
5.4 Cultural Resources

The cultural and paleontological resources of the proposed Esperanza Hills Specific Plan site are identified in this section. The potential impacts to the cultural and paleontological resources are also identified, along with associated mitigation measures that are proposed as necessary. The discussion of the site's cultural resources and paleontological resources is based on the "Archaeological and Paleontological Resources Assessment Update for the Esperanza Hills Project" prepared by Cogstone, dated January 2013, which is attached as Appendix F of this DEIR.

5.4.1 Existing Conditions

1. Cultural Setting

Esperanza Hills is located within unincorporated Orange County north of the SR-91 Freeway, south and west of Chino Hills State Park and adjacent to existing residential development in the City of Yorba Linda (City). The Proposed Project is east of San Antonio Road and north of Stonehaven Drive in the City of Yorba Linda. The Esperanza Hills property is currently largely undeveloped, with the exception of oil well operations in the western portion of the site. Graded portions of the site consist of dirt roads and pads for oil extraction equipment and general access to the property and to the Southern California Edison (SCE) transmission corridor. Site elevation ranges from approximately 600 feet above mean sea level (AMSL) at the southwest boundary to 1,540 feet AMSL at the property's northern boundary.

The rolling hills and ravines that characterize the Esperanza Hills property support a mix of habitats and land use types. This includes non-native grasslands with locally dominant stands of coastal sage scrub, chaparral, small stands of walnut and oak woodlands, and limited areas of riparian habitat. The Esperanza Hills property also includes disturbed habitats characterized as ruderal and disturbed/developed areas. Four drainages occur on-site.

The entire Esperanza Hills site was burned in the 2008 Freeway Complex Fire in the fall of 2008. The property has been utilized historically for animal grazing. Today the major use of the property is as open space, oil drilling operations, electric energy transmission associated with SCE, and water transmission for the Metropolitan Water District (MWD) and the Yorba Linda Water District. These existing and past land use practices are consistent with the current County of Orange General Plan Land Use designation of Open Space (5) and the Zoning Code designation of Agricultural (General) and Agricultural (O) for the property.

Acronyms used in this section:

ACOE	Army Corps of Engineers
AMSL	above mean sea level
CEQA	California Environmental Quality Act
DEIR	Draft Environmental Impact Report
IS/NOP	Initial Study/Notice of Preparation
MWD	Metropolitan Water District
NAHC	Native American Heritage Commission
SCE	Southern California Edison
USGS	U.S. Geological Survey

a. Prehistoric Context

The knowledge of the occupation of southern California by prehistoric man has changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists define a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains, which are remains of animals, as dating from about 7,000 to 3,000 years before the present as the “Millingstone Horizon.” The Millingstone Horizon has been redefined by archaeologists as a cultural tradition named the Encinitas Tradition.

The Encinitas Tradition has been defined in southern California to consist of four geographic patterns. These are (1) Topanga in coastal Los Angeles and Orange counties, (2) La Jolla in Coastal San Diego County, (3) Greven Knoll in inland San Bernardino, Riverside, Orange and Los Angeles counties and (4) Pauma in inland San Diego County.

About 3,500 years ago the Encinitas Tradition was replaced by the Del Rey Tradition in greater Los Angeles Basin with new settlement patterns, economic efforts, and artifact types that coincided with the arrival of a new, biologically distinctive population. Although the Encinitas Tradition has not been well defined it is proposed to be made up of the Takic groups from the Mojave Desert, the southern Sierra Nevada, and the San Joaquin Valley. The Del Rey Tradition is made up of Shoshonean groups from the Great Basin. Within the Del Rey Tradition are two patterns named Angeles and Islands. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California.

The latest cultural revisions for the understanding of the Project Area define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to inland Orange County (6500 B.C. to 1000 B.C.). This pattern is replaced in the Project Area by the Angeles pattern of the Del Rey Tradition (1500 B.C. to A.D. 1850). Each pattern has subdivisions as identified by specific changes in cultural assemblages through time. Phases are identified by their archaeological signatures in components within sites. Table 5-4-1 below is a summary of Encinitas Tradition and Angeles pattern of the Del Rey Tradition.

Greven Knoll sites tend to be in valleys such as the Project Area. The Greven Knoll dominantly used manos and mutates as tools, rather than pestles and mortars like coastal peoples, which may reflect the Greven Knoll population’s closer relationship with desert groups who did not exploit acorns. In Phase I, other typical characteristics were pinto darts, charm stones, coggled stones, absence of shell artifacts, and flexed position burials. Phase II is characterized by Elko dart points along with increased indications of gathering.

The Angeles pattern generally is restricted to the mainland with a largely terrestrial focus and greater emphasis on hunting and near-shore fishing. The Angeles pattern is divided into six phases that are defined by material traits and

other traits such as changes in settlement patterns, inhumations and cremations, fishing and hunting patterns, and religion.

