SECTION 4.7
CULTURAL RESOURCES

This section provides a background discussion of the regulatory framework and the environment setting with regard to cultural and paleontological resources. Cultural resources consist of archaeological sites from the prehistoric and historic periods, and buildings, structures, and objects from the historic period. Paleontological resources are the fossil remains of animals and plants from the past. Paleontological resources are not cultural resources because they are not the result of human activity. However, paleontological resources are combined with cultural resources for the purposes of CEQA because they are considered in the Cultural Resources section of the Environmental Checklist Form (State CEQA Guidelines, Appendix G). Therefore, impacts to paleontological resources are also analyzed in this section.

The regulatory framework identifies the federal, state, and local regulations applicable to cultural and paleontological resources. The environmental setting discusses the Area of Potential Effect, the cultural context, records search results, field inventory results, and Native American concerns. Impacts on historic resources (i.e. significant cultural resources) and paleontological resources that would result from constructing the project are analyzed based on state and local laws and regulations.

Information contained in this section is summarized from multiple sources including *Inventory, Evaluation and Analysis of Impacts on Historic Resources on Private Lands Within the Area of Potential Effect of the Campo Verde Solar Project, Imperial County, California* prepared by ASM Affiliates, Inc (Davis et. al, 2011), *Inventory Report of the Cultural Resources Within the Campo Verde Solar Energy Gen-tie Line, Imperial County, California* (Mitchell, 2011) and the "California Historical Resources Information System Records Search" prepared by the South Coastal Information Center (SCIC, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix E** of this EIR.

4.7.1 REGULATORY FRAMEWORK

A. FEDERAL

Cultural Resources

National Environmental Policy Act (NEPA)

NEPA establishes national policy for the protection and enhancement of the environment. Part of the function of the federal government in protecting the environment is to "preserve important historic, cultural, and natural aspects of our national heritage." Cultural resources need not be determined eligible for the National Register of Historic Places (NRHP) as in the National Historic Preservation Act (NHPA) of 1966 (as amended) to receive consideration under NEPA. Instead NEPA is implemented by regulations of the Council on Environmental Quality, 40 Code of Federal Regulations (CFR) 1500-1508. NEPA provides for public participation in the consideration of cultural resources issues, among others, during agency decision-making. NEPA only applies to the portion of the project on federal land (the BLM gen-tie route) which is being considered by BLM in a separate environmental document.

National Historic Preservation Act (NHPA)

Federal law concerning cultural resources which could be affected by certain federal undertakings is the National Historic Preservation Act (NHPA) of 1966, as amended. Section 106 of the Act requires that federal agencies take into account the effects of a "federal undertaking" on properties listed in or eligible for the National Register of Historic Places (NRHP). The agencies must afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. A federal undertaking is a project that is federally funded or that requires a federal permit or license.

Regulations which stipulate the procedures for complying with Section 106 (36 CFR 800) require:

- Definition of the Area of Potential Effects (APE);
- Identification of cultural resources within the APE;
- Evaluation of the identified resources in the APE using NRHP eligibility criteria;
- Determination of whether the effects of the undertaking or project on eligible resources will be adverse; and
- Agreement on and implementation of mitigation measures if there will be adverse effects.

The federal agency must seek concurrence from the State Historic Preservation Officer (SHPO) and, in some cases, the ACHP, for its determinations of eligibility, effects, and proposed mitigation measures. Section 106 procedures for a specific project can be modified by negotiation of a Programmatic Agreement (PA) between the federal agency, the State Historic Preservation Officer (SHPO), and the project proponent.

Effects to a cultural resource are potentially adverse only if the resource has been determined eligible for the National Register of Historic Places (NRHP) by the lead federal agency with concurrence by the SHPO. The NRHP eligibility criteria are contained in the following statement:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

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

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Archaeological sites are usually evaluated under Criterion D, the potential to yield information important in prehistory. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. The lead federal agency, in this case, the BLM, makes the determination of eligibility based on the results of the test program and seeks concurrence from the SHPO.

Section 106 of the NHPA only applies to the portion of the proposed project on federal land (the segment of the gen-tie on BLM land). An Environmental Assessment is being prepared by the BLM for this portion of the proposed project.

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code (USC) Section 3001, et seq.

The statute defines "cultural items," "sacred objects," and "objects of cultural patrimony;" establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return

of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

Paleontological Resources

Paleontological resources are protected from vandalism and unauthorized collection on federal land by the Federal Antiquities Act of 1906 (PL 59-209; 16 United States Code section 431 *et seq*.; 34 Stat. 25). The National Environmental Policy Act of 1969, as amended, requires analysis of potential environmental impacts to important historic, cultural, and natural aspects of our national heritage (United States Code, section 4321 et seq.; 40 Code of Federal Regulations, section 1502.25). The BLM uses the Potential Fossil Yield Classification (PFYC) to classify geological formations by their potential to yield important fossils (BLM, 2009). The lowest sensitivity is PFYC Class 1 and the highest is PFYC Class 5. These statutes apply only to the portion of the project on federal land (the BLM gen-tie route) which is being considered by BLM in a separate environmental document.

B. STATE

Cultural Resources

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) is the state law that addresses the evaluation of a project's impacts on cultural resources. A "project" is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to "Historical Resources" be identified and, if the impacts will be significant, that mitigation measures to reduce the impacts be applied.

A "Historical Resource" is a resource that 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR, 2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k), or 3) has been identified as significant in a historical resources survey, as defined in Public Resources Code 5024.1(g) [CCR Title 14, Section 15064.5(a)].

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

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

(2) It is associated with the lives of persons important to local, California, or national history.

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

(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. The integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Resources that have been determined eligible for the NRHP are automatically eligible for the CRHR.

Archaeological sites are usually evaluated under Criterion 4, the potential to yield information important in prehistory. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. Imperial County, as the CEQA lead agency, makes the determination of eligibility based on the results of the test program.

AB 4239

AB 4239 established the Native American Heritage Commission (NAHC) as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

Public Resources Code 5097.97

No public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.98 (b) and (e)

Public Resources Code 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified Most Likely Descendents (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code, Section 7050.5

California Health and Safety Code, Section 7050.5 makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.

Paleontological Resources

CEQA Guidelines Appendix G provides a checklist of questions that a lead agency should typically address if relevant to a project's environmental impacts. Appendix G Section (V)(c) asks if the project will directly or indirectly destroy a unique paleontological resource, site, or unique geological feature.

The Society of Vertebrate Paleontology (SVP), a national organization, has established a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources (SVP 2010).

C. LOCAL

Cultural Resources

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. **Table 4.7-1** provides a consistency analysis of the applicable Imperial County General Plan policies relevant to cultural resources as they relate to the proposed project. While this EIR analyzes the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.7-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

GENERAL PLAN POLICIES	CONSISTENT WITH GENERAL PLAN?	ANALYSIS
Cultural Resources Conservation Policy Identify and document significant historic and prehistoric resources, and provide for the preservation of representative and worthy examples; and recognize the value of historic and prehistoric resources, and assess current and proposed land uses for impacts upon these resources. **Programs** • The County will use the environmental impact report process to conserve cultural resources. Public awareness of cultural heritage will be stressed. All information and artifactual resources recovered in this process will be stored in an appropriate institution and made available for public exhibit and scientific review. • Encourage the use of open space easements in the conservation of high value cultural resources. • Consider measures which would provide incentives to report archeological discoveries immediately to the Imperial Valley College - Baker Museum. • Coordinate with appropriate federal, state, and	Yes	As part of the environmental review (EIR process) for the Campo Verde Solar Project, historic and prehistoric resources were identified and documented. Historical Resources in the project study area are being preserved.

local agencies to provide adequate maps identifying cultural resource locations for use during development review. Newly discovered archeological resources shall be added to the "Sensitivity Map for Cultural Resources". • Discourage vandalism of cultural resources and excavation by persons other than qualified archaeologists. The County shall study the feasibility of implementing policies and enacting ordinances toward the protection of cultural resources such as can be found in California Penal Code, Title 14, Point 1, Section 622-1/2.		

4.7.2 ENVIRONMENTAL SETTING

The project area is within the western portion of the Colorado Desert, which is also part of the larger Sonoran Desert. The area is located between the Colorado River on the east, the Yuha Desert on the west, the Salton Sea to the north, and the U.S.-Mexico International Border to the south. The topography in the project area is relatively level and consists of irrigated agricultural fields. Irrigation water is provided by a network of canals and ditches that bring water from the Colorado River via the All-American Canal. Prior to conversion of the area to agriculture, native vegetation consisted of creosote, ocotillo, brittle bush, ephedra, and white bursage, as well as other native annuals and grasses. The New River, which carries excess irrigation water from drains installed in fields to the Salton Sea, is located about 0.25-mile north of the northeast corner of the project area.

