5.4 Cultural Resources

This AFC section addresses the cultural resources impacts of construction and operation of the BSEP. It covers both the 2,012-acre plant site and the Project's linear facilities (natural gas and transmission line). Cultural resources are defined as buildings, sites, structures, districts, and/or objects that have historical, architectural, archaeological, cultural, or scientific significance. Numerous laws and regulations seek to protect and preserve these cultural resources.

Project cultural resources studies were conducted by qualified cultural resources professionals. Additional detail on the cultural resources assessments, including personnel qualifications can be found in the Archaeological and Built Environment Cultural Resources Technical Reports in Appendix G.

5.4.1 LORS Compliance

The BSEP will comply with applicable LORS throughout construction and operation. Applicable LORS are summarized in Table 5.4-1 and briefly discussed below.

Table 5.4-1 LORS Applicable to Cultural Resources

LORS	Applicability	Where Discussed In AFC
Federal		
Antiquities Act of 1906, Title 16, United States Code, Sections 431, 432, and 433	Federal legislation for protection of cultural resources.	Section 5.4.1
National Historic Preservation Act (NHPA), Title 16, United States Code Section 470x-6	Protects cultural resources on Federal lands; provides for inventory and assessment of resources.	Section 5.4.1
Archaeological Resources Protection Act of 1979, Title 16 United States Code Section 470aa-470mm	Provides protection for archaeological resources on public lands and Indian lands.	Section 5.4.1
Executive Order 11593 of May 13, 1971, 36 Federal Register, 8921	Provides for protection and enhancement of the cultural environment.	Section 5.4.1
Native American Graves Protection and Repatriation Act, Title 25, United States Code Section 3001-3013	Establishes mechanism for Native Americans to claim ownership of human remains and certain cultural items.	Section 5.4.1
American Indian Religious Freedom Act, Public Law 95-341; Title 42 United States Code Section 1996	Provides protection of Native American religious practices.	Section 5.4.1

LORS	Applicability	Where Discussed In AFC
State		
California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2	Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts.	Sections 5.4.1, 5.4.3, and 5.4.4
CEQA Guidelines, California Code of Regulations Title 14, Section 15064.5	Addresses reburial options for Native American remains and provides for treatment of archaeological discoveries.	Sections 5.4.1, 5.4.3, and 5.4.4
Public Resources Code 5020.1 (h), 5024.1, and 5097.98	Defines a "historic district" as a geographical unit that possesses a significant concentration, linkages or continuity of sites, or other cultural resources associated historically or aesthetically by plan to physical development. Establishes the California Register of Historical Resources. Discusses the procedures that need to be followed upon the discovery of Native American human remains.	Sections 5.4.1, 5.4.3, and 5.4.4
Health and Safety Code 7050.5, and 8010-8011	Establishes procedures for notification in the event of the discovery of human remains. Requires construction to be halted and the County Coroner to be contacted if human remains are encountered. Makes it a misdemeanor to disturb or remove human remains found outside a cemetery. Establishes a state repatriation policy consistent with implementation of the Native American Graves and Repatriation Act.	Sections 5.4.1, 5.4.3, and 5.4.4
AB 2641	Modifies the process that private land owners follow after discovering Native American human remains (set forth in California Public Resources Code 5097.98).	Sections 5.4.1, 5.4.3, and 5.4.4
Local		
Kern County General Plan, Section 1.10.3, Policy 25	Provides that the County will promote the preservation of cultural and historic resources.	Sections 5.4.1, 5.4.3, and 5.4.4
Kern County Code of Building Regulations 17.48	Provides historic structure definition.	Sections 5.4.1, 5.4.3, and 5.4.4

5.4.1.1 Federal LORS

Antiquities Act of 1906, Title 16, United States Code, Sections 431, 432, and 433

This Act establishes the early framework for Federal protection of cultural resources.

National Historic Preservation Act, Title 16, United States Code Section 470x-6

The National Historic Preservation Act (NHPA) sets in place a program for the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take in to account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places. It also gives the Advisory Council on Historic Preservation and State Historic Preservation Offices (SHPO) an opportunity to consult. Federal agencies issuing permits for the BSEP would be required to comply with NHPA requirements.

Archaeological Resources Protection Act of 1979, Title 16 United States Code Section 470aa-470mm

This Act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land. This Act does not apply to the BSEP since there are no Federal lands included in the Project.

Executive Order 11593 of May 13, 1971, 36 Federal Register, 8921

This Executive Order focuses on the protection and enhancement of the cultural environment. It outlines responsibilities of the Federal agencies and Secretary of the Interior with regard to cultural resources.

Native American Graves Protection and Repatriation Act, Title 25, United States Code Section 3001-3013

This law provides for ownership of Native American graves and grave goods on Federal lands. This Act does not apply to the BSEP since there are no Federal lands included in the Project.

American Indian Religious Freedom Act, Public Law 95-341; Title 42 United States Code Section 1996

This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. This law would apply only if there was Federal involvement in the BSEP. Federal agencies issuing permits for the BSEP would be required to comply with this act if Native Americans identified issues regarding their right to exercise traditional religious practices.

5.4.1.2 State LORS

California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2

This section states that it is the responsibility of the lead agency to determine whether the project will have a significant effect on “unique” archaeological resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, and there is a high probability that it meets one of the following criteria: 1) Contains information needed to answer important research questions and that there is a demonstrable public interest in that information; 2) Has a special and particular quality such as being the oldest or best example of its type; or 3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

CEQA Guidelines, California Code of Regulations Title 14, Section 15064.5

When initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC.

Public Resources Code 5020.1 (h)

This section defines a historic district. A “historic district" means a definable unified geographic entity that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Public Resources Code 5024.1

This section establishes the California Register of Historical Resources (CRHR). A resource may be listed as a historical resource in the CRHR if it meets National Register of Historic Places criteria or the following state criteria: 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; 2) Is associated with the lives of persons important in our past; 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or 4) Has yielded, or may be likely to yield, information important in prehistory or history. The CRHR is an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected from substantial adverse change.

Public Resources Code 5097.98

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050.5

This code establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains.

Health and Safety Code 8010-8011

This code establishes a State repatriation policy consistent with the implementation of the Native American Graves and Repatriation Act. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

AB 2641

This section provides procedures for private land owners to follow upon discovering Native American human remains. Land owners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California Public Resources Code 5097.98. AB 2641 further clarifies how the land owner should protect the site both immediately after discovery and into the future.

