

5.16 CULTURAL RESOURCES

Cultural resources include prehistoric resources; historic buildings, structures, objects, districts, and sites; and sites and resources of concern to Native Americans and other ethnic groups. The cultural resources assessment prepared for the Project includes a description of the Project area and affected environment; existing site conditions; a summary of the ethnography, prehistory, and history of the region; a review of site records for previously completed cultural resource investigations and recorded sites in the Area of Potential Effects (APEs) and within a one-mile study area; the results of the archaeological and historic architecture surveys of the APE; and the Native American consultation. Complete documentation of the cultural resources assessment is provided in the confidential archaeological technical report (Appendix G, Cultural Resources Technical Report).

This section assesses the potential that earth-moving activities associated with construction of the proposed Genesis Solar Energy Project (the Project) will impact cultural resources that may be eligible for the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR).

All cultural resources work for the Project was carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation Professional Qualification Standards (36 Code of Federal Regulations [CFR] Part 61, Appendix A). The cultural resources investigation was done in accordance with the Warren-Alquist State Energy Resources Conservation and Development Act (Public Resources Code, Section 25000 *et seq.*); *Instructions to the California Energy Commission Staff for the Review of and Information Requirements for an Application for Certification* (CEC, 1992); *Regulations Pertaining to the Rules of Practice and Procedure and Power Plant Site Certification* (CEC, 2007a); and *Rules of Practice and Procedure and Power Plant Site Regulations Revisions* (CEC, 2007b). Also, this study was done in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 *et seq.* and Title 14 of the California Code of Regulations (CCR), Chapter 3, Section 15000).

5.16.1 Affected Environment

5.16.1.1 Geographic Location and Physical Environment

Genesis Solar, LLC has applied for a 4,640-acre right-of-way (ROW) grant from the Bureau of Land Management (BLM) for development of the Project. Once constructed, the Project would permanently occupy approximately 1,800 acres within this area, plus approximately 90 acres for linear facilities. The total permanent Project footprint would be 1,890 acres (collectively referred to as the Project area). The Project is located approximately 25 miles west of Blythe, California, on lands managed by the BLM. Surrounding features include the McCoy Mountains to the east, the Palen Mountains (including the Palen/McCoy Wilderness Area) to the north, and Ford Dry Lake to the south. Interstate 10 (I-10) is located approximately 2 miles south of the southernmost border of the ROW.

Of particular relevance to the study of the cultural resources of the Project area is the fact that Ford Dry Lake would fill with water seasonally at various times during prehistory, and may at times have been a perennial lake. This water source attracted human populations as well as wildlife that would have provided a food source. The lake margin would also have supported seasonal wild plants that would also have provided a food source for humans and animals. This is seen in the pattern of prehistoric sites and artifacts located within the Project area.

A geoarchaeological study of the Project area was undertaken as part of the cultural resources inventory and a detailed report on its results is presented in confidential Appendix G, Cultural Resources Technical Report. In general, this study discusses the depositional history of the area as can be interpreted from the surficial geology. It cannot be determined at this time if Ford Dry Lake was a perennial lake during the Pleistocene or wetter periods of the Holocene without further field investigations. It does appear to have been a seasonal lake during most of the Holocene. The sediments in the Project area all appear to date from the late Holocene, indicating a high potential for buried cultural deposits.

5.16.1.2 Cultural Context

5.16.1.2.1 Prehistoric Background

This section discusses general trends in southern California prehistory; a general cultural chronology for the Colorado Desert region has not yet been clearly established. Early archaeological research by Malcolm Rogers and ongoing archaeological research in the intervening decades has led to the identification of a basic cultural-historical framework for the prehistory of the lower Colorado River and neighboring uplands (Cleland and Apple, 2003). A summary of the four chronological periods, including the Early Man period, Paleoindian (Terminal Pleistocene to Early Holocene) period, Early and Late Archaic period, and Late Prehistoric (Patayan) period is presented below.

Early Man Period (Pre-12,000 years Before Present (BP)). The cultural evidence predating the Paleoindian period remains controversial among American archaeologists. At present, the earliest evidence of man's presence in California is being derived from the Calico site located near Yermo in the central Mojave Desert (Bischoff et al., 1981; Shlemon and Budinger, 1990). This site dates to at least 250,000-300,000 years ago (Dr. Lewis A. Owen, University of Cincinnati, personal communication regarding recent beryllium-10 dating to Fred Budinger, Calico Project Director). Nothing similar has been found near the proposed Project area in the Colorado Desert.

Malcolm Rogers (1939, 1945, 1958, 1966), a pioneering archaeologist in southern California, Baja California, and Arizona, applied the term "Malpais" to crude assemblages of well varnished surface artifacts observed embedded in desert pavements and alluvial lag gravels in the Colorado Desert and elsewhere. Such artifacts were sometimes associated with so-called sleeping circles (bare patches of ground or rock-lined circles). Rogers later abandoned the use of the term Malpais in favor of San Dieguito I after adding other tool forms. San Dieguito I (Malpais) was used by Rogers to refer to assemblages characterized by large, well varnished decortication flakes (primary flakes), scrapers of various types (primarily fashioned on large flakes), ovate bifaces, and heavy core choppers and chopping tools. There were no projectile points or ground stone for milling.

The term Malpais has been resurrected and reused by various other workers including Julian Hayden (1976), Emma Lou Davis (Davis et al., 1980) and Robert Begole (1973). It has not gained general acceptance by the mainstream archaeological community, in large part because there has been reluctance to accept pre-Clovis evidence in the United States.

At the Calico site in the Mojave Desert, what Rogers and the others would call "Malpais" is called the "Lake Manix Lithic Industry" (Simpson, 1958, 1960, 1967, 1978, and 1982). Artifacts include large oval bifaces, scrapers, tools, choppers, chopping tools, stout picks, rotational tools, graters, cutting tools, and flakes, as well as cores, anvils, and hammerstones. Most of the artifacts are made of chalcedony, chert, and jasper.

Late Pleistocene to Early Holocene (12,000 to 8,000 years BP). Evidence throughout California and the western United States generally suggests the terminal Pleistocene to early Holocene (or Paleoindian) populations were small, with large subsistence territories, high mobility, and subsistence economies that included the capture of big game such as now-extinct Pleistocene mega fauna (Moratto, 1984). The earliest known sites have also been called “Clovis.” The characteristics of Clovis sites and assemblages led early observers to conclude Clovis represented a “specialized large prey” hunting strategy. Today, however, many scholars presume plant resources and small game were also utilized (Bryan, 1991; Cleland and Apple, 2003). Recent research in the Great Basin, which offers better preservation of early Paleoindian sites than does California, indicates the economies of the Paleoindian peoples of the far western United States were based on a broad-based hunting and gathering strategy, dependent to a large extent on local lake and marsh habitats (Willig, 1988). Large, fluted lanceolate projectile points known as Clovis points, which are the most widely recognized markers for this time period, have been found throughout the Great Basin and adjacent parts of California (Moratto, 1984). To date, no Clovis period sites have been identified in the Colorado Desert, although such sites have been located in the Mojave Desert to the north. Clovis or fluted points have been primarily located along Pleistocene lakeshores and streams, or as isolates in waterless country.

The San Dieguito complex, identified as following the Clovis period, was originally defined by Rogers (1939) based on a number of his surveys conducted in the 1930s in southern California’s desert and coastal regions. This time is recognized as representing the Paleoindian period in the Colorado Desert (Rogers, 1966; Schaefer, 1994) and is comparable to the Lake Mojave period assigned to the Mojave Desert to the north. Although Rogers has identified three phases of the San Dieguito complex, some scholars have argued that a lack of chronological indicators, the surficial nature of desert sites (lack of stratigraphic context), skepticism about the use of patination and embeddedness for cross dating, and inconsistent methodologies have made phase distinctions difficult to define (McGuire and Schiffer, 1982; Vaughan, 1982).

The San Dieguito assemblages are generally represented by heavy, percussion-flaked cores and flake based tools, bifacially and unifacially reduced choppers and chopper tools, crescentics, domed and keeled choppers, planes, scrapers, pressure-flaked blades, leaf-shaped projectile points, and large-stemmed Lake Mojave and Silver Lake projectile points (within desert areas). Fluted points are occasionally identified on surface sites in the desert (Cleland and Apple, 2003; Rogers, 1939, 1958, 1966; Warren and True, 1961; Schaefer, 2003). The subsistence strategy for the San Dieguito period focused on hunting large and small game and gathering seasonally available plants, behavior that necessitated a high degree of residential mobility. The lack of ground stone tools has led some to conclude that plant foods, such as hard seeds and nuts, were not heavily utilized during this period (Rogers, 1966; Warren, 1967; Moratto, 1984). Most San Dieguito sites are found on mesas, ancient desert terraces, washes, or margins of dry inland lakes. The sites usually lack middens and are highly eroded. Materials from the San Dieguito period have been recovered at sites such as Ventana Cave in south-central Arizona, which yielded radiocarbon dates as early as 11,300 ±1200 years BP. The Harris Site, on the southern California coast, contained San Dieguito material below a stratigraphic layer dated at 9030 ±350 years BP (Haurly, 1975; Warren, 1966). No archaeological sites dating to this era have been identified within the immediate Project area.

Early and Late Archaic Period (8,000 to 1,500 years BP). During the Archaic period, prehistoric North American cultures began to put less emphasis on large game hunting. Subsistence economies probably diversified somewhat and Archaic-era people may have begun to use certain regional

ecological zones more intensively than before. The extant archaeological record of Archaic sites occurs in both water-edge (lake/playa edge and/or stream edge) environments and old grassland savannas away from immediately available potable water. Advances in technology, such as the advent of milling stones, indicate new food processing methods became important during the Archaic period, enabling more efficient use of certain plant foods, including plants with hard seeds.

Archaic period sites are rare in the Colorado Desert due to lack of preservation and/or because the desert environment was generally more arid and, as such, less hospitable (Grayson, 1993). Therefore, the human adaptation and habitation of the Colorado Desert during this time is inferred from developments in adjacent areas. In the Colorado Desert, Rogers (1939) assigned the Amargosa complex to the early Archaic period. Rogers separated this complex into phases I, II, and III. Amargosa I is comparable to the Pinto Complex of the Mojave Desert, which dates to approximately 8,000 to 4,000 years BP (Sutton, 1996). Amargosa I assemblage consist of Pinto or Amargosa projectile points, scrapers, knives, scraper planes, and choppers. Although ground stone implements are not evident in this complex, ground stone tools are found in the Mojave Desert and elsewhere in California (Rogers, 1939; Cleland and Apple, 2003). The technologies from this phase indicate a more diversified exploitation of animal and plant resources. Prehistoric populations appear to have been low during this phase and highly mobile throughout the year. Amargosa II and III represent the Late Archaic time period (4,000 to 1,500 years BP). The Amargosa II assemblage is comparable to the Gypsum complex of the Mojave Desert. Amargosa II artifacts include fine pressure-flaked Gypsum, Elko, and Humboldt series projectile points, manos and metates, and scrapers, choppers, and a variety of other flake tools (McGuire and Schiffer, 1982; Warren, 1984). The use of ground stone increased during the Amargosa III phase, occurring along with long triangular blades and corner-notched projectile points. Some brown ware pottery has been associated with the later part of Amargosa III. There has been some difficulty defining the separation between Phase II and III due to a general lack of archaeological evidence for the Archaic period (Cleland and Apple, 2003).