A. PALEONTOLOGY

Paleontological resources (fossils) are the remains of prehistoric plant and animal life. Fossil remains, such as bones teeth, shell, and wood, are found in geologic deposits (rock formations) within which they were originally buried. The following provides an overview of the geologic formations that underlie the project area and their potential to yield significant fossils (Demere and Siren, 2011).

Geologic Formations

Quaternary Alluvium (Qa)

The Quaternary alluvium consists of Recent sediments including aeolian sand and alluvial sand and gravel. These surficial deposits are likely entirely Holocene in age (less than 10,000 years). Because of the young age of the sediments, Quaternary alluvium usually does not yield significant fossils.

Lake Cahuilla Sediments (Qc)

Lake Cahuilla sediments are sedimentary rocks that underlie much of the project site. These sediments contain fossils of freshwater molluscs (including freshwater mussel) and fish (desert pupfish, bonytail, and razorback sucker) that lived in Lake Cahuilla, a large lake that existed intermittently during the Holocene when the Colorado River overflowed into the Salton trough. Terrestrial fossils, including various species of lizards and snakes, as well as mammals, including cottontail rabbit, kangaroo rat, wood rat, pocket mouse, and ground squirrel. Lake Cahuilla sediments have the potential to yield significant fossils because of the paleoclimatic and paleoecological information they can provide.

Brawley Formation (Qbr)

The Brawley Formation consists of sedimentary rocks (including siltstone) that crop out in rocks in the central portion of the project area and are also found subsurface in the vicinity of the Imperial Valley Substation. The Brawley Formation is Pleistocene in age (0.4 to 1.07 million years old) and has yielded fossils of freshwater lacustrine vertebrates (fish) and invertebrates (molluscs).

Field Survey

During the field survey Lake Cahuilla sediments and rock from the Brawley Formation were observed in low outcrops within and directly adjacent to the project area. In the vicinity of the Imperial Valley Substation, Lake Cahuilla sediments extend six to eight feet below the surface and overlie sedimentary rocks of the Brawley Formation (Demere and Siren, 2011).

B. CULTURAL RESOURCES

Prehistory

Little archaeological material dating to the Early and Middle Holocene Periods (8,000 to 1,000 B.C.) is known from the Salton Trough area of the Colorado Desert. The only indications of use of this area during this long period of time consist of large dart points found on the former lake bed of Lake Cahuilla (an older and larger version of the Salton Sea) and in the nearby desert (Mitchell, 2011). The sparse occupation during the Middle Holocene may be related to extremely arid climatic conditions and of the lack of water in the Salton Trough (Lake Cahuilla was likely dry during this period). While the population of the region was likely sparse during this period, small bands of mobile Desert Archaic people presumably moved among areas where water (at springs) and plant food resources were available.

Higher population and greater numbers of sites appear to correlate with the presence of Lake Cahuilla which filled the Salton Trough when water flowed into the trough from the Colorado River. When water ceased to flow from the river, the lake dried, markedly reducing the availability of resources. Occupation of the Salton Trough during the Late Prehistoric Period (A.D. 700 to Contact) correlates with three cycles of inundation and drying in Lake Cahuilla that occurred between A.D. 1,200 and 1,680 (Mitchell, 2011). When the lake was present, lacustrine resources, such as fish, shellfish, and waterfowl were available. When the lake was absent, very few resources were available and human population was low. Lake Cahuilla was much larger than the current Salton Sea. Whereas the current Salton Sea shoreline is about 70 meters (230 feet) below sea level, the maximum Lake Cahuilla shoreline was near sea level (Mitchell, 2011). The entire Imperial Valley between East Mesa and West Mesa was underwater when Lake Cahuilla was present.

Late Prehistoric archaeological sites in this area belong to the Patayan pattern characterized by use of the bow and arrow and ceramics. The Patayan pattern began about A.D. 700 with the introduction of the bow and arrow, indicated archaeologically by the presence of small projectile points (arrow points) and, along the Colorado River, by the appearance of ceramics. In the southern Salton Trough area, ceramics first appear about A.D. 1000 (Mitchell, 2011).

Along the lower Colorado River, the Patayan settlement-subsistence system consisted of horticulture, hunting, and gathering in riparian habitats. People lived in multi-seasonal residential bases along the river. When Lake Cahuilla was present in the Salton Trough, they also occupied temporary camps for fishing, hunting, and gathering on the eastern shore of Lake Cahuilla. On the west side of the Salton Trough, the Patayan pattern consisted of a seasonal round among upland and lowland habitats. When Lake Cahuilla was present, seasonal residential bases and temporary camps were occupied on the

western shore of Lake Cahuilla in order to obtain resources from the lake including fish, shellfish, and waterfowl (Mitchell, 2011).

Obsidian from the Obsidian Butte source on the southeast margin of the Salton Sea was used for making flaked stone tools throughout southern California during the Late Prehistoric Period. However, obsidian from Obsidian Butte could only be obtained when lake levels were low, since it is at an elevation of -40 meters (130 feet below sea level).

Ethnography

The Kumeyaay

The Kumeyaay are the Yuman-speaking native people of central and southern San Diego County and the northern Baja Peninsula in Mexico. Spanish missionaries and settlers used the collective term Diegueño for these people, which referred to people living near the presidio and mission of San Diego de Alcalá. Today, these people refer to themselves as Kumeyaay or as Tipai and Ipai, which are northern and southern subgroups of the Kumeyaay (Mitchell, 2011).

The territory of the Kumeyaay extended north from Todos Santos Bay near Ensenada, Mexico to Agua Hedionda Lagoon in north San Diego County, and east to the Imperial Valley. The primary source of Kumeyaay subsistence was vegetal food. Seasonal travel followed the ripening of plants from the lowlands to higher elevations of the mountain slopes. Acorns, grass and sage seeds, cactus fruits, wild plums, pinyon nuts, and agave stalks were the principal plant foods. Women sometimes transplanted wild onion and tobacco plants to convenient locations, and sowed wild tobacco seeds. Deer, rabbits, small rodents, and birds provided meat. Village locations were selected for seasonal use and were occupied by clans or bands of related people. Three or four clans might winter together, then disperse into smaller bands during the spring and summer (Mitchell, 2011).

It is estimated that the pre-contact Kumeyaay population ranged from approximately 3,000 (Kroeber 1925) to 9,000 (Mitchell, 2011). Beginning in 1775, the semi-nomadic life of the Kumeyaay began to change as a result of contact with European-Americans, particularly from the influence of the Spanish missions. Through successive Spanish, Mexican, and Anglo-American control, the Kumeyaay were forced to adopt a sedentary lifestyle and accept Christianity. As of 1968, Kumeyaay population was approximately 1,500 (Mitchell, 2011).

The Colorado River Peoples: The Quechan and Cocopah

The Quechan and Cocopah are the Yuman-speaking people who lived along the lower Colorado River and also made use of resources in the Imperial Valley. The first historic accounts of the traditional inhabitants of the lower Colorado River were made by Spanish and, later, American explorers. The Lower Colorado River area was one of shifting tribal territory and tribal boundaries in ethnohistoric times due to inter-tribal warfare. When the Spanish explorers Díaz and Alarcón sailed up the lower Colorado River in 1540 the scene they observed was one of incessant warfare (Mitchell, 2011).

The Quechan and Cocopah obtained food through seasonal rounds of hunting, fishing, and gathering supplemented by small-scale agricultural practices The Cocopah derived about 30 percent of their diet from agriculture while the Quechan derived about 40 percent of their diet from agriculture (Bee 1983). Cultivated crops included maize, beans, squash, melon, and various semi-wild grasses. The river Yumans used more than 75 wild plant foods as food sources, the most important being mesquite and screwbean. The primary source of dietary protein came from fish caught in the Colorado River. Among the more important species were the humpbacked sucker and Colorado pike minnow. Regularly hunted game

included small mammals such as rabbits, squirrels, and pack rats. Larger game included deer and bighorn sheep (Mitchell, 2011).

