C.6 Cultural and Paleontological Resources

Introduction

This section describes effects related to cultural and paleontological resources that would be caused by the implementation of the VSSP. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the proposed Project, and recommends measures to reduce or avoid significant impacts anticipated from Project construction, operation, and maintenance. In addition, existing laws and regulations relevant to cultural and paleontological resources are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the proposed Project.

Scoping Issues Addressed

During the scoping period for the EIR (May 5 through June 8, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following issues related to cultural resources were raised during scoping and are addressed in this section. No issues were raised for paleontological resources.

- Pechanga Band of Luiseño Indians – (1) The Tribe has concerns that the VSSP could have potential significant impacts to tribal cultural resources because the Project passes through two known Luiseño village sites; (2) The Tribe requests involvement in the Project to assure that an adequate environmental assessment is completed and that appropriate monitoring and mitigation plans and measures are developed; and (3) Due to the sensitivity of the Project area, the Tribe requests that professional Pechanga tribal monitors be present during all archaeological surveys and studies and ground-disturbing activities associated with the Project, including archaeological excavations.
- Soboba Band of Luiseño Indians – The Project area is considered culturally sensitive by the people of Soboba because it falls within the boundary of their Tribal Traditional Use Area, is in close proximity to known sites, and is located within a shared use area for ongoing trade between tribes. Therefore, the Tribe requests that a Native American Monitor from the Soboba Band of Luiseño Indians Cultural Resource Department be present during any ground-disturbing activities related to the Project, including surveys and archaeological testing.

A meeting was held on July 15, 2015 between Aspen Environmental Group, Applied EarthWorks, Inc., and Pechanga cultural representatives to further discuss the Tribe's concerns regarding impacts to tribally sensitive resources. At the meeting, the Tribe reiterated that the Project bisects two known Luiseño village sites and is also immediately adjacent to an area known to be significant to the Tribe (Double Buttes). The Tribe requested that direct and indirect impacts to these tribally sensitive resources be avoided or properly mitigated.

C.6.1 Environmental Setting

The VSSP is situated in the Perris, Menifee, Paloma, Domenigoni, and French valleys between the western foothills of the San Jacinto Mountains and the eastern foothills of the Santa Ana Mountains, both of the Peninsular Ranges. The Santa Ana Mountains reach an elevation of nearly 5,696 feet at Santiago Peak, approximately 24 miles west from the proposed Project area. Mount San Jacinto, with a

peak of 10,787 feet, is located approximately 25 miles to the east. Within the valley plains, Double Butte reaches an elevation of 2,562 feet, adjacent to the northern end of the VSSP. Warm Springs Creek and Tucalota Creek, prior to being dammed for the construction of Diamond Valley Lake and Skinner Reservoir, respectively, both crossed, or flowed in proximity to, the central and southern portions of the VSSP. The elevation of the VSSP ranges from approximately 1,460 feet at Valley Substation to 1,360 feet at Auld Substation. The highest elevation is 1,571 feet at the small knoll along Leon Road between Holland and Scott Roads. Current land use is a mixture of open space, farming, and developed areas (Wilson et al., 2015:15).

C.6.1.1 Approach to Data Collection

A cultural resource is defined as any object or specific location of past human activity, occupation, or use, identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, built environment, and tribal resources.

- **Archaeological resources** include both historic and prehistoric remains of past human activity. Historic resources can consist of structural remnants (such as cement foundations), historic objects (such as bottles and cans), and sites (such as refuse deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps/rock rings, ceremonial sites, and trails.
- **Built environment resources** consist of standing historic buildings and structures, the latter of which includes canals, historic roads and trails, bridges, ditches, and cemeteries.
- A **tribal cultural resource** can include Native American sacred sites (such as rock art sites) and traditional resources that are important for maintaining the cultural traditions of any group.

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). In general, fossils are considered to be greater than 5,000 years old (Middle Holocene) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (SVP, 2010). Paleontological resources can provide important taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, or biochronological data (Scott and Springer, 2003).

Cultural and Paleontological Resources Study Area

The Study Area for cultural and paleontological resources is defined as all areas that would be subject to ground disturbing activity associated with development of the proposed Project, which is approximately 15.4 miles in total length and comprised of two segments within a right-of-way (ROW) up to 55 feet in width. Segment 1 involves the construction of 12-mile 115 kV subtransmission line from SCE's existing Valley Substation to a tubular steel pole (TSP) located at the southeast corner of Leon and Benton Roads. Segment 2 involves reconductoring 3.4 miles of existing 115kV subtransmission line from the TSP at the southeast corner of Leon and Benton Roads to the existing terminal TSP on the south side of Nicholas Road. The Study Area for cultural and paleontological resources includes all proposed tower locations, access roads and ROWs, staging yards, pull sites, subtransmission lines, telecommunications lines, and underground trenching and is further defined below:

- Proposed Project Subtransmission Route (Segment 1; approximately 11.9 miles) - 150 feet from the edge of pavement on both sides of the road from Valley Substation to the intersection of Leon and Scott Roads;

below the intersection of Leon and Scott Roads the Study Area is defined as 50 feet from the edge of pavement on both sides of the road.

- Proposed Project Reconductoring Route (Segment 2; approximately 3.5 miles) - 150 feet from the edge of pavement on both sides of the road.
- Staging Areas – Up to six locations may be utilized as staging yards for the proposed Project. These areas would encompass approximately two to five acres depending on land availability and intended use.

Cultural Resources Data Collection Methodology

For the VSSP, records searches were conducted by SCE and AECOM at the Eastern Information Center (EIC) at the University of California, Riverside (Wilson et al., 2015). The records searches included an examination of all previously documented cultural resources within a 0.5-mile radius centered on the proposed Project. The records search materials contain information collected from the California Historical Resources Information System that includes the locations of previous cultural resource surveys; prehistoric and historic-era archaeological sites; built environment resources; and listings in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historic Landmarks, and California Points of Historic Interest.

Field surveys were conducted in order to verify the location of any previously identified cultural resource and to inspect previously unsurveyed lands within the VSSP. Field surveys are useful for identifying aboveground or surface cultural resources and for identifying high-probability areas. However, negative pedestrian survey results do not preclude the possibility that buried archaeological deposits could be discovered. AECOM conducted pedestrian field surveys between April 2012 and October 2015. It should be noted that portions of the proposed Project area were not surveyed due to active agricultural, development, and/or access issues (Wilson et al., 2015).

All previously recorded and newly identified resources located within the VSSP Study Area (see below) were evaluated for significance against CRHR criteria. These guidelines are detailed in Section C.6.2. Evaluations were made on the basis of surface observations and using archival research.

AECOM requested a search of the Sacred Lands File (SLF) maintained by the Native American Heritage Commission (NAHC) on March 22, 2012. The NAHC responded on March 23, 2012, stating that no Native American cultural resources are present within the VSSP; however, the area is known to be culturally sensitive. Therefore, the NAHC requested that Native American individuals and organizations be contacted to elicit information and/or concerns regarding cultural resource issues related to the VSSP. Correspondence was initiated on April 27, 2012 with the Los Coyotes Band of Mission Indians, the Ramona Band of Cahuilla Mission Indians, the Pala Band of Mission Indians, the Santa Rosa Band of Mission Indians, the Pauma & Yuima Reservation, the Morongo Band of Mission Indians, the Pechanga Band of Mission Indians, the Rincon Band of Mission Indians, the Cahuilla Band of Indians, and the Soboba Band of Luiseño Indians.

Letter responses were received from five affiliations. The Pala Band of Mission Indians had no objection to the VSSP and the Rincon Band of Mission Indians deferred to the Soboba Band of Luiseño Indians or the Pechanga Band of Mission Indians. The Pechanga Band of Mission Indians, the Cahuilla Band of Indians, and the Soboba Band of Luiseño Indians all had concerns regarding the VSSP. SCE placed follow-up telephone calls and sent comment response letters to the Pechanga Band of Mission Indians, the Cahuilla Band of Indians, and the Soboba Band of Luiseño Indians on June 11. 2012. These were followed by separate meetings on July 11, 2012 between Joseph Ontiveros of Soboba and Anna Hoover Pechanga and SCE. A separate field meeting was attended by Mr. Ontiveros and SCE on July 30, 2012 and Ms.

Hoover and SCE on September 12, 2012. Both tribal representatives expressed a high level of concern regarding impacts to unanticipated discoveries during construction along certain segments of the VSSP. In addition, both tribal representatives requested to have tribal monitors present during construction of these areas.

SCE sent letters to Soboba and Pechanga on September 28, 2012 requesting that they return shape files depicting areas of sensitivity or concern. Soboba sent shape files on November 1, 2012, but none were received from Pechanga. It should be noted that the areas of concern to Soboba were the same as those noted by Pechanga during the field visit.

With the addition of Segment 2 to the VSSP, SCE mailed out another set of correspondence letters and maps to groups and individuals listed on the original March 2012 NAHC contact list on June 24, 2013. Two responses were received. Soboba expressed the same concerns and interests as before and Rincon deferred to Soboba and Pechanga. On November 20, 2013, after an unrelated meeting with SCE, Ms. Hoover verbally expressed that the Pechanga tribe had no comment beyond their original response, but wished to continue correspondence with SCE during the course of the VSSP.

All Native American correspondence is included in Attachment 4 of the Cultural Resources Survey Report prepared for the VSSP (Wilson et al., 2015).

Cultural Resources Findings Summary

SCE and AECOM's archival research indicated that 230 studies have been conducted within a half-mile of the proposed Project route. Of these, 111 studies are entirely or partially within the VSSP study area. Information gathered from archival research and field surveys was also used to assess the potential for encountering previously unrecorded cultural resources in the proposed Project area.

Through archaeological survey and archival research, AECOM identified 23 cultural resources within the VSSP study area (Wilson et al., 2015). All cultural resources were documented on California Department of Parks and Recreation forms (DPR 523) or their records updated during studies for the Proposed Project.

Finally, one tribally sensitive resource, Double Buttes, was identified immediately adjacent to the proposed Project area by local Native Americans during scoping.

Paleontological Resources Data Collection Methodology

Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlies the soil layer. Therefore, in order to ascertain whether or not a particular study area has the potential to contain significant fossil resources at the subsurface, it is necessary to review relevant scientific literature and geologic mapping to determine the geology and stratigraphy of the area. Further, to delineate the boundaries of an area of paleontological sensitivity, it is necessary to consider the extent of the entire geologic unit because paleontological sensitivity is not limited to surface exposures of fossil material. Geologic units underlying the proposed Project were identified using the Geologic map of the San Bernardino and Santa Ana, CA 30' × 60' quadrangles (Morton and Miller, 2006).

For the proposed Project, a search of paleontological collections records maintained by the San Bernardino County Museum (SBCM) and the Los Angeles County Museum of Natural History (LACM) were performed (PaleoSolutions, 2014). The detailed review of museum collections records was conducted for the purposes of determining whether any museum fossil localities occur within or adjacent to the proposed Project area, and ascertain the abundance and taxonomic diversity of fossils collected

from the same geologic formations elsewhere in this part of Riverside County. In addition, relevant scientific literature and published geologic maps were consulted, and a pre-construction paleontological reconnaissance survey was conducted by PaleoSolutions in 2012 and 2013. This led a determination of the paleontological sensitivity ratings of the geologic units underlying the proposed Project area, which was utilized to assess the proposed Project's potential impacts to nonrenewable paleontological resources.

Sensitivity Criteria for Paleontological Resources

Absent specific agency guidelines, most professional paleontologists in California adhere to guidelines set forth by Society of Vertebrate Paleontology (SVP) in "Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources" (SVP, 2010). These guidelines establish detailed protocols for the assessment of the paleontological resource potential (i.e., "sensitivity") of a project area and outline measures to follow in order to mitigate adverse impacts to known or unknown fossil resources during project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) (or members thereof) underlying a project area can be assigned to one of four categories defined by SVP (2010). These categories include high, undetermined, low, and no potential, and are listed below in Table C.6-1. In addition, the County of Riverside (2008) paleontological sensitivity classification system was used by PaleoSolutions (2014) during their assessment and paleontological inventory of the proposed Project area. These categories include high sensitivity (High A and High B), low sensitivity, and undetermined sensitivity, and are listed below in Table C.6-1.

Table C.6-1. Paleontological Resources Sensitivity Classification

Resource Potential	Criteria for Establishing Sensitivity
High (SVP) **High A and High B**[1] (County of Riverside)	Geologic units with high potential for paleontological resources are those that have proven to yield vertebrate or significant invertebrate, plant, or trace fossils in the past or are likely to contain new vertebrate materials, traces, or trackways. Rock units with high potential also may include those that contain datable organic remains older than late Holocene, including animal nests or middens.
Undetermined (SVP and County of Riverside)	In some cases, available literature on a particular geologic unit will be scarce and a determination of whether or not it is fossiliferous or potentially fossiliferous will be difficult to make. Under these circumstances, further study is needed to determine the unit's paleontological resource potential (i.e., field survey or monitoring conducted by a qualified paleontologist).
Low (SVP and County of Riverside)	Rocks units that have yielded few fossils in the past, based upon review of available literature and museum collections records. Geologic units of low potential also include those that yield fossils only on rare occasion and under unusual circumstances. It is not uncommon for rock units with low sensitivity to overlie older sensitive deposits at shallow depth (e.g., shallow Quaternary alluvium overlying older Pleistocene deposits).
No (SVP only)	Rock units that are formed under or exposed to immense heat and pressure, such as high-grade metamorphic rocks and plutonic igneous rocks.

Sources: SVP, 2010; County of Riverside, 2008.
Note:
[1] High B indicates fossils that are likely to be encountered at or below 4 feet of depth and may be impacted during construction activities. High A indicates fossils may be encountered at the surface or at depth.

C.6.1.2 Regional Setting

Prehistoric Background

The prehistoric cultural sequence within the Proposed Project route has been summarized by Wilson et al. (2015:16-20) as follows.

The VSSP is located in inland southern California, within the Southern Coast Archaeological Region of California near the boundary of the Desert Region. It has been postulated that the San Jacinto Valley was a corridor for prehistoric population movements between the desert interior and coast for thousands of years. Consequently, archaeological evidence from sites dating back into Archaic, and possibly even Paleoindian times, within the study area may indicate a possible connection between coastal and desert complexes from these time periods (Wilson et al., 2015:16).