Table 5-4-1 Cultural Change Chronology

Pattern	Phase	Dates (Years Before Present)	Material Traits	Other Traits
Encinitas	Greven Knoll I	8,500 to 4,000	Abundant manos and metates, Pinto dart points for atlatls or spears, charm stones, cogged stones and discoidals rare, no mortars or pestles, general absence of shell artifacts	No shellfish, hunting important, flexed inhumations, cremations rare
	Greven Knoll II	4,000 to 3,000	Abundant manos and metates, Elko dart points for atlatls or spears, core tools, late discoidals, few mortars and pestles, general absence of shell artifacts	No shellfish, hunting and gathering important, flexed inhumations, cremations rare
Angeles	Angeles I	3,500 to 2,600	Appearance of Elko dart points and an increase in the overall number of projectile points from Encinitas components; beginning of large-scale trade in small steatite artifacts (effigies, pipes, and beads) and <i>Olivella</i> shell beads from the southern Channel Islands; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones	Appearance of a new biological population (Tatic proto-Gab/Supan language), apparent population increase; fewer and larger sites along the coast; collector strategy; less overall dependence on shellfish but fishing and terrestrial hunting more important; appearance of flexed and extended inhumations without cairns, cremations uncommon
	Angeles II	2,600 to 1,600	Continuation of basic Angeles I material culture with the addition of mortuary features containing broken tools and fragmented cremated human bone; fishhooks become more common	Continuation of basic Angeles I settlement and subsistence systems; appearance of a new funerary complex
	Angeles III	1,600 to 1,250	Appearance of bow and arrow technology (e.g., Marymount or Rose Spring points); changes in <i>Olivella</i> beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso	Larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods; possible expansion into eastern Santa Monica Mountains, replacing Topanga III groups
	Angeles IV	1,250 to 800	Cottonwood points appear; some imported pottery appears; birdstone effigies at the beginning of the phase and “spike” effigies dropped by the end of the phase; possible appearance of ceramic pipes	Change in settlement pattern to fewer but larger permanent villages; flexed primary inhumations continue, cremations uncommon; expansion into the San Gabriel Mountains, displacing Greven Knoll III groups
	Angeles V	800 to 450	Trade of steatite artifacts from the southern Channel Islands becomes more intensive and extensive, with the addition or increase in more and larger artifacts, such as vessels and comals; larger and more elaborate effigies	Strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills; development of mainland dialects of Gabrielino
	Angeles VI	450 to 150	Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled <i>Olivella</i> beads	Change of settlement pattern, movement close to missions and ranches; use of domesticated species obtained from Euroamericans; flexed primary inhumations continue, cremations uncommon to the north (nearer the Chumash) but somewhat more common to the south (nearer the Luisefño); apparent adoption of Chingichngish religion

b. Ethnography Context

“Ethnography” is the study and systematic recording of human cultures. Early Native American peoples of the Project Area are poorly understood. They were replaced about 3,500 years ago by Native Americans now known as the Gabrielino (Tongva). The Gabrielino speak a language that is part of the Takic language family. Their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 miles. Prehistoric Gabrielino/Tongva communities near the Esperanza Hills project are Hotuuknga and Pazavzanga to the south and southeast, Pashinonga to the north and Wapijanga to the northeast. At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people. Exhibit 5-37 – Prehistoric Gabrielino/Tongva Communities near Esperanza Hills indicates the location of prehistoric communities near the Project Site.

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with. Houses were domed, circular structures thatched with tule or similar materials. The best known artifacts were made of steatite (soapstone) and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship.

The main food zones utilized were marine, woodland, and grassland. Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems and roots for medicinal cures as well as beverages.

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turban, mussels, clams, scallops, and bubble shells.

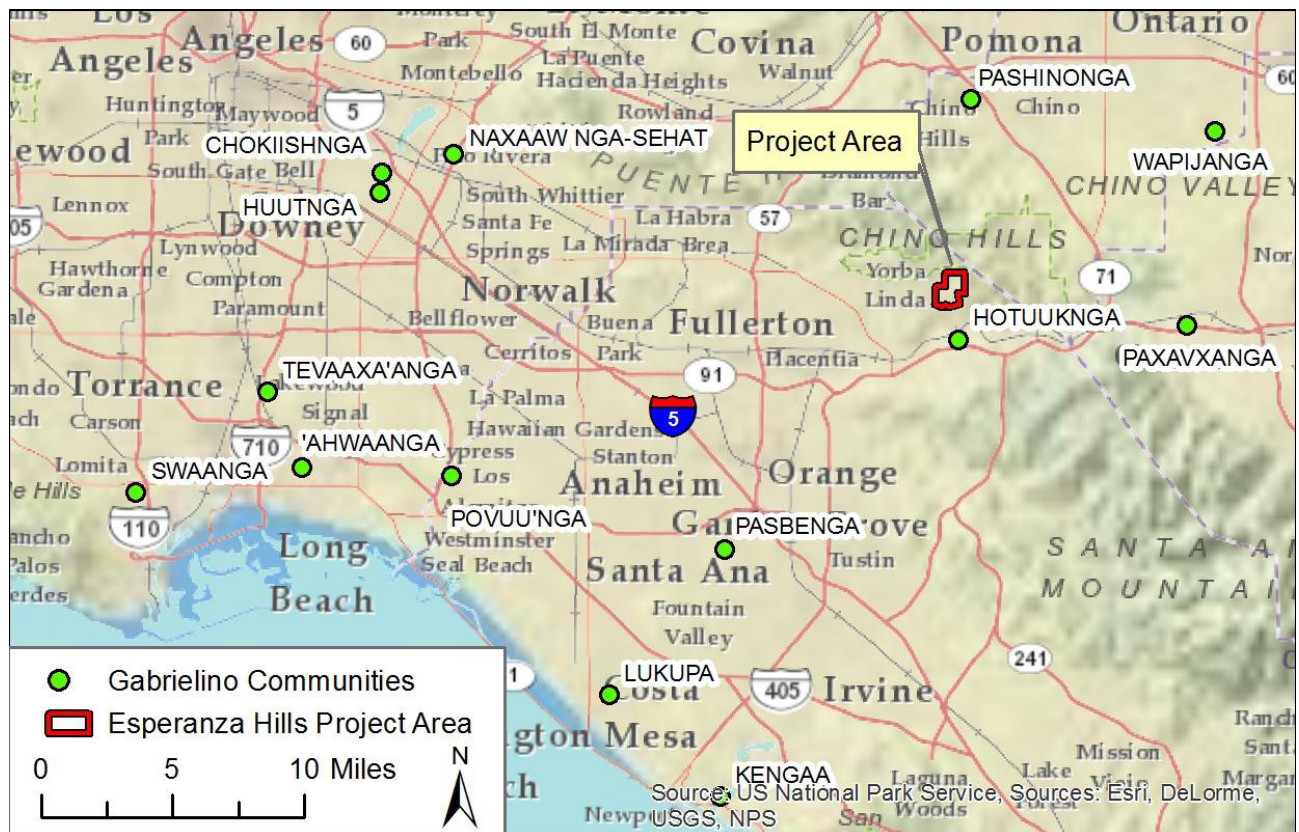


Exhibit 5-37 – Prehistoric Gabrielino/Tongva Communities

c. Historic Context

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino. Between 1769 and 1822 the Spanish had colonized California and established missions, presidio and pueblos.

In 1821 Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, giving the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of grants, to private owners. Ranchos in California numbered over 500 by 1846, all but approximately 30 of which resulted from land grants.