History

In 1769, stimulated by Russian and English encroachment on the northwest Pacific Coast, Spain began to establish a series of missions and presidios along the coastal plains of California that eventually stretched from San Diego to San Francisco. The Spanish established a presidio and mission at San Diego. Lt. Pedro Fages, who was stationed at the San Diego presidio, explored the Imperial Valley area in 1772, 1782, and 1785. The Anza expedition, led by Captain Juan Bautista de Anza, crossed the Imperial Valley in 1774. Beginning at the Spanish presidio at Tubac in what is now southern Arizona, the expedition crossed the Colorado River near Yuma, and passed through the Imperial Valley on its way to Mission San Gabriel in the Los Angeles area (Mitchell, 2011).

The first formal record of the region made by an American was that of Lieutenant-Colonel W. H. Emory, who, in 1846, traveled what was known as the Southern Route from Yuma, through the southern portion of Imperial Valley and the Salton Sink, followed the Carrizo Wash to Warner Springs. From here there were rotes leading to San Diego and Los Angeles. The following year, Emory accompanied General Stephen W. Kearny's American Army of the West expedition over the same route. In 1848, the Mormon Battalion followed the Southern Route and established the first wagon road (Mitchell, 2011). During the Gold Rush of the late 1840s and early 1850s, thousands of prospectors and other immigrants came to California by the Southern Route. Semi-weekly stage service by the Butterfield Overland Mail Company from St. Louis to San Francisco began in 1858. The segment of the route between Yuma and Los Angeles crossed the Imperial Valley. Service ended in 1861 at the beginning of the Civil War (Mitchell, 2011).

As early as 1890, settlers began to enter the Imperial Valley of California. Prior to this, many settlers and travelers passed through the valley on their way to San Diego or Los Angeles from Ft. Yuma on the Colorado River. People viewed the Imperial Valley as a barren waste-land that was subject to instant flooding and plagues of insects in addition to arid land and scorching heat throughout the year (Mitchell, 2011). A few settlers started the town of Imperial, and by 1900 many more settlers entered the valley and began to farm the land; however, no real development took place until water was brought into the area in 1901. This occurred with the construction of the Alamo Canal, which was a 4 mile-long waterway that connected the Colorado River to the head of the Alamo River. The canal was constructed in 1901 to provide irrigation to the Imperial Valley. A small portion of the canal was located in the United States but the majority of the canal was located in Mexico. The Alamo Canal is also known as the Imperial Canal (Mitchell, 2011), and by 1903 hydroelectric power was being harnessed as well. By 1904 the City of Imperial was officially formed. In 1905 there were a series of floods that diverted the Colorado River into the valley and the Salton Sea was formed. Imperial County, originally part of San Diego County, was founded August 7, 1907. The same year the cities of El Centro, Brawley, and Holtville were also formed.

After the flooding of the Salton Sea was brought under control in early 1907, agricultural development resumed in Imperial Valley. The Imperial Irrigation District (IID) was established in July of 1911, covering an area of 817 square miles, the largest irrigation district in the world at that time. In June, 1916, the IID purchased the canal system built by the California Development Company (IID, n.d.).

By the mid-1920s 500,000 acres in Imperial Valley were being irrigated. In 1934 construction began on a new irrigation canal system for the valley that would be primarily on U.S. soil, the All-American Canal, which was completed in 1940 (IID, n.d.). The population by this time had grown to more than 61,000 in Imperial Valley. In the 1950s and 1960s farmers were encouraged to level and tile their fields, and install

concrete ditches. In 1950 there were approximately 1,550 farmers, but presently there are approximately 500 farmers in Imperial Valley.

Patents (federal deeds) were issued for land in the project area beginning in 1911 (Mitchell, 2011). All land in the Imperial Valley was originally public land owned by the federal government. Settlers could purchase land from the federal government, obtain it through homesteading, or through the Desert Land Act which required irrigating the land for three years. When the settler had met the requirements, the settler received a patent and assumed ownership of the land. Most of the federal patents for land in the Project area were issued between 1911 and 1920. The federal government also issued patents to the State of California for land in the project area. The state then sold much of this land to settlers.

Cultural Resources in the Project Area

Records Search

A cultural resources records search was conducted by the South Coastal Information Center (SCIC), a component of the California Historical Resources Information System (CHRIS). The SCIC archives site records, maps, and reports for cultural resources in San Diego and Imperial Counties. The SCIC is located at San Diego State University in San Diego, California. The purpose of the records search was to determine the extent of previous cultural resources investigations within a 1-mile radius of the project area, and to determine whether any archaeological sites or architectural resources have been previously identified within the project area. Materials reviewed as part of the records search included archaeological site records, historic maps, and listings of resources on the NRHP, the California Register of Historical Resources (CRHR), California Points of Historical Interest, and California Historical Landmarks.

The records search revealed that 47 cultural resources investigations have been conducted within one mile of the project. Of these 47 investigations, 6 are within or crossing the project area. Four of the six previous studies applicable to the project area were conducted between 1975 and 1980 (Mitchell, 2011), and are all linear projects. One study, also a linear study was conducted in 1993 for the Imperial Irrigation District East Lowline and Trifolium Interceptors Environmental Impact Report (Mitchell, 2011). The most recent study within the project area was the survey of a staging area for the Sunrise Powerlink Project by Gallegos and Associates (Mitchell, 2011).

The records search identified a total of 139 previously recorded cultural resources within the one-mile records search radius. As shown in **Table 4.7-2** eight of the previously recorded cultural resources are within the project study area.

TABLE 4.7-2
PREVIOUSLY RECORDED CULTURAL RESOURCES IN THE PROJECT AREA

Site Number	Type	Age	Location	Comment
CA-IMP-3404	Cross Wagon Road	Historic	Proposed Project Study Area	
CA-IMP-3406	Cross Wagon Road (different segment)	Historic	Proposed Project Study Area	
CA-IMP-7834	Westside Main Canal	Historic	Proposed Project Study Area	Part of the All-American Canal System
CA-IMP-8821	Fox Glove Canal	Historic	Proposed Project	

TABLE 4.7-2
PREVIOUSLY RECORDED CULTURAL RESOURCES IN THE PROJECT AREA

Site Number	Type	Age	Location	Comment
			Study Area	
CA-IMP-8983	Wormwood Canal	Historic	Proposed Project Study Area	
P-13-012689	Portion of Fern Canal and Fern Drain	Historic	Proposed Project Study Area	Part of the All-American Canal System
P-13-012692	Fern Check of the Westside Main Canal	Historic	Proposed Project Study Area	Part of the All-American Canal System
P-13-012693	Portion of the Fig Canal	Historic	Proposed Project Study Area	Part of the All-American Canal System

Source: SCIC, 2011.
Key to Site numbers: Site numbers beginning with P- are Primary numbers assigned by the SCIC; Site numbers beginning with CA-IMP- are Trinomial numbers assigned by the SCIC.

All of the previously recorded cultural resources are from the historic period. Two (CA-IMP-3404 and CA-IMP-3406) are segments of the Cross Wagon Road. The other six resources are water conveyance facilities related to agriculture in the Imperial Valley, and include a portion of the Westside Main Canal (CA-IMP-7834); a portion of the Foxglove Canal (CA-IMP-8821); a portion of the Wormwood Canal (CA-IMP-8983); a portion of the Fern Canal and the Fern Drain (P-13-012689); a portion of the Forget-Me-Not Canal (P-13-012690); the Fern Check of the Westside Main Canal (P-13-012692); and a portion of the Fig Canal (P-13-012693).

Native American Consultation

The NAHC conducted a Sacred Lands File search of the project area of potential effect (APE) and found Native American cultural resources were not identified within their inventory; however, they were aware of recorded archaeological sites and Native American cultural resources in close proximity to the APE. Dave Singleton of the NAHC provided a list of Native American contacts for the project area in his letter of July 7, 2011. This letter is included as part of **Appendix E** provided on the attached CD of Technical Appendices of this EIR.

