-13). Four isolated artifacts were also located along this alternative: one gray chert flake (P-33-12819), two gray basalt macroflakes (P-33-13393 and P-33-13394), and a tested quartzite cobble (AE-DPV2-ISO-2). Class III surveys of 80 acres for the proposed Keim, Midpoint, and Dillon Road Substations identified no additional resources.

The four isolated artifacts (P-33-12819, P-33-13393, P-33-13394, and AE-DPV2-ISO-2) are not eligible for listing on the NRHP or the CRHR. Because these resources are ineligible for NRHP or CRHR, no further management of these artifacts is recommended.

### Environmental Setting – Paleontological Resources

All areas along this alternative are considered to have a Low paleontologic sensitivity.

### Impacts and Mitigation Measures

#### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

Cultural resources eligible for or potentially eligible for National Register listing occur within and adjacent to areas that could be impacted by ground-disturbing activities for this alternative to the Proposed Project. A Class III survey of a 300 foot corridor has identified six historical and prehistoric archaeological sites within this alternative. Sites P-33-14207 (historical construction debris), AE-DPV2-12H (historical road segment), CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter, P-33-14162 (quartz assay/possible reduction station), and AE-DPV2-13 (deflated rock ring & sleeping circle) could be impacted by one or more of the following actions: construction of a new tower and stub road, construction and use of access through-roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads (Table D.7-26). Some of these sites may be eligible for listing on the NRHP, but have not been evaluated.

Unavoidable direct impacts may occur to known archaeological resources within and in the vicinity of the project area during construction. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespass out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-26. Potential Effects to Cultural Resources – Desert Southwest Transmission Project Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14207 | Historical construction debris | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-12H | Historical road segment (perhaps part of the National Old Trails Road system) | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-13 | Deflated rock ring and sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

***Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)***

The potential to discover unanticipated cultural resources during construction exists throughout this alternative to the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be

infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be considered adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs in this alternative to the Proposed Project that could be affected and the significance of any project effects. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

#### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There are six known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites P-33-14207 (historical construction debris), AE-DPV2-12H (historical road segment), CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter, P-33-14162 (quartz assay/possible reduction station), and AE-DPV2-13 (deflated rock ring & sleeping

circle) could be impacted by operation, maintenance, and long-term presence of the alternative to the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.5 Alligator Rock–North of Desert Center Alternative

### Environmental Setting – Cultural Resources

A Class III survey of the Alligator Rock–North of Desert Center Alternative (Applied EarthWorks, 2006) has identified 17 cultural resources along an 11.8 mile, 500 ft. wide corridor. These include four prehistoric sites, ten historical deposits, one prehistoric/historical multicomponent site and two isolated artifacts. Prehistoric resources include four prehistoric temporary encampments, rock rings, and procurement sites (AE-DPV2-4(a&b), AE-DPV2-6, AE-DPV2-11 and AE-DPV2-14). Historical sites consist of the Desert Center "town dump" (AE-DPV2-8H), eight historical refuse deposits (CA-RIV-7019H, CA-RIV-7020H, P-33-14192, AE-DPV2-1H, AE-DPV2-2H, AE-DPV2-3H, AE-DPV2-7H, and AE-DPV2-9H), and one possible World War II Desert Training Center site (AE-DPV2-10H). The multicomponent site consists of a lithic scatter and rock cairns (P-33-13648). Two isolated artifacts were also located along this alternative: AE-DPV2-ISO-1, a prehistoric ceramic "pot drop" and AE-DPV2-ISO-3, a quartzite hammer.

Owing to lack of data potential and/or loss of integrity, two sites and the two isolated artifacts (CA-RIV-7019H, CA-RIV-7020H, AE-DPV2-ISO-1 and AE-DPV2-ISO-3) appear to be ineligible for listing on the NRHP or the CRHR. Because these resources appear to be ineligible for NRHP or CRHR, no further management of these sites would be recommended.

### Environmental Setting – Paleontological Resources

All areas along this alternative are considered to have a Low paleontologic sensitivity.

### Impacts and Mitigation Measures

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

Cultural resources potentially eligible for National Register listing occur within and adjacent to areas that could be impacted by ground-disturbing activities for this alternative to the Proposed Project. A Class III survey of a 500 foot corridor has identified 13 historical and prehistoric archaeological sites within this alternative that have not been evaluated for NRHP eligibility Sites AE-DPV2-4 (a&b) (sleeping

circle & small quartzite assay/reduction station), AE-DPV2-6 (small quartz assay/reduction station), AE-DPV2-11 (deflated rock ring/sleeping circle), AE-DPV2-14 (small quartzite assay/reduction station), AE-DPV2-8H (Historical Desert Center "Town Dump"), P-33-14192 (historical refuse scatter), AE-DPV2-1H (historical refuse scatter), AE-DPV2-2H (historical refuse scatter), AE-DPV2-3H (historical refuse scatter), AE-DPV2-7H (historical refuse scatter), AE-DPV2-9H (historical refuse scatter), AE-DPV2-10H (Possible Desert Training Center site), and P-33-13648 (Prehistoric/Historic lithic scatter & rock cairns) could be impacted by one or more of the following actions: construction of a new tower and stub road, construction and use of access through-roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads (Table D.7-27). These sites may be eligible for listing on the NRHP, but have not been evaluated.

Additional NRHP-eligible sites may be identified when additional intensive surveys are completed following final project design. Unavoidable direct impacts may occur to known archaeological resources within and in the vicinity of the project area during construction. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-27. Potential Effects to Cultural Resources – Alligator Rock–North of Desert Center Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| P-33-13648 | Prehistoric/Historic lithic scatter & rock cairns | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14192 | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-1H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-2H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-3H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-4 (a&b) | Sleeping circle & small quartzite assay/reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-6 | Small quartz assay/reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-7H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-8H | Historical Desert Center "Town Dump" | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-9H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-10H | Possible Desert Training Center site | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-11 | Deflated rock ring/sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-14 | Small quartzite assay/reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative to the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be considered adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs in this alternative to the Proposed Project that could be affected and the significance of any project effects. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native American and other Traditional Groups.**

### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There are 13 known, potentially NRHP-eligible archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites AE-DPV2-4 (a&b)(sleeping circle & small quartzite assay/reduction station), AE-DPV2-6 (small quartz assay/reduction station), AE-DPV2-11 (deflated rock ring/sleeping circle), AE-DPV2-14 (small quartzite assay/reduction station), AE-DPV2-8H (historical Desert Center "Town Dump"), P-33-14192 (historical refuse scatter), AE-DPV2-1H (historical refuse scatter), AE-DPV2-2H (historical refuse scatter), AE-DPV2-3H (historical refuse scatter), AE-DPV2-7H (historical refuse scatter), AE-DPV2-9H (historical refuse scatter), AE-DPV2-10H (Possible Desert Training Center site), and P-33-13648 (Prehistoric/Historic lithic scatter & rock cairns) could be impacted by operation, maintenance, and long-term presence of the alternative to the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.6 Alligator Rock–Blythe Energy Transmission Alternative

### Environmental Setting – Cultural Resources

A Class III survey of the Alligator Rock–Blythe Energy Transmission Alternative (Carrico et al., 2005c) has identified six cultural resources within the 4.6-mile, 200-foot-wide analysis corridor. These include three prehistoric sites and three isolated artifacts. Prehistoric resources include one trail segment (CA-RIV-53T(a)) and two prehistoric temporary encampments, rock rings, and procurement sites (P-33-13650 and P-33-14162). Three isolated artifacts were also located along this alternative: one gray chert flake (P-33-12819) and two gray basalt macroflakes (P-33-13393 and P-33-13394).