California was granted statehood in 1850 and although the United States promised to honor the land grants, the process of defining rancho boundaries and proving legal ownership became time consuming and expensive. Legal debts led to bankruptcies and the rise in prices of beef, hide, and tallow. This combined with flooding and drought was detrimental to the cattle industry. Ranchos were divided up and sold inexpensively.

The southern portion of the Project Area lies within the boundaries of the former Rancho Canón de Santa Ana, a land grant issued to Bernardo Yorba in 1834. Exhibit 5-38 – Land Grant Map indicates the historic location of the Project Site. Bernardo and his brothers utilized the land as a ranch. In 1866 the grant was recognized by the United States and patented to Bernardo Yorba. In 1868 the Yorba ranch lands were divided among the descendants.

The southern portion of the Project Area has been passed down among members of the Carrillo family since the 19th century. The Project Area has mostly been used for cattle ranching in the past. There has also been 20th century oil exploration, drilling and pumping.

In 1958, a portion of the property on the west, consisting of the 33-acre site owned by Yorba Trails, LLC was created as part of a partition judgment entered by the Orange County Superior Court, which is still owned by descendants of the Carrillo Family.

The northern portion of the property has been held by the Nicholas Long family, who originally received it through a land grant in the 1800s.

The 277 acres currently owned by Yorba Linda Estates, LLC was owned by the Anaheim Water Company, which conveyed it to David Murdock and Castle & Cooke in 1979. Yorba Linda Estates purchased the property in 2011.

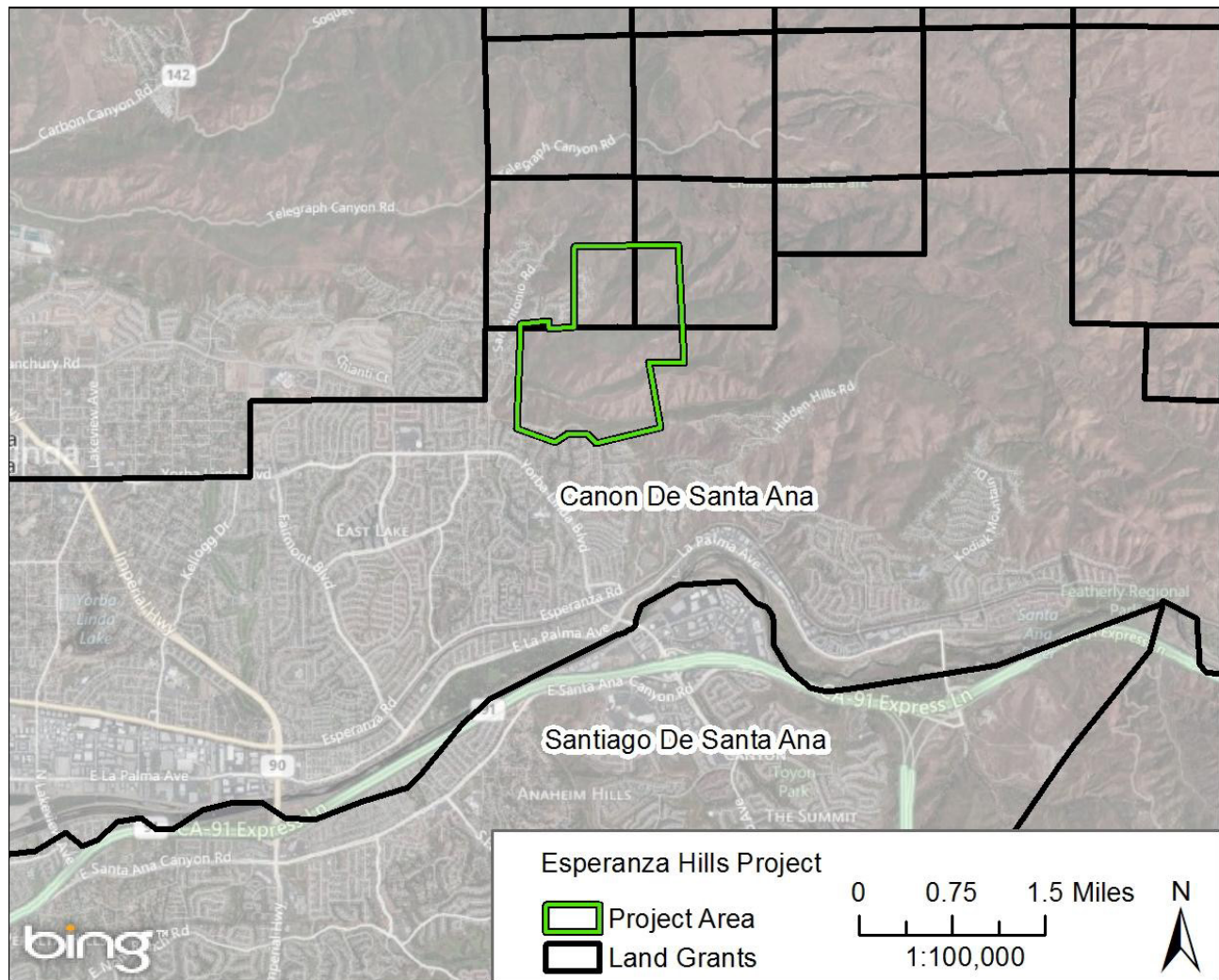


Exhibit 5-38 – Land Grant Map

d. Existing Cultural Resources

The archaeological and historical records search determined that there are no known cultural resources within the Project Site boundaries. A total of 18 cultural resources have been documented previously within a one-mile radius of the Project Site. Prehistoric resources number 16 and include 9 isolates and 7 sites. In addition, an historic resource consisting of power lines, towers, and a substation is known to exist in the area, along with an historical archaeological resource consisting of remnants of pipes and basins for a cattle water station. None of the previously-recorded resources were determined eligible for the National Register of Historic Places.

Native American consultation for this project was conducted in 2008 in compliance with consultation requirements of Senate Bill 18 (Burton). The Native American Heritage Commission (NAHC) reported no sacred lands known in the vicinity – i.e., “sacred sites” as defined by the NAHC and the California Legislature in *California Public Resources Code* §5097.94(a) and §5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to *California Government Code* §6254(r). The NAHC recommended that a dozen individuals or tribes be consulted for further information. Letters were sent to all in June 2008. Two responses were received. Neither offered specific information about resources within the Project Area but stated concerns about sensitivity and requested Native American monitoring. In addition, the NAHC was contacted during the IS/NOP process in December 2012. A response from NAHC requested that additional information be sent to NAHC and local representatives during the DEIR public review process.