On August 3, 2011 kp environmental, LLC (kpe), the preparer of the cultural resources technical report for the project, sent e-mails to the following Native American contacts on the NAHC list:

- Gwendolyn Parada - Chairperson, La Posta Band of Mission Indians
- Leroy J. Elliott – Chairperson, Manzanita Band of Kumeyaay Nation
- Monique LaChappa – Chairperson, Campo Kumeyaay Nation
- Keeny Escalanti, Sr. - President, Fort Yuma Quechan Tribe
- Will Micklin – Executive Director, Ewiiaapaayp Band of Kumeyaay Indians
- Michael Garcia – Vice Chairman, Ewiiaapaayp Band of Kumeyaay Indians
- Jill McCormick – Tribal Archaeologist, Cocopah Indian Tribe
- Bridget Nash-Chrabascz – THPO, Fort Yuma Quechan Tribe

- Preston J. Arrow-Weed, Ah-Mut-Pipa Foundation
- Bernice Paipa – Vice Spokesperson, Kumeyaay Cultural Repatriation Committee

A letter was sent to:

- Carmen Lucas, Kwaaymii Band of Mission Indians

Ms. Lucas requested a visit to the project area. Ms. Lucas and other Native American representatives were invited to an on-site meeting on behalf of First Solar, Inc. The meeting was held on December 6, 2011 and was attended by Carmen Lucas (of the Kwaaymii Band of Mission Indians) and Jill McCormick (Tribal Archaeologist for the Cocopah Indian Tribe). Ms. Lucas requested tribal monitors during the field surveys. Ms. Lucas and Ms. McCormick requested that the landscape and viewshed be considered, especially because Mount Signal is nearby, an important place for the Cocopah. The group was shown prehistoric pottery fragments at archaeological site CA-IMP-11758 in the project area. The prehistoric pottery fragments are in a refuse dump that mostly consists of material from the historic period. Ms. Lucas and Ms. McCormick requested that CA-IMP-11758 be avoided and that Native American monitors be present during construction near the site. A second field meeting was held on January 5, 2012 and was attended by Lorey Cachora and Ken Bathke (both from the Fort Yuma Quechan Tribe). They also visited site CA-IMP-11758 which Mr. Cachora requested be avoided. He also suggested that animals and plants that have meaning to Native Americans be considered. He would like to see a plan for land reclamation.

Several Tribes and one tribal organization have requested and received copies of the technical cultural report to review. These include: Campo Kumeyaay Nation, Cocopah Indian Tribe, Fort Yuma Quechan Tribe, Kwaaymii Band of Mission Indians, La Posta Band of Mission Indians, and the Kumeyaay Cultural Repatriation Committee. On March 5, 2012, the Cocopah Indian Tribe commented on the technical report by letter. The Tribe requested that both archaeological and tribal monitors be present during all construction activities, and offered to provide Cocopah tribal monitors for this project (McCormick, 2012).

Field Survey

An archaeological field survey of a portion of the project study area on private lands was conducted by the Environmental Planning Group (EPG) in 2007 (Mitchell, 2011). The rest of the project study area on private lands was surveyed by KP Environmental in 2011 (Mitchell, 2011). An inventory of historic period buildings, structures and facilities was completed by ASM Affiliates (Davis et. Al, 2011). During the field survey, systematic pedestrian transects, spaced at intervals of 15 meters, were utilized. The survey area for the gen-tie routes consisted of 150 feet on each side of the centerline of the route. The survey team closely examined the ground surface for evidence of prehistoric and historic resources. An archaeological site was defined as at least three associated artifacts or a single feature. Cultural resources not meeting the site criteria were recorded as isolated finds. Cultural resources located during the survey were recorded using Department of Parks and Recreation (DPR) 523 Forms. Previously recorded resources CA-IMP-3404 and CA-IMP-3406, segments of the Cross Wagon Road, could not be found during the current field surveys.

The field surveys identified 29 cultural resources more than 50 years old in the project area. They consist of 7 historic period water conveyance facilities (canals, drains, and ditches), 10 historical buildings (9 houses and a shed), 1 historic archaeological site (CA-IMP-11758), as well as 11 isolates (1 or 2 artifacts each). The isolates are numbered. **Table 4.7-3** summarizes the water conveyance facilities, buildings, archaeological site, and isolated finds (isolates) that are located in the solar energy field study area and along the gen-tie route. The isolated finds, which have no potential to be eligible resources, are not described.

TABLE 4.7-3
CULTURAL RESOURCES IDENTIFIED IN THE PROJECT AREA

Site Number	Description	Resource Type	Age	Location
CA-IMP-7834 & P-13-013760	Westside Main Canal and Westside Drain (P-13-013760)	Structure/Facility	Historic	Solar generation facility site
P-13-008983	Wormwood Canal	Structure/Facility	Historic	Solar generation facility site
P-13-012688	Dixie Drains 2, 3, & 4, Dixie Lateral 1 (portions)	Structure/Facility	Historic	Solar generation facility site
P-13-012689	Fern Canal and Fern Drain	Structure/Facility	Historic	Solar generation facility site
P-13-012693	Fig Canal	Structure/Facility	Historic	Solar generation facility site
P-13-013748	Fig Drain	Structure/Facility	Historic	Solar generation facility site
P-13-013747	Diehl Drain	Structure/Facility	Historic	Solar generation facility site
P-13-013761	Wixom Drain	Structure/Facility	Historic	Solar generation facility site
1210 Drew Road	Residence	Building	Historic	Solar generation facility site
1220 Drew Road	Residence	Building	Historic	Solar generation facility site
1276 Drew Road	Residence	Building	Historic	Solar generation facility site
1796 West Graham Road	Residence	Building	Historic	Solar generation facility site
2596 West Hardy Road	Residence	Building	Historic	Solar generation facility site
Liebert Road	Shed	Building	Historic	Solar generation facility site

TABLE 4.7-3
CULTURAL RESOURCES IDENTIFIED IN THE PROJECT AREA

Site Number	Description	Resource Type	Age	Location
West Stephens Road	Residence	Building	Historic	Solar generation facility site
2396 West Vaughn Road	Residence	Building	Historic	Solar generation facility site
2104 West Wixom Road	Residence	Building	Historic	Solar generation facility site
1651 Westside Road	Residence	Building	Historic	Solar generation facility site
CA-IMP-11758	Historic refuse scatter; 19th century kaolinite pipestem fragment and 3 prehistoric pottery fragments also found within the trash scatter	Archaeological Site	Historic	Solar generation facility site
P-13-013749	Isolate bottle base and nail	Isolate	Historic	Solar generation facility site
P-13-013750	Isolate bottle base	Isolate	Historic	Solar generation facility site
P-13-013751	Isolate whiteware ceramic fragment	Isolate	Historic	Solar generation facility site
P-13-013752	Isolate whiteware ceramic fragment	Isolate	Historic	Solar generation facility site
P-13-013753	Isolate glass fragments: 1 purple dating to 1890-1920; and 1 clear 1935-1964	Isolate	Historic	Solar generation facility site
P-13-013755	Isolate “SMIRNOFF” bottle dating to 1932-1964.	Isolate	Historic	Solar generation facility site
P-13-013756	Isolate 1911 Liberty Head nickel	Isolate	Historic	Solar generation facility site
P-13-013757	Isolate green/black bottle glass fragment	Isolate	Historic	Solar generation facility site

TABLE 4.7-3
CULTURAL RESOURCES IDENTIFIED IN THE PROJECT AREA

Site Number	Description	Resource Type	Age	Location
CA-IMP-5297 (Isolate)	Isolate Flakes – Collected	Isolate	Prehistoric	Solar generation facility site
CA-IMP-5298 (Isolate)	Isolate Mano - Collected	Isolate	Prehistoric	Solar generation facility site

Source: Mitchell, 2011.
Key to Site numbers: Site numbers beginning with P- are Primary numbers assigned by the SCIC; Site numbers beginning with CA-IMP- are Trinomial numbers assigned by the SCIC.

CA-IMP-7834 is the Westside Main Canal, a water conveyance facility. Westside Main Canal was constructed circa 1907 as one of four canals constructed for the earliest irrigation system in the Imperial Valley. It was later connected to the All-American Canal which extends westward from Yuma, Arizona along the north side of the U.S.-Mexico border and terminates at the Westside Main Canal. The segment of the Westside Main Canal within the project area is approximately 5.5 miles long, beginning just north of its intersection with Interstate 8 extending southeast approximately 5 miles to its intersection with Liebert Road and the Fern Canal. The Westside Main Canal extends another 0.5 miles past Liebert Road within the project area. The canal is approximately eight feet deep and approximately 40 feet wide. Numerous laterals extend from the canal into the project area. The Westside Drain consists of an earthen irrigation drainage ditch. The ditch is trapezoidal in shape with earthen banks and levees on either side that provide vehicular access along the length of the canal. The Westside Drain (P-13-013760) drains into Dixie Drain 3 which in turn empties into Salt Creek which ultimately empties into the Salton Sea. Improvements were made to the existing Westside Drain when the All American Canal was completed in 1941. The Westside Drain is part of the Westside Main Canal system.