Evidence from the southern California coastal region documents human occupation for at least the last 10,000 years. Beginning sometime circa 10,000 years ago, three major prehistoric time periods are commonly recognized: the Early Prehistoric Period, the Archaic Period, and the Late Prehistoric Period. During these periods, several occupation assemblages or cultural patterns have been defined for the southern coastal and near coastal areas of southern California; the San Dieguito tradition/complex during the Early Prehistoric Period; the Milling Stone Horizon and Encinitas tradition during the Archaic Period; and the Shoshonean and Yuman traditions during the Late Prehistoric Period. These latter two traditions extended in time to Historic contact (Wilson et al., 2015:16-17).

Early Prehistoric Period

During the Early Prehistoric Period, the Early Man Horizon/San Dieguito tradition/complex extended from circa 11,000 to circa 8,500 years ago. Elsewhere in California, this period is frequently characterized by the presence of artifacts, such as fluted projectile points, indicative of the presence of the Big Game Hunting tradition, and is labeled the Paleo-Indian Period. The Big Game Hunting tradition was associated with the hunting of the now extinct megafauna that were still in existence at the end of the Pleistocene in some areas of California. Evidence characteristic of the Big Game Hunting tradition in the study area, however, is essentially absent. While the San Dieguito tradition/complex is also often characterized as having a hunting subsistence emphasis, it does not contain the artifacts that are distinctive of the Big Game Hunting tradition (Wilson et al., 2015:17).

In the Colorado Desert area, little archaeological evidence exists for prehistoric occupation during the Paleo-Indian and Early Archaic periods, and there is only limited evidence for the earliest part of the Late Archaic Period, i.e., ca. 4,000 years ago. The general lack of Pleistocene and early Holocene lakes in the Colorado Desert area may account for a lack of human presence during the Paleo-Indian Period. While lakes associated with early Holocene glacial melt may not have been abundant, or were absent, in the Colorado Desert area, a large lake associated with the sometimes meandering Colorado River has been a feature of considerable importance to prehistoric habitation in the Colorado Desert area. This lake, Lake Cahuilla, was created when the Colorado River occasionally was diverted during periods of flooding into the Salton Basin. The lake, when full to its maximum capacity, extended to the north into the northern Coachella Valley in central Riverside County, just southeast of the eastern end of the VSSP corridor. However, archaeological evidence for the presence of this lake prior to the Late Archaic Period (i.e., during the Early and Middle Holocene) is currently lacking (Wilson et al., 2015:17-18).

Archaic Period

During the subsequent Archaic Period, artifact assemblages of the Milling Stone Horizon/Encinitas tradition occur at a range of coastal and adjacent inland sites, and, in contrast to those of the previous Early Prehistoric Period, are relatively common in the study area region. These assemblages appear to indicate that a relatively stable, sedentary, predominantly gathering complex, possibly associated with one people, was present in the coastal and immediately inland areas of southern California for more than 7,000 years (Wilson et al., 2015:18).

In the vicinity of the study area, archaeological investigations conducted in Perris Valley for the Perris Reservoir project produced a single radiocarbon date of circa 2200 years before present (B.P.) and a few diagnostic artifacts as the only evidence for an Archaic Period occupation at the sites investigated. More recently, large-scale archaeological investigations have been conducted for the Eastside Reservoir Project, located approximately 3.5 miles east of the study area. Based on the results from this project, the researchers developed a local chronology specific to the Domenigoni and Diamond valleys based on projectile point style changes and associated radiocarbon dates. The terminology in this chronology resembles that already presented above with the period from 9,500 to 7,000 years ago designated as the Early Archaic period, the period from 7,000 to 4,000 years ago as the Middle Archaic, and the period from 4,000 to 1,500 years ago as the Late Archaic. In the Eastside Reservoir Project, only two components could be firmly dated to the Early Archaic, but sparse evidence of Early Archaic activity was noted in six other localities. However, one site did produce two radiocarbon dates of 9190 $\pm$ 50 and 9310 $\pm$ 60 B.P. For the Middle Archaic, firm evidence was documented in 14 locations, with other traces at four other sites. During the Late Archaic, a profusion of activity and occupation was evident, with 23 firmly dated site components and sparse evidence at eight other localities (Wilson et al., 2015:18-19).

Another archaeological investigation at Lake Elsinore, located approximately 13 miles to the west of the study area, has also produced evidence for prehistoric occupation in the area during the earliest part of the Archaic Period. Archaeological investigations conducted at a site located along the old lake shoreline indicated occupation as early as 8,500 years ago. Thus, prehistoric occupation during the Archaic Period, within areas of western Riverside County that include the study area vicinity, is documented to have occurred, beginning, possibly as early as 9,300 years ago, and remained present to the end of the period, approximately 1,500 years ago (Wilson et al., 2015: 19).

Late Prehistoric Period

The beginning of the Late Prehistoric Period, circa 1,500 years ago, is seen as time marked by a number of rather abrupt changes. The magnitude of these changes and the short period of time within which they took place are reflected in significant alteration of previous subsistence practices and the adoption of significant new technologies. As discussed further below, some of this change may have been as a result of significant variations in the climatic conditions. Subsistence and technological changes that occurred include a shift from hunting using atlatl (i.e., stick used to propel a spear or dart) and dart to the bow and arrow; a de-emphasizing of shellfish gathering along some areas of the coast (possibly due to silting-in of the coastal lagoons); and an increase in the storage of crops, such as acorns and pinyon nuts, by both Shoshonean and Yuman peoples. Other new traits introduced during the Late Prehistoric Period include the production of pottery and cremation of the dead, and, locally, in the western Riverside County area, a shift in settlement pattern is apparent (Wilson et al., 2015: 19).

This shift in settlement is first noted during the early part of the period from 1,500 to 750 years ago, and is evidenced, locally, in the results from the Eastside Reservoir Project by a rather sudden decline in

occupation in the local area during the initial part of the period. This 750-year period was termed by the Eastside Reservoir researchers as the Saratoga Springs Period. This period can also be seen to partially coincide with a warm and arid period known as the Medieval Warm Period. During this period, at least two episodes of severe drought have also been demonstrated, the first between 1060 and 840 cal B.P. and the second between 740 and 650 cal B.P. It was hypothesized that the Medieval Warm Period could account for the decline in sites occurring in the Eastside Reservoir Project area during the Saratoga Springs Period (1500 to 750 B.P.), claiming that desert and inland areas of western Riverside County, such as where the Eastside Reservoir Project and the current study area are located, would no longer be suitable to support residential bases. It was further hypothesized that settlements would possibly be clustered at more suitable water sources during this time, such as at the coast, Lake Cahuilla, or Lake Elsinore. While a decline was noted during the initial part of the Saratoga Springs Period, subsequently, during the latter part of the period, during the time of the Medieval Warm Period, a reoccupation began to occur (Wilson et al., 2015: 19-20).

In the Eastside Reservoir Project, the Late Prehistoric Period was defined as extending from the end of the Saratoga Springs Period (750 B.P.) to 410 B.P. A subsequent Protohistoric Period was also defined as extending from 410 to 150 B.P. The Late Prehistoric Period (750–410 B.P.) was characterized by the presence of Cottonwood points. Ceramics and abundant obsidian begin to appear around the time of the Cabrillo exploration in A.D. 1542; therefore, this date (i.e., circa 410 B.P.) until the establishment of the mission system in the late 1700s, was defined as the Protohistoric Period. It should also be noted that the end of the Saratoga Springs Period and the beginning of the Late Prehistoric Period, 750 B.P., also coincides with the onset of the Little Ice Age, generally dated from 750 to 150 B.P. During this period, the climate was cooler and moister, and the sites identified within the Eastside Reservoir Project study area reflected a substantial increase in number and diversity, longer occupation periods, and more sedentary land use (Wilson et al., 2015: 20).

Ethnographic Background

The study area is situated adjacent to the San Jacinto and Perris valleys, which most likely represented a transition zone between areas heavily occupied by the ethnographically recognized Cahuilla, Luiseño, and Gabrielino. The Cahuilla, Luiseño, and Gabrielino are Takic-speaking people of the Uto-Aztecan linguistic stock. The Cahuilla and Luiseño are of the Cupan subgroup with the Gabrielino considered part of the Serrano-Gabrielino subgroup (Wilson et al., 2015: 20).

Speakers of the Uto-Aztecan language family occupied large portions of the Great Basin and vicinity, including portion of southern California and an area stretching from southern Arizona and northwest and central Mexico into Nevada, Oregon, and Idaho. The expansion of the Takic group into southern California from a presumed Great Basin hearth land is less defined. While the exact chronology of Takic-speaking groups' immigration to southern California remains uncertain, it is generally accepted that Native American population figures in the region substantially increased toward the end of the Late Prehistoric Period. Additionally, after A.D. 1600 a change occurred in settlement and subsistence patterns, and land use intensified in the San Gorgonio Pass, the San Jacinto Plain, and Perris Valley, which was reflected into the ethnohistoric period. Ethnographically, then, the study area falls in the boundary zone of two Takic-speaking Native American groups – the Luiseño, extending to the southwest, and the Cahuilla, extending to the northeast (Wilson et al., 2015: 20-21).

Luiseño

The term Luiseño is derived from the Mission San Luis Rey and since Spanish-Mexican colonial times has been used in reference to those Takic-speaking people associated with the mission. Luiseño territory has been ethnographically defined as comprising some 1,500 square miles of southern California, including most of the drainage of the San Luis Rey River and that of the Santa Margarita River and extending along the coast from Agua Hedionda Creek on the south to Aliso Creek on the northwest. The northern territorial boundary has been described as extending inland to Santiago Peak, across to the eastern side of the Elsinore Fault Valley (Temescal Creek), southward to the east of Palomar Mountain, and around the southern slope above San Jose Valley. From there, the boundary purportedly turned west and returned to the sea along the Agua Hedionda Creek (Wilson et al., 2015: 21).

Cahuilla

Prehistorically, the Cahuilla territory was topographically diverse, occupying elevations from 11,000 feet in the San Bernardino Mountains to below sea level at the Salton Sea. The Cahuilla are thought to have been in part distinguished from other Shoshonean groups (the Luiseño, Serrano, and Gabrielino) by mountain ranges and plains, but they are known to have interacted regularly with these and other groups through trade, intermarriage, ritual, and war. Cahuilla villages were commonly situated within canyons extending into mountain ranges or on nearby alluvial fans, typically near sources of water and food. The diverse habitat of the Cahuilla enabled a wide variety of plant and animal species to be used for food, goods manufacture, and medicine (Wilson et al., 2015: 21).

Historical Background

Spanish Period

In 1769, a Spanish expedition headed by Gaspar de Portolá and Junípero Serra traveled north from San Diego. The aim of the expedition was to seek out locations for a chain of presidios and missions in order to extend the Spanish Empire from Baja California into Alta California. The Presidio of San Diego and Mission San Diego de Alcalá were established in San Diego in July 1769 followed by the Presidio of Monterey and Mission San Carlos Borromeo de Carmelo in 1770 in northern California. Other missions established close to the study area include San Gabriel Arcángel, founded in 1771, San Juan Capistrano (1776), and San Luis Rey de Francia (1798) (Wilson et al., 2015: 22).

The first Spaniard to visit what is now Riverside County was Don Pedro Fages, the commander at the San Diego presidio, in 1772. In the pursuit of deserted soldiers, Fages traveled from San Diego east to the desert in Imperial County then northwest through the San Jacinto Mountains and the San Jacinto Valley towards Riverside. The first documented Spanish exploration into the interior portions of southern California was by Spanish military captain Juan Bautista de Anza who led expeditions in 1774 and 1775 from Sonora to Monterey. Anza embarked on the 1774 expedition to explore a land route northward through California from Sonora and on the 1775 expedition to bring settlers across this land route to strengthen the colonization of San Francisco. Anza's route followed a similar one as Fages' and leads from the San Jacinto Mountains northwest through Bautista Canyon into the San Jacinto Valley, which was named "San José" by Anza. In 1781, the Spanish government closed the route due to uprisings by the Yuman Indians (Wilson et al., 2015: 22).

Due to the inland geographical location of the Cahuilla territory, Spanish missionization did not have as much of an impact on the Cahuilla as it did on the Luiseño who lived along the coast. On the coast, the Luiseño were moved into the Mission environment where living conditions and diseases promoted the

decline of the Luiseño population. Throughout the Spanish Period, the influence of the Spanish progressively spread further from the coast and into the inland areas of southern California as Missions San Luis Rey and San Gabriel extended their influence into the surrounding regions and used the lands for grazing cattle and other animals (Wilson et al., 2015: 22).

In the late 1810s, ranchos and mission outposts, called *asistencias*, were established near the study area, thereby increasing the amount of Spanish contact in the region. An *asistencia* was established south of the study area in Pala in 1818, and another *asistencia* was established in 1819 on the San Bernardino Rancho, located to the north of the study area. Additionally, Rancho San Jacinto was established for cattle grazing in the San Jacinto Valley. It was here that the first adobe structure in the San Jacinto Valley, Casa Loma Adobe, was built. By 1818, San Luis Rey with its six mission ranches at Pala, Santa Margarita, San Jacinto, Santa Ysabel, Temecula, and San Pedro, was at the height of its prosperity as the richest, most populous of all such establishments in California. In 1820, a senior mission official suggested that the San Bernardino and Pala *asistencias* be developed into full missions in order to establish an inland mission system. However, Mexico won its independence from Spain in 1821, and shortly thereafter a decline in mission activity occurred followed by the secularization of the missions in the 1830s (Wilson et al., 2015: 22-23).

Mexican Period

During the Mexican period, the focus of the Mexican government turned from missionizing to settling California. In order to facilitate travel and communication, Mexican officials opened up several trails in the 1820s that ran through, or near, the study area. What became known as the Cocomaricopa Trail, and later the Bradshaw Trail in the 1860s, was a mail route that ran from Tucson to San Gabriel through the San Gorgonio Pass. The route, following ancient Cahuilla and Maricopa trails that linked wells and springs located across the Colorado Desert, was named after Jose of the Cocomaricopa Indians who carried the mail. Another land route, the Sonora Trail, was opened in order to facilitate travel from Sonora into California. This route, also known as the Southern Emigrant Trail, enabled the first influx of settlers into the region and in 1826 became the official mail route between California and Mexico. The Southern Emigrant Trail, later to become the mail route used by the Butterfield Overland Mail Company in the 1860s, followed Anza's trail from the 1770s. However, at the confluence of the Carrizo and San Felipe creeks in the Anza Borrego Desert, the detachment of soldiers who were tasked with opening the land route followed a more northwesterly route than Anza had. Thus, instead of running north though the San Jacinto Mountains and dropping down into the San Jacinto Valley, the trail skirted the western edge of the mountains and ran through Warner Springs, then north through Temecula and Temescal Valley to Mission San Gabriel and Los Angeles (Wilson et al., 2015: 23).