In the Colorado Desert, the Indian Hill Rockshelter site contained a late Archaic deposit to a depth of 1.5 meters (McDonald, 1992). Cultural components of the site included 11 rock-lined cache pits, hearths, Elko series dart points, flaked tools, and milling stones, and three inhumations. One inhumation yielded a radiocarbon date of 4070 ±100 years BP (McDonald, 1992; Schaefer, 2003). Additional sites include a small rock shelter in Tahquitz Canyon (near Palm Springs, California), which contained rock-lined pits similar to cache pits at the Indian Hill Rockshelter, although little lithic material was observed. Another late Archaic site was identified near the north shore of Lake Cahuilla (Love, 1996; Shaefer, 2003). Found deep within dune deposits, it contained a variety of faunal remains (artiodactyls and fish) and yielded a radiocarbon date of 3,000 years BP.

McCarthy suggests the McCoy Springs National Register District (site number CA-RIV-132) located within the McCoy Mountains supports evidence of site and regional use by early Archaic and subsequent people (McCarthy, 1993). This theory relies on the validity of chronological ordering of heavy patination on petroglyph panels and milling stone surfaces found within the district. Near the northern and southern portion of the Ford Dry Lake, two prehistoric sites (CA-RIV-2158 and CA-RIV-2159) were assigned a potential date of Late Archaic use based on their proximity to the older lake bed gravel terraces, occurrence of ground stone, and very little evidence of pottery (Cardenas, 1981). These sites did not contain any chronological indicators such as projectile points, were not tested, nor have they been revisited or relocated in more than 20 years; thus, additional information may be required to assign such a date.

During the late Archaic period, prehistoric populations were highly mobile, becoming increasingly effective hunters and gatherers. Increased use of ground stone implements and rock-lined caches is indicative of seed processing and food storage. The Project area has the potential to yield archaeological sites dating to the Late Archaic period.

Late Prehistoric (Patayan) Period (1,500 years BP-Historic Era). AD 500 (1,500 years BP) is a cultural watershed throughout California. Sometime near this date, the bow and arrow replaced the spear and dart as the hunting tool and weapon of choice. The most useful markers for this period tend to be the small projectile points used as arrow tips. The date of bow and arrow introduction is a point of some controversy, but most authors place it between AD 500 and 600. Others believe bows and arrows were introduced as early as AD 250 (1,757 years BP, according to Hughes [1986]) or as late as AD 700 (1,307 years BP, according to Bennyhoff et al. [1982]). Additionally, in the Colorado Desert, pottery technologies advanced with the use of the paddle and anvil technique, which was possibly derived from the Hohokam culture of Arizona and northern Mexico (Schroeder, 1975; Rogers, 1945).

The Late Prehistoric period, known locally as the Patayan Pattern, is divided into three phases on the basis of ceramics, including one pre-ceramic transitional phase from 1,500 to 1,200 years BP (Cleland and Apple, 2003; Shaefer, 2003). During the Patayan period, populations in the Colorado Desert applied a subsistence strategy that combined floodplain horticulture along the Colorado River floodplain with hunting and gathering in small mobile groups. At the same time, numerous trail systems developed for short- and long-range travel as people continued to diversify their resource base by accessing every nearby habitat and acquiring goods through long-distance trading networks. Trail networks were complex and consisted of major travel routes broken up by smaller trails that were interconnected and led to various resources or special activity areas. The best preserved segments of trails are found on desert pavement. E.H. James (1985) recorded several trails near the Mojave River and Troy Dry Lake area. He describes optimal trails as being 35 to 40 centimeters (cm) wide and 1 to 2 cm deep. Broken ceramics, lithic debitage, and shrines are often found along these trails. Near the Project area, D.F. McCarthy (1993) recorded several trails radiating out from the McCoy Springs National Register District toward areas where regional resources (food, water, minerals) could be attained. These trails averaged 30 cm wide and often extended for many miles across the landscape. He described two trail types for the region: primary trails that lead to McCoy Springs, and secondary trails that branch off from the primary trails (McCarthy, 1993).

Within the Project region, several well-known trails led west from the Colorado River into the interior. Previously recorded site CA-RIV-53T is one of the longest primary trails that lead to McCoy Springs. This trail is east and northeast of the Ford Dry Lake Project area. Several previously recorded aboriginal trail segments have been identified within the Project region; thus, the Project area may contain branches of these trail networks and/or segments.

Artifact assemblages of the Patayan period include buff and brown ware pottery, clay pipes, small, triangular Cottonwood series and Desert Side Notched series projectile points, serrated-edged projectile points, bedrock grinding surfaces, shell beads, and soapstone implements. Citing Waters (1982) synthesis of Patayan ceramics, McCarthy postulates that observed buff ware sherds along the McCoy Springs trail system date to the Patayan I and II periods. Pictographs, petroglyphs, and geoglyphs are also associated with the Patayan culture. Commodities such as obsidian, marine shell, fish, and salt were purchased in trade. Burial practices shifted from inhumations to cremations during this period (Cleland and Apple, 2003). Patayan period sites in the Colorado Desert are generally

associated with trails, pottery, pictographs, petroglyphs, bedrock grinding surfaces, temporary camps, caches, and rock shelters.

Several late period sites have been recorded around the Ford Dry Lake playa margin within the Project area (see Section 4, Table 2). These sites consist of ground stone fragments, flaked tools, hammerstones, cores, and ceramic fragments. In addition, the McCoy Springs National Register District (site number CA-RIV-132) is 15 km (9 miles) northeast of the Project area. The McCoy Springs District includes several trails leading to the springs, petroglyphs, Patayan ceramic wares, and heavily painted petroglyphs. The District also includes a number of sites that contain ceramics, ground stone, rock rings, and lithics (McCarthy, 1993).

5.16.1.2.2 Ethnohistoric Background

The Project area is situated within ethnographic territories of the Mojave, Cahuilla, Quechan, Chemehuevi, Halchidhoma, and potentially the Serrano peoples. Research covering the ethnographic period for this region suggests a relative fluidity in territorial boundaries over time. This fluidity, in general, is represented in the use, abandonment, intrusion, and displacement by the aforementioned ethnographic groups. Further, much of this shifting in territories and boundaries during the ethnographic period can be assigned to inter-tribal warfare. As such, the Project area, specifically the environs of Ford Dry Lake, evince the potential use and/or occupation by some or all of these groups during various times. Further, such activities may have fluctuated between territorial controls of the local resources to a joint-use model where multiple groups may have had varying levels of access to those resources. A summary of each relevant group is provided below.

Mohave

The Mohave Indians were the most populous and war-like of the Yuman tribes. They spoke a River Yuman language within the Hokan linguistic stock. They resided on both sides of the Colorado River, but principally on the river's east side between Needles and the entrance to Black Canyon. The Mohave Valley was the location of their major population center (Schaefer et al, 1997). The following discussion is derived primarily from Kroeber (1925).

The Mohave were principally flood plain agriculturalists who grew corn, pumpkins, melons, beans, and a small amount of wheat. They did not practice irrigation, but relied on the inundation of the bottom lands from the annual floods. Native resources included mesquite beans, piñon nuts, and small amounts of fish. Hunting was limited. Trade routes extended to the Pacific Ocean.

Settlements were typically small and dwellings were scattered. Houses were typically four-sided and low, with four supporting posts at the center. The walls, which were only 2 or 3 feet high, and the almost flat roof were formed of brush covered with sand. Their granaries were upright cylindrical structures with flat roofs. Known named Mohave rancherias included Passion, San Pedro, and Santa Isabel.

Mohave tribal organization was loose, though, as a whole, the Mohave remained quite distinct from other tribes. The chieftainship was hereditary in the male line. Their dead were cremated.

The Mohave were regarded by Euro-American observers as strong, athletic, and well developed people. The women were regarded as attractive. Tattooing was universal, but confined to small areas on the skin. The population of the tribe in 1775 to 1776 was conservatively estimated at 3,000 by Father Francisco Garcés, a Franciscan priest.

The Mohave were known to be brave and fierce warriors. War parties could travel hundreds of miles, living on chia seeds and water. They fought with clubs, hitting the top of their enemy's heads driving them down, then swinging up to crush their jaws. They would take scalps and prisoners.

The Mohave made unbacked bows of willow and arrows from local arrowwood. Clubs were of mesquite or screwbean wood. Other objects of material culture included manos and metates, mortars and pestles, pottery, and basketry. Pottery was made by coiling clay and patting it with a paddle. It was painted with yellow ochre that turned dull red on firing. Ceramic vessels and tools were decorated and used as water jars, cook pots, spoons, ladles, plates, platters, parchers, and bowls. Baskets were in common use, but were obtained from other tribes. Articles of skin and bone were little used; materials such as vegetable fiber and the inner bark of the willow were used instead.

The Mohave traded regularly with the Serrano and the Chumash, with whom they were on terms of special amity, and probably also on occasion with the Cahuilla, especially in the early 1850s. They also traded with the Chemehuevi, with whom they were sometimes friendly and sometimes at odds. They were not as interested in trade as in travel for the sake of travel—seeing other lands and visiting people.

The Mohave were said to be a tribe in a more traditional sense of the word than most California Indians. They thought of themselves as a national entity, and of their traditional territory as a country. Within this larger entity, they had patrilineal clans, in which only the women bore the clan names—all in the clan having the same clan name, which was followed by a nickname to distinguish one from another. Men were called by the clan name only in ceremonies. Ordinarily the men were known by nicknames.

Cahuilla

The Cahuilla occupied the central area of southern California. Their territory included the San Bernardino Mountains in the north, to the Borrego Springs and the Chocolate Mountains in the south, and a portion of the Colorado Desert west of the Orocopia Mountains, and the San Jacinto Plain, and the eastern slopes of the Palomar Mountains (Bean, 1978).

Additional trails just beyond the Cahuilla territory include the Santa Fe and Yuman trails. These routes provided access between coastal and interior tribes and were utilized for trade and travel.

The Cahuilla language is of the Cupan subgroup of the Takic family of the Northern Uto Aztecan languages of Southern California (Gorden, 2005). Their society was organized by patrilineages, clans, and moieties, with land-holdings by lineages and clans (Bean, 1978). Each landholding entity had a territory that ranged from desert or valley floor to higher mountain areas, where several biotic zones were exploited for their resources. Each lineage had ownership rights to its respective hunting and gathering area. Mesquite beans and pine nuts were important wild staples, but some farming also took place, producing corn, beans, and squash. Clans were arranged so each lineage/community had access to water and food resources. Though clans varied in size, some may have numbered in the thousands.

Within each Cahuilla community, dwellings were placed relatively far apart, causing a community to spread out over a few miles. Each extended family typically had its own dwelling, associated structures for food storage, and shaded work areas (Schaefer, 2003).

Halchidhoma

The Halchidhoma are a Yuman-speaking group of the Western Hokan language stock. Traditionally, the Halchidhoma occupied territory south of the confluence of the Gila and Colorado River and south of the Quechan. Population densities prior to tribal conflicts and Spanish contact are uncertain but may have been high. In 1605, Spanish explorer Don Juan de Onate encountered an estimated 2,000 people living in the northernmost of the Halchidhoma's eight camps (Kroeber, 1925). The Halchidhoma and the Yumas were rivals, and the Halchidhoma sustained severe population losses from warfare with the Yumas. Francisco Garcés, who encountered the Halchidhoma in 1776, estimated approximately 2,500 people in the entire group. By the eighteenth century, they had moved north to occupy an area along the Colorado River between present day Parker and Blythe/Ehrenberg.

