ARCHAEOLOGICAL AND PALEONTOLOGICAL REPORT FOR THE PEAKER PROJECT PROPOSED MIRA LOMA LOCATION SAN BERNARDINO COUNTY, CALIFORNIA

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INTRODUCTION

The Southern California Edison Company (SCE) proposes to build a new small electricity generating unit called a “peaker” that will be capable of producing up to 45 MW of electricity on short notice during periods when the electrical system needs additional usable power and a technical kind of help called local “voltage support.” The peaker units can be started on their own, without needing power from the grid, which helps to improve local reliability.

The CPUC directed SCE to site these peakers where they would provide not only usable power but also the necessary grid support. These units will increase the generation supply for local communities and provide an important service called “voltage support” to the local distribution networks in which they will be located. Unlike large power plants, which can be constructed in remote locations and connected to the statewide grid at very high voltages, these peaker units will be connected to the lower-voltage distribution grid and will be used to supply electricity and to keep local distribution voltages up at normal levels at times of system strain or imbalance. Each unit will typically run only during hot summer weekdays when the local electrical system requires support due to very high load conditions. The peakers will operate at different times and duration depending on the local need. SCE staff will operate the units remotely and monitor them regularly.

PROJECT LOCATION

Peakers will be placed at or adjacent to five existing SCE substations and/or generating stations. This report is for the proposed Mira Loma Substation peaker location. The proposed Mira Loma site is located adjacent to the present boundary of the Mira Loma Substation in T2S, R7W, Section 12 of the Guasti, CA 7.5’ USGS Topographic Quadrangle. The proposed location in a vacant field adjacent to southeast corner of the property and extends east to Milliken Ave. The new peaker will be connected to the 66 kV bus located within the existing Mira Loma Substation. Access to the peaker site can be reached from Milliken Ave. using an existing driveway.

PREREFIELD RESEARCH

A cultural resources records search for the proposed peaker location was conducted at the San Bernardino Archaeological Information Center at the San Bernardino County Museum on September 15, 2006, by the author.

The records search revealed that portions of the project area had been previously surveyed (Bean and Vane 1979; Macko et al. 1983; Foster and Greenwood 1985); furthermore, six cultural resource studies have been conducted within a mile radius of the project area. No cultural resources have been document on the project area. One historic resource, which is listed on the CPHI (P36-015980 [CPHI-SBR-27]) is located within a mile radius of the project area. CPHI-SBR-71, the De Anza Trail, was the first trail used by Europeans to pass through San Bernardino County.