Between 1834 and 1836, secularization of the missions was implemented. Although California's governor José María de Echeandía suggested in the 1820s that the former mission lands should be used for Indian village settlement, the Secularization Act passed by the Mexican government in 1833 gave way for successive governors to disperse the land as they wanted. Thus, the lands previously held by the missions began to be divided into land grants, or ranchos, and granted to private Mexican citizens. In order to obtain a rancho, an applicant submitted a petition containing personal information and a land description and map. In 1835, Jose Antonio Estudillo of San Diego submitted the first petition in Riverside County for the San Jacinto Rancho. Although Estudillo's petition was for four square leagues (approximately 30,000 acres), in 1842 he was granted close to the maximum size allowed of 11 square leagues. In 1845, Estudillo's son-in-law, Miguel de Pedrorena filed a petition for half of the San Jacinto Viejo Rancho and a small additional portion of land two miles to the northeast in the hills east of Lamb

Canyon. This portion, the northern half of the San Jacinto Viejo Rancho, became known as the San Jacinto Nuevo y Potrero Rancho (Wilson et al., 2015: 23).

During the Mexican period, the Cahuilla were increasingly influenced by Mexican culture. Some of the Cahuilla acquired Spanish names, learned Spanish, and adopted forms of Spanish subsistence, such as raising cattle, agriculture, and wage labor (Wilson et al., 2015: 23).

American Period

In 1848, the United States acquired California through the Treaty of Guadalupe Hidalgo. The treaty ceded much of the American Southwest, including southern California, to the United States. Although Americans and Europeans had begun arriving in California from the east in the 1830s and 1840s, California's acquisition by the United States rapidly and substantially increased its population. As travel along the Santa Fe Trail and Southern Emigrant Trail during the early American Period brought more settlers, settlement occurred along the Santa Ana and San Jacinto waterways. In 1853, San Bernardino County was established, dividing southern California into the three counties of Los Angeles, San Bernardino, and San Diego (Wilson et al., 2015: 24).

The American system required that land be surveyed before settlement could occur. However, the Treaty of Guadalupe Hidalgo bound the United States to honor the land claims within transferred lands of Mexican citizens who were granted ownership of ranchos by the Mexican government. The Land Act of 1851 established a board of commissioners to review land grant claims. In 1852, surveys were initiated in southern California with the establishment of the San Bernardino Baseline and Meridian. U.S. surveyors used the rectangular survey system in place since 1775, dividing the land into square townships with 36 sections each (Wilson et al., 2015: 24).

Southern California was developed by Americans and other immigrants who migrated to the western frontier in pursuit of gold and other mining, agriculture, trade, and land speculation. The Homestead Act, passed in 1862, enabled Americans to obtain 160 acres of public land for $1.25 per acre in return for living on the land, building a dwelling, and farming a portion for five years. In addition to the lands that could be homesteaded, land that had been part of the Mexican rancho system, and extra railroad land were sold to individuals (Wilson et al., 2015: 24).

The population growth of southern California brought a need for mail and freight travel. In 1857, John Butterfield was awarded a six-year contract to transport mail twice a week between St. Louis, Missouri, and San Francisco, California. The Butterfield Overland Mail Route used the same trail as the Southern Emigrant Trail from Yuma through Warner Springs and Temecula, and then up through Temescal Valley to Chino, and then to Los Angeles. Local mail routes within southern California were also developed, beginning in the 1850s. In 1867, the U.S. Mail Company sent weekly stages that ran between San Diego and San Bernardino. The mail route passed through San Jacinto, and in 1870 San Jacinto's first post office opened (Wilson et al., 2015: 24).

While stagecoaches were successful at transporting gold, people, and mail, the need for a railroad to California was imperative. In the 1850s, surveys were initiated by the federal government to determine a railroad route to the Pacific coast. The Pacific Railroad Survey commenced in 1853, and the 1854 report described the San Gorgonio Pass as the best pass for entryway into California. Although the first transcontinental railroad was completed in 1869 to northern California, in the 1870s the Southern Pacific Railroad Company began to construct a southern route that would traverse the state. The Southern Pacific Railroad line from Los Angeles through the San Gorgonio Pass was completed in 1876.

In 1883, the California Southern Railway allowed for travel through the Cajon Pass and down to San Diego through western Riverside County. The trains were eventually used to transport settlers into the area, creating a period of agricultural and other land development, ultimately resulting in the establishment of Riverside County in 1893 (Wilson et al., 2015: 25).

San Jacinto Valley. Three railroad companies competed to place a railroad through the San Jacinto Valley. The California Southern Railway succeeded and began regular service on May 2, 1888, with a daily mix of freight and passenger trains between San Jacinto and Perris. The new line had few grades across the nearly level Perris, Winchester, and San Jacinto Valleys. The only major trestle crossed the San Jacinto River a mile east of Perris. The San Jacinto Valley and surrounding region developed along with the railroad. During the early days of the American Period, the San Jacinto Valley centered on the Estudillos' stock farm on the San Jacinto Rancho. By the 1860s, however, economic considerations forced the Estudillo family to begin selling portions of their rancho. Americans began immigrating in great numbers, by 1870 almost 100 people were living in the San Jacinto region, and orchards and farms rapidly replaced cattle ranching. In 1871, the first irrigation ditch was constructed. In the early 1880s, the San Jacinto Land Association bought more than 10,000 acres of land and developed the town of New San Jacinto. When Riverside County was formed in the early 1890s, San Jacinto boasted that it exported more than it imported and was the second largest city in "size and importance" in the newly formed county (Wilson et al., 2015: 25-26).

Perris. In 1885, a group of local investors and residents approached the California Southern Railroad to abandon its Pinacate station southwest of current City of Perris in exchange for several town lots, a well to supply steam trains, and a depot. In return, the railroad would designate the new town as an official stop along the route from San Diego to San Bernardino. Fred Perris worked with the developers to survey the land, and they named the town after him. The original town site consisted of 160 acres, and the railroad ran at an angle through C and D Streets. Land speculation in Perris caused 11 additions to be filed with the San Diego County Recorder's Office. This boom came to a devastating halt with a cyclone that tore the town apart. Several buildings, including the post office, church, and billiard hall, as well as the California Southern tracks, were completely demolished. The town rebuilt, including a Queen Anne-style depot composed of brick. The depot, which still exists today, was built in 1892 (Wilson et al., 2015: 26).

Winchester. The area of Winchester was also previously known as Rockhouse and Pleasant Valley. Swiss settlers, Angelo Domenigoni and Gaudenzio Garbani, came to the area in 1879 and procured large tracts of land through homesteading and purchasing. Domenigoni established a post office and school on his ranch in 1880, and soon the area became known as Rockhouse after his house constructed of rock (Wilson et al., 2015: 26).

The town of Winchester was founded in 1886 as land speculation had begun with the sight of Fred Perris surveying for the proposed line of the railway. In 1890, the anticipated Winchester railroad station was built. By 1893 Winchester shipped more hay and grain than any other rail station in California. With the success of the railroad, community members sought to bring irrigated farming to Winchester. Although several wells provided an adequate supply of water for the residents and their animals, the supply was insufficient for large-scale irrigated farm lands. On August 3, 1893, the San Jacinto and Pleasant Valley Irrigation District was formed. Canals were built on both sides of the valley, with water being brought from the North Fork of San Jacinto River in the San Jacinto Mountains. Water did arrive in Winchester, but the San Jacinto and Pleasant Valley Water District had dissolved by 1899, and without irrigation water, the Winchester and Pleasant valleys remained largely a grain and livestock-raising area (Wilson et al., 2015: 26-27).

Romoland. The community of Romoland started as the post office of Ethanac on June 25, 1900, and was named by Ethan Allen Chase, a local landowner, nurseryman, and politician. By 1905, Ethanac was a train station on the Santa Fe line. In 1925, a new development established by the Pacific Mutual Life Insurance Company called Romolands Farms was laid out north of Ethanac. With the success of the agricultural development, the promoters wanted to change the post office of Ethanac to Romola. But when the Post Office Department requested a different name to avoid confusion with the town of Ramona in San Diego County, the name Romoland was adopted in 1926 (Wilson et al., 2015: 27).

Menifee Valley. Menifee Valley, consisting mostly of flat terrain with small outcroppings of hills, developed later than surrounding areas and was not on a widely traveled route. The area is named after a Kentucky native, Luther Menifee Wilson, born in 1845. Wilson came to the northern part of then-San Diego County in 1880 and began prospecting for minerals, finding gold quartz and securing mining claims around the "Menifee Quartz Lode," which today is Murrieta Road just north of Holland Road (Wilson et al., 2015: 27).

Grain farms were also established around the same time in the area. Emil Leon Plath homesteaded 160 acres at the southwest corner of Scott and Briggs Roads. Leon Road, some of which is included within the VSSP, was named in honor of Emil Leon and family. Though many families came to this region in the 1880s for farming and mining, no town site was established. However, a general store was established on the south of the Newport and Bradley Roads intersection, and a post office was established within the store. The Menifee School District was formed, and a school was constructed in the same neighborhood as the post office (Wilson et al., 2015: 27).

Murrieta. In 1882, the Murrieta brothers deeded a right-of-way to the California Southern Railway, two years later announcing an intention to subdivide their land and form a town site. The town of Murrieta consisted of 160 acres divided into 537 lots laid out roughly along the railroad. By 1885, the town had a hotel, depot, blacksmith shop, two general stores, hardware and furniture stores, a restaurant, a meat market, and a newspaper called the *Era*. In 1893, with the formation of Riverside County, Murrieta was one of 12 original judicial townships. Like other surrounding towns, Murrieta formed a water district to bring irrigated farming to the area. Unfortunately, similar to the nearby towns, the water district failed and small-scale grain farming continued (Wilson et al., 2015: 27-28).

Three miles east of Murrieta, there were mineral-rich springs initially called the Temecula Hot Springs, as Temecula was the only named location nearby. Local doctors brought many people to the springs, making the area popular. When the town of Murrieta was established, its promoters seized upon its popularity and renamed the hot springs Murrieta Hot Springs (Wilson et al., 2015: 28).

20th Century

Prior to the 20th century, roads across California were primarily dirt tracks whose creation and maintenance were a state or local responsibility. In the beginning of the 20th century, interest in federal support for roads grew, and the foundation of the United States Highways System was put in place with the passage of the Federal Aid Road Act of 1916. The Federal Aid Highway Act of 1925 created the United States Highway System, which sought to standardize U.S. highways using a uniform numbering system and shield symbol. The highway that connects Temecula to Riverside opened in 1963 as a part of U.S. Route 395. In 1994, Route 395 was upgraded to Interstate Standards and became part of I-215 (Wilson et al., 2015: 28-29).

World War I saw a decline of farming and ranching lifestyles of the late 19th and early 20th centuries, replaced by military-associated development beginning in 1916–17. Commencing with World War II, the military generated substantial development in many parts of the state as thousands of people immigrated to take defense industry jobs or due to military transfers. Following World War II, development in the area shifted toward new businesses, suburban housing developments, and shopping centers associated with an accelerated growth in population (Wilson et al., 2015: 28).

Due to construction of the Colorado River Aqueduct during the 1930s and other efforts to bring water to the region by the Eastern Municipal Water District in the 1950s, agriculture in the area shifted from dry farming crops to a more diverse collection of crops including alfalfa, the King potato, and sugar beets. Stock ranching continued in the area until the mid-1980s, while improved transportation facilitated accelerating growth of the surrounding Temecula, Murrieta, and Menifee areas as largely master-planned communities throughout the late twentieth and early twenty-first centuries (Wilson et al., 2015: 28-29).

Paleontological Background

Regional Geologic Setting

The proposed Project area is located in the Domenigoni and Diamond valleys within the northern part of the geologically complex Peninsular Ranges geomorphic province. A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and diastrophic history. The Domenigoni and Diamond valleys form an east-west trough that is approximately 9 miles long and 2.5 miles wide (Springer et al., 2009). The Peninsular Ranges are a northwest-southeast oriented complex of blocks that extend 125 miles from the Transverse Ranges and Los Angeles Basin to the tip of Baja California. The Peninsular Ranges range in width from 30 to 100 miles and are bounded on the east by the Colorado Desert (Norris and Webb, 1976). The proposed Project area is situated within the Perris Block, a relatively stable rectangular structural unit positioned between the Santa Ana Mountains of the Peninsular Ranges and San Jacinto Fault Zone (Morton et al., 2003a, 2003b; Woodford et al., 1971). The southern portion of the proposed Project area is just north of the Temecula Valley and the Elsinore Fault Zone (Kennedy et al. 2003). The geology in the vicinity of the proposed Project area includes Mesozoic metasedimentary rocks intruded by Cenozoic igneous rocks, which are unconformably overlain by Pleistocene sedimentary deposits and Quaternary alluvium (Morton and Miller, 2006).

C.6.1.3 Valley South Subtransmission Project

Cultural Resources

The VSSP contains 23 known cultural resources (Table C.6-2). These include two multi-component archaeological sites, 13 prehistoric archaeological sites, one historical archaeological site, four historical built environment resources, and two prehistoric isolated artifacts. In addition, the Project study area also includes portions of an informally defined prehistoric archaeological district (P-33-14370). Both multi-component sites consist of prehistoric bedrock milling stations with historic-era refuse scatters (CA-RIV-1175 and P-33-21021). The prehistoric sites consist of one lithic scatter (CA-RIV-11744), one bedrock milling station and lithic scatter (CA-RIV-11743), and 11 bedrock milling stations (CA-RIV-3839, -7064, -7065, -10889, -10891, -10894, P-33-11250, -11254, -16975, VSSP-P-001, and VSSP-P-003). The historical archaeological site consists of the remnants of the San Jacinto and Pleasant Valley Company Canal (CA-RIV-4012). The historical built environment resources include the San Jacinto Valley Railroad (CA-RIV-8196),

Old Leon Road (CA-RIV-10654), Winchester Road (P-33-13871), and a single family residence (P-33-21023). Prehistoric isolated artifacts consist of a flake and a metate fragment. The proposed archaeological district (P-33-14370) encompasses 135 prehistoric and historic-era sites, 11 of which are located within the Project area). Brief descriptions and evaluations of these resources are provided below.