5.4.1.3 Local LORS

Kern County General Plan, Section 1.10.3, Policy 25

This portion of the General Plan provides that the County of Kern will promote the preservation of cultural and historic resources that provide ties with the past and constitute a heritage value to residents and visitors. There are five implementing measures (K through O). Included in these is a measure that states that the County Planning Department will evaluate the necessity for the involvement of a qualified Native American monitor for grading and other construction activities on CEQA projects.

Kern County Code of Building Regulations 17.48

Item 45 provides a definition of a historic structure as any structure that is on the National Register of Historic Places, or on a State inventory in a State with a historic preservation plan approved by the Secretary of Interior.

5.4.1.4 Involved Agencies

As indicated in Table 5.4-2, the NAHC was contacted regarding a check of their sacred sites inventory and to acquire a list of Native American contacts for the area. No sacred sites were identified. Contact information was provided for seven tribal representatives and contacts have been initiated with these representatives. To date no responses have been received.

Table 5.4-2 Agency Contacts

Agency Contact	Phone/E-mail	Permit/Issue
David Singleton Native American Heritage Commission 915 Capital Mall, #364 Sacramento, CA 95814	(916) 653-6251 nahc@pacbell.net	Native American cultural issues

5.4.1.5 Permits Required and Permit Schedule

The BSEP does not require permits, other than CEC certification, for cultural resources.

5.4.2 Affected Environment

5.4.2.1 Natural Environment

The Project area is located in Fremont Valley, which is in Kern County in the western portion of the Mojave Desert. The Mojave Desert forms part of the larger Basin and Range province, which extends south to include the Sonoran and Chihuahuan deserts of Arizona and Mexico. The Mojave Desert is situated between two major fault lines –- the Garlock Fault to the north and the San Andreas Fault to the west. Mountain ranges are visible throughout the Mojave Desert and the floor is primarily alluvial fill eroded from the surrounding mountains (Schoenherr, 1993).

Climatic changes, influenced by temperature and moisture variations, have affected the distribution and subsistence practices of prehistoric populations in the Mojave Desert. During the late Pleistocene (25,000 to 10,000 years ago) temperatures in California were generally cool and moist, resulting in widespread montane glaciations and the creation of numerous pluvial lakes (Antevs, 1955; Grayson, 1993). The settlement patterns of early human inhabitants in the Mojave Desert reflect a preference for lacustrine locations (Sutton, 1991).

The Holocene epoch (10,000 years ago to present) saw a general rise in temperatures, bringing warmer conditions to the desert valleys and less precipitation to the surrounding mountains (Chartkoff and Chartkoff, 1984). The present-day conditions in the Mojave range from daytime temperatures above 100˚F during summer to 50˚ to 70˚F in winter. Rainfall averages between four and 10 inches annually. Vegetation in the Mojave Desert is sparse, consisting mostly of desert shrubs and perennial grasses and herbs.

Fremont Valley is bounded by Rosamond Hills and Antelope Valley to the south, the southern Sierra Nevada and the Tehachapi Mountains to the west, the El Paso Mountains to the north, and the Rand Mountains to the east (Sutton, 1991). Fremont Valley itself is deeply filled with alluvium that originates in the El Paso and Rand mountains (Sutton, 1991). Cajon loamy sand and Rosamond clay are the most widespread soils in the valley. These soil types are most prevalent in areas that have been impacted by agriculture (Sutton, 1991). The valley is a closed basin that contains one playa, Koehn Lake. Three major drainages flow into the lake. From the west are Cottonwood and Cache creeks, and a wash entering the lake from the east drains the eastern Rand and El Paso mountains (Sutton, 1991). Despite the lack of rainfall in the valley, groundwater was probably available in quantity until modern agriculture depleted the water table (Sutton, 1991). The vegetation in Fremont Valley consists of a variety of flora with a number of plant species represented. These species range from creosote bush and saltgrass, and mesquite to Joshua Trees.

5.4.2.2 Prehistoric Background

Prehistoric human settlement patterns in the Mojave Desert have been influenced by environmental change. Major climatic periods influenced prehistoric spatial settlement patterns and resource exploitation. In the late Pleistocene (ca. 18,000 to 10,000 years ago), conditions in the Mojave Desert were generally cool and wet. Conditions during the early Holocene (ca. 10,000 to 7,000 years ago) were somewhat cooler and moister than today. The middle Holocene (ca. 7,000 to 4,000 years ago) saw a much warmer and drier climate than that of modern times, and the climate became moderately cooler and wetter during the late Holocene (ca. 4,000 to present), with punctuated periods of drought (Sutton et al., 2007).

Archaeological investigations have indicated that although the area had limited prehistoric resources and surface water, the region supported a long and occasionally dense human population (Mosely and Smith, 1962). Archaeological remains tend to be widely scattered and sparse and are usually located along the margins of pluvial lakes (Warren, 1990; Willig, 1988). Although research in the Mojave Desert has produced a wide array of cultural sequences, for the purpose of this report, a broad terminology is used to provide temporal context to the region. The sequence consists of the Paleoindian period, Pinto period, Gypsum period, Rose Spring period, and the Late Prehistoric period.

Paleoindian Period (12,000 to 7,000 Years Ago)

This period is the earliest documented evidence of human occupation in the Mojave Desert and is often referred to as the Western Pluvial Lakes Tradition (WPLT) (Sutton, 1991). The WPLT encompasses a broad geographic region from the western Great Basin to southern California and north to Oregon. Evidence suggests that Paleoindian period population groups were highly mobile, with settlement patterns that reflect a dependency upon lacustrine resources (Sutton, 1991; Sutton, et al., 2007; Warren, 1990). This cultural adaptation to pluvial conditions (e.g., lakes, marshes, and grasslands) flourished for several millennia around 9,000 B.C., but then disappeared during the warmer and more arid conditions of the middle Holocene (Moratto, 1984).

The Lake Mojave Complex is one of the most recognized lithic complexes of the WPLT. These assemblages are typically characterized by foliated points and knives, Lake Mojave points, Silver Lake points, and flaked stone crescents. Materials dating to the Paleoindian period in the western Mojave Desert are few and confined to the dry lake beds in Antelope Valley; to date none have been identified in Fremont Valley (Sutton, 1991).