An intensive pedestrian survey of the Project Area for archaeological and paleontological resources was conducted after the 2008 Freeway Complex Fire, when the area was clear of vegetation. No paleontological, prehistoric, or historical archaeological or historic (built environment) resources were observed. Portions of the Project Area have been included in five additional surveys; no resources were observed by any of the archaeologists.

A survey update was performed in October 2012. Most of the Project Area consists of slopes of more than 45 degrees covered only with sparse vegetation, and no resources were visible. The canyons between the three hills of the Proposed Project were densely vegetated and impassible.

2. Paleontological Resources

a. Geological Setting

The eastern Puente Hills, also known as the Chino Hills, of the Project Area are made up of middle Miocene to early Pliocene (16 million to 3.6 million years old) marine sedimentary rock units overlain in some areas by Pleistocene Epoch (1.8 million to 10,000 years old) terrestrial sediments. Beginning about 2.3 million years ago, the ocean extended well past the modern shoreline and

covered the Project Area. The Miocene and early Pliocene sediments were deposited as submarine fans at bathyal (3,300 to 13,000 feet) depths. Tectonic events about 5 million years ago including uplift of local mountains and subsidence of valleys resulted in withdrawal of the ocean and the beginning of river and stream cutting of channels into the exposed sediments.

“Stratigraphy” is a branch of geology that studies rock layers and layering. Stratigraphy of the Project Area is mapped (Exhibit 5-39 – Project Geology) as mostly Monterey Formation, with smaller components of Sycamore Canyon Formation, Quaternary Older alluvium, Quaternary alluvium and Quaternary landslide deposits.

1. **Monterey Formation.** The lowest member of the Monterey Formation is the La Vida Member (Tmlv). The La Vida Member is exposed in the northern portion of the property. The La Vida is characterized by soft gray micaceous siltstone, hard, platy, locally laminated calcareous siltstone, and thin isolated beds of silty medium-grained sandstone.

The Soquel Sandstone Member (Tmss) overlies the La Vida Member and primarily consists of thick sequences of biotite-bearing feldspathic sandstone and conglomerate, with occasional thin beds of shale and sandstone. This unit is exposed in the northern portion of the property.

Overlying the Soquel Sandstone Member is the Yorba Member (Tmy). The Yorba Member consists of thinly bedded and occasionally diatomaceous siltstone, with interbeds of sandstone and limestone. This unit is exposed in the central portion of the property. Fish and microfossils from this unit, deduced to be the Yorba Member, have been reported and deposited in water greater than 1,800 feet deep.

Clay shale facies (Tmc) and unassigned sandstone (Tms) have been recognized as units that crop out in the southwestern corner of the Project Site area, south of the Whittier Fault. The age and any fossils that might occur in these units are unknown.

2. **Sycamore Canyon Formation.** The Sycamore Canyon Formation (Tscs) is exposed at the surface in the southwestern portion of the property, south of the Whittier Fault. It is mostly moderately indurated marine clastic sediments. In the Project Area, the Sycamore Canyon Formation is described as coarse to fine-grained, arkosic, and occasionally conglomeratic. The basal Sycamore Canyon Formation is described as coarse-grained, poorly sorted, feldspathic, micaceous sandstone. Higher in the section, the Sycamore Canyon Formation is finer-grained, and contains interbeds of siltstone and sandy siltstone.