The Halchidhoma were horticulturalists who supplemented their diet with hunting and gathering. Seasonal settlement patterns reflect a changing floodplain environment and consisted of camps located on the river terraces during the winter and spring and dispersed extended family camps located on the river floodplain near their horticultural plots during the summer and fall (Cleland and Apple, 2003). Planted crops included maize, squash, and beans. Wild plants such as mesquite pods and screwbean pods remained an important staple.

By the mid-nineteenth century, the Halchidhoma were driven from their territory in the Parker-Blythe area by the Quechan-Mojave alliance. They took refuge with the Maricopa, with whom they had developed close relations (Kroeber, 1925; Cleland and Apple, 2003). Due to the merging and assimilation into Maricopa culture, detailed ethnographic studies of the Halchidhoma in their native territory along the Colorado River are scarce (Cleland and Apple, 2003; Schaefer, 2003).

Quechan

The Quechan (also referred to as the Yuma) is a Yuman-speaking group of the Western Hokan language stock. Their territory encompassed both sides of the Colorado River and extended north (near present day Blythe, California) and south (to Sonora, Mexico) from the confluence of the Gila and Colorado rivers. Quechan subsistence was based on horticultural practices and hunting and gathering. Seasonal settlement patterns reflected a changing floodplain environment and ranged from large villages located on the river terraces during the winter and spring to dispersed extended family camps located on the river floodplain near their horticultural plots during the summer and fall (Cleland and Apple, 2003). Planted crops included maize, beans, watermelons, pumpkins, muskmelons, and wheat. Hunting and gathering supplemented their diet, and fish was an important source of protein. Deer, rabbit, and birds were hunted. Mesquite pods and screw beans were important gathered wild staples (Wullenjohn, 1998).

The Quechan were well versed in warfare and often became involved in conflicts with neighboring tribes over fertile river territories. They developed an alliance with the Mojave and successfully displaced the Halchidhoma from their lands along the Colorado River near the vicinity of present-day Blythe. In what became known as the Quechan Revolt of 1781, they resisted Spanish encroachment by destroying the main Spanish pueblo, San Pablo y San Pedro Bicuner, and the Mission La Purisima Concepcion, all located along the Colorado River near the California, Mexico, and Arizona borders. By the mid-nineteenth century, Fort Yuma was established by the United States Army to protect the Yuma crossing against Quechan revolts.

Chemehuevi

The Chemehuevi are a Numic-speaking group of the Ute-Aztecan language stock that occupied territory east of the Cahuilla and north of the Quechan. They are the southernmost group of the 16 subgroups of the Southern Paiute (Kelly and Fowler, 1986). Traditionally, the Southern Paiute/Chemehuevi were mobile hunters and gathers exploiting a variety of desert resources. Settlements were scattered and band size varied, as people moved through a seasonal gathering round for available water, plant, and animal resources. Dwellings varied from pole structures covered with brush or bark, to rock shelters, to earth-covered huts depending on the season. Hunting resources consisted of bighorn sheep, deer and small game, including rabbits, rodents, chuckwalla, lizards, and desert tortoises. Insects and larva were consumed for protein in times of need. A wide variety of seeds and plants were gathered including rice grass, pine nuts, mesquite pods, yucca, mescal, and cacti.

The exact time of the Chemehuevi's entrance into the region is unknown, but likely occurred around A.D. 1200 to A.D. 1500 (Schaefer et al, 1997). To varying degrees after their entrance into the region, Chemehuevi tribal influences included the area west of the Colorado River between Needles and Blythe, and as far west as Twentynine Palms.

As with the Cahuilla, the Chemehuevi were involved with extensive trade and exchange networks extending east to the Channel Islands and west into modern southern Arizona (Bean and Vane, 1978; King, 1981). Thus, cultural materials identified within areas occupied by the Chemehuevis may likely include resources exotic to the region.

The Chemehuevi formed alliances with the Mohave and Quechan and supported their efforts in battles against the Halchidhoma. Their settlements along the Colorado River include the territory that once belonged to the Halchidhoma (Kroeber, 1925; Schaefer, 2003).

The Chemehuevi diversified their subsistence base by incorporating floodplain farming and cultivating crops such as maize, squash, pumpkin, watermelon, and wheat. To supplement this, they continued to gather seeds and hunt small game. The Chemehuevi also adopted some Mohave cultural attributes such as ceramic styles, square metates, some earth-covered house forms, storage platforms, warfare patterns, and personal adornment.

By the mid-eighteenth century, the Chemehuevis had expanded west as far as Twentynine Palms. Much of this expansion might have been internally driven, but war with the Mohave, who were moving south to inhabit the new Colorado River Reservation, certainly facilitated this movement. The Chemehuevi were to take refuge with the Cahuilla near Banning as well as with, and eventually displacing, the Serrano (Kroeber, 1925; Trafzer, Madrigal and Madrigal, 1997).

Chemehuevi tiiranniwiwi

Chemehuevi occupation was not restricted to only the Colorado River floodplains. Additional Chemehuevi groups lived in inland and upland settlements. As indicated by intra-group political identifiers (Laird, 1976), the Chemehuevi were divided, and subdivided, by region. Those living away from the Colorado River were referred to as *tiiranniwiwi* (Desert People). Such groups would have been situated within the local environs of the current Project area. In such areas, the more traditional hunting and gathering of desert resources persisted. Some non-river Chemehuevi did begin native horticultural practices during the nineteenth century (Kelly and Fowler, 1986). However, at this time, it is believed unlikely the current Project area could have supported such endeavors.

Serrano

It has been argued that it is nearly impossible to assign definitive sociopolitical boundaries for the Serrano due to certain organizational features and limited data (Bean and Smith, 1978). However, most researchers place the Serrano groups in the San Bernardino Mountains east of Cajon Pass, north of Victorville within the Mojave River drainage, and as far east as Twentynine Palms (Bean and Smith, 1978). Given the relative dearth of data, the relative proximity of Twentynine Palms to the Project area, and the Serrano association with the Chemehuevis, some mention of these people should be afforded.

The Serrano groups were primarily gatherers supplemented through hunting and fishing. As their territory varied considerably in elevation, ranging from 1,500 feet in the desert to over 11,000 feet in the mountains, resources were collected throughout a number of environments. Most villages, however, were situated in the foothill areas with a few on the desert floor (Bean and Smith, 1978). The primary determining factor for village placement appears to be the presence/absence of water availability (Benedict, 1924). Given their dependence upon water sources, these villages tended to be small with dwellings consisting of tule thatched, circular domed structures. In addition, most villages included a larger ceremonial house where the lineage leader lived (Bean and Smith, 1978).

Technologically, cultural materials of the Serrano groups included decorated baskets, pottery, hide blankets, stone pipes, yucca fiber cordage, as well as an assortment of musical instruments made from various bone, shell, and wood materials (Bean and Smith, 1978).

Spanish incursions into the Serrano territory were minimal until 1819 when an asistencia was built near Redlands (Bean and Smith, 1978). After this time, secularization of the Serrano was rapid and native life-ways faded as most of the population was moved to the missions (Beattie and Beattie, 1939).

5.17.1.2.3 Historic Background

Recorded history in the area begins with early exploration, Euro-American settlement, railroad and mining, and the military. The following is a brief summary of regional history as a means to provide a general context for possible site types encountered during an archaeological inventory.

Early Exploration (1600s to 1840s). The earliest historic records for southeastern California are the accounts of Hernando de Alacron, a Spanish explorer who sailed up the Colorado River from the Gulf of California in 1540, reaching a point near Yuma, Arizona. The Spanish interacted with southern Yuman groups for approximately two centuries. While the Spanish entered the Yuman territories at this time, their colonization efforts were focused in areas farther south and east. In the 1780s, two missions were established along the Colorado River, over 30 miles south of the Project area. Father Francisco Garcés established the Mission La Purisima Concepcion (ca. 1780), near present-day Yuma, and Mission San Pedro Y San Pablo de Bicuener (ca. 1781), farther north near present-day Bard, California. In 1744, Father Jacobo Sedelmayr traveled along the Colorado River, passing through Halchidhoma territory near present day Blythe, California (Forbes, 1965).

Interactions and trade between the Spanish and Native American groups were amicable at first. As the Spanish missionaries and settlers continued to encroach upon Native territories and impose their religious belief system, the relationship became hostile. In the late 1700s, the Yuma revolted against Spanish settlements and missions at Mission San Pedro y San Pablo and La Purisima Concepcion. In 1821, Mexico successfully revolted against Spain, achieving independence and shifting control of southern California to Mexico. From 1823 to 1826, the Jose Romero expedition explored the region

south of the Project area in search of a travel route from the San Gorgonio Pass to the Colorado River. Jose Estudillo, of the Romero expedition, recorded accounts of Cahuilla agricultural and irrigation practices that included raising melons, pumpkins, and corn. After the Mexican War of 1847 and the signing of the Treaty of Guadalupe Hidalgo, California became a territory of the United States, achieving its statehood in 1850.

Euro-American Settlement (Late 1860s to 1940s). In 1877, Thomas Blythe acquired 40,000 acres of land and water rights along the Colorado River near present-day Blythe, California. Blythe envisioned a Project that would develop the land for agricultural and commercial use, and bring settlers to the area. Blythe died in 1883 before his development could be completed. His property and water rights were held up in court for several years until the turn of the century, when the Palo Verde Land and Water Company finally purchased the Blythe Estate (Palo Verde Irrigation District, 2007). In the same year of his death, the Blythe Diversion Dam was constructed and agricultural practices began to take place in the area. By 1916, the town of Blythe was incorporated. Early farmers of the area had to contend with the annual floods and rushes of the Colorado River. By the late 1920s, the Palo Verde Irrigation District Act was passed and the region's irrigation and drainage needs were facilitated by one district. After the completion of the Hoover Dam in 1935, the Colorado River flow was regulated and flooding occurred less frequently. Farming continues to be a commercial industry in Blythe; several alfalfa fields surround the area.

Desert Travel and Water (Late 1800s to 1960s). Traversing the southern California desert was often a difficult and dangerous task for prospectors and travelers. In 1909, the United States Geological Survey (USGS) compiled data collected by Gilbert E. Bailey and later surveyors and produced several Water Supply papers and maps that identified safe routes of travel, road conditions, and watering places within the desert (Brown, 1920; Mendenhall, 1909). The routes typically followed old trails and wagon roads that had natural streams, springs, and/or excavated wells at intermittent locations along the way. By the early twentieth century, the automobile became a preferred means of transportation and motorists founded the Automobile Club of Southern California (Till Warren et al., 1980). The club produced maps and publications, erected road signs, and lobbied for safe travel and road improvements. In 1916, Congress approved an Act to identify travel routes and ensure protection of available water within the least documented regions of the desert (Brown, 1920). As a result of this act, the USGS produced a guide with detailed information regarding automobile travel (e.g., safety, necessary supplies), maps, road logs, and locations of available potable water. The Mecca-Blythe-Ehrenberg route is described in the water-supply paper and illustrated on the 1920 USGS water supply map as a southeast to east/west trending route from Mecca to Blythe and then Ehrenberg. The road is illustrated near the southern portion of the Project boundary. The map identifies several wells along the route including Hopkins Well (discussed below) and Ford Well (east of Project area). Ford Well was described as a cattle camp with a windmill, trough, corral, and a small structure (Brown, 1923).