The three isolated artifacts (P-33-12819, P-33-13393, and P-33-13394) are not eligible for listing on the NRHP or the CRHR. Because these resources are ineligible for NRHP or CRHR, no further management of these artifacts would be recommended.

### Environmental Setting – Paleontological Resources

All areas along this alternative are considered to have a Low paleontologic sensitivity.

### Impacts and Mitigation Measures

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

Cultural resources potentially eligible for National Register listing occur within and adjacent to areas that could be impacted by ground-disturbing activities for this alternative to the Proposed Project. A Class III survey of a 200-foot corridor has identified three prehistoric archaeological sites within this alternative. Sites CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter), and P-33-14162 (quartz assay/possible reduction station) could be impacted by one or more of the following actions: construction of a new tower and stub road, construction and use of access through-roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads (Table D.7-28). These sites may be eligible for listing on the NRHP, but have not been evaluated.

Additional NRHP-eligible sites may be identified when additional intensive surveys are completed following final project design. Unavoidable direct impacts may occur to known archaeological resources within and in the vicinity of the project area during construction. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespass out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-28. Potential Effects to Cultural Resources – Alligator Rock–Blythe Energy Transmission Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

#### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

#### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative to the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be considered adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains

or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

#### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

#### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs in this alternative to the Proposed Project that could be affected and the significance of any project effects. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

#### *Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties*

**C-3a Complete consultation with Native Americans and other Traditional Groups.**

#### *Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)*

There are three known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter), and P-33-14162 (quartz assay/possible reduction station) could be impacted by operation, maintenance, and long-term presence of the alternative to the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.8.7 Alligator Rock–South of I-10 Frontage Alternative

### Environmental Setting – Cultural Resources

The Alligator Rock–South of I-10 Frontage Alternative is identical to the linear route of the Desert Southwest Transmission Project Alternative; Class III surveys have identified 10 cultural resources. These include two historical structures or features, four prehistoric sites, and four isolated artifacts. Historical sites consist of one scatter of historical construction debris (P-33-14207), and one historical road segment (perhaps part of the National Old Trails Road system) with cement survey markers (AE-DPV2-12H). Prehistoric resources include one trail segment (CA-RIV-53T(a)) and three prehistoric temporary encampments, rock rings, and procurement sites (P-33-13650, P-33-14162, and AE-DPV2-13). Four isolated artifacts were also located along this alternative: one gray chert flake (P-33-12819), two gray basalt macroflakes (P-33-13393 and P-33-13394), and a tested quartzite cobble (AE-DPV2-ISO-2).

The four isolated artifacts (P-33-12819, P-33-13393, P-33-13394, and AE-DPV2-ISO-2) are not eligible for listing on the NRHP or the CRHR. Because these resources are ineligible for NRHP or CRHR, no further management of these artifacts would be recommended.

### Environmental Setting – Paleontological Resources

All areas along this alternative are considered to have a Low paleontologic sensitivity.

### Impacts and Mitigation Measures

***Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)***

Cultural resources potentially eligible for National Register listing occur within and adjacent to areas that could be impacted by ground-disturbing activities for this alternative to the Proposed Project. A Class III survey of a 300 foot corridor has identified six historical and prehistoric archaeological sites within this alternative. Sites P-33-14207 (historical construction debris), AE-DPV2-12H (historical road segment), CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter), P-33-14162 (quartz assay/ possible reduction station), and AE-DPV2-13 (deflated rock ring & sleeping circle) could be impacted by one or more of the following actions: construction of a new tower and stub road, construction and use of access through-roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads (Table D.7-29). These sites may be eligible for listing on the NRHP, but have not been evaluated.

Additional NRHP-eligible sites may be identified when additional intensive surveys are completed following final project design. Unavoidable direct impacts may occur to known archaeological resources within and in the vicinity of the project area during construction. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, storage,

and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-29. Potential Effects to Cultural Resources – Alligator Rock–South of I-10 Frontage Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14207 | Historical construction debris | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-12H | Historical road segment (perhaps part of the National Old Trails Road system) | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-13 | Deflated rock ring and sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |

*Class II if impacts are avoided, otherwise Class I

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

### *Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties*

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative to the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be considered adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs in this alternative to the Proposed Project that could be affected and the significance of any project effects. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

***Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties***

**C-3a Complete consultation with Native American and other Traditional Groups.**

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are six known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites P-33-14207 (historical construction debris), AE-DPV2-12H (historical road segment), CA-RIV-53T(a) (trail segment), P-33-13650 (rock rings & lithic scatter), P-33-14162 (quartz assay/possible reduction station), and AE-DPV2-13 (deflated rock ring & sleeping circle) could be impacted by operation, maintenance, and long-term presence of the alternative to the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

# D.7.9 Alternatives for West of Devers

## D.7.9.1 Devers-Valley No. 2 Alternative

### Environmental Setting – Cultural Resources

The Devers-Valley No. 2 Alternative contains 14 known cultural resources. These include five prehistoric sites, five historical deposits or linear features, two prehistoric/historical multicomponent sites and two isolated artifacts. Prehistoric resources include three single outcrops with one milling slick (AE-DPV2-18, AE-DPV2-19, and CA-RIV-2830), one site with several outcrops, milling slicks and a sparse lithic scatter (CA-RIV-7009), and a circular single-course rock alignment (CA-RIV-1395). Historical sites consist of a concrete storm drain/catch basin, likely a quail guzzler (CA-RIV-5073H), two historical roads (CA-RIV-6727H — the former Banning to Idyllwild Road and AE-DPV2-17H — a 2-track dirt mining road), the Colorado River Aqueduct (CRA) (CA-RIV-6726H) and the Southern Pacific/Union Pacific Railroad (CA-RIV-6381H). The two multicomponent sites consist of prehistoric outcrops with slicks and a historical mine/quarry and refuse scatter (AE-DPV2-15/H and AE-DPV2-16/H). Two isolated artifacts were also noted in the past along this alternative but were not relocated in February 2006: P-33-0012310, a historical figurine and P-33-0013499, a cogstone. Only 50 percent of this alternative has been subjected to intensive cultural resources surveys (Applied EarthWorks, 2006; Bouscaren and McCarthy, 1984). Therefore, additional resources will likely be identified.