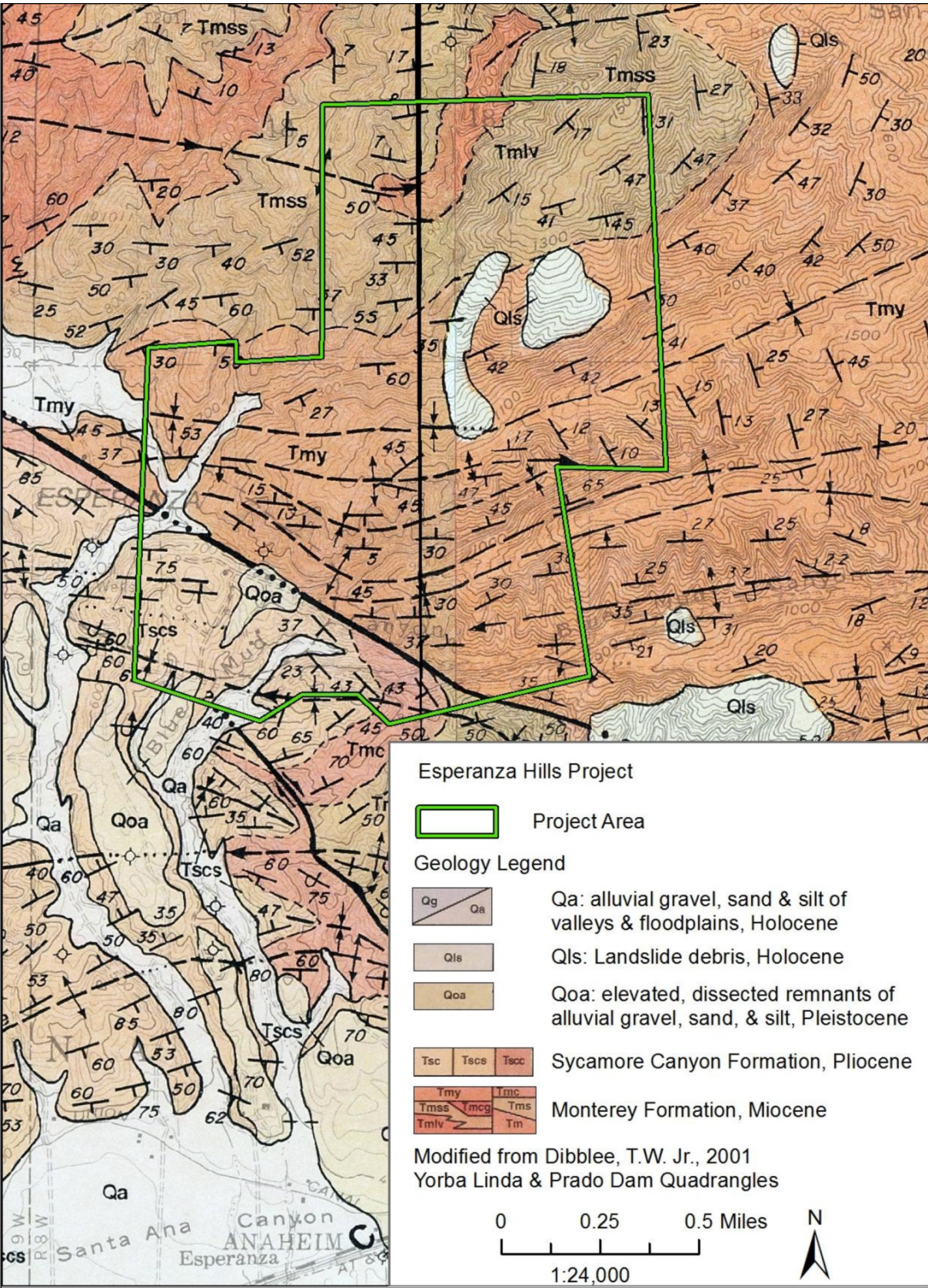


Exhibit 5-39 – Project Geology

3. **Quaternary Older Alluvium.** Pleistocene Epoch Quaternary Older Alluvium (Qoa) is mapped at the surface in the vicinity of the drainages. Analysis indicates that the alluvial sediments consist of decomposed Monterey and Sycamore Canyon Formation rocks of the local area.
4. **Quaternary Alluvium.** Holocene Epoch Quaternary alluvium (Qa) is surficial deposits in the southwestern portion of the project composed of alluvial gravel, sand, and silt.
5. **Quaternary Landslide Debris.** Holocene Quaternary landslide (Qls) sediments are comprised of missed soil, rubble, and displaced bedrock blocks resulting from slope failure.

b. Paleontology

A record search was conducted by staff of the Natural History Museum of Los Angeles County for resources within the Project Area and one mile radius. In addition, known records within ten miles from other sources were also checked, including records held by Chino Hills Historical Museum, Loma Linda University, California State University San Bernardino, and San Bernardino County Museum.

No fossils are known within the Project Area or a one-mile radius. Fossils known nearby are from some of the same rock units that occur in the Project Area and were recovered during subsurface excavations for development in the City of Chino Hills to the east.

Fossils known from the middle Miocene Monterey Formation include a wide variety of birds, marine mammals, bony fishes, cartilaginous fishes, invertebrates and marine and terrestrial plants. The marine mammals are mostly whales and dolphins plus seals and sea lions. The bony fishes include sabertoothed salmon, cod, herrings and sardines, bonito, mackerel, croaker, barracuda and many types of deep water species such as dragonfish, viperfish, lanternfish and others. Cartilaginous fishes include white, mako and basking sharks. Invertebrates include many types of snails, clams, scallops, and barnacles. Marine plants are various types of seaweed, kelp, and algae. The terrestrial plants are mostly leaves that were washed into the ocean by streams and rivers. They include a wide variety including oak, laurel, willow, fan palm, sycamore, maple, alder, birch, walnut, fig, avocado, and grasses.

Fossils known from the Pliocene Sycamore Canyon Formation represent an assemblage similar to that of the Monterey Formation. However the sample is much smaller and thus no significance can be assigned to the reduced number of fossil animals and plants known in the younger rock unit.

Fossils known from the Pleistocene Quaternary older alluvium include mammoth, ground sloths, giant horse, western horse, bison, deer, and rodents. Prior to discovery of giant horse in Chino Hills in 2008, all previous occurrences

were in the California deserts. The other known species are relatively common in the Pleistocene of the greater Los Angeles area.

An intensive pedestrian survey of the entire Project Area was conducted in 2008 for archaeology and paleontology. No paleontological resources were observed.

5.4.2 Regulatory Setting

The County of Orange General Plan Resource Element (Cultural-Historical Component) establishes goals, policies, and implementation measures for historical, archaeological, and paleontological resources for development projects within Orange County. The Cultural-Historical Component identifies the County's historical, archaeological, and paleontological resources and identifies, evaluates, and provides criteria to preserve these resources in the event they are discovered during development activities.

Goal 2 contained in the Cultural-Historical Component is to "encourage through a resource management effort the preservation of the county's cultural and historic heritage." Objective 2.2 states, "Take all reasonable and proper steps to achieve the preservation of archaeological and paleontological remains, or their recovery and analysis to preserve cultural, scientific, and educational values." Objective 2.3 states, "Take all reasonable and proper steps to achieve the preservation and use of significant historic resources including properties of historic, historic architectural, historic archaeological, and/or historic preservation value."

The Cultural-Historical Component of the Orange County General Plan establishes the following policies to address archaeological, paleontological, and historical resources to be implemented at appropriate stage(s) of planning and the processing of a project application, as follows:

- Identification of resources shall be completed at the earliest stage of project planning and review such as general plan amendment or zone change.
- Evaluation of resources shall be completed at intermediate stages of project planning and review such as site plan review, subdivision map approval, or at an earlier stage of project review.
- Final preservation actions shall be completed at final stages of project planning and review such as grading, demolition, or at an earlier stage of project review.

5.4.3 Thresholds of Significance

For the purposes of this DEIR, the thresholds of significance for evaluation of project impacts are based upon suggested criteria from the County of Orange Environmental Checklist and the CEQA Environmental Checklist found within Appendix G of the CEQA Guidelines. The project would result in a significant impact if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 *[of the CEQA Guidelines]*
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
- d) Disturb any human remains, including those interred outside of formal cemeteries

CEQA Guidelines §15064.5 provides a detailed explanation of historical and archaeological guidelines for determining the significance of impacts on historical and unique archaeological resources.