Historic site CA-RIV-1132H (Hopkins Well) is located near the Ford Dry Lake ROW and was originally recorded as the remains of an "old ranch or something of that nature with a defunct well" composed of cans, wire, cement, boards, nails, rabbit hutches, and barbed wire (Cowan, 1976). The site was updated in 1986 by H. Metcalfe and described as a 6-inch-diameter pipe 2 feet above ground, with cement foundations nearby.

On March 31, 1910, a BLM Desert Land Entry was filed (LA 038382) in the area of the well at Township 6 South, Range 19 East, NE and NW quarter of Section 33, SBBM (National Archive and

Records Administration Pacific Region). The well was drilled by J.W. Hopkins in 1911 and is identified as the Hopkins Well on historic maps (Brown, 1923). The Hopkins Well is referenced as an iron pump situated on the south side of the Mecca to Blythe route (Brown, 1920). In 1917, the water measured 70.8 feet below the surface, was described as salty, dirty, and hardly good enough for stock, and the well's iron pump was broken (Brown, 1923). In 1923, the well is described as having a depth of 1,200 feet (bedrock), a diameter of 12 inches down to 930 feet, and a diameter of 8 inches below that level. Water-bearing sand was found at various depths and was considered of poor quality at 70 to 600 feet. The water within the deeper strata near the bottom of the well was reported as good (Brown, 1923). No additional structures or cultural features were described in Brown's recordings of the well. The land entry was listed as canceled as of July 30, 1969. The well does not appear on the BLM Master Title Plat. The BLM California State and Palm Springs field offices were contacted in October 2007 regarding this land entry; however, no further information was available.

The immediate Ford Dry Lake area has been used historically as a grazing allotment; due to the alkaline content in the soil the land is not suitable for farming. Historically, off-highway vehicle races were held in the dry lake playa area.

Tetra Tech archaeological staff revisited and examined CA-RIV-1132H as part of a Class III survey effort for the proposed meter and well site locations for the Project. The site was relocated and the archaeological record updated. This site visit resulted in the identification of a concrete cinder block casing with a metal lid modern well in place of the old pipe well feature. The original well feature was dismantled sometime after 1986 and discarded adjacent to the updated well. In addition, a pile of broken up concrete with a very small amount of refuse was mechanically pushed into a pile at the edge of the site. No originally recorded intact concrete features were remaining.

The Mecca-Blythe-Ehrenberg route went southeast from Mecca, and just before Hopkins Well, the route heads east and splits along a north and south route. The north route passed Hopkins Well and Ford Well, and just past Ford Well the north and south route join again and continue east. Today, the original northern route may be part of the gas line access road alignment along the southern region of Ford Dry Lake.

In the 1930s, United States Route 60 between Indio and Blythe was paved (Norris and Carrico, 1978). The construction of I-10 began in the late 1960s from funds under the Federal Highway Act of 1956, replacing the old U.S. 60 route. A paved segment of the original U.S. 60 route still exist as Chuckwalla Valley Road.

Railroad and Mining (1860s to 1960s). A new wave of American immigrants began to explore southeastern California by the early nineteenth century. Reports of gold discoveries in California caused an influx of gold-seekers to the state in the 1840s. There were an estimated 4,000 miners in 1848, 200,000 in 1849, and 500,000 in 1850 in the state of California. A boom was generated near the Project area in the 1860s and again in the late 1890s, when Powell Weaver discovered gold along the eastern banks of the Colorado River, giving rise to the boomtown of La Paz, located northeast of Blythe (Schaefer, 2003). Californian and Mexican miners traveled to the La Paz and Castle Dome districts for mining. Mining and mineral exploration have occurred intermittently in and near the Palen-McCoy Mountains since the late 1800s. Mines in the Palen Mountains northwest of the Project area and in the McCoy Mountains to the east have produced small tonnages of copper, manganese, and uranium. Clay, iron, and pyrophyllite, an industrial mineral, were discovered in the southwestern Palen Mountains before 1945, but the prospects were never fully developed.

The McCoy Mountains (also known as Ironwood Mountains) were mined in the 1960s as part of the Ironwood Mining District. Intermittent mining activity has occurred in the area since the 1870s. Deposits of iron, pyrophyllite, manganese, clay, uranium, and occurrences of copper, with minor associated gold and silver, are found within the district (Stone et al., 1985). By the late 1870s, the construction and expansion of the Southern Pacific Railroad into the desert brought a flow of travelers and supplies to remote areas, enabling further development of mines and irrigation. The desert region produced a variety of mineral deposits, including gold, silver, fluorite, manganese, copper, gypsum, and uranium (Stone et al., 1985).

In the early 1900s, gypsum claims were located in the McCoy and Little Maria mountains. The Little Maria claims were purchased by the U.S. Gypsum Company, which opened a processing plant and mining community called Midland (20 miles northeast of Blythe) in 1925. In 1916, the Southern California Railroad (Santa Fe Railway) constructed a spur from Rice to Blythe and ore was shipped along the line. Several mines were located west of the several sidings along the way, such as Inca and Cox (Bradley, 1929). The U.S. Gypsum Company closed in the 1960s and Midland eventually became a ghost town. Today, only foundations remain.

Military Influence (1940s). The Project area is within General Patton's World War II (WW II) Desert Training Center, California-Arizona Maneuver Area region (1942 to 1944). At the onset of WW II, the United States began establishing standard divisional training centers and maneuver areas across the country. Specific environments were sought out for training areas to prepare troops for the realistic conditions of harsh environments, discomfort, and hazards of overseas combat. In 1942, the War Department sent General George S. Patton, Jr., to identify a suitable location for training troops that would be used in the North Africa Campaign. Patton, familiar with southern California and the Mojave Desert, chose the vast, rugged, sparsely populated terrain of southeastern California, western Arizona, and Nevada. The Army Ground Forces opened the special training area and called it the Desert Training Center (DTC). In 1943, it was renamed California-Arizona Maneuver Area (CAMA). The largest military training center ever, the CAMA stretched from west of Pomona, California, to Yuma, Arizona, and north to Nevada encompassing approximately 12,000,000 acres (Crossley, 1997; Bischoff, 2000).

Patton, the first commanding officer, selected a site near Indio, California, for the CAMA headquarters and called it Camp Young. Six additional camps were set up in the CAMA for divisional use and combat and supply units. These were Coxcomb (located at Desert Center), Essex, Granite, Iron Mountain, Ibis (at Needles), and Pilot Knob (at Ogilby) (Crossley, 1997). The camps were widely spaced to prevent groups from interfering with each other during training exercises, but all were interconnected with a network of railroad lines and roads (National Archives and Records Administration, 1940). Two distinct military zones made up the CAMA: the Combat Zone and a Communication Zone that encircled it.

Infantrymen and tankers of the Army Ground Forces were the first troops to be deployed to the DTC/CAMA training area; an Air Support Command was added later (Cleland and Apple, 2003). Training exercises emphasized a variety of combat maneuvers and artillery methods developed specifically for the desert terrain and to simulate conditions expected in North Africa. Several phases of technical exercises were conducted to develop efficiency and skill. Some exercises included sustaining remote operations, orchestrating maneuvers in darkness, infantry tactics with live ammunition, and combined training efforts between armored units, air, and ground forces. Troops endured strict combat conditions during training, such as restricted water supplies, food rations, and

extreme desert temperatures. The training conditions were to be as realistic as possible. The 4th Armored Corps Chief of Staff made the following comment:

“Operations here on the desert are conducted on a war basis. We do not have to simulate the problems of supply in the desert. They already exist and war only intensifies them. We hope to make our troops so tough that the ‘real McCoy’ will come easy. This is War-all but!” (Crossley, 1997)

During this time, the Blythe Municipal Airport was acquired by the U.S. Army and converted to the Morton Air Academy. The Army erected several buildings on base and expanded the runways to accommodate large bombers. The influx of service men, their families, and civilian employees raised Blythe’s population to over 4,000. Many of the structures at the Morton Air Academy were torn down and the material used elsewhere after the DTC/CAMA was closed in 1944. The remaining facilities of Morton Air Academy were used by the Palo Verde College from 1947 to 1958. Currently, the Blythe airport is open to the public as a municipal airport.

After two years in operation and the training of one million troops, the DTC/CAMA desert training camps were closed in 1944 due to the allied victory in North Africa and the need for trained troops elsewhere (Cleland and Apple, 2003; Crossely, 1997; Osbourne, 2004). After the DTC/CAMA camps closed, salvage efforts began and 1,300 Italian prisoners from Tunisia were employed to salvage material and dismantle the sites. The land was returned to private and government holdings (Cleland and Apple, 2003; Desert Training Center, 2004).

The Valley bordered by the Palen, Little Maria, and McCoy Mountains is considered one of the most extensive maneuver areas in the DTC/CAMA (Bischoff, 2000). The remains of DTC/CAMA areas consist of rock features (alignments for roadways and walkways), faint roads, structural features, concertina wire, tank tracks, footprints of runway and landing strips, foxholes and bivouacs, concrete defensive positions, WW II era refuse, and trails (Bischoff, 2000). One historic military site (P-33-1483: mound) has been previously recorded within the Ford Dry Lake Project area.

In the 1990s, the General George S. Patton Memorial Museum was established at Chiriaco Summit (exit off I-10) (Chiriaco Summit, 2007).

The public lands of the eastern Mojave Desert region were also utilized in the mid 1960s for “Operation Desert Strike.” The military deployed 89,000 army troops to the area for training exercises along the banks of the Colorado River and adjoining desert valleys (Nystrom, 2003). Heavy equipment such as the M60 tank were used during practice maneuvers and the track marks can still be seen across the desert (Prose and Wilshire, 2000).

5.16.1.3 Archival Research

A literature and records search was performed on June 13, 2007, and in October 2008 by Tetra Tech staff. The literature and records search included the cultural resources site and project file collection at the Eastern Information Center (EIC) of the California Historical Resources Information System (CHRIS), at the Department of Anthropology, University of California, Riverside, California. The search focused specifically on lands comprising the Ford Dry Lake Project location and adjacent areas to a distance of 1 mile as required by CEC Rules of Practice and Procedure. As part of this search, the California Points of Historical Interest (PHI), California Historical Landmarks (CHL), California Register of Historic Places (CRHP), NRHP, California Historical Resources Inventory (HRI), and historic maps were reviewed for the Project. The McCoy Springs National Register District was

identified within 15 kilometers (km) (9 miles) of the Project area. In addition, the State Historical Landmark RIV-022 (Desert Training Center), P-33-6835 (Contractors General Hospital), and Blythe Intake Landmark 948 are within the Project region.

In addition, staff visited the BLM State Office Public Records Room (which contains General Land Office (GLO) maps) and obtained copies of GLO maps and surveyor field notes of the Project area. On November 9, 2007, Tetra Tech staff contacted the following entities by mail or e-mail: the City of Blythe Panning Department; Riverside County Planning Department; Coachella Valley Historical Society; the Coachella Valley Archaeological Society; the Colorado Desert Archaeology Society; the George S. Patton Memorial Museum; The Imperial Valley College Desert Museum; the Imperial County Historical Society Pioneers Museum; the Imperial Valley College Desert Museum; the Indio Chamber of Commerce; the Pioneer Historical Society of Riverside; the Twentynine Palms Historical Society; and the Palo Verde Historical Society and Museum. To date, the City of Blythe, the Coachella Valley Archaeological Society, Riverside County Planning Department, and the Twentynine Palms Historical Society responded that they did not have any information regarding potential cultural resources in the Project area.