The two isolated artifacts (P-33-0012310 and P-33-0013499) are ineligible for listing on the NRHP or the CRHR. Because these resources are ineligible for NRHP or CRHR, no further management of these artifacts is required.

## Environmental Setting – Paleontological Resources

Five portions of this alternative are designated as areas of High paleontologic sensitivity and five additional portions along this alternative are designated as areas of High (at depth) paleontologic sensitivity. The first areas from MP 20.0 to 20.2, MP 20.3 to 22.2, MP 29.8 to 32.5, MP 34.9 to 35.5, and MP 40.1 to 41.3 consist of Holocene alluvium over Pleistocene alluvium and have the potential for yielding undiscovered fossil remains. Other areas, from MP 22.6 to 22.9, MP 24.2 to 28.8, and MP 29.1 to 29.2, consist of the San Timoteo Formation and have a high potential to contain significant nonrenewable paleontologic resources. The area between MP 22.2 to 22.6 contains Pleistocene older alluvium and has the potential for yielding undiscovered fossil remains. Lastly, the area between MP 24.0 to 24.2 contains Holocene alluvium possibly over San Timoteo Formation and may also yield undiscovered fossil remains. All other areas along this alternative are considered to have a Low or undetermined paleontologic sensitivity

## Impacts and Mitigation Measures

### *Impact C-1: Construction of the project could cause an adverse change to known historic properties (Class I, II, or No Impact)*

Cultural resources eligible for or potentially eligible for National Register listing occur within and adjacent to areas that will be impacted by ground-disturbing activities for this alternative to the Proposed Project. A Class II survey of 50 percent of a 200-foot corridor (Applied EarthWorks, 2006) has identified 12 historical and prehistoric archaeological sites within this alternative. Sites AE-DPV2-18 (single outcrop w/one slick), AE-DPV2-19 (single outcrop w/one slick), CA-RIV-2830 (single outcrop w/one slick), CA-RIV-7009 (outcrops, slicks & sparse lithic scatter), CA-RIV-1395 (circular single-course rock alignment), CA-RIV-5073H (concrete storm drain/catch basin), CA-RIV-6727H (Old Banning to Idyllwild Road), AE-DPV2-17H (historical 2-track dirt road), CA-RIV-6381H (Southern Pacific/Union Pacific RR), AE-DPV2-15/H (multicomponent site w/outcrops, slicks, historical quarry & refuse scatter) and AE-DPV2-16/H (multicomponent site w/outcrops, slicks historical quarry & refuse scatter) could be impacted by one or more of the following actions: construction of a new tower and stub road, construction and use of access through-roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads (Table D.7-30). These sites may be eligible for listing on the NRHP, but have not been evaluated. Site CA-RIV-6726H is a portion of the historic Colorado River Aqueduct (CRA) system and is NRHP-eligible. Nonetheless, this pipeline is buried within the APE and will not be affected by construction of the Devers-Valley No. 2 Alternative.

Additional NRHP-eligible sites may be identified when additional intensive surveys are completed following final project design. Unavoidable direct impacts may occur to known archaeological resources within and in the vicinity of the project area during construction. Any ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespassing out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final route is selected, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final NRHP-eligibility of cultural resources has been assessed.

Table D.7-30. Potential Effects to Cultural Resources – Devers-Valley No. 2 Alternative

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| CA-RIV-1395 | Circular single-course rock alignment | Not Significant | Undefined | ✔ | ? | ? | ? | Avoidance |
| CA-RIV-2830 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-5073H | Concrete storm drain/catch basin | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-6381H | Southern Pacific/Union Pacific RR | Insufficient Data | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-6726H | Colorado River Aqueduct (CRA) | Eligible | Buried | - | - | - | - | No Effect |
| CA-RIV-6727H | Old Banning to Idyllwild Road | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-7009 | Outcrops, slicks & sparse lithic scatter | Insufficient Data | Undefined | ✔ | ? | ? | ? | Avoidance |
| AE-DPV2-15/H | Multicomponent site w/outcrops, slicks, historical quarry & refuse scatter | Insufficient Data | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-16/H | Multicomponent site w/outcrops, slicks, historical mine & refuse scatter | Insufficient Data | Undefined | ✔ | ? | ? | ? | Avoidance |
| AE-DPV2-17H | Historical 2-track dirt road | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-18 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-19 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |

In many cases, direct impacts may be avoided through minor design modifications and project effects would be reduced to a less than significant level (Class II) through implementation of the following mitigation measures: Mitigation Measures C-1b (Avoid and protect potentially significant resources), C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel).

However, it is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery would reduce impacts, but, under the NHPA regulations, effects would still be considered adverse (Class I). Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level (Class I) and effects would be considered adverse.

***Mitigation Measures for Impact C-1: Construction of the project could cause an adverse change to known historic properties***

**C-1b Avoid and protect potentially significant resources.**

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

### *Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains (Class I, II, or No Impact)*

The potential to discover unanticipated cultural resources during construction exists throughout this alternative to the Proposed Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but by virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be considered adverse (Class I), under the regulations in the NHPA.

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Although impacts would be significant and unavoidable, implementation of the following mitigation measures would reduce the severity of impacts to the extent feasible. Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), C-1f (Train construction personnel) and C-2a (Consult agencies and Native Americans) shall be implemented by the Applicant to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains.

### *Mitigation Measures for Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains*

**C-1c Develop and implement Historic Properties Treatment Plan.**

**C-1d Conduct data recovery to reduce adverse effects.**

**C-1e Monitor construction.**

**C-1f Train construction personnel.**

**C-2a Consult agencies and Native Americans.**

### *Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (Class II)*

The BLM, as the Federal Lead Agency under NEPA, has initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are TCPs in this alternative to the Proposed Project that could be affected and the significance of any project effects. Implementation of Mitigation Measure C-3a (Complete consultation with Native American and other Traditional Groups) should reduce impacts to TCPs to a level that is less than significant (Class II). This mitigation measure would require Native American consultation and appropriate treatment of Native American resource values.