Pinto Period (7,000 to 4,000 Years Ago)

A period of dramatic environmental change has been posited for the Pinto period. The environment changed from mesic to arid conditions, rivers and lakes dried up, and animal and plant life changed. This period is seen by Warren (1984) as marking the beginnings of cultural adaptations to the desert. Desert humans either adapted to this change or relocated to areas with more favorable environmental conditions. This depopulation of the area seems evident in the small size of Pinto period sites, which are often limited to surface deposits. These ephemeral sites suggest temporary or seasonal occupations by small groups of people (Moratto, 1984), focusing on a forager-like strategy (Sutton, et al., 2007).

The most important distinction of Pinto period assemblages relates to an increase in the abundance of ground stone implements (Sutton, et al., 2007). The appearance of significant numbers of milling stones in Pinto assemblages is attributed to the exploitation of hard seeds, which is seen by Warren (1984) as part of the process of subsistence diversification brought on by the increased aridity and decreasing game populations. There are no confirmed Pinto period sites known in the Fremont Valley, although a few Pinto-style projectile points have been identified in the Tehachapi area and other parts of the western Mojave (Sutton, 1988).

Gypsum Period (4,000-1,500 Years Ago)

The Gypsum period is marked by an increase in the number of archaeological components and increased diversity in assemblage and site setting (York, 1995). Occupations in the Antelope Valley during this period are indicative of large permanent or seasonally occupied villages, with smaller seasonally based special purpose sites, including rock rings, lithic scatters, and milling stations (Sutton, 1980; Warren, 1986). The appearance of large village and special purpose sites in the Antelope Valley has been attributed by Warren (1986) to refined hunting methods and seed processing technologies that raised the regional carrying capacity and facilitated population growth.

Gypsum period assemblage sites are characterized by diagnostic projectile points, leaf-shaped points, rectangular-based knives, flake scrapers, T-shaped drills, large scraper planes, choppers, and hammerstones. There is an increase in the presence of milling stones, and the mortar and pestle were introduced during this period.

Rose Spring Period (ca. 1,500 – 1,000 Years Ago)

Archaeological evidence for the Rose Spring period indicates a major population increase, changes in artifact assemblages, and well-developed middens (Sutton, 1988, 1991; Gardner 2002). The introduction of small projectile points into assemblages in the Mojave Desert and the Great Basin appear to mark the introduction of the bow and arrow and the decline of the atlatl and spear weaponry (Sutton, 1995).

Subsistence strategies seem to shift toward the exploitation of small to medium-sized game, including lagomorphs and rodents. The milling of plant foods was an important activity with numerous bedrock milling features at Rose Spring, including mortar cups and slicks (Sutton, 1988).

Late Prehistoric Period (1,000 Years Ago to European Contact)

There is an increase in the ethnic and linguistic complexity within the Mojave Desert during this period. Desert Side-notched points and Brownware ceramics become more widely distributed throughout the Mojave Desert and the Great Basin. This development, combined with linguistic evidence, is associated with the Numic-speaking Paiute and Shoshone expansion throughout most of the area (Bettinger and Baumhoff, 1982).

Characteristic artifacts of this period include Desert series projectile points (Desert Side-notched and Cottonwood Triangular), Brownware ceramics, Lower Colorado Buffware, unshaped hand stones and milling stones, incised stones, mortars, pestles, and shell beads (Warren and Crabtree, 1986).

5.4.2.3 Ethnographic Background

The Project area is located within the traditional territory of the Kawaiisu. The Kawaiisu occupied the southern Sierra Nevada south of the Kern River and into the northern Tehachapi Mountains. They also claimed a major portion of the western Mojave Desert, including the Fremont Valley during the initial period after European contact (Sutton, 1991). Neighboring groups included the Tubatalubal to the north, the Southern Yokuts to the west, and the Kitanemuk and Serrano groups to the south. The notion of distinct cultural boundaries was foreign to the Kawaiisu, and the overlapping of groups was customary (Zigmond, 1986). Interaction and intertribal relations were generally peaceful and cooperative, with combined annual hunting expeditions for game drives being commonplace (Voegelin, 1938).

The Kawaiisu language belongs to the Southern Numic branch of Northern Uto-Aztecan. The linguistic data suggest that the Kawaiisu have occupied the general area of the southern Sierra Nevada/western Mojave Desert for some time (Sutton, 1991). Kawaiisu subsistence practices focused on hunting and gathering of local plant and animal resources (Zigmond, 1986). The principal food source was acorns, which was supplemented with meat from large and small game, rodents, birds, and insects (Zigmond, 1986). Acorns were further used to trade for exotic obsidian and salt.

The Kawaiisu exploited resources outside of their core area in the southern Sierra Nevada, with seasonal trips into the western Mojave Desert. Koehn Lake in the Fremont Valley was identified as one destination of these seasonal trips (Zigmond, 1986).

Social organization was rooted in the family group with several male leaders accepted at any given time (Zigmond, 1986). Although families did at times live near each other and cooperate in some activities (Zigmond, 1986), there was no apparent larger formal political grouping (Sutton, 1991).

The material culture of the Kawaiisu was varied and complex (Sutton, 1991). Material culture included the wooden bow and arrow, as well as elaborate basketry (Zigmond, 1986). Zigmond (1986) believes that pottery evident at some sites was obtained through trade with neighboring Great Basin groups rather than through manufacture.

5.4.2.4 Historical Background

European and American exploration into the Fremont Valley began in the late eighteenth century. One of the early European visitors to the area was Francisco Garces, a Franciscan missionary tasked with exploring overland routes between Santa Fe, New Mexico, and southern California. Garces traveled through the valley in 1776, staying in what is today the town of Mojave (Coues, 1900; Sutton, 1991). Later exploration into the valley included visits by John C. Fremont (Fremont, 1845).

European and American exploration into eastern California established trails and wagon roads utilized throughout the nineteenth century. Early trails were used in conjunction with mining, early commerce, and railroad development. Portions of the Owens River Road run through the Fremont Valley. The road was established as a result of intense prospecting taking place in eastern California. Two stops along the Owens River Road are located in the Fremont Valley. The first is at Nadeau Springs, west of the town of Mojave. This stop was originally a wagon stop along the road between Los Angeles and the mines located at Inyo. Later, the Southern Pacific Railroad established a stop north of Mojave called Nadeau station (Warren and Roske, 1981).