The literature and record search revealed 11 previously recorded cultural resources investigations within one to approximately three miles of the Project APE (Table 5.16-1). Eighteen previously recorded archaeological sites were identified within one to approximately three miles of the APE; (Table 5.16-2). Table 5.16-3 lists isolated finds of these cultural resources. None of these resources is located within the Project APE.

Table 5.16-1. Previous Cultural Resource Investigations and Studies within Portions of, and 1 Mile or More of the APE

IC Report Number	Report Title	Survey Type/ Acreage	Author	Date	Dist. From APE
RI-00002	Miscellaneous Field Notes, Riverside County, California. Series of handwritten archaeological field notes of various areas within Riverside County.	Several areas in region.	M.J. Rogers	1953	Within region
RI-0220	Interim Report—Fieldwork and Data Analysis: Cultural Resource Survey of the Proposed SCE Palo Verde-Devers 500kV Power Transmission Line. Archaeological Research Unit. Linear project that extended from near the Colorado River, west to Palm Springs, California. Cowan and Wallof concluded archaeological sensitivity was high within 20 miles of the Colorado River, and low within the topographic zones of alluvial fans-detrimental slopes. Several new prehistoric sites and four historic sites were recorded as a result of the surveys. Site "D-13," a southern extension of prehistoric shoreline site CA-RIV-663, consisted of lithics and pottery and is within 2 to 3 miles of the Project area.	Intensive linear pedestrian survey, 322 kilometers, 123-meter corridor, 12-meter transects.	R. Cowan & K. Wallof	1977	Within 1 mile
RI-1249	California Desert Program: Archaeological Sample Unit Records for the Big Maria Planning Unit, BLM. No report, series of BLM <i>California Desert Program Archaeological Sample Unit Record</i> field forms. Several sites recorded within region.	Pedestrian intensive survey, sample survey units, sample units 1.6 kilometers linear.	Various BLM Staff	1978	Portions within APE
RI-1279	A Cultural Resource Inventory of the Ford Dry Lake Known Geothermal Resource Area. American Pacific Environmental Consultants, Inc. The survey resulted in the identification of 4 prehistoric sites and 10 isolates were identified. The sites included two temporary camps, a processing locus, and a ceramic locus. Based on the presence of milling artifacts and ceramics, three sites were assigned to the late period, one site was assigned a possible Pinto or Amargosan period due to artifact assemblage and maximal Ford Dry Lake shoreline locality.	Sample survey, pedestrian 50-meter transects, ~1,600 acres.	J.R. Cook and D.S. Cardenas (Principal Investigators)	1981	Portions within APE

Table 5.16-1. Previous Cultural Resource Investigations and Studies within Portions of, and 1 Mile or More of the APE

IC Report Number	Report Title	Survey Type/ Acreage	Author	Date	Dist. From APE
RI-1280	Draft: Ford Dry Lake Known Geothermal Resource Area Environmental Assessment. BLM. Literature review and proposed areas of cultural sensitivity. The northern and southern Ford Dry Lake shoreline was considered high due to large but not dense archaeological sites and the presence of recessional shoreline (northern region within Project APE), Ford Dry Lake and south of Interstate-10 was assigned a moderate sensitivity rating due to low occurrence of archaeological sites.	No survey.	P. Elliott	1981	Portions within APE
RI-0161	Paleontological, Archaeological, Historical, and Cultural Resources-West Coast-Midwest Pipeline Project, Long Beach to the Colorado River. Literature review of linear pipeline Project.	No survey. Literature review for 235 linear miles, 5-mile-wide corridor.	R. Greenwood	1975	Within 3 miles
RI-0160	Archaeological Resource Survey-West Cost-Mid-Continent Pipeline Project, Long Beach to the Colorado River, Addendum. Surveys resulted in the identification of one prehistoric lithic scatter (CA-RIV-1216, and one with Tizon pottery (CA-RIV-1215), and two prehistoric isolates, located near the dry lake shoreline. Both sites were within the pipeline ROW and were mitigated by proposed collection and testing.	11 miles linear survey, 30-meter survey corridor.	R. Greenwood	1977	Within 2.5 miles
RI-0190	Archaeological Survey Report for the Proposed Safety Project on Interstate 10 Between Chiriaco Summit and Willey's Well Overcrossing, Riverside County, CA. Report summarizes findings, briefly; 15 prehistoric and isolated sites were recorded.	Intensive Pedestrian Survey, linear survey of over 56 kilometers along I-10.	S.R. Haymond	1981	Within 1 mile
RI-0982	An Archaeological Survey of Geothermal Drilling Sites in Riverside County. Science Applications, La Jolla, California. No prehistoric sites were identified; two prehistoric isolated finds were recorded. Report only includes survey results.	101 well sites, 30-meter-diameter around each site, intensive pedestrian survey.	H.L. Crew, J.E. Fitting	1980	Within 1 mile

Table 5.16-1. Previous Cultural Resource Investigations and Studies within Portions of, and 1 Mile or More of the APE

IC Report Number	Report Title	Survey Type/ Acreage	Author	Date	Dist. From APE
RI-3029	Cultural Resources Assessment, Southern California Gas Company Proposed Line 5000, Riverside County, California. LSA Associates, Inc. Survey resulted in identifying 6 previously unrecorded sites, 4 previously recorded sites, and 8 isolates. Two of these sites were recorded as late period shoreline sites (RIV-260 and RIV-660)	Linear pedestrian survey, 54 kilometers, 90-meter corridor, transects at 20 meters.	J. Rosenthal, R. Conrard et al.	1990	Within 2 miles
RI-5245	Southern California Edison Company Blythe-Eagle Mountain 161 kV Deteriorated Pole Replacement Project, BLM State Permit CA#-04-23 Field Authorization #CA-690-05-FA04. Pole replacement project for 22 pole locations. Negative report, no new Cultural Resources identified. The boundary of one existing archaeological site (CA-RIV-2791), a large lithic scatter, was expanded.	22 pole locations, pedestrian survey, 40-meter radius around each pole location, zig-zag transects.	J. Schmidt	2005	Within 2 miles
RI-5828	Project Review and Statistical Summary: Primitive Skills Team-Rehab of Wilderness Area Intrusions, BLM, Palm-Springs South Coast Field Office. No report, summary. No cultural resources identified.	Intensive Class III pedestrian survey, 7 acres, 10-meter transects	W. Raschkow	2001	Within 2 miles
RI-1973	Archaeological Assessment of Six Parcels (Northern, Rocky, Metro, Palen, Ironwood, and Cockrell) Near Palen Dry Lake, Desert Center, California. Cultural resources observed include 5 lithic scatters, a roasting pit site, several prehistoric isolates, and artifacts and features associated with General Patton's WW II Desert Training and Maneuvers area (tank tracks, ration cans, ordinance casings, communication wire).	Pedestrian survey of approximately 5 square miles. 25- to 30-meter transects.	J.M. Mack	1985	Within 12 miles

Table 5.16-1. Previous Cultural Resource Investigations and Studies within Portions of, and 1 Mile or More of the APE

IC Report Number	Report Title	Survey Type/ Acreage	Author	Date	Dist. From APE
RI-3674	Prehistoric Land Use at McCoy Springs: An Arid-Land Oasis in Eastern Riverside County, California. Thesis paper. Study area focused on two zones: region and the McCoy District. 85 sites were recorded in the region, 18 of these sites were trails. McCoy Springs District is characterized as a base camp site, with other sites in the region representing limited activity areas. Additional site outside the district include lithic processing and reduction, ceramic scatters, food processing on milling surfaces, and trails. McCarthy suggests the trails represent travel corridors to and from resources (food, water, and mineral) within the region, many primary trails lead to McCoy Springs, and some trails may predate pottery use. The trails that exhibit ceramic buff ware artifacts date to the Patayan I and II period.	Systematic and intuitive intensive pedestrian survey, approximately 300 acres.	D. F. McCarthy	1993	Within 9 miles
RI-1341	Archaeological Appraisal of the Palen Dry Lake, Area of Critical Concern Environmental Concern, Riverside County, California. Prehistoric and historic resources (primarily associated with General Patton WW II training areas) were observed. Ritter suggests prehistoric use of Palen and Ford Dry Lake was based on the utilization of seasonal resources and gathering, base camps were focused around major springs (e.g., McCoy Springs). The temporary camps or activities around the lakes could include gathering and processing of resources (e.g., mesquite, palo verde beans, slat brush, grasses or other hard seeds), hunting of rabbits, tortoise, and sheep, etc., cooking and consumption of such resources, water consumption from ephemeral lakes and ponds, limited production or re-shaping of tools.	Pedestrian and vehicle survey.	E.W. Ritter	1981	Regional overview, northwest of project area
RI-1211	A Cultural Resources Overview of the Colorado Desert Planning Units	N/A	R.H. Crabtree et al.	1980	Regional overview

Table 5.16-2. Previously Recorded Cultural Resources within 2 Miles of the Project APR

Site Number	Resource Description	Period/Era	Recorder and Date	CRHP/NRHP Eligible	Distance from APE
P-33-1517	Prehistoric Site: Small lithic scatter of jasper and quartz at 120 meters elevation.	Prehistoric unknown	E. Ritter, 1975	UE	Within APE of SOL 2, SOL 2 Relocated
P-33-1483	Historic Military Mound: horseshoe shoe shaped, low earth mound.	Historic c.1940s	S. Crowley, 1978	UE	Within 1 mile
P-33-1132	Historic Hopkins Well Site, constructed in 1910.	Pre-1920 Historic	H. Metcalf, 1982; Cowan, 1976	UE	Within 1 mile
CA-RIV-53T	Prehistoric Trail segment with ceramic distribution along trail.	Prehistoric unknown	McCarthy, 1993	UE	Within 2 miles
P-33-1222	Prehistoric Site: Temporary Camp located near dry lake shore: 7 loci of metates/manos, also few quartz/chalcedony cores/flakes. Site disturbed by ORV.	Late Prehistoric	J. Cook, 1976	UE, PE	Within 2 miles
P-33-1516	Prehistoric Site: Large Temporary Camp along dry lake shoreline: groundstone, lithic scatter, thermal fractured rock, elevation 358 feet. Some WW II military artifacts noted, no details regarding type.	Late Prehistoric	E. Ritter, 1975	RE, PE	Within 2 miles
P-33-2159	Prehistoric Site: Temporary Camp/Lithic Scatter along gravel terraces of dry lake bed: metate/manos fragments, hammerstone/choppers, lithic flakes; rhyolite, basalt, chalcedony, agate, jasper, chert, granite, andesite. 358 feet elevation.	Late Prehistoric	S. Cardenas, 1981	UE, PE	Within 2 miles
P-33-1216	Prehistoric Site: Widely dispersed lithic scatter along maximal shoreline upon the gravel terrace: 7 flakes of chert/jasper, 1 hammerstone/core, and elevation 370 feet. Potential Pinto/Amargosan period site.	Prehistoric unknown	D. McCarthy, 1977	UE	Within 2 miles
P-33-8655 (CA-RIV-6170)	Prehistoric Site: Lithic Scatter along dry lake bed: lithic flakes of quartzite, agate, chalcedony, chert, jasper, 1 chert rose spring project point, 1 point and drill fragment.	Late Prehistoric	M. Mitchell, 1998	UE	Within 2 miles