CA-IMP-8821 is the Foxglove Canal. The Foxglove Canal is an irrigation canal constructed circa 1912. It is located east of and directly parallel to the Westside Main Canal. The canal begins at a point just west of Hyde Road, and flows north to the canal's terminus one mile north of the intersection of Westmoreland and West Hetzel Road. The concrete-lined irrigation canal is approximately 12 feet wide and about 6 feet deep. Modifications were made to the canal in the 1960s. The entire canal is approximately 9 miles long.

P-13-008983 is the Wormwood Canal. The Wormwood Canal is a concrete-lined irrigation canal constructed in 1911 and modified in the 1960s. It extends from the Westside Main Canal at Fisher Road and continues eastward to Wormwood Road before extending northwesterly to Drew Road. The canal is approximately 10 feet wide and about 6 feet deep and is accessible from Old Highway 80, State Route 98, and Interstate 8. The project area also includes Wormwood Lateral 7 (an extension of the canal system from 1950) as well as the earthen Wormwood Drain, one of the earliest drains in the Imperial Valley, dating to at least 1909. Wormwood Drain primarily extends along Wormwood Canal, paralleling Drew Road, northward from Graham Road to the New River.

P-13-012688 consists of the Dixie Drains and Lateral 1. The Dixie Drains are part of a larger drainage system that empties into the New River south of Worthington Road. The Dixie drains were constructed after 1922 and before 1949, possibly circa 1940. The earthen drainage ditches are approximately 10 feet wide and about 6 feet deep. Dixie Lateral 1 is an irrigation canal lateral that extends eastward from the Westside Main Canal west of Hyde Road and south of West Vaughn Road. The earthen canal is

approximately 10 feet wide and about 6 feet deep. Lateral 1 was constructed before 1914 and was extended to connect with Dixie Drain 3 in later years.

P-13-012689 consists of the Fern Canal. The Fern Canal is an irrigation canal constructed circa 1909. In the project area, it is located west of Liebert Road, and flows north from the Westside Main Canal beyond Interstate 8. The canal is approximately 10 feet wide and about 6 feet deep. The canal is lined with concrete. Modifications were made to the canal in the 1960s. The entire canal is approximately 10 miles long.

P-13-012690 is the Forget-Me-Not Canal. The Forget-Me-Not Canal is an irrigation canal constructed circa 1909. It is located east of the Westside Main Canal and extends northward along Hyde Road. The earthen irrigation canal is approximately 10 feet wide and about 6 feet deep. The Forget-Me-Not Lateral 1 is an irrigation lateral constructed circa 1909. It is located west of the Westside Road and flows eastward from the Forget-Me-Not canal and empties into the Westside Drain. The concrete-lined lateral is approximately 10 feet wide and about 6 feet deep. Modifications were made to the canal in the 1960s and 1970s.

P-13-012693 is the Fig Canal. The Fig Canal is an irrigation canal constructed circa 1909. It is located east of the Westside Main Canal and flows north from the Fern Canal at Liebert Road and West Wixom Road to the Fig Spill around Evan Hewes Highway (Old Highway 80) near Seeley. The canal is approximately 10 feet wide and approximately 6 feet deep. The canal is lined with concrete. Modifications were made to the canal in the 1970s.

P-13-013748 is the Fig Drain. The Fig Drain is an earthen irrigation drainage ditch that flows north to the New River. It is located between Drew Road and Derrick Road. The drain is approximately 10 feet wide and about 6 feet deep. It was originally constructed after 1922 and before 1949, possibly circa 1940. The entire drain is approximately 4 miles long.

P-13-013747 is the Diehl Drain. The Diehl Drain is an irrigation drainage ditch constructed after 1922 and before 1949, possibly circa 1940. It is located northeast of the Westside Main Canal and flows north and south. The drain is an earthen ditch approximately 10 to 20 feet wide and approximately 10 feet deep. The entire drain is approximately one mile long and connects with the Fig Drain.

P-13-013761 is the Wixom Drain. The Wixom Drain is an earthen irrigation drainage ditch constructed after 1922 and before 1949, possibly circa 1940. It is located east of the Westside Main Canal and flows north to the New River from the Fig Canal at Liebert Road and West Wixom Road. The drainage ditch is approximately two miles long, 10 to 20 feet wide and about 10 to 15 feet deep.

1210 Drew Road is a one-story vernacular building constructed as a single-family residence circa 1955. It is a wood frame building, rectangular in plan with a concrete foundation. The exterior is clad in stucco siding. The roof is a low-pitched, side gable roof covered with a asphalt roll roofing material. There is a front gable roof projection with widely overhanging eaves. Modifications to the building include replacement siding, windows, and doors.

1220 Drew Road is a one-story vernacular building constructed as a single-family residence circa 1940. It is a wood frame building, rectangular in plan with a concrete foundation. The exterior is clad in horizontal wood board siding. The roof is a low-pitched front gable roof with overhanging eaves and exposed rafter tails. An addition was constructed along the eastern side of the building at a later time.

1276 Drew Road is a one-story vernacular building constructed as a single-family residence circa 1940. it is a wood frame building, rectangular in plan with a concrete foundation. The exterior is clad in

horizontal wood board siding. The roof is a low-pitched front gable roof with a shed roof extension surrounding the north, west, and south facades. Additions include a rear one-story front gable addition on the east elevation. Modifications to the building include an enclosed shed roof porch enclosure.

1796 West Graham Road is a one-story vernacular building constructed as a single-family residence circa 1955. it is a wood frame building, rectangular in plan, with a concrete foundation. The exterior is clad in stucco. The roof is a low-pitched side gable roof with a front gable dormer. Modifications to the building include replaced windows, doors, and siding.

2596 West Hardy Road is a one-story vernacular building constructed as a single-family residence circa 1955. It is a wood frame building, rectangular in plan, with a concrete foundation. The exterior is partially clad in horizontal siding. The roof is nearly flat with widely overhanging eaves.

Liebert Road Shed. The Liebert Road Shed is a one-and-one-half story vernacular building constructed circa 1940. The shed is wood framed and rectangular in plan with a concrete foundation. The exterior is clad in vertical wood board siding. The roof is a front gable low-pitched roof with wide eaves.

West Stevens Road Property. The West Stevens Road property is a one-story vernacular building constructed as a single-family residence circa 1940. It is a wood frame building, near rectangular in plan with a wood post and beam foundation. The exterior is clad in horizontal and vertical wood board siding. The roof is a low-pitched side gable roof with moderate eaves and is covered with asphalt sheets. The primary entrance is located on the east façade. Additions include a shed roof addition on the north façade, and two other one-story additions on the south elevation. The windows and doors are missing.

2396 West Vaughn Road is a one-story vernacular building constructed as a single-family residence circa 1955. It is a wood frame building, T-shaped in plan with a concrete foundation. The exterior walls are clad in stucco. There is a low-pitched cross-gable roof covered in asphalt shingles. The roof has widely overhanging eaves. Modifications to the building include replaced windows and doors.

2104 West Wixom Road is a one-story vernacular building constructed as a single-family residence circa 1955. It is a wood frame building, near rectangular in plan with a concrete foundation. The exterior is clad with a stone veneer. There is a cross-gable roof with shallow eaves covered with asphalt roll roofing material. Modifications to the building include replaced windows.

1651 Westside Road is a one-story Ranch house constructed as a single-family residence circa 1955. it is a wood frame building, rectangular in plan with a concrete foundation. The exterior walls are clad in stucco. The roof is a low-pitched side gable roof covered with asphalt roll roofing material. There is a front gable roof projection on the south side of the building. Modifications to the building include replaced windows.

CA-IMP-11758 is an archaeological site from the historic period and consists of a refuse scatter situated on the west bank of Fig Drain and spread over an area 205 feet north to south by 73 feet east to west. The main concentration is on the east-facing slope of the bank. There are several piles of large broken chunks of concrete and metal debris that has been dumped along the upper bank to the north. Several additional historic artifacts were found widely dispersed throughout these piles. Artifacts identified in the main concentration consist of several black/green bottles, a nineteenth century ball clay (kaolinite) pipe stem, a *Bos taurus* (cattle) metacarpal diaphysis, and three prehistoric ceramic sherds. Five bottle bases and two neck and finish portions are present. The bases are all kick-up, with a pontil mark present on one and the number “8” embossed on another. One of the two bottle necks has an applied finish. The prehistoric ceramics are buffware, all from the same vessel. Wipe marks are visible and one sherd exhibited possible red painted decoration. The northernmost artifact is a historic period yellow ceramic

fragment. The piece has a yellow glaze and a portion of some type of handle is present. Also found was a single can with an external friction lid, a piece of cut bone (possibly pig), a fragment of a brown glass bottle base which exhibits an Owens suction scar and kurling around the edge of the bottle base. Additionally, there was a metal hinge, a piece of milled lumber, a light green colored bottle fragment, and a ceramic fragment with white glaze. The site is located within a very disturbed area, bounded by agricultural fields to the west and north and by a large earthen ditch to the east. It is likely that this is a secondary deposit and the result of illegal trash dumping.