***Mitigation Measure for Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties***

**C-3a Complete consultation with Native American and other Traditional Groups.**

***Impact C-4: Construction of the project could destroy or disturb significant paleontological resources (Class II)***

Areas sensitive for paleontological resources are located from MP 20.0 to 20.2, MP 20.3 to 22.9, MP 24.0 to 28.8, MP 29.1 to 29.2, MP 29.8 to 32.5, MP 34.9 to 35.5, and MP 40.1 to 41.3 and could be impacted by construction (Table D.7-31). Also, there is potential to encounter undiscovered paleontological resources within this segment of the alternative. Provisions for discovery and treatment of significant fossil remains will reduce project effects to these resources to a level of less than significant (Class II) through implementation of the following mitigation measures: Mitigation Measures C-4a (Inventory paleontological resources in Final APE), C-4b (Develop Paleontological Monitoring and Treatment Plan), C-4c (Monitor construction for paleontology), C-4d (Conduct paleontological data recovery), and C-4e (Train construction personnel). These mitigation measures would ensure discovery, evaluation, and treatment of significant paleontological resources.

Table D.7-31. Paleontologic Sensitivity Areas – Devers Valley No. 2 Alternative

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| 0.0 – 7.7 | Holocene alluvium over Ocotillo Conglomerate | Undetermined | — |
| 7.7–11.8 | Granitics | Low | — |
| 11.8–15.7 | Holocene alluvium over Ocotillo Conglomerate | Undetermined | — |
| 15.7–17.1 | Granitics | Low | — |
| 17.1–18.0 | Schist | Low | — |
| 18.0–19.5 | Holocene alluvium over Pleistocene alluvium | Undetermined | — |
| 19.5–20.0 | Granitics | Low | — |
| 20.0–20.2 | Holocene alluvium over Pleistocene alluvium | High (at depth) | — |
| 20.2–20.3 | Granitics, schist | Low | — |
| 20.3–22.2 | Holocene alluvium over Pleistocene alluvium | High (at depth) | — |
| 22.2–22.6 | Pleistocene alluvium | High | — |
| 22.6–22.9 | San Timoteo Formation | High | — |
| 22.9–23.0 | Schist | Low | — |
| 23.0–24.0 | Granitics | Low | — |
| 24.0–24.2 | Holocene alluvium possibly over San Timoteo Formation | High | SBCM 5.3.68-5.3.88, 5.3.91, 5.3.131 |
| 24.2–28.8 | San Timoteo Formation | High | SBCM 5.3.180-5.3.183, 5.3.185-5.3.205 |
| 28.8–29.1 | Granitics | Low | — |
| 29.1–29.2 | San Timoteo Formation | High | — |
| 29.2–29.8 | Schist | Low | SBCM 5.3.18, 5.3.176 |
| 29.8–32.5 | Holocene alluvium over Pleistocene alluvium | High (at depth) | — |
| 32.5–34.9 | Granitics | Low | — |
| 34.9–35.5 | Holocene alluvium over Pleistocene alluvium | High (at depth) | — |

Table D.7-31. Paleontologic Sensitivity Areas – Devers Valley No. 2 Alternative

| Mileposts | Rock Units | Sensitivity | Fossil Localities |
|---|---|---|---|
| 35.5–40.1 | Granitics | Low | — |
| 40.1–41.3 | Holocene alluvium over Pleistocene alluvium | High (at depth) | SBCM 5.6.626, 5.6.671-5.6.683 |

***Mitigation Measures for Impact C-4: Construction of the project could destroy or disturb significant paleontological resources***

**C-4a Inventory paleontological resources in Final APE.**

**C-4b Develop Paleontological Monitoring and Treatment Plan.**

**C-4c Monitor construction for paleontology.**

**C-4d Conduct paleontological data recovery.**

**C-4e Train construction personnel.**

***Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties (Class II)***

There are 12 known archaeological sites within this segment; others may be identified during additional surveys or during construction. Sites AE-DPV2-18 (single outcrop w/one slick), AE-DPV2-19 (single outcrop w/one slick), CA-RIV-2830 (single outcrop w/one slick), CA-RIV-7009 (outcrops, slicks & sparse lithic scatter), CA-RIV-1395 (circular single-course rock alignment), CA-RIV-5073H (concrete storm drain/catch basin), CA-RIV-6727H (Old Banning to Idyllwild Road), AE-DPV2-17H (historical 2-track dirt road), CA-RIV-6381H (Southern Pacific/Union Pacific RR), AE-DPV2-15/H (multicomponent site w/outcrops, slicks, historical quarry & refuse scatter) and AE-DPV2-16/H (multicomponent site w/outcrops, slicks historical quarry & refuse scatter) could be impacted by operation, maintenance, and long-term presence of the alternative to the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II) through implementation of Mitigation Measure C-5a (Protect and monitor NRHP-eligible properties), in addition to Mitigation Measures C-2a (Consult agencies and Native Americans) and C-3a (Complete consultation with Native American and other Traditional Groups).

***Mitigation Measures for Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties***

**C-2a Consult agencies and Native Americans.**

**C-3a Complete consultation with Native American and other Traditional Groups.**

**C-5a Protect and monitor NRHP-eligible properties.**

## D.7.10 Summary of Potential Project Effects on Cultural Resources

The potential effects of the Proposed Project and various project alternatives on resources that may be eligible for NRHP listing are summarized for Arizona (Table D.7-32) and California (Table D.7-33), below.