Table 5.16-2. Previously Recorded Cultural Resources within 2 Miles of the Project APR

Site Number	Resource Description	Period/Era	Recorder and Date	CRHP/NRHP Eligible	Distance from APE
P-33-663	Prehistoric Site: An extensive series of shoreline temporary camps: metate/mano fragments of green shale, fire affected rock, lithic reduction flakes (jasper, quartzite, rhyolite, chert, and chalcedony), pottery (Parker buff ware and Tizon brown ware, and greyware), rock alignment, 1 corner notched projectile point fragment, 1 biface fragment.	Late Prehistoric	D. Palette et al., 1989	UE	Within 2 miles
P-33-2206	Prehistoric Site: Sparse Lithic Scatter: 6 flakes (chalcedony, quartz, opal), 1 quartzite cobble core, 393 feet elevation.	Prehistoric unknown	S. Hammond, 1981	UE	Within 2 miles
P-33-2157	Prehistoric Site: Temporary Camp near dry lake shore: ceramic (buff/brown ware), ground stone fragments (metates/manos), lithic flakes (quartz/green andesitic melavolcanic). 355 feet elevation.	Late Prehistoric	S. Cardenas, 1981	UE, PE	Within 2 miles
P-33-1543	Prehistoric Site: Lithic Scatter (temporary camp): 3 metate fragments-2 flakes, 360 feet elevation.	Late prehistoric	M. Morim, 1976	UE	Within 2 miles
P-33-3802	Prehistoric Site: Temporary Camp near dry lake shore: 1 metate fragment, 2 chalcedony flakes, 1 quartzite hammerstone, fractured cobbles, and possible green shale hearth feature. 110 feet elevation.	Late Prehistoric	D. Pallette et al., 1989	UE	Within 2 miles
P-33-1131	Prehistoric Site: Widely dispersed low density ceramic drop: 50 reddish brown "Tizon" pottery shreds, 1 mano/core fragment.	Late Prehistoric	E. Dittman, 1981	UE	Within 2 miles
P-33-000144	No details on site record. Note: F.R. Johnston on map in Walker's possession.		Eberhart, 1951	UE	Within 2 miles
P-33-3129	Trail segment that leads to the southwestern side of the McCoy Mountains.	Unknown	F. McCarthy, 1991	UE	Within 2 miles

* UE=unevaluated, PE=potentially eligible, RE=recommended eligible.

Table 5.16-3. Previously Recorded Cultural Resources—Isolated Finds

Site Number	Resource Description	Recorder and Date	CRHP/NRHP Eligible	Distance from APE
P-33-9037	Isolate: prehistoric lithic scraper	N/A	Not eligible	Within 1 mile
P-33-9038	Isolate: prehistoric biface fragment	N/A	Not eligible	Within 1 mile
P-33-13087	Isolate: prehistoric lithic core	N/A	Not eligible	Within 1 mile
P-33-13088	Isolate: prehistoric lithic ceramic fragment	N/A	Not eligible	Within 1 mile
P-33-13089	Isolate: prehistoric lithic core	N/A	Not eligible	Within 1 mile
P-33-13090	Isolate: prehistoric lithic core	N/A	Not eligible	Within 1 mile
P-33-13513	Isolate: prehistoric	N/A	Not eligible	Within 1 mile
P-33-13517	Isolate: lithic	N/A	Not eligible	Within 1 mile
P-33-13525	Isolate: prehistoric ceramic fragment	N/A	Not eligible	Within 1 mile
P-33-13467	Isolate: prehistoric flake	N/A	Not eligible	Within 1 mile
P-33-13470	Isolate: prehistoric biface	N/A	Not eligible	Within 1 mile
P-33-13471	Isolate: prehistoric flake	N/A	Not eligible	Within 1 mile
P-33-13657	Isolate: prehistoric core	N/A	Not eligible	Within 1 mile
P-33-12926	Isolate: prehistoric flake	N/A	Not eligible	Within 2 miles
P-33-12931	Isolate: prehistoric groundstone	N/A	Not eligible	Within 2 miles
P-33-12932	Isolate: prehistoric flake	N/A	Not eligible	Within 2 miles

5.16.1.4 Native American Consultation

The Native American Heritage Commission (NAHC) was contacted by e-mail on October 17, 2007, and a sacred lands file search was requested (provided in confidential Appendix G). On October 19, 2007, the NAHC responded there are no recorded sacred lands in the Project vicinity. The NAHC also forwarded a list of Native American groups and/or individuals that may have knowledge regarding traditional cultural properties in the Project area. A letter was sent out by the BLM Palm Springs Field Office Archaeologist to each of these parties requesting information about such properties. The BLM is the lead agency for Native American consultation.

5.16.1.5 Cultural Resources Areas of Potential Effect

APEs for the Project have been assigned in accordance with CEC Rules of Practice and Procedure. Pedestrian archaeological surveys were conducted of the Project site and a 200 foot buffer around it. Survey of the linear facility (transmission line) was conducted 150 feet either side of the center-line, in excess of the required 50 foot buffer. The historic architecture field survey was conducted using the one-half mile buffer required for rural areas.

5.16.1.6 Archaeological Inventory

Tetra Tech took a multi-phased approach in conducting field inventories to identify new cultural resources for the Project. A Class II inventory was conducted from November 2007 to January 2008 on a sample of a 9,480 acre Project area to identify areas of cultural resource sensitivity. The information gained allowed the client to propose placement of solar facilities in a smaller APE and avoid culturally sensitive areas. A Class III inventory of the revised 3,600 acre APE was conducted in April 2009. An approximately four mile long transmission line ROW was added to the Project after the completion of the Class III inventory, and an inventory of that was conducted in June 2009.

The Class II investigation in 2007 to 2008 was a 20 percent random sample survey of approximately 9,480 acres in the original planning area. Survey was conducted in 40 acre parcels with resultant

coverage of 1,640 acres of federal land. The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-27-07-19.

The combined efforts of the literature review and Class II inventory resulted in the identification of 53 archaeological sites and 43 isolates. The archaeological site types include 46 prehistoric sites, 2 dual component sites, and 5 historic sites. However, after the APE was adjusted, only 10 archaeological sites (all prehistoric) fell within the new APE. These sites are listed in Table 5.16-4.

Table 5.16-4. Sites Recorded in Class II Survey

Site	Era	Site Type	NRHP Recommendation	Description
CA-RIV-9033	Prehistoric	Lithic Scatter	NE	Debitage (n=39); two cores.
CA-RIV-9042	Prehistoric	Lithic Scatter	NE	Debitage (n=2), core.
CA-RIV-9043	Prehistoric	Lithic Scatter	NE	Debitage (n=5); core, mano, metate fragment.
CA-RIV-9046	Prehistoric	Lithic Scatter	NE	Debitage (n=16); FAR, core, hammerstone, mano, metate fragment.
CA-RIV-9047	Prehistoric	Lithic Scatter	NE	Debitage (n=5)
CA-RIV-9051	Prehistoric	Lithic Scatter	NE	Debitage (n=4), core.
CA-RIV-9070	Prehistoric	Lithic Scatter	NE	Debitage (n=2), core.
CA-RIV-9072	Prehistoric	Lithic and Ceramic Scatter	PE	Debitage (n=hundreds), FAR, Rose Spring projectile point, brownware sherds (n=hundreds) hundreds of ground stone fragments, scatter covers several hundred acres.

NE = Not Eligible, PE=Potentially Eligible

The Class III investigation in 2009 was an intensive survey of 100% of the revised 3,600 acre APE. The work was also conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-27-09-05.

The 2009 survey resulted in the identification of 30 isolates and 21 archaeological sites. Of the 21 sites identified, five are historic, 15 are prehistoric, and one dual component (historic/prehistoric) site. These sites are listed in Table 5.16-5.

Table 5.16-5. Sites Recorded in Class III Survey

Site	Era	Site Type	NRHP Recommendation	Description
CA-RIV-9203H	Historic	Refuse Scatter	NE	Pull-tab aluminum cans, food cans, bottle (1954 – pres)
CA-RIV-9204H	Historic	Refuse Scatter	NE	Can scatter, bottles (1932-1953)
CA-RIV-9205/H	Prehistoric/ Historic	Refuse Scatter/Lithic Scatter	NE	Debitage (n=4); mano, 2 metate fragments. Glass bottles (post 1945), auto parts (1930-1940), condensed milk cans
CA-RIV-9206	Prehistoric	Lithic Scatter	NE	Debitage (n=4), mano

Table 5.16-5. Sites Recorded in Class III Survey

Site	Era	Site Type	NRHP Recommendation	Description
CA-RIV-9207	Prehistoric	Lithic Scatter	NE	Debitage (n=5), core.
CA-RIV-9208	Prehistoric	Lithic Scatter	NE	Debitage (n=7), core
CA-RIV-9209	Prehistoric	Lithic Scatter	NE	Debitage (n=7), 4 groundstone fragments. core.
CA-RIV-9210	Prehistoric	Lithic Scatter	NE	Debitage (n=10), core, metate fragments.
CA-RIV-9211H	Historic	Refuse Scatter	NE	Cans, bottle glass, 1934 penny
CA-RIV-9212	Prehistoric	Lithic Scatter	NE	Debitage (n=3), side-notched projectile point.
CA-RIV-9213H	Historic	Refuse Scatter	NE	Approximately 60 cans.
CA-RIV-9214H	Historic	Refuse Scatter	NE	Approximately 10 cans.
CA-RIV-9215	Prehistoric	Lithic Scatter	NE	Debitage (n=10), concave-base projectile point.
CA-RIV-9216	Prehistoric	Lithic Scatter	NE	Debitage (n=45), hammerstone, core, 2 manos.
CA-RIV-9217	Prehistoric	Lithic Scatter	NE	Debitage (n=3),
CA-RIV-9218	Prehistoric	Lithic Scatter	NE	Debitage (n=2), scraper
CA-RIV-9219	Prehistoric	Lithic Scatter	NE	Debitage (n=3)
CA-RIV-9220	Prehistoric	Lithic Scatter	NE	Debitage (n=92), metate fragment, projectile point tip, Cottonwood projectile point
CA-RIV-9221	Prehistoric	Lithic Scatter	NE	Debitage (n=7).
CA-RIV-9222	Prehistoric	Lithic Scatter	NE	Debitage (n=3).
CA-RIV-9223	Prehistoric	Lithic Scatter	NE	Debitage (n=16).

NE = Not Eligible, PE=Potentially Eligible

An additional Class III survey was conducted in 2009 for the proposed transmission line ROW. The work was conducted under Tetra Tech's BLM Cultural Use Permit (CA-66-24) and BLM Fieldwork Authorization 66-24-09-16.

The 2009 transmission line survey resulted in the identification of three isolates and seven archaeological sites. Of the seven sites identified, three are historic, three are prehistoric, and one dual component (historic/prehistoric) sites. These sites are listed in Table 5.16-6.