The Fremont Valley was a prominent thoroughfare for travelers coming to California and as a trade route. State Historic Landmark 476 (“Desert Spring”), located near Cantil, commemorates the historic trails and early uses for the area:

> This spring was on an old Indian horse thief trail and later (1834) Joe Walker Trail. The famished Manly-Jayhawk Death Valley parties (1849-1850) were revived here after coming from Indian Wells through Last Chance Canyon. This was also a station on the Nadeau Borax Freight Road. (CERES State Historical Landmarks-Kern County).

Mining had a significant influence on the development of the valley. The discovery of gold in California, including the mountains surrounding Fremont Valley, resulted in a large influx of Euroamericans into the region (Sutton, 1991). Early mining exploited borax, and later efforts focused on potash (Wynn, 1963). Major mining districts were established in both the Rand and the El Paso mountains (see Hall and Barker, 1975). The development of mining districts in the mountains surrounding the Mojave Desert contributed to the development of towns as stops along the roads running from the mining districts back to southern California. For instance, the 20-Mule Team Borax Road was one such road that crossed the valley (Wynn, 1963).

The next major development in the Fremont Valley is associated with the construction of the Southern Pacific Railroad. The construction of a rail line through the valley proved to be a boon for development. Construction of rail lines often corresponded with previously established trails and wagon roads. The town of Mojave was founded in 1876 and is directly connected to the construction of the railroad (Wynn, 1963).

Farming and agricultural demands as well as the demands for water in the City of Los Angeles necessitated the construction of an aqueduct. The Owens River was identified as the best source for Los Angeles' increasing water needs, and construction was begun on the First Los Angeles Aqueduct in 1908 (Bevill, et al., 2003). Construction took five years and thousands of workers of various backgrounds. Construction was completed in 1913, when water was delivered to Los Angeles by a gravity flow aqueduct (LADWP, n.d.). The completion of the aqueduct stands as one of the major contributing factors to the expansion of the City of Los Angeles in the early twentieth century. Expansions of the First Los Angeles Aqueduct began in 1940 and extended the system 105 miles north to Mono Basin, culminating in the Second Los Angeles Aqueduct in 1970.

The history of California is reflected in Fremont Valley and the western Mojave Desert as a whole. Prevalent themes in Fremont Valley's history include transportation (i.e., historic trails, railroads, and highways), mining, agriculture, and urban development (i.e., Los Angeles Aqueduct).

5.4.2.5 Cultural Resources Inventory

A cultural resources inventory was conducted of the entire Project (plant site and linear facilities). This inventory included archival research, a pedestrian archaeological survey, and an architectural survey. The results of the inventory are presented in the following subsections; additional detail is provided in Appendix G.

Archival Research

A records search was conducted by the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield. The records search covered a one-mile buffer around the plant site and a 0.25-mile buffer on both sides of linear facilities (transmission line and gas pipeline). The study included a review of archaeological, historical, and environmental literature in addition to the site records and survey maps on file at the SSJVIC.

Of the 24 previous surveys identified by the records search, KE-02888 and KE-02118 were conducted within the Project area (Table 5.4-3). Both were linear surveys and both parallel State Route 14 (SR-14). In addition to the surveys on file at SSJVIC, a large survey was conducted in conjunction with the Pine Tree Wind project located approximately six miles west of the BSEP plant site. *Cultural Resources Inventory Report for the Pine Tree Wind Development Project, Kern County, California* (Nilsson and Kelly, 2004), which documents the survey, was prepared for LADWP. The survey identified 101 sites, the majority of which were prehistoric archaeological sites.

Table 5.4-3 Summary of Previous Surveys within Records Search Limits

Report Number	Author	Title
KE-00029	Robert S. White	An Archaeological Assessment of the United Tire Recycling Corporation Project
KE-00030	Robert S. White	An Archaeological Assessment of the Cornell Corrections California City Prison Site
KE-00051	Don Laylander	Negative Archaeological Survey Report
KE-00248	Environmental Sciences Section	Cultural Resource Survey Report for Flightline Security Fence
KE-00634	Michael Macko	Sylmar Expansion Project Cultural Resources Inventory and Significance Evaluation
KE-00649	James McManus	Archaeological Survey Report for 9-KER-14
KE-01108	Robert A. Schiffman	Archaeological Investigation of Solar World's Proposed Wind Farm Near Cantil, Kern County, California
KE-01594	L. Bruce Nybo	An Archaeological Evaluation of the Six Sections in Fremont Valley, Kern County, California
KE-01595	Robert A. Schiffman	Archaeological Investigation for Six Sections of Land in Fremont Valley, Kern County, California
KE-01706	JIM ULI	Archaeological Investigation of Solar World's Proposed 40 Acre Wind Turbine Generator Farm Near Cantil, Kern County, California
KE-01763	California Department of Transportation	Archaeological Reconnaissance Survey for Minor Construction Projects PM 29.3/29.9
KE-01932	Mark Q. Sutton	Archaeological Investigations at Cantil., Fremont Valley, Western Mojave Desert, California
KE-01961	Mark Q. Sutton	The Archaeology of the Cantil Test Track, Fremont Valley, Western Mojave Desert, California
KE-01967	Michael V. Spear	Historical Resource Evaluation Report for a Widening Project on 9-KER-14, Near Cinco, Kern County
KE-01968	California Department of Transportation	Historic Property Survey Report, Jawbone Canyon Expressway Project
KE-01969	Denise O'Connor	Historical Architectural Survey Report for a Proposed Highway Project on Route 14 in Kern County, California.
KE-02118	Brian F. Smith and Associates	An Archaeological Survey of the Fremont Valley Pipeline Project, Mojave, California
KE-02135	McManus et al.	Negative Declaration, Department of Transportation

Report Number	Author	Title
KE-02608	Theodoratus Cultural Research, Inc., and Archaeological Consulting and Research Services, Inc.	Cultural Resources Overview of the Southern Sierra Nevada
KE-02680	Bevill, Kelly, and Westwood	Cultural Resources Investigations of Selected Portions of the First and Second Los Angeles Aqueducts
KE-02879	Catherin Lewis Pruett	A Cultural Resources Assessment for the Rancho Seco Inc. Water System Rehabilitation Project, Near Cantil, Kern County, California
KE-02888	Mooney/Hayes Association	Cultural Resource Survey of Work Stations of the Sheep 12 kV (#325719S) and Greasewood 12 kV (#1924243E) Circuits, Southern California Edison Decorated Pole Replacement Program (2003), Kern County, California (Negative Declaration)
KE-03276	Stacy Jordan and Michael Wise	Archaeological Survey Report for the Southern California Edison Company, LADWP Rule 15 Line Extension, Private Inholding, Kern County, California
KE-03534	URS Corporation	Archaeological Inventory of the First and Second Los Angeles Aqueducts and Selected Access Roads, Kern, Inyo, and Los Angeles Counties, California