5.4.4 Project Impacts Prior to Mitigation

The following is a summary of project impacts prior to implementation of mitigation measures. The Proposed Project will involve cutting of existing slopes to varying depths and filling of portions of canyon areas, provided that approval is received from the Army Corps of Engineers (ACOE). In addition, some cutting will occur in canyons to permit installation of drainage features prior to filling. The two project access options, Option 1 and Option 2, have slightly different cut and fill designs associated with each conceptual grading plan. Exhibit 5-40 – Cut and Fill Map, Option 1 and Exhibit 5-41 – Cut and Fill Map, Option 2 depict the grading designs for each option. The project impacts on cultural resources for Option 1 and Option 2 are the same. Based on the information in the “Archaeological and Paleontological Resources Assessment Update” prepared by Cogstone in January 2013 and previous reports for the Project Area the cultural resources impacts are discussed below.

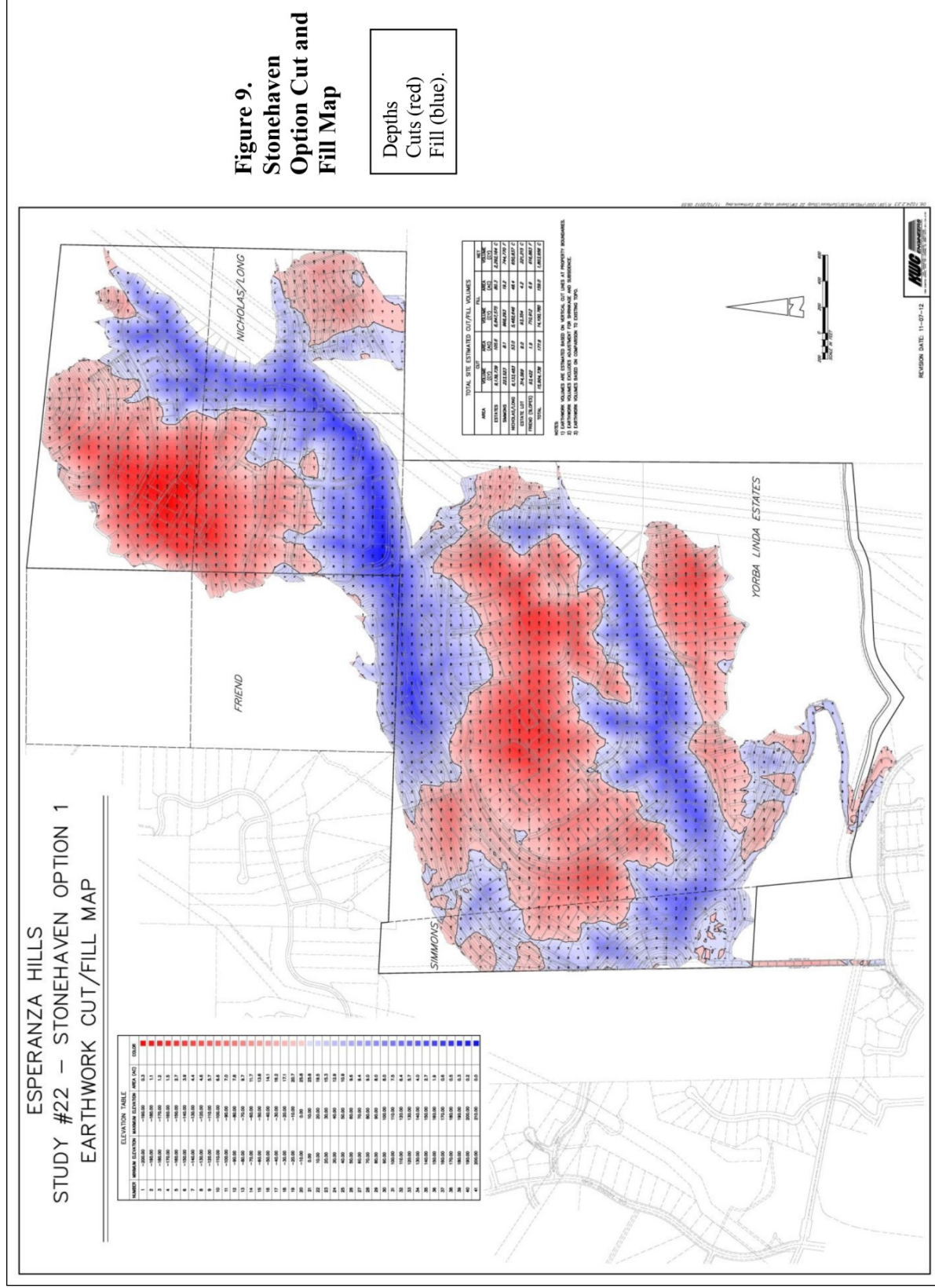


Exhibit 5-40 – Cut and Fill Map, Option 1

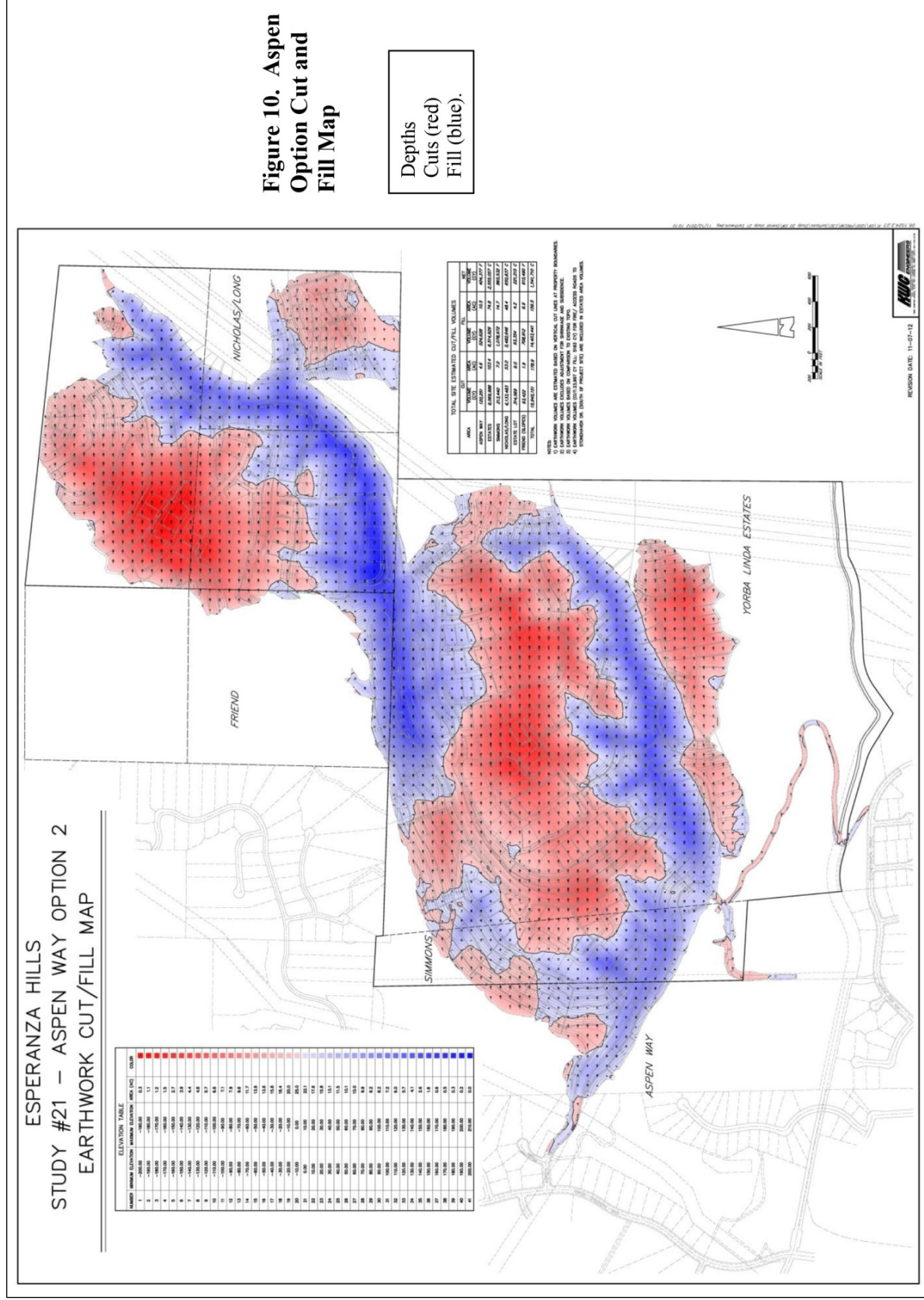


Exhibit 5-41 – Cut and Fill Map, Option 2

1. Cultural and Historic Resources

Cultural resources impact analysis for the Proposed Project Site determined that there is no evidence of historical resources, archaeological resources, or human burials within the project boundaries. The archaeological and historical records research determined that there are no known cultural resources within the Project Area boundaries. A total of 18 cultural resources have been documented previously within a one-mile radius of the Project Area. Prehistoric resources number 16 and include 9 isolates and 7 sites. In addition a historic resource consisting of power lines, towers and a substation is known to exist along with historical archaeological resource consisting of remnants of pipes and basins of a cattle watering station. None of the previously-recorded resources were determined eligible for the National Register of Historic Places and are therefore not significant. Table 5-4-2 below is a summary of recorded sites within a one-mile radius of the project.

Table 5-4-2 Recorded Sites within One Mile Radius

Primary No.	Site Type	Date Recorded	USGS Quad Name	Distance from Area
P-30-000848	Prehistoric milling stone site, containing of manos, hammer stones, and lithic flakes	1979	Yorba Linda	Within ¼ mile
P-30-001650	Prehistoric ground stone scatter	2005	Yorba Linda	Within 1 mile
P-30-100116	Prehistoric hand stone isolate	n/a	Yorba Linda	Within 1 mile
P-30-100117	Prehistoric hand stone isolate	n/a	Yorba Linda	Within 1 mile
P-30-100118	Prehistoric hand stone isolate	n/a	Yorba Linda	Within 1 mile
P-30-100119	Prehistoric hand stone isolate	n/a	Yorba Linda	Within 1 mile
P-30-100120	Prehistoric hand stone isolate	n/a	Yorba Linda	Within 1 mile