It should be noted that no evidence of five additional cultural resources that had been previously identified within the Project area was found during the pedestrian survey. These resources include a multi-component site (CA-RIV-6831), two historic-era refuse scatters (P-33-14389 and CA-RIV-4008), the remnants of a historic-era farmstead (P-33-09760), and a bedrock milling station (CA-RIV-7060) (see Table C.6-2). A review of the site records of these resources indicates that they have been destroyed by development and no longer exist (see Table C.6.2). Prior to its destruction, data-recovery was conducted at CA-RIV-6831 to mitigate impacts to a less-than-significant level (Wilson et al., 2015: 97). Both CA-RIV-4008 and CA-RIV-7060 were tested for significance and were recommended ineligible for the CRHR; these sites were subsequently destroyed during grading activities (Wilson et al., 2015: 98-99). P-33-09760 was recommended ineligible for the CRHR; however monitoring was conducted during construction. During construction, the foundations were removed and the site was destroyed. Finally, the artifacts that comprise P-33-14389 were collected during initial site documentation and as such, no remnants of the historical refuse scatter remain within the Project area (Wilson et al., 2015: Attachment 7).

Table C.6-2. Cultural Resources within or adjacent to the Proposed Project Area

Resource	Description	CRHR Eligibility
CA-RIV-1175	Multi-component prehistoric bedrock milling & associated artifacts and historic-era refuse scatter	Ineligible
CA-RIV-3839	Prehistoric bedrock milling station	Eligible
CA-RIV-4008[1]	Historic-era refuse scatter	No longer exists
CA-RIV-4012[1] / CA-RIV-5202	Historical San Jacinto and Pleasant Valley Company Canal	Eligible
CA-RIV-6831[1]	Multi-component prehistoric bedrock station and historic-era refuse scatter	No longer exists
CA-RIV-7060[1]	Prehistoric bedrock milling station	No longer exists
CA-RIV-7064[1]	Prehistoric bedrock milling station	Contributing District Resource
CA-RIV-7065[1]	Prehistoric bedrock milling station	Contributing District Resource
CA-RIV-8196	San Jacinto Valley Railroad	Eligible
CA-RIV-10654	Old Leon Road	Ineligible
CA-RIV-10889	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-10891	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-10894	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex
CA-RIV-11743	Prehistoric bedrock milling station & lithic scatter	Eligible
CA-RIV-11744	Prehistoric lithic scatter	Eligible
P-33-09760	Historic homestead site	No longer exists
P-33-11250[1]	Prehistoric bedrock milling station	Contributing District Resource
P-33-11254[1]	Prehistoric bedrock milling station	Contributing District Resource
P-33-14370	Informally defined prehistoric archaeological district	Eligible
P-33-13871	Winchester Road	Ineligible

Table C.6-2. Cultural Resources within or adjacent to the Proposed Project Area		
Resource	**Description**	**CRHR Eligibility**
P-33-14389	Historic-era refuse scatter	No longer exists
P-33-16975[1]	Prehistoric bedrock milling station	Contributing District Resource
P-33-21021[1]	Multi-component prehistoric bedrock station, foundations, and historic-era refuse scatter	Contributing District Resource
P-33-21023	Single family residence	Ineligible
P-33-21030	Isolated artifact – quartz debitage	Ineligible
P-33-23914	Isolated artifact – Granitic metate fragment	Ineligible
VSSP-P-001[1]	Prehistoric bedrock milling station	Potentially Contributing District Resource
VSSP-P-003	Prehistoric bedrock milling station	Eligible as part of a larger archaeological complex

Note:
[1] Within boundary of proposed archaeological district P-33-14370

CA-RIV-1175. This site was originally recorded as four bedrock milling slicks on granite boulders, a scatter of historic-era artifacts, and a possible cobble mano (hand-held grinding stone) and a large flake core. During the survey for the proposed Project, no mano or secondary core was observed in the site area. The historic-era artifact concentrations have been disturbed by rodent activity (i.e., ground squirrels and gophers) and informal trails. The boulder containing the slicks has been defaced by a painted survey "X" and graffiti. Finally, modern trash and ground-disturbance impacts are present throughout the site. Due to loss of integrity, CA-RIV-1175 is recommended as ineligible for the CRHR.

CA-RIV-3839. This site is a large milling complex consisting of multiple outcrops containing a bedrock mortar and at least 15 milling slicks. The site was tested in 2003 with negative results for a subsurface deposits and this study recommended the resource to be ineligible for the CRHR. During the survey for the proposed Project, a number of the previously recorded milling features could not be re-identified, possibly due to disturbances from human activities including grading, off-road vehicle activity, construction of SCE Distribution lines and access roads, and the construction of the San Diego Aqueduct and associated access routes. The integrity of the site has been severely impaired by the above-mentioned disturbances. In addition, the site's potential to yield information appears to have been exhausted through documentation and testing. Individually, this site is recommended as ineligible for the CRHR. However, CA-RIV-3839 is located in close proximity to a number of other bedrock milling sites. As such, the site may be considered a contributing element to a larger, potentially significant prehistoric archaeological complex.

CA-RIV-4012. Also referred to as CA-RIV-5202, this historical archaeological resource consists of the remains of a segment of the San Jacinto and Pleasant Valley Company Canal constructed in ca. 1893. The canal remnants have previously been recommended as eligible for the CRHR under Criterion 1 due to its integral part in the history of the San Jacinto and Pleasant Valley Irrigation District and because it is closely associated with an event that is significant in California and local history (Wilson et al., 2015: 95).

CA-RIV-7064. This prehistoric site is a bedrock milling station consisting of three granitic outcrops containing a total of nine milling slicks. The site was tested in 2003 with negative results for a subsurface deposits and this study recommended the resource to be ineligible for the CRHR. During the survey for the proposed Project, the site appeared to retain fair integrity, with minor degradation present on Feature 2 that made it difficult to find the edges of the individual slicks. No artifacts or midden are present at CA-RIV-

7064 and its potential to yield information appears to have been exhausted through documentation and testing. Individually, this site is recommended as ineligible for the CRHR. However, the site might be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

CA-RIV-7065. CA-RIV-7065 is a prehistoric bedrock milling site consisting of a single boulder containing one milling slick. The site was tested in 2003 with negative results for a subsurface deposits and this study recommended the resource to be ineligible for the CRHR. During the survey for the proposed Project, the site appeared to retain good integrity. No artifacts or midden are present at CA-RIV-7065 and its potential to yield information appears to have been exhausted through documentation and testing. Individually, this site is recommended as ineligible for the CRHR. However, the site might be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

CA-RIV-8196. CA-RIV-8196 is a built environment resource that consists of a segment of the San Jacinto Valley Railroad. The railroad was constructed in 1888 by Fred Perris and C.W. Smith of the California Southern Railroad and later incorporated by J.A. Green. The railway provided transportation of products from the San Jacinto Valley to markets in San Diego and Los Angeles, in addition to passenger services to Los Angeles. Only portions of the railroad are within the proposed Project area. This resource retains integrity of location, setting, design, some of the materials and workmanship, and feeling and association and was previously recommended eligible for the CRHR under Criterion 1 (Wilson et al., 2015: 97).

CA-RIV-10654. This built environment resource consists of a north-south trending two-lane paved segment of Leon Road. It is currently used for residential access, access to utility/transmission lines and the San Diego Aqueduct. The segment of Leon Road within the proposed Project is located directly north of Winchester Road. The resource has been realigned, widened, resurfaced, and blocked off in recent decades and is no longer recognizable from its historical counterpart other than by its location on historic maps. Due to the lack of integrity of setting, materials, alignment, workmanship, feeling and association of the original road, this resource is recommended as not eligible for the CRHR.

CA-RIV-10889. CA-RIV-10889 is a prehistoric bedrock milling site consisting of a single boulder containing two mortars. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, CA-RIV-10889 is located in close proximity to several other bedrock milling sites (i.e., CA-RIV-10891 and CA-RIV-10894). As such, the site may be considered a contributing element to a larger, potentially significant prehistoric archaeological complex. The site is likely associated with similar sites nearby (i.e., CA-RIV-10891, CA-RIV-10894, and VSSP-P-003) and might be considered a contributing element to a significant prehistoric archaeological complex.

CA-RIV-10891. CA-RIV-10891 is a bedrock milling site consisting of a single boulder containing two mortars. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, CA-RIV-10891 is located in close proximity to several other bedrock milling sites (i.e., CA-RIV-10889, CA-RIV-10894, and VSSP-P-003). As such, the site may be considered a contributing element to a larger, potentially significant prehistoric archaeological complex.

CA-RIV-10894. CA-RIV-10894 is a prehistoric bedrock milling site consisting of two boulders; one containing a mortar and one containing a milling slick. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information

appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, CA-RIV-10894 is located in close proximity to several other bedrock milling sites (i.e., CA-RIV-10889, CA-RIV-10891, and VSSP-P-003). As such, the site may be considered a contributing element to a larger, potentially significant prehistoric archaeological complex.

CA-RIV-11743. CA-RIV-11743 is a prehistoric bedrock milling complex with more than 13 features consisting of at least 24 milling slicks and mortars. The complex also contains associated groundstone artifacts and lithic debris or discards. While the site has been disturbed by the construction of the existing transmission line access road and the building of the San Diego Aqueduct, it appears to retain integrity and is recommended as eligible for the CRHR.

CA-RIV-11744. CA-RIV-11744 consists of a prehistoric lithic scatter and a well-utilized hammerstone. The boundary of the site is undetermined as the resource extends outside of the survey area into adjacent fenced private property. The private property was visually inspected from the edge of the survey area and several bedrock outcrops were observed that have the potential to contain milling features. Because this resource has the potential to yield information important to our understanding of prehistory, it is recommended as eligible for the CRHR.

P-33-11250. P-33-11250 is a prehistoric bedrock milling site consisting of a single boulder containing two milling slicks, one on top of the boulder and one near the base of the boulder. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, the site might be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

P-33-11254. P-33-11254 is a prehistoric bedrock milling site consisting of a single boulder containing two milling slicks, one on the upper portion of the boulder and one on the lower portion of the boulder. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, the site might be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

P-33-13871. This historical built environment resource consists of a portion of Winchester Road, which originates in Murrieta Hot Springs and connects to the community of Winchester. While the route was used as early as the late 1880s to provide a route to the San Jacinto Railway line, several roadway alterations have occurred since the road's inception. The current route of Winchester Road has been in use since 1949 and passes through residential tracts and commercial development. The setting, materials, alignment, workmanship, feeling and association of the original road have all been comprised by alteration. Due to alteration and consistent maintenance, this resource no longer possesses the integrity or qualities required for eligibility to the CRHR.

P-33-14370. This resource consists of an unnamed and informally defined prehistoric archaeological district. It is described here as an 'informally defined archaeological district' because although it was recorded as a possible district on a Department of Parks and Recreation form, no State Historic Preservation Officer review or determination is known to have ever been made. P-33-14370 is defined and mapped as several spatially separated prehistoric- and historic-era sites and isolates, for a total of 143 resources, and spans a ridgeline along an east-west axis. A total of 10 resources are mapped as lying either within or partially within the Project study area (see Table C.6-2).

P-33-16975. P-33-16975 is a prehistoric bedrock milling site consisting of a single boulder containing one milling slick. During the survey for the proposed Project, remnants of graffiti were noted on the boulder. This site has no evidence of embedded material or indication that associated materials are buried subsurface and the potential to yield information appears to have been exhausted by recordation. Individually, this site is recommended as ineligible for the CRHR. However, the site might be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

P-33-21021. P-33-21021 is a multi-component archaeological site consisting of an isolated prehistoric milling feature, the remnants of several structures, and scatters of historic-era refuse. The structure remnants include a poured-concrete water tower, multiple slabs, and a foundation footing. The milling feature consisted of a single milling slick located upon a granitic outcrop. P-33-21021 contains no indication that prehistoric or historic materials are buried subsurface and lacks integrity due to the disturbance to the site from modern off-road vehicle and dumping activities. Individually, this site is recommended as ineligible for the CRHR. However, the bedrock milling feature could be considered a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

P-33-21023. This built environment resource consists of a single-story, single-family residence located at 28680 Leon Road and constructed in 1965. The property is not known to be directly associated with events that have made a significant contribution to the history of Winchester or Riverside County, and lacks known association with significant individuals. The structure is a common example of the Minimal Traditional-style and does not embody distinctive architectural characteristics. It is not considered significant as a source of information about history and does not appear likely to yield information important in history or prehistory. Therefore, this resource is not eligible for the CRHR.

VSSP-P-001. VSSP-P-001 is a prehistoric bedrock milling site consisting of a single boulder containing one milling slick. The outcrop is located within an active agricultural field and is partially covered with soil. No surface artifacts were observed in the surrounding area and there was no evidence of embedded material or a subsurface context. Individually, this site is recommended as ineligible for the CRHR. However, the site may be a contributing resource to the proposed prehistoric archaeological district (P-33-14370).

VSSP-P-003. VSSP-P-003 is a prehistoric bedrock milling site consisting of at least seven boulders and multiple milling slicks. Due to survey limitations, it is unknown whether there are surface artifacts or a potential for subsurface materials associated with the bedrock milling features. Regardless, VSSP-P-003 is located in close proximity to several other bedrock milling sites (i.e., CA-RIV-10889, CA-RIV-10891, and CA-RIV-10894). As such, the site may be considered a contributing element to a larger, potentially significant prehistoric archaeological complex.

Paleontological Resources

Geology and Paleontology of the Proposed Project Area

The proposed Project area is mapped at a scale of 1:100,000 by Morton and Miller (2006) and 1:24,000 by Morton et al. (2003a, 2003b, 2003c) and Kennedy et al. (2003). The lithology of the proposed Project area consists of metamorphic (Trmq, Trmu) and plutonic igneous rocks of the Triassic and Cretaceous Periods (Kdvg, Kgb, Kgd, Kpvt), the Pleistocene Pauba Formation (Qps), Early to Middle Pleistocene alluvial fan and channel deposits (Qvoa, Qvof), Middle to Late Pleistocene alluvial fan deposits (Qof), and Late Pleistocene to Holocene surficial deposits (Qya, Qyf, Qyv). Table C.6-3 summarizes the geologic units within the proposed Project area and their paleontological resource potential, which ranges from low to high, as determined by PaleoSolutions (2014), in accordance with the County of Riverside classification scheme. The SVP (2010) resource potential classification for each geologic unit will also be

used for the impact analysis in Section C.6.4.2 and has been added to Table C.6-3. Brief descriptions of these geologic units are provided below.