There are ten isolates from the historic period that consist of one or two artifacts each. The two prehistoric isolates (CA-IMP-5297 and CA-IMP-5298) were collected in 2007 and no longer exist in the project area.

In addition to the cultural resources described above, a memorial to Margarito Hernandez was found during the field survey. The memorial consists of a concrete monument on a concrete footing and is surmounted by a concrete cross. There is also a wooden cross and flowering plants in the ground around the memorial. The memorial is not a historic resource because it is less than 50 years old (the inscription on the memorial indicates Mr. Hernandez died in 2010). However, this memorial is likely important to the local community and should be avoided during project construction.

4.7.3 IMPACTS AND MITIGATION MEASURES – CULTURAL RESOURCES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following questions from the Environmental Checklist Form (State CEQA Guidelines, Appendix G). The project would result in a significant impact to cultural resources if it would result in any of the following:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

Impacts to a Historical Resource, as defined by CEQA (listed in an official historic inventory or survey or eligible for the CRHR), are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(b)]. CEQA Historical Resources include resources that are eligible for the NRHP or the CRHR [CCR Title 14, Section 15064.5(a)]. Such resources can be buildings, structures, and facilities from the historic period and prehistoric and historic archaeological sites. Demolition or alteration of eligible buildings, structures, and features to the extent that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition to impacts from construction resulting in destruction or physical alteration of an eligible resource, impacts to the integrity of setting (sometimes termed “visual impacts”) of eligible buildings and above-ground structures and facilities in the project area could also result in significant impacts. All potentially significant impacts would occur as a result of construction. Operation and maintenance of the solar field and gen-tie will not result in any further impacts to cultural resources.

B. METHODOLOGY

The identified cultural resources in the project study area were evaluated to determine if they are eligible for the CRHR. If evaluated as eligible for the CRHR, the resources were found to be Historical Resources as defined by CEQA. Construction activities were analyzed to determine whether they would demolish or destroy the Historical Resource or if they would materially impair the characteristics that made the resource eligible for the CRHR. if the construction activities would demolish or destroy the Historical Resource or if they would materially impair the characteristics that make it eligible, the impact is determined to be significant. If a cultural resource is not a Historical Resource as defined by CEQA, there is no potential for impacts and impacts are not analyzed. In the following Section D the cultural resources that are not eligible for the CRHR are listed and the reasons why they are not eligible are discussed. Because these ineligible resources are not Historical Resources, they are not further considered and there is no impact analysis for these resources. After the discussion of the ineligible resources, impact analyses are provided for the Historical Resources (resources eligible for the CRHR).

C. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

None of the criteria identified for Cultural Resources in Appendix G of the State CEQA Guidelines, were scoped out as part of the Initial Study.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Ineligible Resources

Canals and Drains

The canals and drains in the project area (other than the Westside Main Canal system) are not eligible for the NRHP or the CRHR under any criteria. These ineligible canals and drains are:

- Foxglove Canal
- Wormwood Canal
- Dixie Drains 2, 3, & 4, Dixie Lateral 1
- Fern Canal and Fern Drain
- Forget-Me-Not Canal
- Fig Canal
- Fig Drain
- Diehl Drain
- Wixom Drain

Although these canals and drains are associated with the early irrigation system of the Imperial Valley, and the important local theme of agricultural development, these canals and drains do not convey that theme as well as other similar resources (such as the Westside Main Canal and the All-American Canal), in part due to their loss of integrity. Therefore, the canals and drains listed above are not eligible for the CRHR under Criterion 1 (association with important historical events). These canals and drains are not associated with any historically important persons and, therefore, are not eligible for the CRHR under Criterion 2. These canals and drains do not have any distinctive engineering characteristics and are not the work of a master. Therefore, they are not eligible for the CRHR under Criterion 3. They have no potential to yield important information in history, other than what has already been recorded. Therefore, they are not eligible for the CRHR under Criterion 4.

The canals and drains listed above are not Historical Resources for the purposes of CEQA and there would be no impact on Historical Resources at the locations of the canals and drains as a result of the proposed project.

Residential Buildings

The residential buildings in the project area are not eligible for the NRHP or the CRHR under any criteria. These ineligible residential buildings are:

- 1210 Drew Road
- 1220 Drew Road
- 1276 Drew Road
- 1796 West Graham Road
- 2596 West Hardy Road
- West Stevens Road
- 2396 West Vaughn Road
- 2104 West Wixom Road
- 1651 Westside Road

Research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. Therefore, the residential buildings listed above are not eligible for the CRHR under Criterion 1. Research failed to link the buildings with the lives of persons important to local, California, or national history. Therefore, the residential buildings listed above are not eligible for the CRHR under Criterion 2. None of these buildings embody distinctive characteristics of a type, period, region, or method of construction; nor do they represent the work of a master, or possess high artistic values that would qualify them for listing. Therefore, the residential buildings listed above are not eligible for the CRHR under Criterion 3. Finally, because these resources are a common property type, they do not have the potential to provide information that is not available through historic research. Therefore, none of these buildings are eligible for listing in the CRHR under Criterion 4.

The residential buildings listed above are not Historical Resources for the purposes of CEQA and there would be no impact on Historical Resources at the locations of these buildings as a result of the proposed project.

Leibert Road Shed

The Leibert Road Shed is not eligible for the NRHP or the CRHR under any criteria. Research failed to tie this building to events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. Therefore, the Leibert Road Shed is not eligible for the NRHP and the CRHR under Criterion A/1. Research failed to link the building with the lives of persons important to local, California, or national history. Therefore, the Leibert Road Shed is not eligible for the NRHP and the CRHR under Criterion B/2. The building does not embody the distinctive characteristics of a type, period, region, or method of construction; does not represent the work of a master, or possess high artistic values that would qualify it for listing. Therefore, the Leibert Road Shed is not eligible for the NRHP and the CRHR under Criterion C/3. Finally, because the shed is a common property type, it does not have the potential to provide information that is not available through historic research. Therefore, the Leibert Road Shed is not eligible for listing in the NRHP or the CRHR under Criterion D/4.

The Leibert Road Shed is not a Historical Resource for the purposes of CEQA and there would be no impact on Historical Resources at the location of the shed as a result of the proposed project.

Isolates

The isolates cannot be associated with historically important events or persons and have no architectural or engineering characteristics. Therefore, they are not eligible for the CRHR under Criteria 1, 2, and 3. The isolates, which each consist of only one or two artifacts, do not have sufficient

information potential to be eligible under Criteria 4. The isolates are not Historical Resources for the purposes of CEQA and there would be no impact on Historical Resources at the locations of the isolates as a result of the proposed project.

CRHR-Eligible Resource

Changes in Setting to the Westside Main Canal System

Impact 4.7.1 Implementation of the proposed project would result in changes in the setting of the Westside Main Canal system. This impact is considered **less than significant**.

The Westside Main Canal system (CA-IMP-7834), including the canal, lateral, and Westside Drain segments is in the project area (in the solar generation facility site, the proposed gen-tie route) and is eligible for the CRHR under Criterion 1 for its significance in the agricultural and economic development of the Imperial Valley. The earthen canal was integral to the development of irrigated commercial agriculture since its construction in the early 1900s. The Westside Main Canal system (CA-IMP-7834) is a Historical Resource for the purposes of CEQA.

Portions of the Westside Main Canal system, a Historical Resource, are located within the solar field and the canal system will be crossed by the proposed gen-tie. However, the Westside Main Canal system will not be destroyed or altered by the construction or installation of the solar generation facility site or gen-tie.

The project will result in changes in the viewshed and the setting of the Westside Main Canal system. The viewshed from the canal is not a character-defining feature of this historic resource, nor a quality that contributes to its NRHP and CRHR eligibility. A small portion of the overall setting of the Westside Main Canal will be altered by the solar field, but not to a level that would significantly compromise the integrity of its setting. Since the changes in the setting as a result of project construction will not materially impair the characteristics that made the resource eligible, impacts to this Historical Resource will be **less than significant**.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Unevaluated Resources

Impact to Archaeological Site CA-IMP-11758

Impact 4.7.2 Archaeological site CA-IMP-11758 could be damaged inadvertently during construction of the adjacent solar field. This is considered a **potentially significant impact**.