The records search identified nine resources within the one-mile plant site buffer and the 0.5-mile buffer for linear facilities (Table 5.4-4). Two of these previously documented cultural resources are recorded within the plant site; both are historic period resources. Site CA-KER-3366H is the Southern Pacific Railroad; these tracks (now owned by Union Pacific) run north to south to the west of the western boundary of the plant site. The other resource, CA-KER-5264H, is a historic debris scatter located in the northern portion of the plant site.

Pedestrian Archaeological Survey

An archaeological survey of the Project site (plant site and linear facilities) was conducted in October, November, and December 2007. The survey was conducted to identify possible cultural resources that may be impacted by Project construction activities. The survey utilized both 7.5-minute U.S. Geological Survey topographic maps and larger-scale aerial photographs. The Project site was surveyed by a six-person crew walking at no more than 20-meter intervals Per CEC requirements, the survey area included a 200-foot buffer around the plant site boundary and 50 feet to either side of linear facilities.

Archaeological sites were defined as a cluster of three or more artifacts within an area measuring 25 by 25 meters. Identified site boundaries, features, and artifacts were recorded using a GEO-XT submeter Trimble Global Positioning System (GPS), and a sketch map was produced. Identified sites and isolates were recorded on State of California Department of Parks and Recreation (DPR 523) forms.

Table 5.4-4 Summary of Previously Recorded Cultural Resources

Site P-15-	Trinomial CA-KER-	Site Type	Site Constituents	Time Period
002142	2142H	Refuse, hearths, and lithics	Bottle glass, cans, flakes, fire affected rock, and midden	Historic and Prehistoric
003366	3366H	Historic Railroad	296 features recorded along the 76 miles of railroad grade surveyed	Historic 1908-1910
003549	3549H	Los Angeles Aqueduct	Concrete-lined canal, gateways, and spillway	Historic 1908
006415	5264H	Historic Debris Scatter	Glass fragments, unpatterned porcelain, unidentifiable iron	Historic Indeterminate
008781	5573H	Los Angeles Aqueduct Construction Camp	Bottle glass, ceramics, wood, wire nails, cans, saw blade, bucket, pipe, barrel and keg hoops	Historic 1908
010089	5945/H	Refuse and adit	Cans, bottle glass, button	Historic Early 1900s
012429	--	Lithic scatter	Flakes and cobbles	Prehistoric
012666	7125	Rock shelter	Midden	Prehistoric
012737	7194	Lithic scatter	Flakes, core, hammerstone	Prehistoric

Architectural Reconnaissance

On November 7, 2007, a qualified architectural historian conducted a “windshield” reconnaissance of the Project area to determine whether historic buildings and structures were present. To comply with CEC requirements, a 0.5-mile area surrounding the BSEP plant site and linear facilities was surveyed for historic buildings and structures. The survey was conducted from the right-of-way or existing vantage points. Prior to the survey, available aerial photographs and historic maps of the plant site and 0.5-mile buffer area were reviewed to identify existing structures.

Archaeological Survey Results

Pedestrian survey of the plant site and transmission line options was conducted in October 2007 and November 2007. The ground visibility was good, ranging between 60 and 100 percent. The plant site lies east of SR-14 and has been heavily disturbed by past agricultural activities and by vehicle tracks crossing the entire area. The small portion of the Project site west of SR-14 (transmission line route options and switchyard associated with one of the two options) is not as heavily disturbed; however, the area has been impacted by vehicular traffic, creating dirt roads and modern trash dumps. Throughout the Project area there are numerous isolated modern and historic cans. Larger refuse concentrations were identified within proximity of some dirt roads. During the course of the survey, 59 sites (57 previously undocumented sites, two previously recorded sites) and 59 isolates were identified. The resource types include prehistoric and historic period sites, along with numerous isolated artifacts scattered throughout the landscape.

Of the sites encountered, 39 are prehistoric sites, 14 are historic period, and six are dual component (both historic and prehistoric). The historic period sites are primarily refuse scatters containing combinations of glass, metal, and ceramics. Historic artifacts include solder top cans, square cans, side seam cans, and broken amethyst bottles. The prehistoric cultural resources vary in both artifact types and raw materials used and consisted of flake scatters of varying sizes, cores, clusters of fire-affected rock, and camps. The predominant prehistoric artifact types identified during the survey consist mainly of flakes and cores. Obsidian and cryptocrystalline silicate (CCS) are the main sources of raw materials used in the manufacturing of these artifacts. The prehistoric and historic sites mostly contain historic trash scatters with some prehistoric artifacts present.

Architectural Reconnaissance Results. During the site visit, four steel structures were observed on the plant site. These large structures were probably used to store hay or agricultural equipment; they did not appear to be more than 30 years old and had no walls or roof cladding. Four groups of buildings and structures were observed within the 0.5-mile buffer surrounding the plant site. In addition, 14 residences built in the mid-twentieth century were identified along the gas pipeline corridor. Only one of these buildings/structures appeared to be more than 50 years old.

One group of buildings/structures is located off site, adjacent to SR-14 and just south of the northwest corner of the plant site near the site access road. However, on the basis of field observations and a review of historic maps, these buildings/structures do not appear to be more than 45 years old. All now abandoned, these buildings were likely last used when the BSEP plant site was used for agricultural activities more than 20 years ago. Another building consisted of a double-wide trailer approximately 0.5 mile north of the plant site entrance (address: 30401 SR-14). The other two groups of buildings were located off Neuralia Road and consisted of farming/ranching complexes. One complex on Neuralia Road (located approximately one mile south of Munsey Road; northeast quarter of the northeast quarter of Section 3, Cantil USGS) consisted of one large, concrete block outbuilding and a residential structure. These structures do not appear more than 45 years old. A second complex, located at 7696 Neuralia Road, appeared to be known as Rancho Cantil and consisted of a ranch home and several outbuildings. These buildings appear to have been constructed between 1930 and 1947.