Table C.6-3. Geologic Units within the VSSP Area and their Paleontological Resource Potential

Geologic Unit	Age	Paleontological Resource Potential (i.e., sensitivity)	Location
Low- to High-grade Metamorphic Rocks of Menifee Valley (Trmq, Trmu)	Triassic	Low (County of Riverside) No to Low (SVP)	Central Project area: Proposed Subtransmission Route
Granitic Rocks (Kdvg, Kgb, Kgd, Kpvt)	Cretaceous	Low (County of Riverside) No (SVP)	Throughout Project area: Proposed Subtransmission and Reconductoring Routes
Pauba Formation (Qps)	Pleistocene	High A (County of Riverside) High (SVP)	Southern Project area: Proposed Reconductoring Route
Quaternary Very Old Alluvium (Qvoa, Qvof)	Early to Middle Pleistocene	High B (County of Riverside) High (SVP)	Southern and Central Project area: Proposed Subtransmission and Reconductoring Routes
Quaternary Older Alluvium (Qof)	Middle to Late Pleistocene	High B (County of Riverside) High (SVP)	Northern Project area: Proposed Reconductoring Route
Quaternary Alluvium (Qya, Qyf, Qyv)	Late Pleistocene to Holocene	High B (County of Riverside) Low to High, increasing with depth (SVP)	Throughout Project area: Proposed Subtransmission and Reconductoring Routes

Sources: County of Riverside, 2008; Kennedy et al., 2003; Morton and Miller, 2006; Morton et al., 2003a, 2003b, 2003c; Paleo Solutions, 2015; SVP, 2010.

Low- to High-Grade Metamorphic Rocks of Menifee Valley

The Triassic metamorphic rocks of Menifee Valley underlie a portion of the Project area along Segment 1 of the proposed Project alignment. The metamorphic rocks consist of low- to high-grade metamorphic rock derived primarily from sedimentary protoliths (Morton and Miller, 2006). In the proposed Project area, the metamorphic rocks of Menifee Valley include common biotite schist, quartzite, quartz-rich metasandstone, and metaconglomerate. Relict sedimentary structures are locally visible in the low-grade facies. Due to the high heat and pressure of high-grade metamorphism, fossils have not been recorded in the metamorphic rocks of Menifee Valley. Furthermore, the Triassic metamorphic rocks of Menifee Valley have been determined to have no to low paleontological sensitivity, dependent on parent rock composition and metamorphic grade.

Granitic Rocks

Cretaceous granitic bedrock is exposed throughout the Project area along Segments 1 and 2 of the proposed Project alignment. The composition of these intrusive igneous rocks is diverse and includes medium-grained biotite-hornblende granodiorite and tonalite, coarse-grained to politic hornblende gabbro, medium-grained biotite monzogranite, and foliated biotite-hornblende tonalite to granodiorite (Morton and Miller, 2006). The granitic rocks belong to the Domenigoni Valley pluton and Cajalco pluton of the Peninsular Ranges Batholith, and several of the lithologies are associated with the Paloma Valley ring complex. Plutonic igneous rocks do not contain fossils due to their high heat of formation deep below the surface of the Earth.

Pauba Formation

The fluvial sandstone member of the Pleistocene Pauba Formation is exposed in the Project area along Segment 2 of the proposed Project alignment. The Pauba Formation is unconformably overlain by

unconsolidated Late Pleistocene to Holocene alluvial fan deposits and is nonconformable with the underlying Cretaceous gabbro (Kennedy et al., 2003). The Pauba Formation is composed of tan to reddish-brown, friable to moderately-indurated arkose, interbedded with cobble to boulder conglomerate and localized, well-indurated, crossbedded channeled sandstones and siltstones. The Pauba Formation is approximately 275 feet thick near its type section and was first described for exposures in Rancho Pauba near the town of Temecula, CA. Vertebrate fossils of Irvingtonian age, including, *Microtus* (rodent), *Paramylodon harlani* (ground sloth), *Smilodon fatalis* (saber-tooth cat), *Equus bautistensis* (horse), *Mammuthus* (mammoth), *Tapirus califomicus* (tapir), *Odocoileus* (deer), *Thomomys* (gopher), *Canis latrans* (coyote), and *Antilocapra* (pronghorn antelope) have been recovered from the Pauba Formation (Pajak et al., 1996; Paleobiology Database, 2015). The Pauba Formation has been determined to have a high paleontological sensitivity with a high potential for buried resources (PaleoSolutions, 2014).

Quaternary Very Old and Older Alluvial Deposits

Quaternary Very Old and Older Alluvial Deposits are exposed throughout the Project area, along Segments 1 and 2 of the proposed Project alignment. The Pleistocene deposits are composed of tan to reddish-brown sandstone and siltstone with subordinate pebble conglomerate. The surficial sediments are moderately consolidated and were deposited in alluvial fan and channel environments during the Early to Late Pleistocene. The deposits are moderately to well-indurated, contain angular to well-rounded clasts, display local pebble conglomerate interbeds, show localized soil formation, and contain abundant dissection (Morton et al., 2003b; Morton and Miller, 2006).

Pleistocene age alluvial, fluvial and lacustrine deposits have proven to yield scientifically significant paleontological resources throughout southern California from the coastal areas to the inland valleys. North of the proposed Project in the vicinity of Lakeview, a diverse assemblage of fossil resources have been recovered including *Mammuthus*, *Smilodon* (sabre-toothed cat), *Equus*, *Bison* cf. *B. antiquus* (bison), and numerous small mammals, reptiles, invertebrates, and plant remains. East of the proposed Project, the largest known open-environment non-asphaltic late Pleistocene fossil assemblage has been documented in Diamond and Domenigoni Valleys. Discovered during excavations of the Diamond Valley Lake, this locality has yielded nearly 100,000 identifiable fossils representing over 105 vertebrate, invertebrate, and plant taxa. The vertebrate taxa recovered includes reptiles such as frogs, turtles, and lizards; birds such as robins, swallows, jays, ravens, hawks, and ducks; small mammals such as rabbit, squirrel, mice, and weasels; and large mammals such as fox, bear, coyote, deer, bison, mammoths, mastodons, and ground sloths (Springer et al., 2009). The invertebrate taxa recovered includes ostracodes, snails, termites, slugs, beetles, and bivalves and the plant taxa recovered includes well preserved diatoms, pollen, and wood debris (Anderson et al., 2002). The Quaternary Very Old and Older Alluvial Deposits have been determined to have a high paleontological sensitivity with a high potential for buried resources (PaleoSolutions, 2014).

Quaternary Alluvial Deposits

Quaternary alluvial deposits are exposed throughout the Project area, along Segments 1 and 2 of the proposed Project alignment. The younger Quaternary alluvial deposits were derived from nearby highlands and locally deposited by fluvial processes in alluvial fan drainages during the Late Pleistocene to Holocene. These deposits are moderately dissected, display soil development, and consist of unconsolidated to moderately consolidated, very coarse sand to very fine sand, silt, and gravel (Kennedy et al., 2003). No previously recorded fossils have been documented from within younger Quaternary alluvium in the vicinity of the proposed Project area. Younger Quaternary alluvial sediments are typically

too young to contain fossilized material, but they may overlie sensitive older deposits at an unknown depth; as a result, they have been determined to have a low to high paleontological sensitivity with a low to high potential for buried resources.

Paleontological Resources Findings Summary

The results of the paleontological resources records searches conducted by PaleoResources (2014) revealed that there are no previously recorded fossil localities within the proposed Project area; however, the SBCM identified at least 35 fossil localities within several miles of the proposed Project area, from within the Pauba Formation and Pleistocene age alluvial deposits (Scott, 2014). The vertebrate localities yielded specimens of mammoth, camel, rabbit, rodent, and reptile from within the Pleistocene age alluvial deposits and ground sloth and mammoth specimens from the Pauba Formation. Further, the LACM reports that nine additional vertebrate fossil localities have been recorded within Pauba Formation and Pleistocene age alluvial deposits (McLeod, 2013). Recovered taxa include mammoth and bison from Pleistocene age alluvial deposits and horse, rabbit, and pocket gopher from the Pauba Formation. No new fossil localities were recorded during the paleontological field reconnaissance survey in the proposed Project area. The findings of the paleontological records searches are summarized in Table C.6-4.

Table C.6-4. Vertebrate Localities Reported in the Vicinity of the Proposed Project Area

Locality Number	Geologic Unit	Age	Taxa
LACM 5891-5893, 5447, 5789 (5)	Pauba Formation	Pleistocene	Equus
LACM 5904	Pauba Formation	Pleistocene	Leporidae (rabbit), Thomomys
SBCM 5.6.839 – 5.6.841 (3)	Pauba Formation	Pleistocene	Mammuthus, ground sloth
LACM 7261	Quaternary older deposits	Pleistocene	Mammuthus, Bison
LACM 5861	Quaternary older deposits	Pleistocene	Equus
LACM 6059	Quaternary older deposits	Pleistocene	Camelops sp. (camel)
SBCM 5.6.620 – 5.6.627, 5.6.671 – 5.6.683, 5.6.857 – 5.6.865, 5.6.868 – 5.6.875 (32)	Quaternary older deposits	Pleistocene	Mammuthus meridionalis, Camelops hesternus, Leporidae, rodent, reptile, and fish.

Sources: McLeod, 2013; Paleo Solutions, 2015; Scott, 2014.

C.6.2 Regulatory Framework

C.6.2.1 State

California Environmental Quality Act

The VSSP is subject to compliance with CEQA, as amended. Therefore, cultural resource management work conducted as part of the VSSP is to comply with the CEQA Statute and Guidelines, which direct lead agencies to first determine whether cultural resources are "historically significant" resources. CEQA requires that impacts that a project may have on cultural resources be assessed and requires mitigation if significant (or "unique") cultural resources are to be impacted (Section 21083.2 [a-1] and Appendix K). Generally, a cultural resource is considered "historically significant" if the resource is 45 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and meets the requirements for listing on the California Register of Historical Resources (CRHR) under any one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history (Title 14 CCR, § 15064.5).

The statutes and guidelines specify how cultural resources are to be managed in the context of projects, such as the VSSP. Briefly, archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways. Prehistoric and historical archaeological resources, as well as historical resources such as standing structures and other built-environment features, deemed "historically significant" must be considered in project planning and development.

If a Lead Agency determines that an archaeological site is a historical resource, the provisions of California Public Resources Code (CPRC) §21084.1 and CEQA Guidelines §15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site is to be treated in accordance with the provisions of PRC §21083 regarding unique archaeological resources. The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of a project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines §15064[c][4]).

If human remains of any kind are found during construction activities, CEQA Guidelines Section 15064.5(e) and Assembly Bill 2641 are to be followed. These require that all construction activities cease immediately and the County Coroner and a qualified archaeologist must be notified. The coroner will examine the remains and determine the next appropriate action based on his or her findings. If the coroner determines the remains to be of Native American origin, the Native American Heritage Commission (NAHC) must be notified. The NAHC will then identify a most-likely descendant to be consulted regarding treatment and/or reburial of the remains.

Further, because paleontological resources cannot be replaced once they are destroyed, they are considered nonrenewable scientific resources and are protected under CEQA. Specifically, in Section V(c) of Appendix G of the CEQA Guidelines, the "Environmental Checklist Form," the question is posed: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" In order to determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, mitigation of adverse impacts to paleontological resources is mandated by CEQA.

Native American Heritage Commission

Section 5097.91 of the CPRC established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Section 5097.98 of the CPRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

The California Public Resources Code 5097.5

This law affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the

overseeing public land agency. It further states under Code 30244 that any development that would adversely impact paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the State or any city, county, district, or other public agency (Cal. Pub. Res. Code § 5097.5 [California Office of Historic Preservation, 2005]).

C.6.2.2 Local

The California Public Utilities Commission (CPUC) General Order No. 131-D, Section XIV B states that "local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." As a public utility project that is subject to the jurisdiction of the CPUC, the proposed Project is exempt from local regulation and discretionary permits. However, the CPUC has evaluated applicable goals and policies of the applicable local jurisdictions in preparing this analysis and these regional and local regulatory standards are provided in this analysis for informational purposes only.

Riverside County General Plan

The majority of the proposed Project is located within Riverside County. The Riverside County General Plan Multipurpose Open Space Element was adopted in October 2008 and outlines the county's intentions for protecting cultural and archaeological resources (County of Riverside, 2008). Relevant goals and policies listed in the Riverside County General Plan Multipurpose Open Space Element include the following:

- OS 19.2. Review all proposed development for the possibility of archaeological sensitivity.
- OS 19.3. Employ procedures to protect the confidentiality and prevent inappropriate public exposure of sensitive archaeological resources when soliciting the assistance of public and volunteer organizations.
- OS 19.4. Require a Native American Statement as part of the environmental review process on development projects with identified cultural resources.
- OS 19.8. Whenever existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources, a report shall be filed stating the extent and potential significance of the resources that may exist within the proposed development and appropriate measures through which the impacts of development may be mitigated.
- OS 19.9. When existing information indicates that a site proposed for development may contain paleontological resources, a paleontologist shall monitor site grading activities, with the authority to halt grading to collect uncovered paleontological resources, curate any resources collected with an appropriate repository, and file a report with the Planning Department documenting any paleontological resource [p. OS-37].
- The SABER Policy (**S**afeguard **A**rtifacts **B**eing **E**xcavated in **R**iverside County) enacted in October 2011 by the Riverside County Board of Supervisors mandates that any paleontological resources found or unearthed in the County of Riverside be curated at the Western Science Center in the City of Hemet. This new policy will be included as an amendment to the Multi-purpose Element of the General Plan Update.

City of Menifee General Plan

Portions of Segment 1 of the proposed Project would be located within the City of Menifee. The City of Menifee General Plan was adopted on December 20, 2013. The Open Space and Conservation Element (OCS-5 Paleontological and Cultural Resources) of the City of Menifee General Plan discusses the City of

Menifee's intentions to protect cultural resources (City of Menifee, 2013). Relevant policies listed in the City of Menifee General Plan Open Space and Recreation Element include the following:

- Policy OCS-5.1. Preserve and protect archaeological and historic resources and cultural sites, places, districts, structures, landforms, objects and native burial sites, traditional cultural landscapes and other features, consistent with state law and any laws, regulations or policies which may be adopted by the City to implement this goal and associated policies.
- Policy OCS-5.3. Preserve sacred sites identified in consultation with the appropriate Native American tribes whose ancestral territories are within the City, such as Native American burial locations, by avoiding activities that would negatively impact the sites, while maintaining the confidentiality of the location and nature of the sacred site.
- Policy OCS-5.4. Establish clear and responsible policies and best practices to identify, evaluate, and protect previously unknown archaeological, historic, and cultural resources, following applicable CEQA and NEPA procedures and in consultation with the appropriate Native American tribes who have ancestral lands within the City.
- Policy OCS-5.5. Develop clear policies regarding the preservation and avoidance of cultural resources located within the City, in consultation with the appropriate Native American tribes who have ancestral lands within the City.
- Policy OCS-5.6. Develop strong government-to-government relationships and consultation protocols with the appropriate Native American tribes with ancestral territories within the City in order to ensure better identification, protection and preservation of cultural resources, while also developing appropriate educational programs, with tribal participation, for Menifee residents.