CA-IMP-11758 (MS 6) is a refuse dump from the historical period. It has not been formally evaluated using CRHR eligibility criteria because it is on the bank of Fig Drain, which also will not be impacted by the project. Nevertheless, damage to CA-IMP-11758 is considered a **potentially significant impact**.

Mitigation Measure

MM 4.7.2 A qualified and experienced archaeological monitor, will monitor the installation of temporary orange construction fencing around the boundaries of archaeological site CA-IMP-11758. The on-site Construction Manager (who is defined as the individual with the authority to halt all construction-related activities) shall be required to stake in advance the line where the fence will be installed and will provide a minimum of 48 hours advance notice to the archaeological monitor before fence installation occurs. The Construction Manager shall be responsible for maintaining the fencing in working order throughout the duration of construction, which may include periodic maintenance or replacement. The Construction Manager shall not allow passage of non-authorized personnel to enter the site through the fence. The archaeological monitor will monitor the effectiveness of the protective measures described in this measure at least twice per month during construction to ensure that unanticipated effects are avoided. If an unanticipated effect is discovered, the monitor will immediately notify the Construction Manager and give interim directions for protecting the site from further effects, which may include mandatory cessation of activity within 100 feet or more of the discovery. The Construction Manager will be responsible for promptly implementing those interim measures. The archaeological monitor will monitor the removal of the temporary fencing after construction is completed. The Construction Manager shall be required to provide a minimum of 48 hours advance notice to the archaeological monitor before fence removal occurs.

Timing/Implementation: *Prior to, during, and after construction of solar field.*

Enforcement/Monitoring: *Archaeological Monitor and Imperial County Department of Planning and Development Services.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.2 would require an archaeological monitor to oversee installation and removal of temporary construction fencing around archaeological site CA-IMP-11758. The monitor will also be present during construction activities to ensure the effectiveness of protective measures. With implementation of MM 4.7.2, impacts to archaeological site CA-IMP-11758 would be reduced to **less than significant**.

Unrecorded Subsurface Cultural Resources

Impacts to Unrecorded Subsurface Archaeological Resources

Impact 4.7.3 Unrecorded subsurface archaeological resources could be damaged during construction. This is considered a **potentially significant impact**.

Although the potential for subsurface archaeological resources in the project area is low, there remains a possibility that unrecorded cultural resources are present beneath the ground surface, and that such resources could be exposed during project construction. Therefore, potential to encounter subsurface archaeological resources is considered a **potentially significant impact**.

Mitigation Measure

MM 4.7.3 If subsurface deposits believed to be cultural in origin are discovered during construction, then all work must halt within a 200-foot radius of the discovery. A

qualified professional archaeologist shall be retained to evaluate the significance of the find. A Native American monitor, following the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites established by the Native American Heritage Commission, may also be required. Work cannot continue at the discovery site until the archaeologist conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially significant or eligible for listing on the NRHP or CRHR. If a potentially-eligible resource is encountered, then the archaeologist, lead agency, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations to evaluate eligibility for the CRHR and, if eligible, data recovery as mitigation.

Timing/Implementation: *During construction.*

Enforcement/Monitoring: *Qualified archaeologist and Imperial County Department of Planning and Development Services.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.3 requires construction activities to be halted in the event that potential subsurface resources are discovered during construction. No further construction would occur until after an assessment of the resource by a qualified professional archaeologist has been made. Following implementation of MM 4.7.3, impacts to unrecorded subsurface archaeological resources would be **less than significant** after mitigation.

Impacts to Subsurface Human Remains

Impact 4.7.4 Subsurface human remains could be impacted during construction. This is considered a **potentially significant impact**.

Although the potential for encountering subsurface human remains in the project area is low, there remains a possibility that human remains are present beneath the ground surface, and that such remains could be exposed during project construction. Therefore, potential to encounter subsurface human remains is considered a **potentially significant impact**.

Mitigation Measure

MM 4.7.4 In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the Health and Safety Code). If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission which will designate a Most Likely Descendant (MLD) for the Project (Section 5097.98 of the Public Resources Code). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).

Timing/Implementation: *During construction.*

Enforcement/Monitoring: *Applicant, Imperial County Department of Planning and Development Services, Imperial County Coroner.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.4 requires construction activities to be haulted or diverted in the event that human remains are discovered. The County Coroner and Native American Heritage Commission will be notified as appropriate. Following implementation of MM 4.7.4, impacts to unrecorded subsurface human remains would be **less than significant** after mitigation.

Paleontological Resources

Impacts to Fossil Remains

Impact 4.7.5 Fossil remains could be destroyed by excavation and other earth-moving activities. This is considered a **potentially significant impact**.

Previously undisturbed Lake Cahuilla sediments underlie most of the project area. The Brawley Formation immediately underlies the Lake Cahuilla sediments. The rest of the project area is underlain either by Quaternary alluvium or the Brawley Formation. The Lake Cahuilla sediments and the Brawley Formation have a high Potential Fossil Yield Classification (PFYC) (BLM, 2009) while the Quaternary alluvium has a moderate or unknown PFYC. Project-related excavation and other earth-moving activities have the potential to physically destroy non-renewable scientifically important fossil remains in these formations and sediments, resulting in a **potentially significant impact**.

Mitigation Measure

MM 4.7.5 Ground-disturbing activities in the Lake Cahuilla sediments, Quaternary alluvium, and the Brawley Formation must be monitored by a qualified paleontological monitor. Paleontological monitors will be equipped to salvage fossils as they are unearthed (to help avoid construction delays) and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens will be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Fossil specimens will be curated by accessioning them into an established, accredited museum repository with permanent retrievable paleontological storage. A report of findings with an appended itemized inventory of specimens will be prepared. The report and inventory, when submitted to the Imperial County Department of Planning and Development Services, along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts to paleontological resources.

Timing/Implementation: *During construction of solar field and gen-tie line.*

Enforcement/Monitoring: *Applicant and Imperial County Department of Planning and Development Services.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.5 requires that a qualified paleontological monitor be present when conducting construction activities in the Lake Cahuilla sediments. The monitor would be empowered to halt or divert construction away from large specimens and to curate fossil specimens. Implementation of MM 4.7.5 would reduce impacts to fossil remains would be **less than significant** after mitigation.

4.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope of the cumulative setting for cultural resources includes irrigated agricultural lands and desert within a fifteen-mile radius from the project site which includes the southwestern section of the high water mark of ancient Lake Cahuilla within the Yuha Basin. This geographic scope of analysis is appropriate because the archaeological, historical, and paleontological resources within this radius are expected to be similar to those in the project site based on proximity; similarity of environments, landforms, and hydrology. Likewise, similar geology within this vicinity would likely yield fossils of similar sensitivity and quantity. This scope encompasses the area within one mile of the 40-foot contour of ancient Lake Cahuilla. The project vicinity possesses the potential for significant cultural resources that, in many cases, have not been well documented or recorded. Thus, there is the potential for ongoing and future development projects in the vicinity to disturb landscapes that may contain known or unknown cultural resources.

A. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative impacts to Archaeological and Historic Resources

Impact 4.7.6 Implementation of the proposed project, in combination with existing, approved, proposed, and reasonably foreseeable development in the cumulative setting, has the potential to result in impacts to archaeological and historic resources. However, impacts are addressed on a project-by-project basis. Therefore, this is considered a **less than cumulatively considerable impact**.

Potential construction impacts of the proposed project, in combination with other projects in the area, could contribute to a cumulatively significant impact on archaeological and historical resources.

Table 4.7-4 provides a summary of the cumulative projects that contain cultural resources.

TABLE 4.7-4
SUMMARY OF CULTURAL RESOURCES FOR CUMULATIVE PROJECTS

Project	Number of Resources	Notes
Imperial Valley Solar[1]	149 cultural resources would be affected	
Sunrise 500-kV Line IV West Solar Farm Interconnection to Imperial Valley Substation[1]	33 cultural resources would be affected	
Ocotillo Sol[1]	Currently no published environmental documents available for this project. Considering that the project	Ocotillo Sol is within one mile of the 40-foot contour of ancient Lake Cahuilla.