Table 5.16-6. Sites Recorded in Transmission Line Survey

Site	Era	Site Type	NRHP Recommendation	Description
CA-RIV-9224/H	Prehistoric/ Historic	Lithic and ceramic Scatter/ Refuse Scatter	PE	Debitage (n=80+); FAR, brownware sherds (n=28+), Desert Side-notched projectile point, projectile point tip, 2 metate fragments, core / .45 caliber bullets, mess-kit spoon stamped "US", C-ration coffee can, pocket knife

Table 5.16-6. Sites Recorded in Transmission Line Survey

Site	Era	Site Type	NRHP Recommendation	Description
CA-RIV-9225H	Historic	Refuse Scatter	NE	7 cans, mess-kit fork
CA-RIV-9226	Prehistoric	Lithic and ceramic Scatter	NE	Debitage (n=10); FAR, metate fragment. brownware sherds (n=3), 2 cobble choppers, badly deflated
CA-RIV-9227	Prehistoric	Lithic and ceramic Scatter	NE	Debitage (n=3); brownware sherds (n=14), marine shell fragment
CA-RIV-9228H	Historic	Refuse Scatter	NE	10 cans, bottle base (1938-1951), bottle base (1916-1931), razor blade, glass fragments
CA-RIV-9229	Prehistoric	Lithic Scatter	NE	Debitage (n=6); mano, metate fragment. cobble choppers
CA-RIV-9230H	Historic	Refuse Scatter	NE	30+ C-ration cans, 13 other cans, alignment of 5 metal stakes

NE = Not Eligible, PE=Potentially Eligible

5.16.1.7 Architectural Resources Inventory

A historical resources inventory of the historic architecture APE was conducted by an architectural historian in July 2009. Two historical resources were identified and recorded by this inventory: the Blythe-Eagle Mountain Transmission Line and Wiley's Well Road. These are listed in Table 5.16-7.

Table 5.16-7. Architectural Resources Inventory

Site	Era	Site Type	NRHP Recommendation	Description
No trinomial yet assigned	Historic	Transmission Line	PE – no recommendation	Blythe – Eagle Mountain 161 kV transmission line constructed in late 1950s. Poles replaced 2002.
No trinomial yet assigned	Historic	Road	PE – no recommendation	Wiley's Well Road. Paved asphalt, originally an off-shoot of the Bradshaw Trail used 1862 – 1877.

NE = Not Eligible, PE=Potentially Eligible

5.16.2 Environmental Consequences

5.16.2.1 Significance Criteria

Section 106 of the National Historic Preservation Act as implemented per 36 CFR Part 800 defines the process for identifying, evaluating, and assessing adverse effects of federal undertakings on cultural resources. The conduct of this Project has followed this procedure. Cultural resources that have been identified must be evaluated for eligibility for inclusion on the NRHP with reference to the evaluation criteria enumerated in 36 CFR Part 63. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association:

- that are associated with events that have made a significant contribution to the broad patterns of our history;

- that are associated with the lives of significant persons in the past;
- that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and
- that have yielded or may be likely to yield, information important in history or prehistory.

Ordinarily, the following sites will not be considered eligible for the National Register. These sites include: cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a religious property deriving primary significance from architectural or artistic distinction or historical importance;
- a building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event;
- a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life;
- a cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; and
- a property achieving significance within the past 50 years if it is of exceptional importance.

Once cultural resources have been identified, the lead federal agency for the Project is responsible, in consultation with the State Historic Preservation Officer/Tribal Historic Preservation Officer, and other parties as identified in 36 CFR 800.2, for evaluating the NRHP eligibility. Then, if an NRHP-eligible resource, defined as a "historic property" upon eligibility, will be affected, the lead agency official will notify all consulting parties and invite their comment with regards to potential adverse effects, if any, in accordance with 36 CFR 800.5. Per 36 CFR 800.5, an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration will be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

Examples of adverse effects could include:

- physical destruction of or damage to all or part of the property;
- alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, or provision of handicapped access, in a way that is not

consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines;

- removal of the property from its historic location;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian Organization; and
- if adverse effects to historic properties are identified, the lead agency in consultation with the identified consulting parties, will agree on adequate mitigation measures.

5.16.2.2 National Register Evaluations and Management Recommendations

Review of the data collected at the 31 archaeological sites recorded in the three inventories has resulted in the recommendation that two of these sites, CA-RIV-9072 and CA-RIV-9224/H, are potentially eligible for the NRHP under Criterion D.

CA-RIV-9072 is a very large (ca. 300 acres) scatter of prehistoric artifacts and features located on the north shore of Ford Dry Lake. Should this site contain areas of buried deposits, it could contribute significant information on the prehistoric occupation and utilization of the area. The potential research questions that such data could address are covered at length in the confidential Cultural Resources Technical Report (Appendix G). It is recommended a test excavation program be conducted at CA-RIV-9072 to determine the existence, and if so the extent, of buried cultural deposits. Should the site's data potential prove its NRHP eligibility, the Project can either be designed to avoid the site or suitable data recovery measures can be taken.

CA-RIV-9224/H is a dual component site. The prehistoric component is a scatter of prehistoric artifacts and deflated features. The historic component consists of a refuse scatter that may be associated with military use of the area. This historic component, though possibly associated with WWII training activities, is of such an ephemeral nature that it does not appear to be eligible for the NRHP under any of the criteria.

However, the prehistoric component is potentially eligible under Criterion D. Should this site contain areas of buried deposits, it could contribute significant information on the prehistoric occupation and utilization of the area. The potential research questions that such data could address are covered at length in the confidential Cultural Resources Technical Report (Appendix G). It is recommended a test excavation program be conducted at CA-RIV-9224/H to determine the existence, and if so the extent, of buried cultural deposits. Should the site's data potential prove its NRHP eligibility, the Project can either be designed to avoid the site or suitable data recovery measures can be taken.

All of the remaining archaeological sites recorded by this Project appear to be of an ephemeral nature and/or have been disturbed by sheet erosion or deflation. None appear to have enough integrity to be eligible for the NRHP under any of the criteria. None of the recorded isolates is eligible for the NRHP.

The geoarchaeological investigations conducted for this Project (see Section 5.16.1.1) indicate there is a high potential for buried cultural resources throughout the Project APE. A construction monitoring program and protocol for unanticipated discoveries are recommended based on this evaluation.

The two historic resources recorded by the architectural resources inventory, the Blythe-Eagle Mountain Transmission Line and Wiley's Well Road, will not be affected by this Project even though they are within the historic architecture APE. No NRHP recommendations have been made on these resources.

5.16.2.3 Construction

This section presents the potential adverse impacts on the cultural resources resulting from construction of each portion of the Project.

Direct effects from the Project could result from: vegetation clearing; grading of roads, trenching for pipelines, electrical transmission lines, and drainage diversions; augering for foundations for electrical towers or poles and solar troughs; and any other earth-moving activity that disturbed or buried previously undisturbed cultural resources such as prehistoric objects or sites, making those objects and their cultural resources unavailable for future scientific investigation. Clearing, grading, and deeper excavations at the Project site could result in significant adverse effects to cultural resources. In addition, the construction of supporting facilities, such as construction offices, laydown areas, and parking areas, has the potential to cause adverse effects to cultural resources if they involve additional ground disturbance. Furthermore, past and present actions within the region including highway/roadway construction, commercial and residential development, and off-highway vehicle use have resulted in effects to cultural resources. However, the location and engineering of the Project site have been specifically designed to avoid effects to cultural resources.

Because a properly designed and implemented mitigation program is used, these potential effects could be reduced such that significant effects are avoided. Assuming mitigation measures are implemented properly, the contribution of the Project is not likely to result in long-term, significant effects.

5.16.2.4 Operation

Project operation will not cause additional ground disturbance, and therefore will not affect cultural resources.

5.16.3 Cumulative Impacts

The potential effects of other reasonably foreseeable future projects are unknown as mitigation measures for such projects cannot be determined at this time.

5.16.4 Mitigation Measures

It is anticipated the Project will have an effect on potentially NRHP-eligible cultural resources. Furthermore, it is anticipated archaeological monitoring will be required during all ground-disturbing activities within the Project site because of the high probability of buried resources in the area.

Mitigation measures have been provided that will reduce potential effects to cultural resources to a less-than-significant level. Should a potentially eligible cultural resource be encountered, evaluation of this resource to determine significance is required. The mitigation measures and procedures described below would apply to any cultural resources located within the identified Project APE. With implementation of the mitigation measures listed below, effects to cultural resources would be reduced to a less-than-significant level.

To ensure monitoring and mitigation efforts meet compliance standards, cultural resources monitoring and mitigation for the Project will be carried out under the direct supervision of an archaeologist who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic

Preservation (36 CFR Part 61, Appendix A), and will be consistent with the procedures for compliance with 36 CFR 800.

Designated Cultural Resources Specialist/Cultural Resource (Archaeological Monitor Qualifications

The Designated Cultural Resources Specialist (DCRS) and alternate CRS should meet the minimum qualifications for Principal Investigator on federal projects under the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*. The Cultural Resource Monitor (archaeological) Monitor (CRM) should hold a Bachelor of Arts degree in anthropology with an emphasis in archaeology and have at least one year of experience conducting archaeological field projects, or have five years of experience conducting archaeological field projects. The Archaeological Monitor is qualified to detect archaeological deposits in the field. The Designated Cultural Resources Specialist is qualified, in addition to site detection, to evaluate the significance of the deposits, consult with regulatory agencies, and plan site evaluation and mitigation activities.

5.16.4.1 Data Recovery

CUL-1

Data recovery to mitigate adverse effects to historic properties will be conducted in accordance with a Cultural Resource Mitigation and Monitoring Plan/Historic Properties Treatment Plan approved by BLM, the California Energy Commission, and other consulting parties.

5.16.4.2 Avoidance

CUL-2

In the event cultural resources are encountered before or during construction activities, including subsurface excavation, construction activities in the immediate vicinity of the identified resource will be halted, as necessary. A qualified archaeologist will identify the nature and boundary of the find(s) and assess whether the proposed activities will impinge on a cultural resource. Routes of any access roads that must be built or graded that are outside of areas previously surveyed for cultural resources will be subjected to archaeological survey before construction. In the event the resource is identified as a potentially significant cultural resource, planned construction activities will be modified to avoid the resource, if feasible. If it is not feasible to avoid the resource, the archaeologist will identify the proper course of testing, excavation, recovery, and documentation to be undertaken to reduce Project-related effects to a less-than-significant level.

In the event archaeological resources are discovered during the course of construction, activities related to the Project, grading, and/or excavation activities within 200 feet of the potentially significant resource should be monitored by a qualified archaeologist.

5.16.4.3 Preconstruction Assessment and Construction Training

CUL-3

A qualified professional archaeologist will be retained to monitor all ground-disturbing activities associated with the Project. Ground-disturbing activities include clearing, grubbing, grading, and trenching within the Project site and construction laydown areas. The Designated Cultural Resources Specialist (DCRS) and Cultural Resource Monitor (CRM) will visit the Project area before construction begins to become familiar with the site conditions. As construction begins, the Designated Cultural Resources Specialist will conduct a worker education session for construction supervisory personnel to explain the importance of, and legal basis for, the protection of significant archaeological resources. Information about archaeological resources may be combined with information about biological resources, paleontological resources, etc. in the Worker Environmental Awareness

Program (WEAP) presented as a training video and/or brochure that will be distributed to construction personnel prior to beginning work on the Project.