City of Murrieta General Plan

A small portion of Segment 1 of the proposed Project would be located within the City of Murrieta. The City of Murrieta General Plan 2035 was adopted on July 19, 2011. As defined in the General Plan's Conservation Element, cultural resources refer to archaeological remains, historic buildings, traditional customs, tangible artifacts, historical documents, and public records, which make Murrieta unique or significant (City of Murrieta, 2011). (Paleontological resources are addressed separately in Section 5.9. of the City of Murrieta General Plan 2035). Relevant goals and policies listed in the City of Murrieta General Plan Conservation Element include the following:

- CSV-7. Paleontological resources are conserved as a record of the region's natural history; therefore the City of Murrieta shall continue development review procedures that protect paleontological resources.
- CSV-11.1. Promote the protection and preservation of archaeological, cultural, historical, and architecturally significant sites, structures, districts, Native American resources, and natural features throughout the community. Preferred methods of protection include avoidance of impacts, placing resources in designated open space and allocation of local resources and/or tax credits as feasible.
- CSV-11.3. Promote the designation of eligible resources to the City Register of Cultural Resources, the County Landmarks Program, or other regional, state, or federal programs.
- CSV-11.5. Comply with state and federal law regarding the identification and protection of archaeological and Native American resources, and consult early with the appropriate tribal governments.
- CSV-11.9. Exercise sensitivity and respect for all human remains, including cremations, and comply with all applicable state and federal laws regulating human remains.

City of Murrieta Municipal Code

The City of Murrieta Municipal Code establishes methods for the identification, protection, enhancement, and perpetuation of cultural resources or identified historic preservation areas and their use in the interest of the public's enrichment (Municipal Code, Title 16, Article III, Chapter 16.26). This code provides criteria for the designation of cultural resources, archaeological districts, or historic preservation districts by the City Council (City of Murrieta, 2011).

City of Perris General Plan

Material Staging Yard 3 is proposed to be located within the City of Perris. The City of Perris General Plan Conservation Element was approved on July 12, 2005 (City of Perris, 2005). Relevant goals and policies listed in the City of Perris General Plan Conservation Element include the following:

- IV. Protection of historical, archaeological and paleontological sites.
  - IV.A. Comply with state and federal regulations and ensure preservation of the significant historical, archaeological and paleontological resources.

City of Temecula General Plan

A portion of Segment 2 of the proposed Project would be located within the City of Temecula. The City of Temecula General Plan was adopted in 1993 and updated in 2005 (City of Temecula, 2005). Relevant purposes, goals, and policies listed in the Open Space/Conservation Element include the following:

- Purpose:
  - Guide development in order to make wise and prudent use of natural, environmental, and cultural resources.
  - Maintain and promote the cultural, historic, and archaeological heritage of Temecula.
- Goal 6. Preservation of significant historical and cultural resources:
  - Policy 6.1. Maintain an inventory of areas with archaeological/paleontological sensitivity, and historic sites in the Planning Area.
  - Policy 6.2. Work to preserve or salvage potential archeological and paleontological resources on sites proposed for future development through the development review and mitigation monitoring processes.
  - Policy 6.4. Assist property owners in seeking state and/or federal registration and appropriate zoning for historic sites and assets.
  - Policy 6.7. Encourage use of California's Historic Building Code when preserving/ rehabilitating historic structures.
  - Policy 6.8. Support an integrated approach to historic preservation in coordination with other affected jurisdictions, agencies, and organizations for areas within the Planning Area and surrounding region that seeks to establish linkages between historic sites or buildings with other historic features such as roads, trails, ridges, and seasonal waterways.
  - Policy 6.9. Encourage the preservation and re-use of historic structures, landscape features, roads, landmark trees, and trails.
  - Policy 6.10. Work with the Pechanga Band of Luiseño Indians to identify and appropriately address cultural resources and tribal sacred sites through the development review process.
  - Policy 6.11. Encourage voluntary landowner efforts to protect cultural resource and tribal sacred sites consistent with state requirements.

The following actions, procedures, strategies, and techniques implement the goals and policies of the Open Space/Conservation Element:

- OS-26. Development Review Process

Use the development and environmental review processes to:

- Ensure that appropriate archaeological and paleontological surveying and documentation of findings is provided prior to project approval.
- Require effective mitigation where development may affect archaeological or paleontological resources.
- Require that an archaeologist or paleontologist be retained to observe grading activities in areas where the probable presence of archaeological or paleontological resources is identified.
- Enforce CEQA provisions regarding preservation or salvage of significant archaeological and paleontological sites discovered during construction activities.
- Require monitoring of new developments and reporting to the City on completion of mitigation and resource protection measures.

- OS-27. Historic Preservation Program
  - Continue to implement a historic preservation ordinance in the Old Town area to protect historically significant buildings, sites, road/trails, and other landscape elements, and to encourage their re-use, where appropriate. Consider adopting an ordinance to address preservation of other historic resources. Encourage owners of local sites to apply for recognition in the State Historic Resources Inventory, as Riverside County Landmarks, as State Points of Historic Interest, as State Landmarks, and as sites on the National Register of Historic Places, as deemed necessary.
- OS-37. Archeological Reviews
  - Enter into a Memorandum of Agreement with the Eastern Information Center of the University of California, Riverside to establish procedures for reviewing the archaeological sensitivity of sites proposed for development.
- OS-39. Tribal Cultural Resources
  - Development projects proposed on previously undeveloped property which involve earth-disturbing activities or which are located in areas with previously identified cultural resources need to comply with the following requirements to appropriately address tribal cultural resources:
    - All projects shall be evaluated by a qualified archeologist by conducting a site records search, and if feasible, a Phase I walk-over survey, and if necessary, a Phase II survey prior to project approval to identify the potential for the presence of significant cultural resources.
    - If significant resources are located on the project site, or a high probability for cultural resources exists, the Pechanga Band of Luiseño Indians shall be consulted in the identification of mitigation measures to address impacts consistent with state requirements, including provisions to address inadvertent discoveries.
    - During on-site grading activities in areas with cultural resources, or with a high potential for cultural resources, a qualified archeologist and tribal monitors shall be on-site to monitor grading operations.
    - In the event of the discovery of a burial site, human bone or suspected human bone, grading in the immediate area shall be immediately halted, the site protected, and the County Coroner and representatives from Pechanga Band of Luiseño Indians notified.

C.6.3 Applicant-Proposed Measures

The APMs applicable to cultural and paleontological resources are shown in Table C.6-5.

Table C.6-5. Applicant-Proposed Measures – Cultural and Paleontological Resources

APM	APM Description
CUL-1	The proposed Project impact on sensitive paleontological resources would be mitigated or reduced to a Less Than Significant level by implementing a Paleontological Resources Management Plan (see Mitigation Measures CR-9 through CR-13).

Source: SCE, 2014 (PEA Table 3.13).

C.6.4 Environmental Impacts and Mitigation Measures

Cultural Resources

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

Within the State of California there are provisions in CEQA, its Guidelines, and other provisions of the California Public Resources Code for the protection and preservation of significant cultural resources (i.e., "historical resources" and "unique archaeological resources"). The CEQA Guidelines provide three ways in which a resource can be a "historical resource," and thus a cultural resource meriting analysis: (1) the resource is listed on the CRHR; (2) the resource is included in a local register of historical resources (pursuant to §5020.1(k) of the Public Resources Code), or identified as significant in an historical resources survey (meeting the criteria in §5024.1(g) of the Public Resources Code); or (3) the lead agency determines the resource is "historically significant" by assessing CRHR listing guidelines that parallel the federal criteria. (§15064.5(a)(1)-(3) of the CEQA Guidelines (as amended)). To qualify as a historical resource under (1) or (3), the resource must also retain the integrity of its physical identity that existed during its period of significance. Integrity is evaluated with regard to retention of location, design, setting, materials, workmanship, feeling, and association (14 C.C.R. 4852(c)). Finally, under California State law, Native American human remains and associated grave goods are granted special consideration.

Direct and indirect impacts only to historical resources (CRHR) are considered in the assessment. Management of cultural resources ineligible for CRHR-listing is not required (36 CFR 800 and §15064.5(c)(4) of the CEQA Guidelines (as amended)).

Direct and Indirect Effects Analysis. Direct impacts to cultural resources are those associated with project development, construction, and co-existence. Construction usually entails surface and subsurface ground disturbance, and direct impacts to archaeological resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historical built-environment resources when those buildings or structures must be removed to make way for new buildings or structures or when the vibrations of construction impair the stability of historical buildings or structures nearby. New buildings or structures can have direct impacts on historical built environment resources when the new buildings or structures are stylistically incompatible with their neighbors and the setting, or when the new buildings or structures produce a harmful effect to the materials or structural integrity of the historical built environment resources, such as emissions or vibrations.

Generally speaking, indirect impacts to archaeological resources are those that may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to increased accessibility. Similarly, historical built environment resources can suffer indirect impacts when project construction creates potentially damaging noise and vibration, increases accessibility leading to vandalism, or results in greater weather exposure. The long-term presence of transmission lines or towers also has the potential to result in indirect visual impacts to significant cultural resources where setting is a key contributor to the property's importance.

Paleontological Resources

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Negative impacts on paleontological resources primarily concern the potential destruction of non-renewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. Disturbance of potentially fossiliferous bedrock or surficial sediments could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, impacts can be mitigated to below a significant level through the implementation of paleontological mitigation.

For portions of the proposed Project area underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for adverse impacts to paleontological resources. For portions of the proposed Project area that are directly underlain by geologic units with low to no paleontological sensitivity, there is a negligible potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected. Therefore, the total area that could be subject to surface-disturbing actions within sensitive geologic units will be used to assess impacts.

C.6.4.1 Criteria for Determining Significance

The proposed Project would result in significant impacts to cultural and paleontological resources if it would:

- Criterion CR1: The proposed Project would cause a substantial adverse change in the significance of a historical or archaeological resource as defined by State of California guidelines.
- Criterion CR2: The proposed Project would disturb human remains, including those interred outside of formal cemeteries.
- Criterion CR3: The proposed Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Under all of these criteria, adverse changes and impacts include the following:

- Physical, visual, or audible disturbance resulting from construction, operation, and development that would affect the integrity of a resource or the qualities that make it eligible for the CRHR;
- Exposure of cultural resources to vandalism or unauthorized collecting;
- A substantial increase in the potential for erosion or other natural processes that could affect cultural resources; or
- Neglect of a cultural resource that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe.

C.6.4.2 Impact Analysis – Direct and Indirect Effects

This section describes the direct and indirect impacts of the proposed Project. Cumulative impacts are discussed separately in Section C.6.4.3.

Cultural Resources

This section analyzes impacts to historical resources (CRHR-eligible) identified within the proposed Project. In total, 23 known cultural resources have the potential to be directly impacted by the proposed Project. Of those, two are isolated artifacts that do not require mitigation measures, because isolated artifacts, by definition, lack immediate cultural context and therefore lack the data potential that would be required to be considered eligible for the CRHR inclusion. Four of the 23 resources have been determined ineligible for

the CRHR. Five of the 23 known resources, including the proposed archaeological district, have been recommended or determined eligible for the CRHR (Table C.6-6). The remaining 12 resources could contribute to the eligibility of a proposed archaeological district or the prehistoric archaeological complex (Table C.6-6). While the 17 CRHR-eligible resources are located within the direct area of impact of the proposed Project, they can be avoided entirely and would not experience any direct impacts when the mitigation measures identified below are used for avoidance and protection during construction. Finally, one tribally sensitive resource, Double Buttes, was identified immediately adjacent to the proposed Project area by local Native Americans during scoping. Any potential indirect impacts to this tribally sensitive resource will be addressed through the implementation of mitigation measures noted below.

Table C.6-6. Cultural Resources within the Proposed Project Impact Area

Resource	Description	Location within the Project Area
CA-RIV-3839	Prehistoric bedrock milling station	2 existing poles in site boundary
CA-RIV-4012 / CA-RIV-5202	San Jacinto and Pleasant Valley Company Canal	Across street and ~85' from pole to be removed
CA-RIV-7064	Prehistoric bedrock milling station	Immediately adjacent to pole to be removed
CA-RIV-7065	Prehistoric bedrock milling station	Across street and ~50' from pole to be removed
CA-RIV-8196	San Jacinto Valley Railroad	2 new poles and 1 removal within 50'
CA-RIV-10889	Prehistoric bedrock milling station	~100' from existing pole
CA-RIV-10891	Prehistoric bedrock milling station	~50' from existing pole
CA-RIV-10894	Prehistoric bedrock milling station	~85' from existing pole
CA-RIV-11743	Prehistoric bedrock milling station & lithic scatter	1 existing pole in site boundary
CA-RIV-11744	Prehistoric lithic scatter	~40' from existing pole
P-33-11250	Prehistoric bedrock milling station	~120' from pole removal
P-33-11254	Prehistoric bedrock milling station	~70' from new pole
P-33-14370	Proposed archaeological district	Dozens of existing poles and pole removal within district boundary
P-33-16975	Prehistoric bedrock milling station	Immediately adjacent to new pole
P-33-21021	Multi-component prehistoric bedrock station, foundations, and historic-era refuse scatter	1 pole within site boundary to be removed
VSSP-P-001	Prehistoric bedrock milling station	~75' from new pole
VSSP-P-003	Prehistoric bedrock milling station	~30' from new pole

Paleontological Resources

Direct impacts result from activities related to construction and occur at the same time and place as the surface-disturbing action. The potential for direct impacts on scientifically significant surface and subsurface fossils in fossiliferous sedimentary deposits is controlled by two factors. These include: (1) the depth and lateral extent of disturbance of fossiliferous bedrock and/or surficial sediments; and (2) the depth and lateral extent of occurrence of fossiliferous bedrock and/or surficial sediments beneath the surface. Ground disturbance has the potential to adversely affect an unknown quantity of fossils that may occur on or underneath the surface in areas containing paleontologically sensitive geologic units. Without mitigation, these fossils, as well as the paleontological data they could provide if properly salvaged and documented, could be adversely affected (destroyed), rendering them permanently unavailable for future scientific research.