Table D.7-32. Potential Effects to Cultural Resources in Arizona

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| **Potential Effects to Cultural Resources – Harquahala to Kofa National Wildlife Refuge** | | | | | | | | |
| AZ S:6:12 | Rock Feature Site | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:1 | Lithic Scatter | Significant (d) | Within several tower sites | ✔ | - | - | - | Avoidance or Data Recovery |
| AZ S:8:10 | Lithic Scatter and Rock Rings (not relocated) | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:20 | Lithic Scatter | Not Significant | Within | ✔ | - | - | - | No Effect |
| AZ S:8:17 | Lithic Scatter, Rock Ring (not relocated) | Not Significant | Within | ✔ | - | - | - | No Effect |
| **Potential Effects to Cultural Resources – Harquahala Peak Communication Site** | | | | | | | | |
| AZ S:3:1 (ASM) | Harquahala Mountain Smithsonian Solar Observatory | Listed (a,c) | Near | – | – | – | – | Compatible design and interpretation |
| **Potential Effects to Cultural Resources – SCE Palo Verde Alternative** | | | | | | | | |
| AZ T:9:12 | Rock Rings | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:21 | Temporary Camp | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:64 | Artifact Scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AZ T:9:65 | Farmstead Foundation | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| **Potential Effects to Cultural Resources – Midpoint Substation to Cactus City Rest Area** | | | | | | | | |
| CA-RIV-7489 | Historic foundation & debris | Insufficient Data | Within | ✔ | - | E | - | Avoidance or Evaluation & Treatment |
| P-33-13593 | Historic refuse deposit | Not Significant | Within | ✔ | - | N | - | No Effect |
| CA-RIV-1117H(a) | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1117H(b) | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1809H | Desert Training Center site | Insufficient Data | Near | - | E | - | - | Avoidance |
| CA-RIV-1810H | Desert Training Center site | Insufficient Data | Near | - | E | - | - | Avoidance |
| CA-RIV-7490 | Desert Training Center site | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Treatment |
| P-33-13588 | Desert Training Center site | Not Significant | Within | ✔ | E | N | - | No Effect |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| P-33-13596 | Desert Training Center site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| P-33-13598 | Desert Training Center site | Not Significant | Within | - | E | - | ✔ | No Effect |
| P-33-13600 | Desert Training Center site | Not Significant | Within | - | E | - | - | No Effect |
| P-33-13601 | Desert Training Center site | Insufficient Data | Near | ✔ | - | N | - | Avoidance |
| P-33-13602 | Desert Training Center site | Insufficient Data | Near | - | - | - | - | Avoidance |
| P-33-13603 | Desert Training Center site | Insufficient Data | Near | - | - | - | - | Avoidance |
| CA-RIV-1819 | Lithic quarry | Not Significant | Within | - | E | - | ✔ | No Effect |
| CA-RIV-53T(c) | Trail segment & lithic scatter | Insufficient Data | Within | - | E | - | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-53T(d) | Trail segment & lithic scatter | Insufficient Data | Near | - | - | - | - | Avoidance |
| CA-RIV-250T | Junction of multiple trail segments | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-343T(b) | Trail segment | Insufficient Data | Near | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |
| CA-RIV-343T(c) | Trail segment bisecting RIV-1822 & RIV-1821 | Insufficient Data | Within | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |
| CA-RIV-650T | Trail segment bisecting RIV-1821 | Insufficient Data | Within | ✔ | - | N | ✔ | Avoidance or Evaluation & Treatment |
| CA-RIV-673T | 2 parallel trail segments | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Treatment |
| CA-RIV-1115 | 2 trail segments& artifacts | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1811 | Lithic scatter | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-1820 | Lithic scatter | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-7488 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13571 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13574 | Lithic scatter | Insufficient Data | Near | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13578 | Lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13587 | Lithic scatter | Not Significant | Within | ✔ | - | N | - | No Effect |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| P-33-13599 | Lithic scatter | Not Significant | Within | ✔ | - | N | - | No Effect |
| CA-RIV-1018 | Temporary encampment | Not Significant | Within | - | E | - | - | No Effect |
| CA-RIV-1813 | 2 Rock rings & procurement site | Insufficient Data | Within | ✔ | E | N | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1815 | Rock ring & lithic scatter | Insufficient Data | Within | ✔ | - | E | - | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1816 | Temporary encampment | Insufficient Data | Outside | - | - | - | - | Avoidance |
| CA-RIV-1821 | Temporary encampment | Not Significant | Within | ✔ | E | N | ✔ | No Effect |
| CA-RIV-1822 | Temporary encampment | Not Significant | Within | - | E | - | ✔ | No Effect |
| P-33-13586 | Rock ring & lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13604 | Rock ring & procurement site | Insufficient Data | Within | - | E | - | ✔ | Avoidance or Evaluation & Data Recovery |
| CA-RIV-1383 | N. Chuckwalla Mtns. Petroglyph District | Listed | Within | - | - | - | - | - |
| Locus A | Single oversized rock ring feature; cultural relationship (prehistoric vs. historic) unclear | Contributing | Near | - | - | - | - | Avoidance or Data Recovery |
| Locus B | Single rock ring feature; previously destroyed by excavation | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus C | One rock ring feature & three cleared circles; rock ring feature previously excavated; unmeasured levels of engineering survey impacts | Non-Contributing | Within | ✔ | - | - | - | No Effect |
| Locus D | Single rock ring feature; unmeasured levels of impact from existing gas pipeline & use & maintenance of access through-road | Non-Contributing | Within | - | E | - | - | No Effect |
| Locus FF | Three petroglyph panels | Contributing | Near | - | - | - | - | Avoidance |
| Locus G | Single rock ring feature; unmeasured levels of impact from engineering survey activities | Contributing | Near | - | - | - | - | Avoidance |
| Locus H | Single rock ring feature with associated wooden & metal wire debris (historic engineering surveys?) | Contributing | Near | - | - | - | - | Avoidance |
| Locus J | Pot drop locus; 59 sherds previously collected | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus K | Nine rock art panels | Contributing | Near | - | - | - | - | Avoidance |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| Locus N | Single petroglyph panel | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| Locus P | Single rhyolite core – previously collected | Non-Contributing | Near | - | - | - | - | No Effect |
| Locus Q | Lithic scatter – previously collected | Non-Contributing | Near | - | - | - | - | No Effect |
| CA-RIV-1814 | N. Chuckwalla Mtns. Quarry District | Listed | Within | - | - | - | - | - |
| Locus 27-3 | Bifacial aplite flake | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| Locus 29-1 | Trail segment | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| Locus 30-1 | Sparse lithic scatter | Contributing | Within | ✔ | - | N | - | Avoidance or Data Recovery |
| Locus 31-3 | Large, dense lithic scatter impacted by existing stub road & existing tower 163-1 | Contributing | Within | - | - | E | - | Avoidance or Data Recovery |
| SCE.052-59 | Portable metate & quartz reduction locus | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.052-60 | Sparse lithic scatter | Contributing | Within | ✔ | - | - | - | Avoidance or Data Recovery |
| SCE.053-07 | Large, dense lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-08 | Dense lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-09 | Sparse lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-10 | Modern camp, hearth & vehicle trackway present | Non-Contributing | Intrusive | - | - | - | - | No Effect |
| SCE.053-12 | Rock cairn feature & sparse lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-13 | Quartz biface fragment | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| SCE.053-15 | Porphyry core & quartz lithic scatter | Contributing | Within | - | E | - | - | Avoidance or Data Recovery |
| 50 Additional Loci | Various | Contributing | Near | - | - | - | - | Avoidance |
| Potential Effects to Cultural Resources – Cactus City Rest Area to Devers Substation | | | | | | | | |
| P-33-13576 | Trail segment & lithic scatter | Insufficient Data | Within | ✔ | - | N | - | Avoidance or Evaluation & Data Recovery |
| P-33-13563 | Lithic scatter | Not Significant | Within | - | E | - | ✔ | No Effect |
| CA-RIV-1119 | Temporary encampment | Not Significant | Within | ✔ | E | N | - | No Effect |
| Potential Effects to Cultural Resources – Devers Substation to East Border of Banning | | | | | | | | |
| P-33-007888 | Cabazon Land and Water Company irrigation ditch or conduit | Insufficient data | Near | - | ? | ? | ? | Avoidance |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| **Potential Effects to Cultural Resources – Banning and Beaumont** | | | | | | | | |
| CA-RIV-197 | Ethnohistorical Cahuilla Village | Significant (d) | Near | - | ? | ? | ? | Avoidance |
| CA-RIV-7462 | Historic refuse deposit | Insufficient Data | Near | - | ? | ? | ? | Avoidance |
| CA-RIV-2262H | Historic Vanderventer Ranch site | Insufficient Data | Near | - | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – San Bernardino Junction to Vista Substation** | | | | | | | | |
| CA-SBR-11624H | Historical homestead or farm site | Not Significant | Near | - | ? | ? | ? | No Effect |
| P-36-020240 | Poss. Historical residential site | Not Significant | Near | - | ? | ? | ? | No Effect |
| CA-RIV-4768H / CA-SBR-7168H | Historical Gage Canal | Significant (a,b,c,d) | Near | - | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – Desert Southwest Transmission Project Alternative** | | | | | | | | |
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14207 | Historical construction debris | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-12H | Historical road segment (perhaps part of the National Old Trails Road system) | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-13 | Deflated rock ring and sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – Alligator Rock–North of Desert Center Alternative** | | | | | | | | |
| P-33-13648 | Prehistoric/Historic lithic scatter & rock cairns | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14192 | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-1H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-2H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-3H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-4 (a&b) | Sleeping circle & small quartzite assay/reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-6 | Small quartz assay/reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-7H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-8H | Historical Desert Center "Town Dump" | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-9H | Historical refuse scatter | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-10H | Possible Desert Training Center site | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-11 | Deflated rock ring/sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |