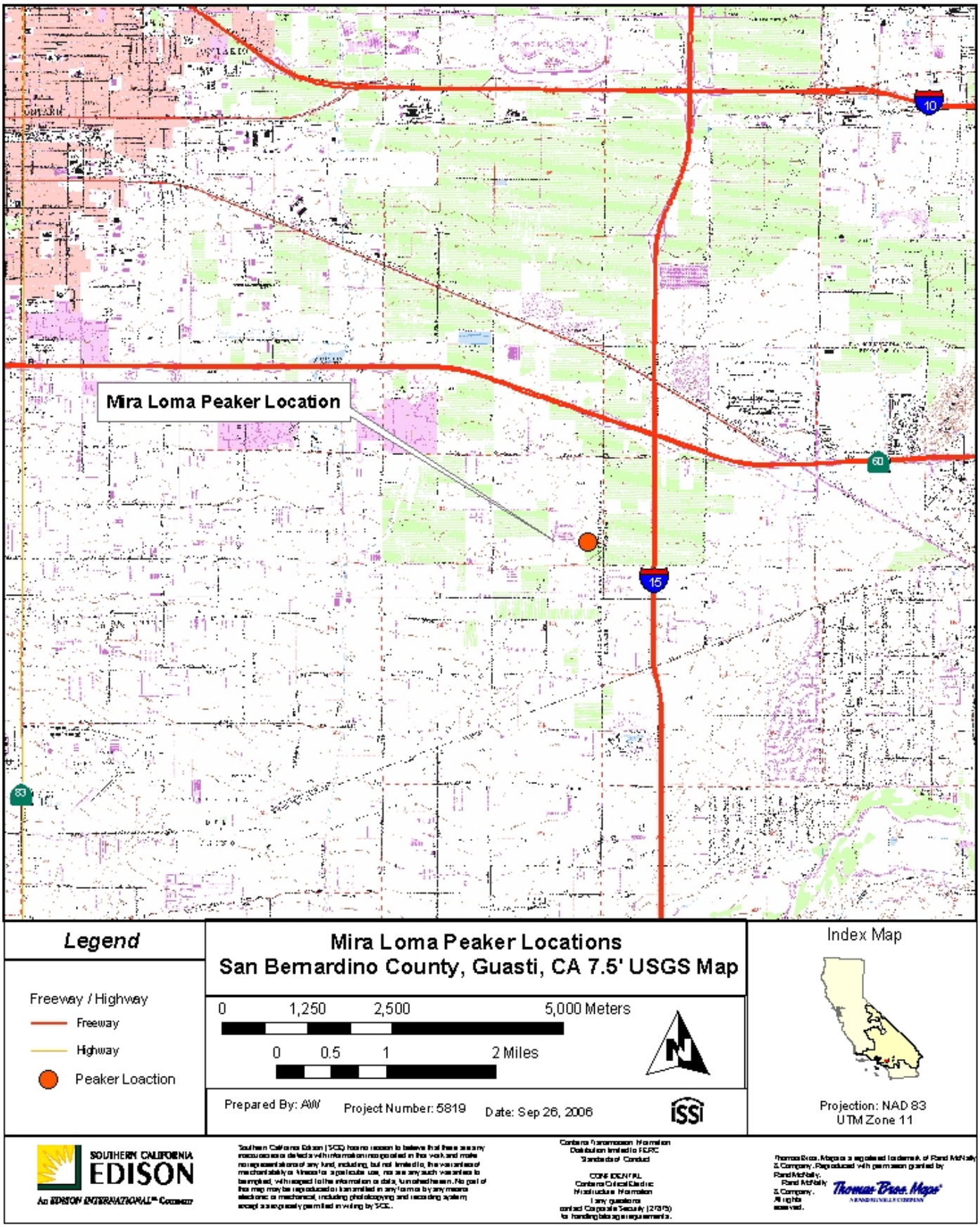

Fig. 1. Location map Mira Loma Peaker location.