Indirect impacts occur later in time or further away in distance than direct impacts, but are still reasonably foreseeable. They typically include those impacts that result from the normal ongoing operations of facilities constructed within the proposed Project area. An example of an indirect adverse impact on paleontological resources would be the construction of a new road that increases public access to a previously inaccessible area, and results in unauthorized fossil collecting and vandalism. Mitigation strategies could include surveys by qualified paleontologists to collect significant surface

fossils, transfer them to a public museum, and identify locations of fossil localities in the nearby area, which have the potential to yield additional fossils as erosion occurs; and the construction of protective fencing or other barriers around known paleontological sites.

Beneficial impacts may occur due to Project-related surface disturbance that could result in the exposure of fossils that may never have been unearthed via natural processes. If mitigation measures are implemented, these newly exposed fossils become available for salvage, data recovery, scientific analysis, and preservation into perpetuity at a public museum. The positive indirect impacts of the results of mitigation include advances in scientific knowledge by both field researchers and paleontologists who study fossils in museum collections, contributions to public education and interpretation, and community involvement and partnerships.

Impact CR-1 (Criterion CR1): Implementation of the Project could demolish, destroy, relocate, or disturb a cultural resource in a manner that would diminish its integrity or materially impair the significance of the resource. (Class II)

Construction

As shown in Table C.6-6, there are 15 CRHR-eligible cultural resources within the Project area. Direct impacts may occur to these known historical resources during construction through ground disturbing activities such as vegetation removal, grading, trenching, boring, and excavation for new structure locations and transmission lines, access roads, splicing sites, and pull sites. Project activities, including inadvertent trespass out of designated work areas or roads, inadvertent or malicious vandalism, or unauthorized collection of cultural resources on the surface of sites, also have the potential to indirectly impact CRHR-eligible cultural resources during construction.

Avoidance is the preferred treatment for mitigating direct and indirect impacts to historical resources under CEQA (Section 15126.4(b)(3)(A)). Within overhead segments of transmission corridors, avoidance of direct impacts shall be accomplished by siting poles, laydown areas, pull sites, and access roads away from known historical resources. Additional protection measures to reduce indirect impacts would include Environmentally Sensitive Area (ESA) fencing, monitoring, and construction restrictions. Such measures to avoid and protect resources are addressed by Mitigation Measures CR-1 *(Avoid Environmentally Sensitive Areas)*, CR-2 (*Develop Cultural Resource Management Plan [CRMP]*), CR-3 *(Train Construction Personnel)*, and CR-4 *(Conduct Construction Monitoring)*, which provide detail on how these activities would be implemented to ensure that inadvertent impacts do not occur.

In addition, unknown buried resources (prehistoric and historical archaeological sites) could be inadvertently unearthed during ground-disturbing activities associated with Project construction. If such resources are encountered, impacts would be reduced through the implementation of Mitigation Measures CR-4 *(Conduct Construction Monitoring)* and CR-7 *(Treat Previously Unidentified Cultural Resources)* (Class II).

Operation and Maintenance

Project-related direct impacts to cultural resources related to the operation and maintenance of subtransmission lines would not involve extensive ground disturbance and would not substantially increase erosion. Indirect impacts related to the operation and maintenance of the proposed Project include increased erosion, inadvertent or malicious vandalism, unauthorized collection of cultural resources on the surface of sites, and the introduction of new intrusive visual elements.

To date, one tribally sensitive resource (Double Buttes) has been identified immediately adjacent to the proposed Project area. The CPUC, as the lead agency, has initiated consultation with appropriate Native

American groups regarding Project impacts to this area of tribal significance. The ongoing consultation will determine whether the long-term presence of transmission lines and towers during the operation of the Project would result in indirect visual impacts to Double Buttes. Any impacts to this tribally sensitive resource shall be reduced through the implementation of Mitigation Measure CR-5 *(Native American Consultation)* and Mitigation Measure CR-6 *(Reduce Adverse Visual Impacts)* (Class II).

Mitigation Measures for Impact CR-1

CR-1 **Avoid Environmentally Sensitive Areas.** SCE shall perform focused pre-construction surveys for any project areas not yet surveyed (e.g. new or modified staging areas, pull sites, or other work areas). Resources discovered during the surveys would be subject to Mitigation Measure CR-2 *(Develop Cultural Resource Management Plan [CRMP])* and CR-4 (*Conduct Construction Monitoring)*. Where operationally feasible, all CRHR-eligible resources shall be protected from direct project impacts by project redesign (i.e., relocation of the line, ancillary facilities, or temporary facilities or work areas). In addition, historic resources shall be avoided by all Project construction and operation and maintenance. Avoidance mechanisms shall include fencing off such areas as Environmentally Sensitive Areas (ESAs) for the duration of the construction of the proposed Project.

CR-2 **Develop Cultural Resource Management Plan (CRMP).** SCE shall prepare and submit for approval a CRMP to guide all cultural resource management activities during Project construction. The CRMP shall specify that archaeologists and other discipline specialists conducting the studies meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). The CRMP shall be submitted to the CPUC for review and approval at least 60 days before the start of construction.

The CRMP shall detail how all known CRHR-eligible cultural resources within the Project area will be avoided or treated. The CRMP shall define construction procedures for areas near known/recorded cultural sites. Wherever a pole, access road, equipment, etc., must be placed or accessed within 100 feet of a recorded, reported, or known cultural resources eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an ESA (without disclosure of the exact nature of the environmental sensitivity [i.e., the ESA is *not* identified as containing a sensitive cultural resource]). Construction equipment shall then be directed away from the ESA, and construction personnel shall be directed not to enter the ESA. Archaeological monitoring of Project construction shall be focused in the immediate vicinity of the designated ESAs.

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

The CRMP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by CPUC, and dissemination of reports to local and State

repositories, libraries, and interested professionals. SCE shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections.

CR-3 **Train Construction Personnel.** Prior to the initiation of construction, all construction personnel shall be trained, by a qualified archaeologist, regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. SCE shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits. SCE shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA and anticipated procedures to treat unexpected discoveries

CR-4 **Conduct Construction Monitoring.** Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historic and prehistoric cultural resources that could be encountered within the proposed Project area. Monitoring shall occur in all areas of ground-disturbing activity that occur within 100 feet of a cultural resource ESA. The qualifications of the principal archaeologist and cultural resource monitors shall be approved by the CPUC. As specified in the CRMP, intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the principal archaeologist, as identified in the CRMP. Copies of monitoring reports shall be submitted to the CPUC on a weekly basis.

A Native American monitor may be required at culturally sensitive locations specified by the CPUC following consultation with Native American tribes.

CR-5 **Native American Consultation.** SCE shall provide assistance to the CPUC, as requested by the CPUC, to complete consultation with interested Native American tribes and individuals to assess the impact of the Project on cultural resources of Native American concern, such as sacred sites and landscapes, or areas of traditional plant gathering for food, medicine, basket weaving or ceremonial uses. As directed by the CPUC, SCE shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by SCE and approved by the CPUC at least 30 days before the commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Cultural Resource Management Plan and implemented by SCE, consistent with Mitigation Measure CR-2 *(Develop Cultural Resource Management Plan)*.

CR-6 **Reduce Adverse Visual Impacts.** A viewshed documentation study shall be conducted on tribally sensitive resource(s) that would be adversely affected by indirect visual impacts from the proposed Project. The viewshed documentation study shall include the photographic recordation of the visual associations of each tribally sensitive resource in relation to other associated cultural resources, topographic features, and prominent landmarks. The CRMP shall specify the specific procedures used for the viewshed documentation study. The results of the study shall be presented in a report that shall be submitted to the CPUC for review at least 60 days before the start of construction, and shall be modified in response to agency comments, with the final report completed at least 30 days before the first ground disturbance.

CR-7 **Treat Previously Unidentified Cultural Resources.** If previously unidentified cultural resources are unearthed during construction activities, construction work in the immediate area of the find shall be halted and directed away from the discovery until a qualified archaeologist assesses the potential significance of the resource. Once the find has been inspected and a preliminary assessment made, SCE will consult with the CPUC to make the necessary plans for evaluation and treatment of the find(s).

Impact CR-2 (Criterion CR2): Implementation of the Project could uncover, expose, and/or damage human remains. (Class I)

No human remains are known to be located within the Project area. However, buried human remains have been discovered within a mile of the proposed Project route. In addition, the Pechanga tribe noted during initial scoping that the Project area is sensitive for subsurface cultural resources, including human remains. Therefore, a potential exists for unmarked burials to be inadvertently unearthed during construction activities. Impacts to human remains that are accidently discovered in a location other than a dedicated cemetery shall be reduced through the implementation of Mitigation Measure CR-8 *(Properly Treat Human Remains)*. Nonetheless, treatment of the remains other than protection in place would not reduce the impacts to a less than significant level. Impacts would remain significant (Class I).

Mitigation Measures for Impact CR-2

CR-8 **Properly Treat Human Remains.** SCE shall follow all State laws, statutes, and regulations that govern the treatment of human remains. Avoidance and protection of inadvertent discoveries which contain human remains shall be the preferred protection strategy with complete avoidance of impacts to such resources protected from direct Project impacts by Project redesign.

If human remains are discovered during construction, all work shall be diverted from the area of the discovery and the CPUC shall be informed immediately. The remains shall be treated in accordance with Health and Safety Code Section 7050.5, CEQA Section 15064.5(e), and Public Resources Code Section 5097.98. SCE shall assist and support the CPUC, as appropriate, in all required consultations with Native Americans, agencies and commissions, and consulting parties as requested by the CPUC. SCE shall comply with and implement all required actions and studies that result from such consultations.

Impact CR-3 (Criterion CR3): Construction of the proposed Project would destroy or disturb significant paleontological resources (Class II).

Construction

The proposed Project encompasses SCE's Proposed Subtransmission Route (Segment 1), Reconductoring Route (Segment 2), and proposed staging yards. Components of the proposed Project that could potentially result in new ground-disturbances consist of new tower locations, including 30 new TSP poles and foundations, 12 LWS poles, 266 wood poles and wood guy stub poles with 165 anchors; 1,600 feet of underground trenching, with dimensions up 2 feet deep and 30 feet wide, including 3 new subtransmission vaults, duct bank, conduit, and cables; 31 guard structures; and up to 6 staging yards (SCE, 2014). In addition, 7.4 acres of permanent and temporary access roads would include ground-disturbing improvements (SCE, 2014). In general, pole removal would occur in previously disturbed sediments and activities at pull and tension sites and stringing locations will only occur at ground surface (unless grading is necessary); consequently, negligible new ground disturbance is anticipated at those sites. Exact locations of proposed ground disturbance for each Project component are subject to change;

therefore, the total acreage for the Project area would be assessed for impacts. Altogether, the proposed Project consists of approximately 15.2 linear miles and 458 acres.

Destruction of Significant Paleontological Resources

The proposed Project is immediately underlain by Triassic metamorphic rock, Cretaceous plutonic igneous units, the Pleistocene Pauba Formation, Very Old and Older Quaternary alluvial fan and channel deposits, and younger surficial deposits of Late Pleistocene to Holocene age. On the basis of a museum records search, literature review, and field survey, a sensitivity ranking was assigned to each of the geologic units underlying SCE's proposed Project, as shown in Table C.6-2 (County of Riverside, 2008; Paleo Solutions, 2015; SVP, 2010). In total, the proposed Project is underlain by 78 acres determined to have no paleontological sensitivity; 12 acres of no to low paleontological sensitivity; 30 acres determined to have a low to high paleontological sensitivity, dependent on depth; and 338 acres of high (High A and High B) paleontological sensitivity. These areas may be subject to construction-related ground disturbances, including augering, grading and excavation activities.

As a consequence of the range of paleontological sensitivity of the proposed Project area, the potential to discover paleontological resources during Project development ranges from very low to high based on the location and type of ground-disturbing activities. Construction-related ground disturbances could result in adverse impacts to paleontological resources, including:

- Disturbance, damage, or destruction of a significant fossil
- Destruction of a unique geologic feature associated with a paleontological site
- Disturbance or destruction of a paleontological site, which results in the loss of scientific context of fossil remains

As stated above under "Paleontological Resources", the potential for a given project to result in adverse impacts to paleontological resources is directly proportional to the amount of ground disturbance associated with the Project. The amount of Project-related ground disturbance would likely be greatest for augering, grading, and excavation, which would be required for site preparation at each tower location; construction, grading of permanent access roads; and trenching. These activities would directly impact and disturb the geologic strata at depth and have a high potential to impact buried paleontological resources. Construction of staging areas, pull and tension sites and guard structures, and temporary access roads would be limited to surface-disturbing activities; therefore, the potential to adversely impact paleontological resources as the result of these ancillary activities is low or is not anticipated. Removal of existing structures is not anticipated to result in adverse impacts because ground disturbance will occur within previously undisturbed sediments.

Given the general conclusions described above, development of portions of the proposed Project would have a high potential to result in adverse impacts to paleontological resources. These direct and indirect adverse impacts would be reduced with implementation of Mitigation Measures CR-9 (*Inventory and Evaluate Paleontological Resources*), CR-10 (*Develop Paleontological Resource Mitigation and Monitoring Plan*), CR-11 (*Train Construction Personnel*), CR-12 (*Monitor Construction for Paleontology*), and CR-13 (*Curation and Final Reporting*). In combination, these measures would effectively mitigate the proposed Project's adverse impacts to these resources through the recovery, identification, and curation of previously unrecovered fossils, which would constitute a beneficial impact of Project development.

Operation and Maintenance

Project-related impacts to paleontological resources related to the operation and maintenance of subtransmission lines would not involve extensive ground disturbance and would not substantially increase erosion. Indirect impacts related to the operation and maintenance of the proposed Project includes increased exposure of paleontological resources and unlawful collecting of fossils by Project personnel as a result of increased access to the area. These indirect impacts are assumed to be low to negligible and can be reduced through the implementation of Mitigation Measure CR-11 (*Train Construction Personnel*). Therefore, the potential to disturb paleontological resources as the result of operation and maintenance would be low and there would be no adverse impact on significant non-renewable fossil resources as a result of operation or maintenance of the proposed Project.