5.4.2.6 Consultation with Local Historical Societies and Other Interested Parties

In addition to the records search conducted by SSJVIC, several historical societies and agencies were contacted by a letter on November 29, 2007, requesting any pertinent information regarding historic or other cultural resources within or near the Project Area (see Appendix G.2). The agencies contacted were:

- Kern County Historical Society;
- East Kern Historical Society;
- Historical Society of the Upper Mojave Desert;
- Kern Antelope Historical Society;
- Boron Twenty Mule Museum, Boron;
- Kern Valley Museum, Kernville; and
- Maturango Museum of the Indian Wells Valley, Ridgecrest.

As of February 2008, one response had been received from the Historical Society for the Upper Mojave Desert (see Appendix G). Several comments were provided related to historic activities in the area and more information was requested regarding the Project.

5.4.2.7 Native American Consultation

A letter was sent to the NAHC in October 2007, requesting information on sacred lands and traditional cultural properties, and a list of Native American individuals and organizations that might have knowledge or concerns with cultural resources within the project area. The file search for the Project area did not reveal any specific site information. Seven Native American representatives were identified by the Commission (Table 5.4-5). Letters were sent to these individuals informing them of the project and asking for their input and concerns. Copies of correspondence are provided in Appendix G.1. To date, no responses have been received from the tribal representatives.

Table 5.4-5 Consulting Parties and Public Participation Contacts by Affiliation

Name/Title	Affiliation	Dates of Contact	Response
Neil Peyron Chairperson	Tule River Indian Tribe	11/20/2007	To date, no response.
Ron Wermuth	Tubatulabal, Kawaiisu, Koso, Yokuts	11/20/2007	To date, no response.
Delia Dominguez	Kitanemuk and Yowlumne Tejon Indians	11/20/2007	To date, no response.
Kathy Morgan Chairperson	Tejon Indian Tribe	11/20/2007	To date, no response.
Donna Begay Tribal Chairwoman	Tubatulabals Kern Valley	11/20/2007	To date, no response.
Robert L. Gomez	Paiute, Yokuts, Tubatulabal	11/20/2007	To date, no response.
Robert Robinson Historic Preservation Officer	Tubatulabal, Kawaiisu, Koso, Yokuts	11/20/2007	To date, no response.

5.4.3 Environmental Impacts

This section describes the environmental effects of BSEP construction and operations.

Environmental impacts are assessed for those resources that have been identified as potentially significant. For a cultural resource to be significant it must meet some of the significance criteria of the CRHR (Public Resources Code 5024.1) or satisfy the uniqueness criteria under CEQA. The CRHR states that a building, structure, archaeological site, or other resource will be considered significant if it meets at least one of the following criteria:

1) Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California;

2) Is associated with the lives of persons important to local, California, or national history;

3) Embodies distinctive characteristics of a type, period, region, or method of construction or represents the work of a master, or possesses high artistic values; or

4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to qualifying for the CRHR, a resource must possess sufficient integrity with regard to location, design, setting, materials, workmanship, feeling, and association.

Assessments of project impacts are based on the level of direct and indirect physical changes to a significant resource. A significant impact would occur if the Project:

- Alters a resource or its setting in a manner that affects the qualities that make it significant. Direct impacts to archaeological resources include grading, and for built resources include removal of key elements (e.g., roof), or demolition.
- Indirectly alters the setting, access to, or other elements of the resource in a manner that negatively affects the significance of the resource. Examples of indirect impacts include increased erosion at archaeological sites or visual intrusion buildings that are left vacant.
- Disturbs any human remains, including those located outside of formal cemeteries.

5.4.3.1 Construction

Ground-disturbing construction activities have the potential to directly impact cultural resources by altering site integrity and the qualities that make the resources significant. In addition, in the case of built resources, impacts can occur to the setting of a resource, even if the resource is not physically damaged.

Based on archival and survey investigations, two previously recorded archaeological sites, 57 newly identified archaeological sites, and 15 built resources were inventoried for the BSEP. Table 5.4-6 summarizes the Project's anticipated impacts to these resources.

Most of the resources inventoried for the Project have been assessed as not significant. Potentially significant impacts are considered possible at 10 archaeological sites (Site 3/4/5, Site 6/7, Site 8, Site 9, Site 10, Site 11, Site 12, Site 13, Site 54, and Site 59). Based on the surface evidence, these resources are assessed as potentially significant and subject to potential impacts from construction of the Project. Under CEQA, with implementation of mitigation measures identified in Section 5.4.4 below, potential impacts would be mitigated to a less than significant level.

In addition to the resources identified in Table 5.4-6, 59 isolated finds were encountered during the survey efforts. These include prehistoric lithics and historic period items such as metal cans. None of the isolated finds are considered significant.

If an unanticipated archaeological and/or historical resource were discovered during construction, then potential impacts would be mitigated to a less than significant level with the implementation of the mitigation measures identified in Section 5.4.4.

Table 5.4-6 Summary of Beacon Solar Energy Project Site Data and Impact Assessment

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Archaeological Resources					
15-003366/ CA-KER-3366H	Southern Pacific Railroad/Historic travel in the Mojave Desert	Early 20th century	Potentially significant under criterion 1 of CRHR	Not significant	None
15-006415	Debris scatter/Historic occupation of the Mojave Desert	20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 1	Lithic scatter and refuse scatter/Prehistoric and historic occupation of the Mojave Desert	Prehistoric/ Late 19th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 2	Lithic scatter/ Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 3/4/5	Lithic scatter and refuse/Prehistoric and historic occupation of Mojave Desert	Prehistoric/ Late 19th to mid 20th century	Potentially significant under criterion 4 of CRHR	Less than significant with mitigation	If eligible, barricade and avoid, or data recovery
Site 6/7	Lithic scatter and refuse/Prehistoric and historic occupation of Mojave Desert	Prehistoric/ Late 19th to early 20th century	Potentially significant under criterion 4 of CRHR	Less than significant with mitigation	If eligible, barricade and avoid or data recovery
Site 8	Fire affected rock/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Less than significant with mitigation	If eligible, avoid or data recovery
Site 9	Fire affected rock/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Less than significant with mitigation	If eligible, avoid or data recovery