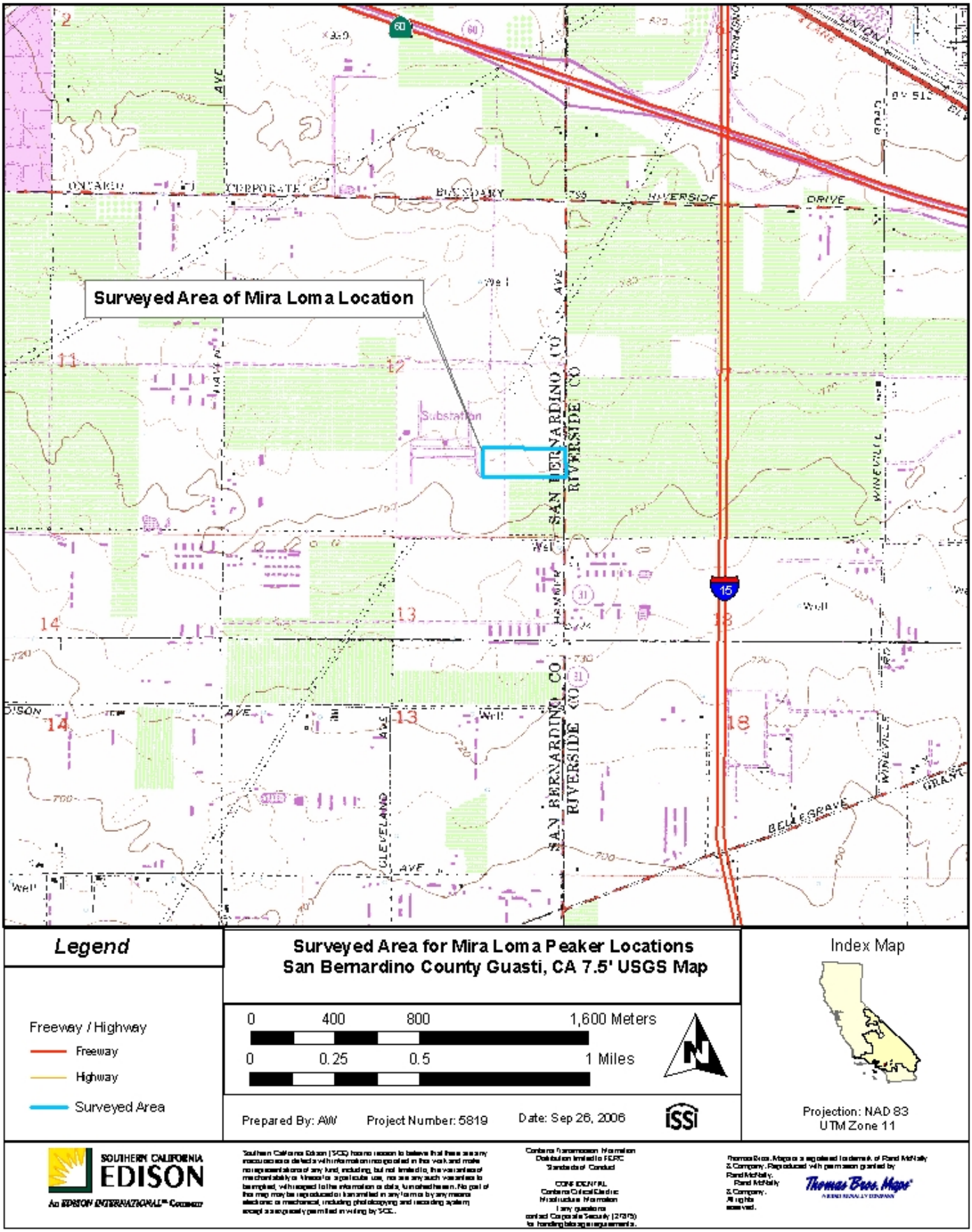

Fig. 2. Surveyed area map for Mira Loma Peaker locations.

There are no known archaeological sites on the subject property or within about a mile radius of the property that are listed on the *National Register of Historic Places*, *California Historical Landmarks*, or the *Historical Resources Inventory*.

In addition, a request was submitted to the California Native American Heritage Commission to consult their Sacred Lands Files in order to identify other culturally significant properties. In a letter dated September 29, 2006 the Commission reported that no sacred lands were known to the Commission within the project location.

PALEONTOLOGICAL REVIEW

The San Bernardino Sheet geological map was reviewed for the proposed peaker location to determine whether sensitive paleontological resources are within or adjacent to the project area (Rogers 1965). The geologic deposits include recent alluvium fan deposit. Alluvium deposits are not conducive to the formation or preservation of paleontological fossils.

ENVIRONMENTAL BACKGROUND

The project area is located within a Mediterranean Climate characterized by warm, dry summers and cool, moist winters. Annual temperatures are between 40º and 85º F, with upwards of 300 frost-free days a year. Precipitation in the region is between 15 and 30 inches per year. The native vegetation consisted of native grasses and riparian species bordered by chaparral-covered hillsides, species included buckwheat (*Eriogonum* spp.), prickly pear (*Opuntia occidentalis*), a variety of sages (*Salvia* spp.), oaks (*Quercus* spp.), and other native species. Plants utilized by prehistoric populations include acorns, yucca, cactus buds and fruit, sages, and various grasses and berries (Drucker 1937; Kroeber 1925:649–650). Native fauna utilized by prehistoric populations include deer (*Odocoileus hemionus*), rabbits and hares (*Sylvilagus* spp. and *Lepus californicus*), small game birds, and freshwater fishes. Other species that existed in the area historically included grizzly bears (*Ursus arctos horribilis*), wolves (*Canis lupus*), coyotes (*Canis latrans*), and wild cats (e.g., *Felis concolor*, *Lynx rufus*) (Cauch 1956).

ARCHAEOLOGICAL BACKGROUND

Early Holocene (12,000 to 7,000 BP)

The San Dieguito Complex, was developed by Warren (1967) and described as a hunting culture with a lithic typology that included large flake-and-core scrapers, choppers, hammer stones, drills, gravers, and cresents (Warren 1967). Sites from this time period are usually found along ancient lake terraces in the deserts, in coastal Los Angeles and San Diego County, or on the islands off the shore of the Pacific coast (Muratto 1984).

Millingstone Horizon (7,000 to 3,500 BP)

Prehistoric subsistence patterns began to show marked changes. These changes were almost certainly in response to warming climatic conditions and the resulting changes in

flora and fauna. The changes visible in the archeological record include a reduced number of projectile points, scrapers, and choppers, and an increased number of ground stone artifacts. The La Jolla, Malaga Cove, and Topanga complexes, from south to north, are the coastal representatives from this period and suggest an ecological adaptation to shellfish and other coastal resources. Inland sites are described as belonging to the Pauma or Sayles complexes. These sites have a material culture similar to the coastal sites but lack shellfish (Muratto 1984).

Intermediate Horizon (3,500 to 1,500 BP)

The period is marked by the appearance of the mortar and pestle in the archaeological record. There is a sift in resource procurement practices with the increase use of plant resources. Native American dependence on marine resources changed due to silting of estuaries on which they relied. They began to depend more heavily on seed and plant foods, which required grinding on stone platforms. In many areas of southern California, the Millingstone cultures survived into the early part of the late Holocene (Muratto 1984).