The implementation of Mitigation Measures CR-9 through CR-13 would reduce the potential impacts to paleontological resources (Class II). In addition, there is the potential that beneficial impacts could result from the exposure and recovery of fossils that may never have been unearthed via natural processes. See a discussion of potential beneficial Project impacts in Section C.6.4.2 under Paleontological Resources.

Mitigation Measures for Impact CR-3

CR-9 **Inventory and Evaluate Paleontological Resources.** Prior to construction and all other surface-disturbing activities, SCE shall have conducted and submitted an inventory of significant paleontological resources within the proposed Project area (i.e., PaleoSolutions, 2014). If any changes are made to the extent or alignment of the proposed Project subsequent to the completed field surveys and inventory, then additional field surveys shall be conducted within new project areas and the inventory report shall be updated to reflect the new project design. The additional field surveys shall be conducted outside of the previously surveyed potential impact areas in locations identified as having undetermined or high paleontological resource potential. The purpose of the field survey is to visually inspect the ground surface for exposed fossils and to evaluate geologic exposures for their potential to contain preserved fossil material at the subsurface.

As part of the inventory report, the paleontological sensitivity rankings of geologic units examined in the field shall be refined based on the results of the pedestrian surveys. Per SVP (2010) guidelines, geologic units assigned an undetermined paleontological resource potential shall be designated as having either high, low, or no sensitivity subsequent to sufficient survey and research, and prior to the development of a Paleontological Resource Mitigation and Monitoring Plan. The report shall be submitted to the CPUC for review at least 60 days before the start of construction, and shall be modified in response to agency comments, with the final report completed at least 30 days before the first ground disturbance.

CR-10 **Develop Paleontological Resource Mitigation and Monitoring Plan.** Following completion and approval of the Paleontological Resources Inventory (required in Mitigation Measure CR-9) and prior to the start of ground-disturbing construction, SCE shall prepare and submit to the CPUC for review and approval, a Paleontological Resources Mitigation and Monitoring Plan (Plan), consistent with the following requirements:

- The Plan shall be prepared by a Qualified Paleontologist (i.e., Project Paleontologist) and shall be based on the SVP (2010) guidelines and meet all regulatory requirements. The qualified paleontologist shall have a graduate degree in paleontology or geology, shall have knowledge of the local paleontology, and shall be familiar with paleontological procedures and techniques.

Experience and local expertise may be substituted for academic training on approval from the contracting agency. The qualifications of the Project Paleontologist shall be approved by the CPUC.

- The Plan shall identify construction impact areas of high sensitivity for encountering significant resources and the approximate depths at which those resources are likely to be encountered.
- The Plan shall define monitoring procedures and shall outline a coordination strategy to ensure that a qualified paleontological monitor will conduct full-time monitoring of all ground disturbance in sediments determined to have a high sensitivity. The Plan shall specify that geologic units with an undetermined sensitivity that has not been resolved to high, low, or no sensitivity following the Paleontological Resources Inventory (required in Mitigation Measure CR-9), shall be monitored on a part-time basis (as determined by the Qualified Paleontologist). Sediments with no or low sensitivity will not require paleontological monitoring. The qualified paleontological monitor shall have at least a B.S. in Geology or Paleontology, and demonstrated field experience in the collection and identification of fossil material. The qualifications of the paleontological monitor(s) shall be approved by the CPUC.
- The Plan shall detail the significance criteria to be used to determine which resources will be avoided and which shall be recovered for their data potential. For significant fossils, recovery is preferred over avoidance in order to alleviate looting concerns during operational impacts. The Plan shall also detail methods of recovery, preparation and analysis of specimens, final curation of specimens at an appropriate accredited museum repository, data analysis, and reporting.

CR-11 **Train Construction Personnel.** Prior to the initiation of proposed Project development in areas of undetermined or high paleontological sensitivity, all construction personnel shall be trained regarding the recognition of possible paleontological resources and protection of all paleontological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. All personnel shall be instructed that unauthorized collection or disturbance of protected fossils will not be allowed. Violators will be subject to prosecution under the appropriate State and local laws and violations will be grounds for removal from the proposed Project. Unauthorized collection or disturbance of fossil materials may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing subsurface paleontological resources, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.
- SCE shall provide a background briefing for supervisory personnel describing the potential for exposing paleontological resources, the location of any potential areas of high sensitivity, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of paleontological resources by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Qualified Paleontologist notified. Once the find has been inspected and a preliminary assessment made, then the Qualified Paleontologist will notify SCE and the CPUC and proceed with data recovery in accordance with the approved Plan consistent with Mitigation Measure CR-10 *(Develop Paleontological Resource Mitigation and Monitoring Plan)*.

CR-12 **Monitor Construction for Paleontological Resources.** Based on the Paleontological Resources Inventory and Paleontological Resource Mitigation and Monitoring Plan consistent with Mitigation Measure CR-10 (*Develop Paleontological Mitigation and Monitoring Plan*), SCE shall have the qualified paleontological monitor conduct full-time construction monitoring in areas determined to have high paleontological sensitivity. If sediments with undetermined sensitivity

are mapped within the proposed Project boundary, those areas shall be monitored by a qualified paleontological monitor on a part-time basis (as determined by the Qualified Paleontologist). Monitoring will consist of the visual inspection of augering activities and spoils piles at the locations of the boreholes, as well as any trench sidewalls and excavated or graded areas for roadways, tower pads, and other ancillary structures. At no time will a monitor enter an unsafe cut or unshored trench/borehole. Monitoring of augering activities with boreholes less than 12 inches in diameter will not be necessary. Screening of sedimentary matrix to check for the presence of microvertebrates, if they are believed to be present, will be conducted, as necessary. In the event that a paleontological resource is discovered, the monitor will have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. A temporary construction exclusion zone (i.e., environmentally sensitive area [ESA]) of at least 50 feet, consisting at a minimum of lath and flagging tape, will be erected around the discovery. The exclusion zone acts as a buffer around the discovery and is maintained for safety. The monitor will immediately report the discovery to the Qualified Paleontologist so that appropriate notifications can be immediately issued to SCE and the CPUC. Construction activities can occur outside the buffer if it is safe to do so. The size of the buffer may be increased or decreased once the monitor adequately explores the discovery to determine its size and significance. Copies of Monitoring Reports shall be submitted to SCE and the CPUC on a weekly basis.

CR-13 **Final Reporting and Curation.** All significant fossils collected will be prepared in a properly equipped paleontology laboratory to a point ready for curation no more than 60 days after all fieldwork is completed. Preparation will include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossils specimens will be identified to the lowest taxonomic level, cataloged, analyzed, and delivered to an accredited museum repository for permanent curation and storage. The cost of curation is assessed by the repository and is the responsibility of SCE.

At the conclusion of laboratory work and museum curation of any discovered paleontological resources, a final report will be prepared describing the results of the paleontological resource monitoring efforts associated with the Project. The report will include a summary of the field and laboratory methods, an overview of the proposed Project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. A copy of the report will also be submitted to the designated museum repository.

C.6.4.3 Cumulative Impacts

Geographic Extent/Context

The geographic for the analysis of cumulative impacts for cultural resources includes a 1.5-mile radius from the Project boundary. Analysis of cumulative impacts takes into consideration the entirety of impacts that the projects, zone changes, and general plans discussed in Table C.1-1 would have on cultural resources. This geographic scope of analysis is appropriate because the archaeological and historical resources within this radius are expected to be similar to those in the proposed Project area because of their proximity; similar environments, landforms, and hydrology would result in similar land-use—and thus, site types.

The geographic extent of cumulative analysis for paleontological resources encompasses western Riverside County. This wide geographic scope is appropriate because it is likely that paleontological

resources similar to those in the proposed Project area are present throughout this area and unknown, previously unrecorded paleontological resources could be uncovered within sensitive geologic units within the geographic area of cumulative effect. Cumulative impacts to paleontological resources will persist as long as ground-disturbing activities occur within the geographic extent of cumulative analysis for paleontological resources. Should paleontological resources be discovered during construction-related activities associated with the current and future projects, they would be subject to legal requirements designed to protect them similar to Mitigation Measures CR-9 through CR-13, thereby reducing the effects of impacts.

Existing Cumulative Conditions

With regard to impacts to significant cultural resources, the proposed Project would not contribute significantly to cumulative impacts within the region. While the Project would not impact significant known cultural resources, there is a potential for unanticipated and previously unidentified cultural resources to be present within the Project area. The proposed Project would implement mitigation measures to reduce this impact. Similarly, many of the other projects identified in Table C.1-1 would also be expected to have mitigation measures that would reduce potential impacts on archeological resources.

With regard to paleontological resources, those cumulative projects that directly result in ground disturbances are most likely to adversely affect paleontological resources. Regional projects in Table C.1-1 such as, but not limited to, local Specific Plans, Perris Union High School project, residential developments, and retail and commercial construction, involve ground-disturbing activities that could result in impacts to paleontological resources, dependent upon the sensitivity of the underlying geologic units. Construction-related ground disturbances that occur as a consequence of development of cumulative projects could result in adverse impacts to paleontological resources. The destruction of non-renewable paleontological resources as a result of project-related ground disturbances have the potential to cause the permanent loss of scientific information, thus resulting in a significant cumulative impact over time. The implementation of mitigation measures during construction has resulted in the recovery and curation of fossil remains that may otherwise have been destroyed. Many of the recovered specimens have been made available for academic or institutional research, thereby aiding in scientific discovery.

With regard to disturbance of human remains, the proposed Project could contribute significantly to cumulative impacts within the region. Although no human remains have been identified within the Project area, to date, there is potential for their discovery during Project construction. The potential impacts of the other projects identified in Table C.1-1 to human remains would also be expected to be reduced by compliance with Public Resources Codes, but could be significant based on site-specific issues.

Cumulative Impact Analysis

The potential for cultural and paleontological resources impacts of the proposed Project (described in Section C.6.4.2) to combine with the effects of other proposed, planned, and reasonably foreseeable future projects, as listed in Table C.1-1 that are within the geographic extent of the cumulative analysis are described below for each significance criterion.

Criterion CR1: The Project would cause a substantial adverse change in the significance of a historical or archaeological resource as defined by State of California guidelines.

With regard to impacts to significant cultural resources, the proposed Project would not contribute significantly to cumulative impacts within the region. While the Project would not impact significant known cultural resources, there is a potential for unanticipated and previously unidentified cultural resources to be

present within the Project area. However, the Project would implement Mitigation Measures CR-3 to train construction personnel, CR-4 to monitor construction, and CR-7 to treat newly discovered sites, thus reducing the Project impacts. Therefore, impacts to cultural resources would be less than significant (Class II).

Criterion CR2: The Project would disturb human remains, including those interred outside of formal cemeteries.

With regard to disturbance of human remains, the proposed Project could contribute significantly to cumulative impacts within the region. Although no human remains have been identified within the Project area, to date, there is potential for their discovery during Project construction. If human remains were to be discovered during construction, Mitigation Measure CR-8 would ensure that the remains are treated in accordance with the California Public Resources Code. The potential impacts of the other projects identified in Table C.1-1 would also be expected to be reduced by compliance with Public Resources Codes but could be significant based on site-specific issues. Therefore, impacts of the Project would have the potential to combine with impacts from past, present, or reasonably foreseeable projects to result in a cumulative impact to human remains (Class I).

Criterion CR3: The Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Given the extent of past development in western Riverside County and the large number of reasonably foreseeable projects listed in Table C.1-1, it is reasonable to assume that resources exist and would be expected to be uncovered at several of these sites. Therefore, the Project would have a high potential to combine with impacts of other projects during construction-related activities. Should resources be discovered during construction of current and future projects, they would be subject to legal requirements designed to protect them, thereby reducing impacts. With the implementation of resource protection measures, similar to Mitigation Measures CR-9 through CR-13, cumulative impacts can be reduced or avoided. Cumulative projects resulting in ground disturbances, including, but not limited to those listed above, could also result in a beneficial cumulative effect. This is because any scientifically significant fossils collected and curated during Project development may benefit the scientific community by serving as raw data available for new research. Typically, most direct impacts are due to ground disturbance and occur during project construction, with less extensive or negligible ground-disturbing activities occurring during the operation and maintenance phase. Indirect impacts, including increased exposure of paleontological resources and illegal collecting of fossils as a result of increased access to the area by Project personnel, are assumed to be low to negligible. Project-related operational impacts to significant non-renewable fossil resources related to the operation and maintenance of the Project are assumed to be low to negligible. Therefore, the Project would have a low to negligible potential to combine with impacts of other projects during operation and maintenance. Any negative cumulative impacts to paleontological resources that would occur during operation and maintenance activities could be reduced through the implementation of resource protection measures similar to Mitigation Measure CR-11 (Class II).

C.6.4.4 Impact and Mitigation Summary

This section summarizes the conclusions of the impact analysis and associated mitigation measures presented in Section C.6.4.2 for the proposed Project. Table C.6-7 lists each impact identified for the proposed Project, along with the significance of each impact.

Table C.6-7. Impact and Mitigation Summary – Cultural and Paleontological Resources		
Impact	**Significance Conclusion**	**Reason for Conclusion**
CR-1: Implementation of the Project could demolish, destroy, relocate, or disturb a cultural resource in a manner that would diminish its integrity or materially impair the significance of the resource.	Class II	The proposed Project area would be subject to construction activities that could impact known and newly identified cultural resources during construction through ground disturbing activities such as vegetation removal, grading, trenching, boring, and excavation for new structure locations and transmission lines, access roads, splicing sites, and pull sites. These adverse impacts would be reduced to a less-than-significant level with implementation **of Mitigation Measures CR-1 through CR-7**.
CR-2: Implementation of the Project could uncover, expose, and/or damage human remains.	Class I	Unmarked burials could be inadvertently unearthed during construction of the proposed Project, which could result in damage to these human remains. Implementation of **Mitigation Measure CR-8** would reduce impacts; however, the effect would be considered adverse and impacts would remain significant.
CR-3: Upgrade and construction of transmission lines and ancillary facilities could destroy or disturb surface or near-surface significant paleontological resources.	Class II	The proposed Project area would be subject to construction activities that would disturb the underlying geologic strata, including augering, grading, and excavation, which would be required for site preparation at each trench site and tower location, and construction, grading, and widening of new access roads, if necessary. These adverse impacts would be reduced to a less-than-significant level with implementation of Mitigation **Measures CR-9 through CR-13.**

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less than significant level through the application of feasible mitigation measures presented in this EIR.

Class III: **Adverse; less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: **Beneficial impact.** A Class IV impact represents a beneficial effect that would result from project implementation.