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Site 10	Camp/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	Less than significant with mitigation	If eligible, avoid or data recovery
Site 11	Fire affected rock/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Less than significant with mitigation	If eligible, avoid or data recovery
Site 12	Fire affected rock/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	Less than significant with mitigation	If eligible, avoid or data recovery
Site 13	Fire affected rock/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Less than significant with mitigation	If eligible, avoid or data recovery
Site 14	Camp/Prehistoric occupation Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	None; site located adjacent to buffer	None
Site 16	Refuse scatter/Historic occupation of Mojave Desert	Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 17	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 18	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 19	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 20	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 21	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Site 22	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 23	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 24	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 25	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 26	Lithic scatter/Prehistoric occupation Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 27	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site 28	Lithic scatter and refuse/Prehistoric and historic occupation of Mojave Desert	Prehistoric/ Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 29	Lithic scatter/ Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 30	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 31	Refuse/Historic occupation of Mojave Desert	Late 19th to early 20th century	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	None
Site 32	Refuse/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 33	Refuse/Historic occupation of Mojave Desert	Late 19th to late 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Site 34	Refuse/Historic occupation of Mojave Desert	Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 35	Refuse/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 36	Refuse/Historic occupation of Mojave Desert	Early to mid 20th century	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	None
Site 37	Refuse/Historic occupation Mojave Desert	Late 19th to early 20th century	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	None
Site 38	Lithic scatter and refuse/Prehistoric/historic occupation of Mojave Desert	Prehistoric/ Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 39	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 40	Camp/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	None; site located adjacent to buffer	None
Site 41	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 42	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 43	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 44	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 45	Refuse/Historic occupation of Mojave Desert	Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Site 46	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 47	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 48	Lithic scatter/Prehistoric occupation Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 49	Lithic scatter and refuse/Prehistoric and historic occupation of Mojave Desert	Prehistoric/ Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 50	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	None; site will be avoided	None
Site 51	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	None; site will be avoided	None
Site 52	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 53	Refuse/Historic occupation of Mojave Desert	Late 19th to early 20th century	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	None
Site 54	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Potentially significant under criterion 4 of CRHR	None; site will be avoided	None
Site 55	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 56	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 57	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
Site 58	Lithic scatter/Prehistoric occupation of Mojave Desert	Prehistoric	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
Site 59	Trail/Prehistoric travel in Mojave Desert	Prehistoric	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	None
Site BSPL-H-01	Refuse/Historic occupation of Mojave Desert	Early to mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	Not significant	None
Site BSPL-H-02	Foundation and refuse/Historic occupation of Mojave Desert	20th century	Potentially significant under criteria 1 and/or 4 of CRHR	None; site will be avoided	Barricade and avoid
7679	Rancho Cantil/Historic ranching in Mojave Desert	20th century	Potentially significant	None; site will be avoided	Avoid
29902101	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902102	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902103	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902104	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902105	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902106	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902107	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None

P-Number/ Trinomial or Temporary Number	Site Type/Historic Context	Date	Significance Potential	Project Impact	Mitigation
29902108	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902109	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29902208	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29903101	Residence/ Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29903103	Residence/ Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29903105	Residence/ Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None
29903201	Residence/Historic occupation of Mojave Desert	Mid 20th century	Not significant; does not meet CRHR criteria or criteria for uniqueness	None; site will be avoided	None

5.4.3.2 Operation

No additional impacts to cultural resources are anticipated through operation of the BSEP.

5.4.3.3 Cumulative Impacts

Cumulative impacts are those associated with a Project considered together with other projects in the vicinity. Other projects in the area would be required to comply with regulations that protect cultural resources through avoidance, evaluation, and mitigation. The environmental review process for the Pine Tree Wind Development Project, located about six miles from the BSEP plant site, identified seven eligible archaeological sites as requiring data recovery mitigation. The potential for impacting potentially significant cultural resources at five locations on the plant site has been identified for the BSEP, as discussed above. However, the BSEP impacts can be mitigated to a less than significant level with implementation of mitigation measures identified in Section 5.4.4 below. The LADWP Barren Ridge-Castaic Transmission Project is in the early stages of the environmental review process and no data on potential cultural resources impacts are yet available, but that project also would be responsible for mitigating significant cultural resources impacts if any are identified. With implementation of the required mitigation measures for these various projects (including the BSEP) as identified through their respective environmental review processes, cumulative impacts would be less than significant.

5.4.4 Mitigation Measures

5.4.4.1 Construction

To mitigate potentially significant Project cultural resources to a less-than-significant level, Beacon Solar will implement the measures listed below.

CUL-1: If significant or potentially significant cultural resources cannot be avoided, the project owner will retain a qualified Cultural Resources Specialist to prepare and implement a data recovery program for the affected resources. The Principal Investigator for the mitigation program will meet the minimum Principal Investigator qualifications under the Secretary of Interior's Standards for Archaeology.

CUL-2: A designated Cultural Resources Specialist will provide input to construction and operation training programs for employees to enhance awareness regarding the protection of cultural resources. The specialist will be available during construction to inspect and evaluate any finds of potentially significant buried cultural material. The Cultural Resources Specialist will coordinate with the project owner's construction manager and environmental compliance manager to stop all work in the vicinity of the find until it can be assessed. If the discovery is determined to be not significant through consultation with CEC staff, work will be allowed to continue.

CUL-3: All discoveries will be documented on appropriate Department of Parks and Recreation forms (Form DPR 523) and filed with the Information Center in Bakersfield.

CUL-4: If in consultation with the CEC a discovery is determined to be significant, a mitigation plan will be prepared and carried out in accordance with State guidelines. If the resources cannot be avoided, a data recovery plan will be developed to ensure collection of sufficient information to address archaeological or historical research questions.

CUL-5: A professional technical report will be prepared documenting assessment and data recovery investigations. The report will describe the methods and materials collected and will provide conclusions regarding the results of the investigations. The report will be submitted to the curatorial facility with the artifacts.

CUL-6: Cultural material collected as part of an assessment or data recovery mitigation will be curated at a qualified curation facility. Field notes and other pertinent materials will be curated along with the archaeological collection.

CUL-7: Under Health and Safety Code (Section 7050.5), if human remains are encountered during construction, the County Coroner must be contacted. If the Coroner determines that the remains are Native American, the Coroner must contact the NAHC. Under Public Resources Code (Section 5097.98), the NAHC will identify the Most Likely Descendant (MLD). The MLD will provide recommendations regarding treatment of the burial.