5.16.4.4 Archaeological Monitoring

CUL-4

The CRM will be present during ground disturbing activities. The archaeological monitor will be equipped with a cellular telephone to ensure rapid communication with the Designated Cultural Resource Specialist (DCRS) to promptly report any cultural finds or discuss any problems as they are encountered in the field. The CRM's role will be to watch for surface and buried archaeological deposits during excavation. If the CRM identifies archaeological resources during construction, he or she will be authorized to temporarily halt construction activities within the immediate vicinity of the find and immediately notify the DCRS. The monitors will keep a daily monitoring log of construction activities, observations, types of equipment used, problems encountered, and any new archaeological discovery (including the cultural material observed and the location). Photographs will be taken as necessary to supplement the documentation. These logs will be signed and dated by the archaeological monitor and included within the monitoring report.

Similarly, if the construction staff or others identify cultural resources during construction activities, they will halt construction in the immediate vicinity and immediately notify the archaeological monitor and Project supervisor. The archaeological monitor will then immediately notify the DCRS.

The archaeological monitor will use flagging tape to delineate the area of the find and protect the resources from construction activities. Construction activities will not take place within the delineated discovery area until the DCRS, in consultation with the CEC and BLM staff, can inspect and evaluate the significance of the find and implement mitigation measures, if needed. During this time, construction activities may be redirected to other areas outside of the flagged area.

After all ground-disturbing activities are complete, a cultural resources compliance monitoring report will be prepared. The report will include the daily monitoring logs as an appendix. The report will also include the level of effort involved in monitoring cultural resources, a description of activities monitored, and the number and types of new cultural resources discoveries, including assessment and treatment action.

5.16.4.5 Native American Monitoring

CUL-5

To ensure participation by interested members of the Native American community, it is recommended a Native American monitor be present during archaeological testing and/or data recovery for cultural resources that appear to have a prehistoric or ethnographic component. The monitor will be retained either directly by the Applicant or by the consultant conducting the actual fieldwork.

5.16.4.6 Resource Recordation and Evaluation

CUL-6

The Designated Cultural Resources Specialist and archaeological monitor will follow accepted professional standards in recording any find and will submit the standard Department of Parks and Recreation historic site form (Form DPR 523) and locational information to the EIC.

If the discovery is deemed not significant by the DCRS, construction activities may proceed. Should a potentially significant cultural resource be encountered during monitoring, evaluation of this resource to determine significance will be required. Significant cultural resources affected by the Project would require additional mitigation, which may include data recovery. A recovery of a sample of the deposit

from which the archaeologist can define scientific data to address archaeological research questions is considered an effective mitigation measure. The DCRS will prepare and carry out a mitigation plan. The mitigation program will be carried out as quickly as possible to avoid construction delays.

Construction may resume on-site as soon as the field data collection phase is completed.

5.16.4.7 Provision for Encountering Human Remains

CUL-7

If human remains are encountered, construction activities will be immediately halted in the immediate vicinity of the discovery. The Project supervisor will immediately contact the county coroner, BLM, and the Applicant. If the remains are Native American, the NAHC will be contacted. The NAHC is required to determine the most likely descendant, notify that person, and request they inspect the burial and make a recommendation for treatment and removal.

5.16.4.8 Laboratory Analysis and Curation

CUL-8

The DCRS will arrange for curation of archaeological materials collected during the monitoring and mitigation program at a qualified curation facility, in consultation with the BLM. A qualified curation facility is a recognized, nonprofit archaeological repository with a permanent curator. The archaeologist will submit field notes, stratigraphic drawings, and other materials developed as part of the archaeological excavation program to the curation facility along with the archaeological collection.

5.16.4.9 Physical Avoidance

CUL-9

In instances where a Project facility must be placed within 100 feet of a known cultural resource previously found eligible for inclusion on the NRHP, the cultural resource will be temporarily fenced or otherwise demarcated on the ground, and the area will be considered environmentally sensitive. Construction equipment will be directed away from the cultural resource and construction personnel will be directed to avoid entering the area. Where cultural resource boundaries are unknown, the protected area will include a buffer zone with a 100-foot radius. In some cases, additional archeological work may be required to demarcate the boundaries of the cultural resource to ascertain whether the cultural resource can be avoided.

5.16.5 Laws, Ordinances, Regulations and Standards (LORS)

The Project will be conducted in a way consistent with all applicable LORS. Any cultural resources potentially affected by the Project are subject to compliance with the provisions outlined in Section 106 of the National Historic Preservation Act, due to their location on BLM-administered public land. All applicable LORS are summarized in Table 5.16-8.

Table 5.16-8. Applicable LORS regarding Cultural Resources

LORS	Requirements	Administering Agency
National Historic Preservation Act of 1966 as amended, Public Law 102-575	Requires preservation or mitigation of effects to historic properties that are eligible for inclusion on the National Register of Historic Places.	BLM; State Historic Preservation Office

Table 5.16-8. Applicable LORS regarding Cultural Resources

LORS	Requirements	Administering Agency
Archaeological Resources Protection Act of 1979 as amended, Public Law 96-95	Provides for the protection of archaeological resources and sites that are on public lands and Indian lands.	BLM
Federal Land Policy and Management Act of 1976 as amended, Public Law 94-579	Establishes policies and goals to be followed in administration of public lands by the Bureau of Land Management to include preservation of historic and archaeological resources.	BLM
Native American Graves Protection and Repatriation Act, Public Law 101-601	Requires federal agencies and institutions that receive federal funding to return Native American cultural items and human remains to their respective peoples. Cultural items include funerary objects, sacred objects, and objects of cultural patrimony.	BLM
Antiquities Act of 1906, as amended	Prescribes penalties for the theft or destruction of archaeological resources on public land and establishes procedure for issuance of permits for the conduct of research on cultural resources on public land.	BLM
Executive Order No. 11593: Protection And Enhancement Of The Cultural Environment, 1971	Requires Federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations, initiate measures necessary to direct their policies, plans, and programs in such a way that federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved, restored, and maintained and institute procedures to assure that Federal plans and programs contribute to the preservation and enhancement of nonfederally owned sites, structures, and objects of historical, architectural, or archaeological significance.	BLM
National Environmental Policy Act of 1969, as amended, Public Law 91-190	Requires the analysis of the effect of federal undertakings on the environment to include the effect on cultural resources.	BLM
The Warren-Alquist Act 1974, as amended	Requires cultural, historic, and aesthetic resources be taken into account in consideration of an Application for Certification. Requires that a portion of any such resources on public land be set aside for public access.	CEC
CEQA of 1970, as amended	Applies to discretionary projects causing a significant effect on the environment and a substantial adverse change in the significance of a historical or archaeological resource.	CEC
California PRC Section 5020-5029.5	Establishes the criterion for the California Register of Historical Resources, and creates the California Historic Landmarks Committee and authorizes the Department of Parks and Recreation to designate Registered Historical Landmarks and Registered Points of Historical Interest; establishes criteria for the protection and preservation of historic resources.	CEC; State Historic Preservation Office; Department of Parks and Recreation

Table 5.16-8. Applicable LORS regarding Cultural Resources

LORS	Requirements	Administering Agency
Senate Bill 922 (Ducheny 2005)	Exempts from California Public Records Act Native American graves, cemeteries, archaeological site information, and sacred places in the possession of the Native American Heritage Commission and other state or local agencies.	CEC; Native American Heritage Commission
Senate Bill 18 (Burton 2004)	Protection and preservation of Native American Traditional Cultural Places during city and county general plan development.	CEC; County of Riverside; Native American Heritage Commission
Senate Concurrent Resolution Number 87 (1994)	Provides for the identification and protection of traditional Native American resource gathering sites on state land.	CEC
Administrative Code, Title 14, Section 4307	No person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.	CEC
Government Code, Sections 6253, 6254, 6254.10	Disclosure of archaeological site information is not required for records that relate to archaeological site information maintained by the Department of Parks and Recreation, the State Historical Resources Commission, or the State Lands Commission.	CEC
Health and Safety Code, Section 7050.5	Requires construction or excavation to be stopped near human remains until a coroner determines whether the remains are Native American; requires the coroner to contact the NAHC if the remains are Native American.	CEC, County Coroner
Health and Safety Code, Section 7051	Establishes removal of human remains from interment, or from a place of storage while awaiting interment or cremation, with the intent to sell them or to dissect them with malice or wantonness as a public offense punishable by imprisonment in a state prison.	CEC, County Coroner
Health and Safety Code, Section 7052	States that willing mutilation of, disinterment of, removal from a place of disinterment of, and sexual penetration of or sexual contact with any remains known to be human are felony offenses.	CEC, County Coroner
PRC 5097-5097.6	Provides guidance for state agencies in the management of archaeological, paleontological, and historical sites affected by major public works project on state land.	CEC
PRC 5097.9-5097.991	Establishes regulations for the protection of Native American religious places; establishes the Native American Heritage commission; California Native American Remains and Associated Grave artifacts will be repatriated; notification of discovery of Native American human remains to a most likely descendent.	CEC; State Historic Preservation Office; Tribal Historic Preservation Office; Native American Heritage Commission

Table 5.16-8. Applicable LORS regarding Cultural Resources

LORS	Requirements	Administering Agency
CCR Section 1427	Recognizes that California's archaeological resources are endangered by urban development; the Legislature finds that these resources need preserving; it is a misdemeanor to alter any archaeological evidence found in any cave, or to remove any materials from a cave.	CEC
Senate Concurrent Resolution Number 43	Requires all state agencies to cooperate with programs of archaeological survey and excavation, and to preserve known archaeological resources whenever reasonable.	CEC
Penal Code, Title 14, Section 622.5	Misdemeanor offense for any person, other than the owner, who willfully damages or destroys archaeological or historic features on public or privately-owned land.	CEC
Riverside County General Plan, Conservation/Open Space Element	Requires the review all proposed development for the possibility of archaeological sensitivity and requires a Native American Statement as part of the environmental review process on development projects with identified cultural resources.	Planning Department, Riverside County

5.16.6 Involved Agencies and Agency Contacts

Agencies and agency contacts relative to cultural resources are provided in Table 5.16-9.

Table 5.16-9. Involved Agencies and Agency Contacts

Agency	Contact	Permits/Reason for Involvement
Bureau of Land Management, Palm Spring Field Office 1201 Bird Center Drive Palm Springs, CA 92262-8001	Chris Delu	BLM Cultural Resources Use Permit, compliance with CRMMP
California Energy Commission 1516 Ninth Street Sacramento, CA 95814	Beverly Bastian	Compliance with CRMMP
County Archaeologist & Cultural Liaison County of Riverside Planning Department (TLMA) 38686 El Cerrito Road Palm Desert, CA 92211	Leslie Mouriquand M.A., RPA	Compliance with County of Riverside
Native American Heritage Commission	916-653-4082	Native American traditional cultural properties and human remains
Riverside County, Medical Examiner-Coroner, East County Dispatch	760-863-8311	Identification of human remains
State Historic Preservation Officer (SHPO) 916-653-9134	Dwight Dutschke	California Register of Historical Resources and/or Federal agency NHPA Section 106 compliance (if emergency discovery with federal permit involvement)

5.16.7 Permits Required and Permits Schedule

A BLM Cultural Resources Use Permit and Field Authorization issued under the Federal Antiquities Act and Federal Land Management Policy Act would be required to allow for the recovery of cultural resources on federal (including BLM) land in the Project site. Up to 2 months could be required for the permitting process.

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