TABLE 4.7-4
SUMMARY OF CULTURAL RESOURCES FOR CUMULATIVE PROJECTS

Project	Number of Resources	Notes
	site is located in an area that has been known to contain cultural resources, it can reasonably be expected the project may have some unknown cultural resources.	
Dixieland[1]	10 cultural resources would be affected.	
Solar Reserve Imperial Valley[1]	There are currently no published environmental documents available for this project.	A portion of the North Gila to Imperial Valley #2 Transmission Line may be within one mile of the 40-foot contour of ancient Lake Cahuilla.
County Center II Expansion[1]	3 cultural resources potentially affected.	The County Center II Expansion project appears to be within one mile of the 40-foot contour of ancient Lake Cahuilla.
Imperial Solar Energy Center West[1]	3 cultural resources would be affected	
Imperial Solar Energy Center South[1]	1 cultural resource would be affected.	
Mount Signal Solar Farm[2]	20 cultural resources*	
Calexico I-A[2]	*	
Calexico I-B[2]	*	
Calexico II-A[2]	*	
Calexico II-B[2]	*	
Proposed Project	29 cultural resources	
Total Cultural Resources	248 cultural resources	

Sources: [1]County of Imperial, 2011; [2]HDR, 2012 Table 4.5-1, p. 4.5-6 and Table 4.5-3, p. 4.5-9; [3]Mitchell, 2011.
**Mount Signal Solar Farm and Calexico I-A, II-A, I-B and II-B were all assessed in one document; resources identified includes those on BLM land associated with the off-site transmission facility.*

As shown in **Table 4.7-4**, 29 cultural resources were identified in the project area. Previous studies in the geographic scope (i.e. the southwestern section of the high water mark of ancient Lake Cahuilla within the Yuha Basin) indicates that there are an additional 893 cultural resources sites within the southern two-thirds of the geographic scope including temporary camps, lithic scatters, ceramic and lithic scatters, ceramic scatters, rock features, trails or trail markers, historic period sites, and prehistoric isolates. It can reasonably be estimated that the northern third would also have cultural resources proportionate to the southern area, which would provide an estimated total of 1,353 cultural resources in the entire geographic scope (County of Imperial, 2011). An estimated 248 sites would be potentially affected by the cumulative projects, including the proposed project (**Table 4.7-4**).

Potential impacts to archaeological site CA-IMP-11758 resulting from the proposed project would be mitigated through implementation of MM 4.7.2. In addition, the Westside Main Canal system (CA-IMP-7834), considered a Historical Resource for the purposes of CEQA, would not be destroyed or altered by the construction or installation of the solar generation facility site or gen-tie. Project-specific mitigation measures would also reduce potential project impacts to unrecorded archaeological resources (MM 4.7.3) and human remains (MM 4.7.4) during construction of the proposed project. Future projects with potentially significant impacts to archaeological and historical resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and mitigation measures MM 4.7.2, MM 4.7.3 and MM 4.7.4, the proposed project would have a less than cumulatively considerable contribution to impacts to archaeological and historical resources. Likewise, the proposed project would have a **less than cumulatively considerable impact** to archaeological and historic resource.

During operations and decommissioning of the project, no additional impacts to archeological or historical resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

Mitigation Measures

None required.

Significance After Mitigation

Implementation of project-specific mitigation measures MM 4.7.2, MM 4.7.3 and MM 4.7.4 would address potential impacts to archaeological and historic resources through construction monitoring, curation of resources and proper handling of human remains if discovered. Therefore, following implementation of these mitigation measures, cumulative impacts associated with cultural resources would be **less than cumulative considerable**.

Cumulative Impacts to Paleontological Resources

Impact 4.7.7 Implementation of the proposed project in combination with existing, approved, proposed, and reasonably foreseeable development in the cumulative setting, has the potential to result in impacts to fossil remains and fossil bearing geological formations. However, such impacts are addressed on a project-by-project basis. Therefore, this is considered a **less than cumulatively considerable impact**.

Excavation activities associated with the proposed project in conjunction with other projects in the geographic scope could contribute to the progressive loss of fossil remains, as-yet unrecorded fossil sites, associated geological and geographic data, and portions of fossil-bearing geological formations.

Table 4.7-5 provides a summary of the cumulative projects that contain paleontological resources.

TABLE 4.7-5
SUMMARY OF PALEONTOLOGICAL RESOURCES FOR CUMULATIVE PROJECTS

Project	Notes
Imperial Valley Solar[1]	The paleontological formations on this site that have moderate to high sensitivity could be adversely affected during construction as a result of disturbance by grading or construction activities. However, it was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact on paleontological resources.
Sunrise 500-kV Line IV West Solar Farm Interconnection to Imperial Valley Substation[1]	
Ocotillo Sol[1]	There are currently no published environmental documents available for this project. Therefore it is not possible to provide a conclusion of the project's environmental effects. However, considering that the project site is located in an area that has been known to contain paleontological resources, it can reasonably be expected that the project may have some unknown paleontological resources. It can also be reasonably anticipated that the lead agency will follow their precedent set on similar projects and require the implementation of avoidance, minimization, and mitigation measures that would reduce any impact on paleontological resources to a less than significant level. The determination will be made by the lead agency of this project after a thorough review of the project site.
North Gila to Imperial Valley #2 Transmission Line[1]	There are currently no published environmental documents available for this project. Therefore it is not possible to provide a conclusion of the project's environmental effects. However, considering that the project site is located in an area that has been known to contain paleontological resources, it can reasonably be expected that the project may have some unknown paleontological resources. It can also be reasonably anticipated that the lead agency will follow their precedent set on similar projects and require the implementation of avoidance, minimization, and mitigation measures that would reduce any impact on paleontological resources to a less than significant level. The determination will be made by the lead agency of this project after a thorough review of the project site.
Dixieland[1]	Freshwater invertebrate and terrestrial invertebrate fossils were collected within one-mile of this site within the Quaternary lake

TABLE 4.7-5
SUMMARY OF PALEONTOLOGICAL RESOURCES FOR CUMULATIVE PROJECTS

Project	Notes
	deposits associated with Lake Cahuilla. The paleontological formations on this site have high sensitivity and could be adversely affected during construction as a result of disturbance by grading or construction activities. However, it was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact on paleontological resources.
County Center II Expansion[1]	There are no paleontological resources that would be affected.
Imperial Solar Energy Center West[1]	The paleontological resources on this site have the potential to result in disturbance from grading or construction activities; unauthorized, unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment; and/or, physical damage of fossil specimens. However, it was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact on paleontological resources.
Imperial Solar Energy Center South[1]	
Mount Signal Solar Farm[2]	The study area for these projects and the off-site transmission facility on BLM land is located in the Imperial Valley portion of the Salton Trough physiographic province of Southern California. The Imperial Valley is underlain by geologic units comprised of quaternary lake deposits of the ancient Lake Cahuilla which are known to yield fossil remains. Therefore, paleontological sensitivity of these lakebed deposits within the project study areas is considered high. However it is noted that the solar farms are located within highly disturbed farmland and as such any surface or near-surface level paleontological resources are likely to have been disturbed (HDR, 2012, p. 4.5-5).
Calexico I-A[2]	
Calexico I-B[2]	
Calexico II-A[2]	
Calexico II-B[2]	
Proposed Project	Excavation and other earth-moving activities have the potential to physically destroy non-renewable scientifically important fossil remains in these formations and sediments

Sources: [1]County of Imperial, 2011; [2]HDR, 2012.

As shown in **Table 4.7-5**, cumulative development in the Imperial Valley portion of the Salton Trough physiographic province of Southern California has the potential to destroy or otherwise impact paleontological resources. There is a potential for paleontological resources on the project site, and others in the geographic scope, to be impacted during construction. A cumulative impact would occur if the proposed project, in combination with cumulative projects, would damage or destroy paleontological resources. However, with the implementation of mitigation measure MM 4.7.5, the proposed project would have a less than significant impact on to paleontological resources on a project-level and a less than cumulatively considerable contribution to cumulative impacts to paleontological

resources. Likewise, other projects in the area would be required to comply with existing regulations and undergo CEQA review to assure that any impacts are appropriately evaluated and, if necessary, mitigated. Therefore, through compliance with regulatory requirements, standard conditions of approval, and mitigation measure MM 4.7.5, the proposed project would have a less than cumulatively considerable impact on paleontological resources.

During operations and decommissioning of the project, no additional impacts to paleontological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction.

Mitigation Measures

None required.

Significance After Mitigation

Implementation of mitigation measure MM 4.7.5 would require a qualified paleontological monitor be present when conducting construction activities in the Lake Cahuilla sediments, and halt or divert construction away from large specimens and to curate fossil specimens. Following implementation of mitigation measure MM 4.7.5, cumulative impacts associated with paleontological resources would be l**ess than cumulative considerable**.