CUL-8: The project owner will provide worker environmental awareness program (WEAP) training during construction to assist in worker compliance with cultural resource protection procedures. The training will include photographs of a variety of historic and prehistoric artifacts and will include a description of the specific steps to be taken in the event of an unanticipated discovery of cultural material, including human remains.

5.4.4.2 Operations

No additional mitigation measures are required for BSEP operations.

5.4.5 References

Antevs, E., 1955. Geologic-climatic dating in the West. American Antiquity 20(4):317-335.

Bettinger, R. L., and M. A. Baumhoff, 1982. The Numic Spread: Great Basin Cultures in Competition. American Antiquity 47: 485-503.

Bevill, Russell, Michael S. Kelly, and Elena Nilsson, 2003. Draft Report: Archaeological Inventory of the First and Second Los Angeles Aqueducts and Selected Access Roads, Kern, Inyo, and Los Angeles Counties, California. URS Corporation, Chico. Submitted to Los Angeles Department of Water and Power, Los Angeles.

California Resource Agency, 1996. CERES: State Historical Landmarks for Kern County, State Historical Marker No. 476. Available online at http://ceres.ca.gov/geo_area/counties/Kern/landmarks.html. Last accessed December 3, 2007.

Chartkoff, J. and K. K. Chartkoff, 1984. The Archaeology of California. Stanford University Press.

Coues, Elliot (ed.), 1900. On the Trail of a Spanish Pioneer, the Diary and Itinerary of Francisco Garces in His Travels Through Sonora, Arizona, and California. New York: Francis P. Harper Co.

Fremont, John C., 1845. Report of the Exploring Expedition to the Rocky Mountains in the Year 1842 and to Oregon and North California in the Years 1843-1844. Washington: Gales and Seaton.

Gardner, Jill K., 2002. Testing a Regional Model of Changing Settlement and Subsistence Patterns in the Western Mojave Desert: Results from the Coffee Break Site. Coyote Press Archives of Great Basin Prehistory.

Grayson, Donald K., 1993. The Desert's Past: A Natural Prehistory of the Great Basin. Smithsonian Institution Press, Washington.

Hall, Matthew C. and James P. Barker, 1975. Background to the Prehistory of the El Paso/Red Mountain Desert Region. Cultural Resources Publications in Anthropology-History, Riverside.

LADWP website, n.d. The History of the Los Angeles Aqueduct. Available online at http://wsoweb.ladwp.com/Aqueduct/historyoflaa/index.htm. Last accessed December 3, 2007.

Moratto, M. J., 1984. *California Archaeology.* Academic Press, Inc., Orlando.

Mosely, M. and G. A. Smith, 1962. Archaeological Investigations of the Mojave River Drainage. San Bernardino County Museum Association Quarterly 9:3. Redlands.

Nilsson, Elena and Michael S. Kelly, 2004. Draft Report: Cultural Resources Inventory Report for the Pine Tree Wind Development Project, Kern County, California. URS Corporation, Portland. Submitted to Los Angeles Department of Water and Power.

Schoenherr, A. A., 1993. A Natural History of California. University of California Press, Berkeley, California.

Sutton, M. Q., 1980. Some Aspects of Kitanemuk Prehistory. The Journal of California and Great Basin Anthropology 2(2).

Sutton, M. Q., 1988. An Introduction to the Archaeology of the Western Mojave Desert, California. Coyote Press Archives of California Prehistory No. 14.

Sutton, M. Q., 1991. Archaeological Investigations at Cantil, Fremont Valley, Western Mojave Desert, California. Occasional Papers in Anthropology. No. 1. California State University, Bakersfield.

Sutton, M. Q., 1995. The Current Status of Archaeological Research in the Mojave Desert. Journal of California and Great Basin Anthropology 18(2):221-257.

Sutton, M. Q., M. E. Basgall, J. K. Gardner, and M. W. Allen, 2007. Advances in Understanding Mojave Desert Prehistory. California Prehistory, Colonization, Culture, and Complexity. Edited by T. L Jones and K. A. Klar, Altamira Press, New York.

Voegelin, E. W., 1938. Tubatulabal Ethnography. University of California Anthropological Records 2(1):1-84. Berkeley.

Warren, C. N., 1984. The Desert Region. In California Archaeology, edited by Michael J. Moratto, pp. 339-430. Academic Press, New York.

Warren, C. N., 1986. Early Holocene Cultural Adaptation in The Mojave Desert. In The Pleistocene Perspective, Volume 2, pp.1-27. Allen and Unwin, London.

Warren, C. N., 1990. Archaeological Investigations at Nelson Wash, Fort Irwin, California. Fort Irwin Archaeological Project Research Report Number 23, Volumes I and II. Interagency Archaeological Services, National Park Service Western Region. San Francisco, California.

Warren, C. N. and R. H. Crabtree, 1986. Prehistory of the Southwestern Area. In Great Basin, edited by Warren L. d'Azevedo, pp. 183-193. Handbook of North American Indians, Vol. 11, W.G. Sturtevant, general editor. Smithsonian Institution, Washington.

Warren E. von Till, and R. Roske, 1981. Cultural Resources of the California Desert, 1776-1980: Historic Trails and Wagon Roads, Russell L. Kaldenberg, ed. Riverside: Bureau of Land Management Cultural Resources Publications: Anthropology-History.

Willig, J. A., 1988. Paleo-Archaic Adaptations and Lakeside Settlement Patterns in the Northern Alkalai Basin, Oregon. In Early Human Occupation in Far Western Northern America: the Clovis-Archaic Interface, edited by J. A. Willig, C. M. Aikens, and J. L. Fagan, pp. 417-479. Nevada State Museum Anthropological Papers 21, Carson City.

Wynn, Marcia R., 1963. Desert Bonanza: The Story of Early Randsburg Mojave Desert Mining Camp. Glendale, CA: A.H. Clark and Co.

York, A. L., 1995. Class III Cultural Resource Inventory for Los Angeles Department of Water and Power Mead to Adelanto Transmission Line Project: Mt. General, Kramer and Adelanto Divisions. Dames & Moore. Submitted to the Los Angeles Department of Water and Power.

Zigmond, M. L., 1986. Kawaiisu. In Great Basin, edited by Warren L. D'Azevedo pp. 398-411. Handbook of North American Indians, Vol. 11, W.G. Sturtevant, general editor., Smithsonian Institution, Washington.