Late Prehistoric (1,500 BP to Present)

This time period is marked by the introduction of the bow and arrow to southern California. Other changes during this time include both in situ cultural adaptations in response to environmental changes as well as outside influences from the influx of Shoshonean (Takic-speaking) populations from the desert regions. Other time markers of this period include the use of pottery.

ETHNOGRAPHIC BACKGROUND

The Native American group that inhabited the project area during ethnographic times was the Gabrielino. Several ethnographers including Kroeber (1925) Bean and Smith (1978), and McCawley (1996) have studied the Gabrielino. The following discussion of the Gabrielino was synthesized using these sources.

The Gabrielino territory occupied the area now known as the Los Angeles Basin. It extended from Topanga Canyon in the north to Aliso Creek in the south and included the watershed of the Los Angeles, San Gabriel, and Santa Ana rivers. The Gabrielino also occupied the southern Channel Islands of San Clemente, San Nicolas, and Santa Catalina. The Gabrieleno spoke a Cupan language in the Takic family of the Uto-Aztecan linguistic stock.

The Gabrielino were organized through a moiety system and lineages were traced along patrilineal lines. Each community contained one or more lineages that was ruled by a chief, known as the *tomyaar*. The *tomyaar* oversaw both secular and religious activities. Religion was centered on the use of rituals to control the environment, sacred powers, and knowledge. Rituals, such as rites of passage, were associated with the Chengiichngesh religion.

A domed circular thatched structure was the primary residences used by the Gabrielino. Coiled and twined baskets were used for food preparation, serving and storage. Pottery was constructed with the use of a paddle and anvil. A steatite industry was manufactured on Santa Catalina. Steatite was used to make animal carvings, pipes, ornaments, and cooking utensils.

HISTORICAL BACKGROUND

The historical period in southern California can be divided into the Spanish Mission Period, the Mexican Rancho Period, and the American Period.

Spanish Mission Period

In 1771, the mission system was established with the founding of the San Gabriel Mission. Twenty other missions followed, steaming from San Francisco to San Diego. One of the main reasons for the development of the mission system was to control the natives, and to convert them to Catholicism. Once brought to the missions, the converted natives (referred to as neophytes) were not allowed to leave. Treatment of natives at the missions was extremely poor and abusive. However, the inland area remained relatively unexplored as the Spaniards clung to the coast near their missions and presidios (Rice et al. 2002).

Mexican Period

In 1821, Mexico successfully fought for independence from Spain. The subsequent Secularization Act of 1833 marked the end of the Mission period and the return of the secularized mission lands to Mexican citizens in the form of land grants or ranchos. In 1839, Rancho Cucamonga was granted to Tiburico Tapia who planted the first orchards of what would become one of the largest plantings of wine grapes in California. Numerous wineries were established in the area and native populations were used as labors. The Mexican Period ended in 1848 with the end of the Mexican War.

American Period

The establishment of California's statehood in 1850 marked the end of the Mexican Period. The Land Commission questioned the validity of the land grants issued by Mexican governors and many of the rancheros never officially gained their land patents.

FIELD PROCEDURE AND RESULTS

Portions of the Mira Loma Peaker location had not been previously surveyed. On September 21, 2006, the author conducted a pedestrian survey of the project area, transect were walked in an east-west direction and were spaced 20 meters apart (Fig. 3). Ground visibility was moderate for the majority of the project area. The eastern portion of the project area was covered in Russian Thistle and ground visibility was poor. No paleontological or cultural resources were observed during the survey.

ARCHAEOLOGICAL RECOMMENDATIONS

Based on the results of the survey and the records search, the construction of the proposed Mira Loma Peaker location will have no significant impact on cultural resources. Based on these results, no further archaeological studies are required at this time. If project scope and or project areas change then additional archaeological studies may be needed.

In the event that cultural resources are encountered during any future earth disturbing activities, all work must halt at that location until the resources can be properly evaluated by a qualified archaeologist. Further, if human remains are unearthed during excavation, State Health and Safety Code Section 7050.5 states "...no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and distribution pursuant to Public Resources Code Section 5097.98".

PALEONTOLOGICAL RESULTS AND RECOMMENDATIONS

The results of the review for the peaker location revealed that the geologic deposits include recent alluvium fan deposit. Alluvium deposits are not conducive to the formation or preservation of paleontological fossils. Based on these results, no further paleontological studies are required at this time. If project scope and or project areas change then additional paleontological studies may be needed.

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