P-30-100314	Prehistoric discoidal isolate	1978	Yorba Linda	Within ¼ mile
P-30-100315	Prehistoric bifacial hand stone isolate	1978	Yorba Linda	Within ¼ mile
P-30-120007	Prehistoric boulder and cobble outcrops with surface scatter. Update could not relocate previous artifacts.	1976	Prado Dam	Within ½ mile
P-30-120008	Prehistoric boulder and cobble outcrops with surface scatter. Update could not relocate previous artifacts.	1980	Prado Dam	Within ½ mile
P-30-120009	Prehistoric boulder and cobble outcrops with surface scatter. Update could not relocate previous artifacts.	1980	Prado Dam	Within ¾ mile
P-30-120010	Prehistoric boulder and cobble outcrops with surface scatter. Update reported that any prehistoric material was destroyed during mining activities.	1980	Prado Dam	Within 1 mile
P-30-179857 and P-36-013627	Historic power lines, towers, and substation	2007	Prado Dam/ Yorba Linda	Within ½ mile
P-36-012493	Prehistoric site consisting of milling artifacts, FAR, and bone.	2005	Prado Dam	Within 1 mile
P-36-019847	Historic watering station for cattle consisting of pipes and basins	2008	Prado Dam	Within 1 mile
P-36-060007	Prehistoric quartz chopper isolate	1983	Prado Dam	Within 1 mile
P-36-060008	Prehistoric mano isolate	1983	Prado Dam	Within 1 mile

In addition, a variety of sources were consulted in November 2012 to obtain historical information regarding the Project Area. Table 5-4-3, Additional Sources Consulted provides a summary of the sources consulted and the results. As depicted in Table 5-4-3, there are no known historical resources of significance within the Project Site.

Table 5-4-3 Additional Sources Consulted

Source	Results
National Register of Historic Places (1979-2002 & Supplements)	Negative
Historic United States Geological Survey topographic maps	Shows late 20 th /early 21 st century agriculture
Historic United States Department of Agriculture aerial photos	Shows late 20 th /early 21 st century agriculture
California Register of Historic Resources (1992-2010)	Negative
California Register of Historic Resources (1976-2010)	Negative
California Historic Landmarks (1995 and supplements to 2010)	Negative
California Points of Historical Interest (1992-2010)	Negative
California Department of Transportation Historic Bridge Inventory (Caltrans 2007)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Shows 4 owners

The Project Area is within the traditional tribal territory of the Gabrielino/Tongva. A sacred land record search was requested from the Native American Heritage Commission (NAHC) in 2008. The NAHC replied on June 18, 2008 that no sacred lands are known within one-half mile of the Project Site. The NAHC was sent a copy of the Initial Study and Notice of Preparation for this DEIR. A letter was received on December 28, 2012 listing state and federal statutes relating to Native American historic properties and resources.