Table D.7-33. Potential Effects to Cultural Resources in California

| Resource | Description | Preliminary Eligibility Assessment (NRHP Criteria) | APE | New Tower | Access Through-road | Spur Road | Temporary Construction | Proposed Treatment |
|---|---|---|---|---|---|---|---|---|
| AE-DPV2-14 | Small quartzite assay/ reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – Alligator Rock–Blythe Energy Transmission Alternative** | | | | | | | | |
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – Alligator Rock–South of I-10 Frontage Alternative** | | | | | | | | |
| CA-RIV-53T(a) | Trail segment | Significant (d) | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-13650 | Rock rings & lithic scatter | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14162 | Quartz assay/possible Reduction station | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| P-33-14207 | Historical construction debris | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-12H | Historical road segment (perhaps part of the National Old Trails Road system) | Insufficient Data | Undefined | ? | ? | ? | ? | Avoidance |
| AE-DPV2-13 | Deflated rock ring and sleeping circle | Not Significant | Undefined | ? | ? | ? | ? | Avoidance |
| **Potential Effects to Cultural Resources – Devers-Valley No. 2 Alternative** | | | | | | | | |
| CA-RIV-1395 | Circular single-course rock alignment | Not Significant | Undefined | ✔ | ? | ? | ? | Avoidance |
| CA-RIV-2830 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-5073H | Concrete storm drain/catch basin | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-6381H | Southern Pacific/ Union Pacific RR | Insufficient Data | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-6726H | Colorado River Aqueduct (CRA) | Eligible | Buried | - | - | - | - | No Effect |
| CA-RIV-6727H | Old Banning to Idyllwild Road | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| CA-RIV-7009 | Outcrops, slicks & sparse lithic scatter | Insufficient Data | Undefined | ✔ | ? | ? | ? | Avoidance |
| AE-DPV2-15/H | Multicomponent site w/outcrops, slicks, historical quarry & refuse scatter | Insufficient Data | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-16/H | Multicomponent site w/outcrops, slicks, historical mine & refuse scatter | Insufficient Data | Undefined | ✔ | ? | ? | ? | Avoidance |
| AE-DPV2-17H | Historical 2-track dirt road | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-18 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |
| AE-DPV2-19 | Single outcrop w/one slick | Not Significant | Undefined | - | ? | ? | ? | Avoidance |

E = Existing, N = New

## D.7.11 Environmental Impacts of the No Project Alternative

The No Project Alternative is defined in Section C.6. The No Project Alternative includes the assumption that existing transmission lines and power plants would continue to operate. The effects that these facilities cause on the existing environment would not change, so no new impacts would occur from continuing operation of the existing transmission lines and power plants. Also, under the No Project Alternative, the proposed DPV2 project would not be constructed, so all impacts to cultural and paleontological resources that would result directly from ground-disturbing activities associated with construction of the Proposed Project would be precluded. New adverse effects to known NRHP-listed or NRHP–eligible sites and sensitive paleontological deposits resulting from activities such as tower construction, grading and use of new access roads and stub roads, and materials laydown would not occur.

The first component of the No Project Alternative is the continuation of ongoing demand-side actions, including energy conservation and distributed generation. While energy conservation would not cause new impacts to cultural or paleontological resources, any new construction associated with distributed generation could cause adverse effects on cultural or paleontological resources if any are located at specific new sites built to generate power.

The second component of the No Project Alternative is the continuation of supply-side actions, resulting in potentially increased generation within California or increased transmission into California to serve anticipated growth in electricity consumption. Construction of some new transmission lines in California and Arizona could be expected in the existing DPV1 ROW, resulting in impacts to cultural and paleontological resources that are identical to the Proposed Project. If new transmission lines or power plants are constructed outside the existing ROW, those will result in areas of new ground disturbance that could have adverse effects on archaeological resources, TCPs, historical structures, Native American burials, or fossil localities. While defining the magnitude of potential adverse effects of building other projects is beyond the scope of this document, it is likely that construction of new projects outside of existing utility corridors would result in greater impacts than the Proposed Project.

## D.7.12 Mitigation Monitoring, Compliance, and Reporting Table

Table D.7-34 presents the mitigation monitoring table for Cultural and Paleontological Resources.

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

| | |
|---|---|
| IMPACT C-1 | Construction of the project could cause an adverse change to known historic properties. (Class I, II, or No Impact) |
| MITIGATION MEASURE | C-1a: Inventory and evaluate cultural resources in Final APE. Prior to construction and all other surface disturbing activities, the Applicant shall have conducted and submitted for approval by the BLM an inventory of cultural resources within the project's final Area of Potential Effect. The nature and extent of this inventory shall be determined by the BLM in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon project engineering specifications (BLM B-9.1). Results of this inventory shall also be filed with appropriate State repositories and local governments. As part of the inventory, the Applicant shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction, reconductoring activities, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, new tower sites, and any other projected areas of potential ground disturbance outside of the previously surveyed potential impact areas. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations. The selected right-of-way shall be staked prior to the cultural resource field surveys (based on BLM B-9.2). As part of the inventory report, the Applicant shall evaluate the significance of all affected cultural resources on the basis of surface observations and provide recommendations with regard to their eligibility for the National Register of Historic Places (NRHP) or local registers. Preliminary determinations of NRHP eligibility will be made by the BLM, in consultation with the appropriate local governments, and the appropriate SHPO (based on BLM B-9.3). |
| Location | All locations within potential ground-disturbing activities. |
| Monitoring / Reporting Action | BLM and CPUC to review inventory findings and eligibility evaluation. |
| Effectiveness Criteria | Identification and preliminary evaluation of all resources within areas of potential ground disturbance. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to construction. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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| MITIGATION MEASURE | C-1b: Avoid and protect potentially significant resources. On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1b) the BLM may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values (based on BLM B-9.5). Where operationally feasible, potentially NRHP-eligible resources shall be protected from direct project impacts by project redesign.<br><br>Where the BLM decides that potentially NRHP-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon final project engineering specifications. Evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).<br><br>All potentially NRHP-eligible resources (as determined by the BLM) that will not be affected by direct impacts, but are within 50 feet of direct impact areas will be designated as Environmentally Sensitive Areas (ESAs). Protective fencing, or other markers, at the BLM's discretion, shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. Construction personnel and equipment shall be instructed on how to avoid ESAs. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of the Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESAs. |
| Location | All locations within ground-disturbing activities with potentially NRHP-eligible resources. |
| Monitoring / Reporting Action | • BLM and CPUC review final construction drawings and rationale for necessity of impacting potentially NRHP-eligible resources.<br>• BLM and CPUC review HRHP-eligibility recommendations. BLM forwards NRHP-eligibility determinations to appropriate SHPO.<br>• BLM and CPUC verify location and protective measures of all ESAs. |
| Effectiveness Criteria | Known archaeological resources are not adversely affected by construction activity. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to and during construction. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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| MITIGATION MEASURE | C-1c: Develop and implement Historic Properties Treatment Plan. Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility evaluations by the BLM, consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for NRHP-eligible cultural resources to mitigate or avoid identified impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations. Avoidance, recordation, and data recovery will be used as mitigation alternatives (BLM B-9.4). The HPTP shall be submitted to the BLM for review and approval.<br><br>As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP-eligible sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where burials, cremations, or sacred features are discovered that cannot be avoided.<br><br>The HPTP shall define and map all known NRHP-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP-eligibility. A cultural resources protection plan shall be included that details how NRHP-eligible properties will be avoided and protected during construction. Measures shall include, at a minimum, designation and marking of Environmentally Sensitive Areas (ESAs), archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail: what measures will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.<br><br>The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP-eligible cultural resources, including burials, cremations, or sacred features. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing NRHP-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, the consultation procedures, and the timelines for assessing NRHP-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM, appropriate local governments, appropriate Native Americans, and the appropriate State Historic Preservation Officer prior to implementation.<br><br>The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary of the Interior's Standards (per 36 CFR 61). |
| Location | All locations within ground-disturbing activities with potentially NRHP-eligible resources. |
| Monitoring / Reporting Action | • BLM and CPUC review and approve HPTP.<br>• BLM conduct required Native American consultation.<br>• BLM draft and negotiate appropriate agreement document for appropriate signatures (BLM, SHPOs, Advisory Council on Historic Preservation, Native American Tribes). |
| Effectiveness Criteria | Known archaeological resources are not adversely affected by construction activity. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to construction. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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| MITIGATION MEASURE | C-1d: Conduct data recovery to reduce adverse effects. If National Register of Historic Places (NRHP)-eligible resources, as determined by the BLM, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP-eligibility. For sites eligible under Criterion d, significant data would be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM for their review and approval, as well as to appropriate State repositories and local governments. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM. |
| Location | Within 100 ft of resources identified in HPTP that require data-recovery mitigation. |
| Monitoring / Reporting Action | • BLM and CPUC review and approve field closure report of data-recovery fieldwork.<br>• BLM and CPUC review and approve final report of data recovery, curation of artifacts and data, and dissemination of final report. |
| Effectiveness Criteria | Data-recovery investigations, curation, and reporting fulfill all requirements of the agreement document promulgated with the Advisory Council. |
| Responsible Agency | BLM and CPUC. |
| Timing | Field closure report prior to construction within 100 ft of affected resource. Final report of data-recovery investigations within one year of completion of fieldwork. |
| MITIGATION MEASURE | C-1e: Monitor construction. The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP). Full-time monitoring shall occur when ground-disturbing activities take place at all archaeological High-Sensitivity Areas described above and at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM. Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM. A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.<br><br>Compliance with and effectiveness of the cultural resources monitoring plan shall be documented by the Applicant in a monthly report to be submitted to the BLM for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted by the archaeological monitor until authorization to resume work has been granted by the BLM. The Applicant shall notify the BLM of any damage to cultural resource ESAs. The Applicant shall consult with the BLM to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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| Location | All locations identified in the HPTP. |
| Monitoring / Reporting Action | • BLM and CPUC review and approve monthly monitoring reports.<br>• BLM and CPUC receive and act on reports of failure of ESAs to protect cultural resources. |
| Effectiveness Criteria | Known archaeological resources are not adversely affected by construction activities. |
| Responsible Agency | BLM and CPUC. |
| Timing | During construction. |
| MITIGATION MEASURE | C-1f: Train construction personnel. All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order (BLM B-9.11). The following issues shall be addressed in training or in preparation for construction:<br>• All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.<br>• The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.<br>• Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist will consult with the BLM to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs. |
| Location | Entire project. |
| Monitoring / Reporting Action | • BLM and CPUC review and approve contract specifications.<br>• BLM and CPUC review verification of required training.<br>• BLM and CPUC receive prompt notification of new resource discoveries and violations. |
| Effectiveness Criteria | • Cultural resources are not adversely affected by construction activities.<br>• All infractions are corrected. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to and during construction. |
| IMPACT C-2 | Construction of the Proposed Project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains. (Class I, II, or No Impact) |
| MITIGATION MEASURE | C-1c: Develop and implement Historic Properties Treatment Plan. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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|---|---|