The “Archaeological and Paleontological Resources Assessment Update” for the Proposed Project (Appendix F to this DEIR) determined based on field observation and historic data search, as well as previous consultation with a representative of the Gabrieleno/Tongva San Gabriel Band of Indians and a representative of the Juaneño Band of Mission Indians, that there is no indication of human remains or burials within the Project Site. However, if human remains are encountered unexpectedly during construction excavation and grading activities, state laws will apply concerning human remains. *California Health and Safety Code* §7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to *California Public Resources Code* §5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The NAHC will then identify a Most Likely Descendent who will provide recommendations as to the future disposition of the remains. Per *California Public Resources Code* §5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices and taking into account the possibility of multiple human remains, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendent, as prescribed in *California Public Resources Code* §5097.98.

An intensive pedestrian survey of the Project Area for historic and archaeological resources was conducted in 2008 before the 2008 Freeway Complex Fire, and no prehistoric or historical archaeological or historical (built environment) resources were observed.

The “Archaeological and Paleontological Resources Assessment Update” (Appendix F to this DEIR) concludes, based on historical data, records search, on-site surveys, and observations by qualified experts, that there is no evidence of historical or archaeological resources within the Proposed Project boundaries, and there is no indication of human remains. Therefore, the project impact on historical and archaeological resources, as well as project impact to disturb human remains, is less than significant. However, there is a potential that unanticipated cultural resources could be discovered during ground-disturbing activities such as site grading that could have the potential to significantly impact cultural resources if not mitigated.

2. Paleontological Resources

No fossils are known within the Project Area or a one-mile radius. Fossils are known nearby from some of the same rock units that occur in the Project Area. These include Miocene and Pliocene marine fishes in addition to marine mammals and plants. Pleistocene fossils of the last ice age are also known.

A survey update was performed by Cogstone in October 2012 for the Project Site. Filled-in locations of nine large geotechnical fault testing trenches were clearly visible in canyon areas consisting of Quaternary alluvium underlain by Quaternary older alluvium. Radiocarbon dates from the bottom of these trenches were as old as 14,000 years before the present, representing the late Pleistocene.

As discussed above, the project will involve cutting of slopes to approximately 200 feet below current surface and filling of canyon areas. In addition, some cutting will occur in canyons to permit installation of drainage features prior to filling. This deep cutting into Miocene formation known to produce significant vertebrate paleontological resources nearby has potential to impact fossils that may contribute information new to science that could result in a potential significant impact to paleontological resources if not mitigated.

5.4.5 Mitigation Measures

The “Archaeological and Paleontological Resources Assessment Update” for the Proposed Project (Appendix F to this DEIR) determined that there is no evidence of historical resources, archaeological resources, or human burials within the project boundaries. No fossils are known within the Project Area or a one-mile radius. Fossils are known nearby from some of the same rock units that occur in the Project Area. Nonetheless, in the event such resources are encountered during the grading and excavation phase of the Proposed Project, the following mitigation measures are recommended.

Cultural Resources

- CR-1 Prior to the issuance of any grading permit, a grading note shall be added to the grading plan that states: “If any unanticipated cultural resources, including human remains, are discovered during ground-disturbing activities; work in that location shall be temporarily diverted a minimum of 25 feet away until a County qualified archaeologist can evaluate the find. Recommendations by the archaeologist and as approved by the County of Orange Planning Manager shall be complied with for any further ground-disturbing work.”

Paleontological Resources

- CR-2 Prior to the issuance of any grading permit, the Project Applicant shall prepare and submit to the Manager, OC Planning for review and approval a Paleontological Resources Mitigation Plan as detailed in the “Archaeological and Paleontological Resources Assessment Update” for the Esperanza Hills Project, dated January 2013, prepared by Cogstone. The Paleontological Resources Mitigation Plan shall include the following: 1) paleontological resources awareness training for all earthmoving personnel, 2) monitoring of excavations more than five feet below the current surface (not for shallow excavations), 3) adjustments by the principal paleontologist to monitoring requirements based on fossil yield, depth and location of impact, and 4) recovery and curation of fossils meeting the significance criteria established in the Paleontological Resources Mitigation Plan.

5.4.6 Level of Significance after Mitigation

The Proposed Project, with mitigation, is consistent with the Cultural-Historical Component of the Orange County Resources Element, because any discovered cultural resources within the Project Site will be identified, evaluated, and preserved.

The Proposed Project will not cause a substantial adverse change in the significance of a historical or archaeological resource as defined in §15064.5 of the CEQA Guidelines. No cultural resources, including human remains, are known to exist within the Project Site. However, a mitigation measure has been developed to address unanticipated discovery of cultural resources during project grading operations. With implementation of the recommended mitigation measures any project impacts to cultural resources will be reduced to a less than significant level.

The Proposed Project will not directly or indirectly destroy a unique paleontological resource or site, or a unique geological feature. No fossils or paleontological resources are known within the Project Area. Fossils are known nearby from some of the same rock units that occur in the Project Area. However, a mitigation measure has been developed to address project impacts to paleontological resources during project grading operations. With implementation of the recommended mitigation measures any project impacts to cultural resources will be reduced to a less than significant level.

5.4.7 Cumulative Impacts

With mitigation, development of the Proposed Project (Option 1 and Option 2) is not anticipated to significantly impact cultural or paleontological resources within or adjacent to the site boundaries. Individual project impacts are evaluated and mitigated on a project-by-project basis. Project development in combination with other cumulative projects would not significantly alter any regional or cumulative cultural, scientific, or historic resources.

5.4.8 Unavoidable Adverse Impacts

With implementation of the recommended mitigation measures, impacts to cultural, scientific, or historic resources will be reduced to a less than significant level and therefore there are no unavoidable adverse impacts to cultural resources associated with the development of the Proposed Project.