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1d: Conduct data recovery to reduce adverse effects. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1e: Monitor construction. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1f: Train construction personnel. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-2a: Consult agencies and Native Americans. If human remains are discovered during construction, all work will be diverted from the area of the discovery and the BLM authorized officer will be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM. |
| Location | Entire project. |
| Monitoring / Reporting Action | • Applicant, monitors, or construction personnel report discoveries to BLM and CPUC immediately.<br>• BLM and CPUC conduct and document consultation with appropriate Native American tribes and agencies.<br>• BLM and CPUC document final disposition or treatment of Native American human remains. |
| Effectiveness Criteria | Adverse effects to buried archaeological sites are reduced and Native American human remains are avoided or treated in accordance with federal and appropriate State law. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to or during construction. |
| IMPACT C-3 | Construction of the project could cause an adverse change to Traditional Cultural Properties. (Class II) |
| MITIGATION MEASURE | C-1b: Avoid and protect potentially significant resources. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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|---|---|
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1c: Develop and implement Historic Properties Treatment Plan. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1d: Conduct data recovery to reduce adverse effects. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1e: Monitor construction. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-1f: Train construction personnel. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-2a: Consult agencies and Native Americans. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-3a: Complete consultation with Native American and other Traditional Groups. The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the Proposed Project on Traditional Cultural Properties or other resources of Native American concern. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan). |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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|---|---|
| Location | Entire project. |
| Monitoring / Reporting Action | • Signature of agreement documents for treatment of TCPs.<br>• Written documentation and approval by BLM and CPUC of completion of required treatment. |
| Effectiveness Criteria | TCPs and other resources of Native American concern are treated in accordance with agreements that are made during consultation. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to construction. |
| MITIGATION MEASURE | C-5a: Protect and monitor NRHP-eligible properties. |
| Location | See below. |
| Monitoring / Reporting Action | See below. |
| Effectiveness Criteria | See below. |
| Responsible Agency | See below. |
| Timing | See below. |
| IMPACT C-4 | Construction of the project could destroy or disturb significant paleontological resources. (Class II) |
| MITIGATION MEASURE | C-4a: Inventory paleontological resources in Final APE. Prior to construction and all other surface-disturbing activities, the Applicant shall have conducted and submitted for approval an inventory of potentially significant paleontological resources, based on field inspection of areas of high or undetermined paleontological sensitivity, that will be affected by the project as determined by the BLM (based on BLM B-10.1). As part of the inventory report, the Applicant shall evaluate and refine the paleontological sensitivity modeling of sediments that will be affected (based on BLM B-10.2). |
| Location | All locations of high or undetermined paleontological sensitivity within potential ground-disturbing activities. |
| Monitoring / Reporting Action | BLM and CPUC to review inventory and sensitivity findings. |
| Effectiveness Criteria | Identification and preliminary evaluation of all resources within potentially ground-disturbing activities. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to construction. |
| MITIGATION MEASURE | C-4b: Develop Paleontological Monitoring and Treatment Plan. Based on requirements in the BLM Right-of-Way Grant (1989), the Applicant shall, upon approval of the paleontological inventory report by the BLM, prepare and submit for approval a plan to mitigate identified impacts (BLM B-10.3). The Paleontological Monitoring and Treatment Plan shall identify construction impact areas of high sensitivity for encountering significant resources and the depths at which those resources are likely to be discovered. The Plan shall outline a coordination strategy to ensure that all construction disturbance in high sensitivity sediments will be monitored full-time by qualified professionals. Sediments of undetermined sensitivity will be spot-checked. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, post-excavation preparation and analysis of specimens, final curation of specimens at a federally recognized, accredited facility, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified professionals on a currently valid Paleontological Collecting Permit for the appropriate State (BLM B-10.5). Notices to proceed will be issued by the BLM following approval of the Paleontological Monitoring and Treatment Plan (based on BLM B-10.6). |
| Location | Entire project. |
| Monitoring / Reporting Action | BLM and CPUC review and approve treatment plan. |
| Effectiveness Criteria | BLM and CPUC approval of treatment plan. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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|---|---|
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to construction. |
| MITIGATION MEASURE | C-4c: Monitor construction for paleontology. Based on the paleontological sensitivity assessment and Monitoring and Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring in areas where and when sediments of high paleontological sensitivity will be disturbed. Construction activities shall be diverted when data recovery of significant fossils is warranted. |
| Location | Locations identified in paleontological treatment plan. |
| Monitoring / Reporting Action | Progress reporting to BLM and CPUC as identified in treatment plan. |
| Effectiveness Criteria | Discovery of significant fossil resources from all localities affected by construction. |
| Responsible Agency | BLM and CPUC. |
| Timing | During construction. |
| MITIGATION MEASURE | C-4d: Conduct paleontological data recovery. If avoidance of significant paleontological resources is not feasible or appropriate, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance with the BLM-approved Treatment Plan per Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan). |
| Location | Locations identified in paleontological treatment plan. |
| Monitoring / Reporting Action | BLM and CPUC review and approve treatment plan. BLM and PCUC review and approval of final data-recovery report and disposition of fossils. |
| Effectiveness Criteria | Recovery of adequate samples of significant fossil resources from all localities affect by construction. |
| Responsible Agency | BLM and CPUC. |
| Timing | During construction; report within one year of data-recovery fieldwork. |
| MITIGATION MEASURE | C-4e: Train construction personnel. All construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of all paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of federally protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order (BLM B-9.11). The following issues shall be addressed in training or in preparation for construction:<br>• All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried paleontological deposits, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.<br>• The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing paleontological resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.<br>• Upon discovery of potential buried paleontological materials by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure C-5b (Develop Paleontological Monitoring and Treatment Plan). |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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|---|---|
| Location | Entire project. |
| Monitoring / Reporting Action | • BLM and CPUC review and approve contract specifications.<br>• BLM and CPUC review verification of required training.<br>• BLM and CPUC receive prompt notification of new resource discoveries and violations. |
| Effectiveness Criteria | Paleontological resources are not adversely affected by construction activity. |
| Responsible Agency | BLM and CPUC. |
| Timing | Prior to and during construction. |
| IMPACT C-5 | Operation and long-term presence of the project could cause an adverse change to known historic properties. (Class II) |
| MITIGATION MEASURE | C-2a: Consult agencies and Native Americans. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |
| MITIGATION MEASURE | C-3a: Complete consultation with Native American and other Traditional Groups. |
| Location | See above. |
| Monitoring / Reporting Action | See above. |
| Effectiveness Criteria | See above. |
| Responsible Agency | See above. |
| Timing | See above. |

Table D.7-34. Mitigation Monitoring Program – Cultural and Paleontological Resources

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| MITIGATION MEASURE | C-5a: Protect and monitor NRHP-eligible properties. Protect and monitor NRHP-eligible properties. The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project -related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.<br><br>Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.<br><br>If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)-eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection. |
| Location | All locations identified in long-term protection plan. |
| Monitoring / Reporting Action | BLM and CPUC review and approval of long-term protection plan; compliance with reporting and monitoring provisions in the approved protection plan. Following construction, annual site monitoring; immediate notification to BLM and CPUC of adverse changes. |
| Effectiveness Criteria | Known cultural resources are not affected by long-term project operation and adverse changes to NRHP-eligible properties are mitigated. |
| Responsible Agency | BLM and CPUC. |
| Timing | 30 days prior to and during project operation. During operation, annually for 5 years. Thereafter, on a schedule determined by BLM and CPUC and/or immediately upon discovery of adverse changes to NRHP-eligible property. |

## D.7.13 References

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