Appendix E

Archaeology Report

Appendix E1

Archaeological Resource Assessment for the Olive View-UCLA Medical Center Master Plan EIR

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

ARCHAEOLOGICAL RESOURCES ASSESSMENT FOR THE OLIVE VIEW-UCLA MEDICAL CENTER MASTER PLAN EIR, LOS ANGELES COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

Cogstone Resource Management, Inc. (Cogstone) was contracted by ICF Jones & Stokes Inc. (ICF) to provide an archaeological assessment of the Olive View UCLA Medical Center Campus located at 14445 Olive View Drive in the City of Sylmar, Los Angeles County, California in support of the facility's Master Plan Environmental Impact Report (EIR). The Master Plan will guide future development of the campus and the delivery of health care services and health related community programs. For the purposes of the EIR, two tiers of development will be analyzed. Tier I entails near-term projects constructed before 2035, including an Ambulatory Care Center, research and development buildings, a Community Center, improvements to the existing hospital, appurtenant parking facilities, and other medical center campus improvements that would be located predominantly in the eastern third of the current campus. Tier II development would occur beyond 2035, and would include the construction of a new inpatient hospital, support services building, mental health outpatient care facility, long-term care and recuperative housing, retail space, County department buildings, and the reuse and renovation of the existing inpatient hospital for other purposes.

A search for archaeological and historical records was completed by Cogstone at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton on January 28th, 2016. The record search determined that two historic built environment resources and one historic district were recorded within the Project Area. The historic district for the Olive View-UCLA Medical Center, P-19-175294 is located within both Tier I and Tier II Project Areas. Also located within Tier I is P-19-187900 consisting of foundations for the Laundry and Linen Buildings within the Olive View Tuberculosis Sanitarium Complex. Within Tier II is P-19-003794 which consists of a concrete foundation and sidewalk associated with the Men's Solarium Wards 121 & 124 as well as a concrete subterranean transformer vault.

The Los Angeles Department of Public Works conducted Tribal Consultation. No Tribal Cultural Resources were identified in the project area.

Cogstone conducted an intensive pedestrian survey of the 138.6 acre project area on February 15th, 2016. Approximately 35.4 acres were inaccessible due to fencing with lock gates. Ground visibility outside of the hardscaped environment was poor at less than 10 percent due to the ornamental landscaping and vegetation cover, specifically grasses from the recent winter rains. Portions of the three previously recorded cultural resources were observed during the survey. No archaeological resources were previously recorded or observed during the survey.

Based on the results of the record search and land use history, both Tier I and Tier II Project Areas demonstrate moderate sensitivity for historical archaeological deposits associated with the

hospital complex and preexisting farmhouses. Tier I and Tier II Project Areas exhibit a low sensitivity for prehistoric archaeological resources. In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until it is evaluated by a qualified archaeologist.

Further, if human remains are unearthed during excavation, State Health and Safety Code Section 7050.5 states "there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered... [has made the appropriate assessment, and] …recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code."

INTRODUCTION

PURPOSE OF STUDY

The purpose of this study is to determine the potential adverse impacts to archaeological resources located within the Olive View-UCLA Medical Center Master Plan Project. This technical study provides environmental documentation as required by the California Environmental Quality Act (CEQA). The Olive View-UCLA Medical Center campus comprises 235 acres and is located at 14445 Olive View Drive in the neighborhood of Sylmar, Los Angeles County, California (Figure 1).

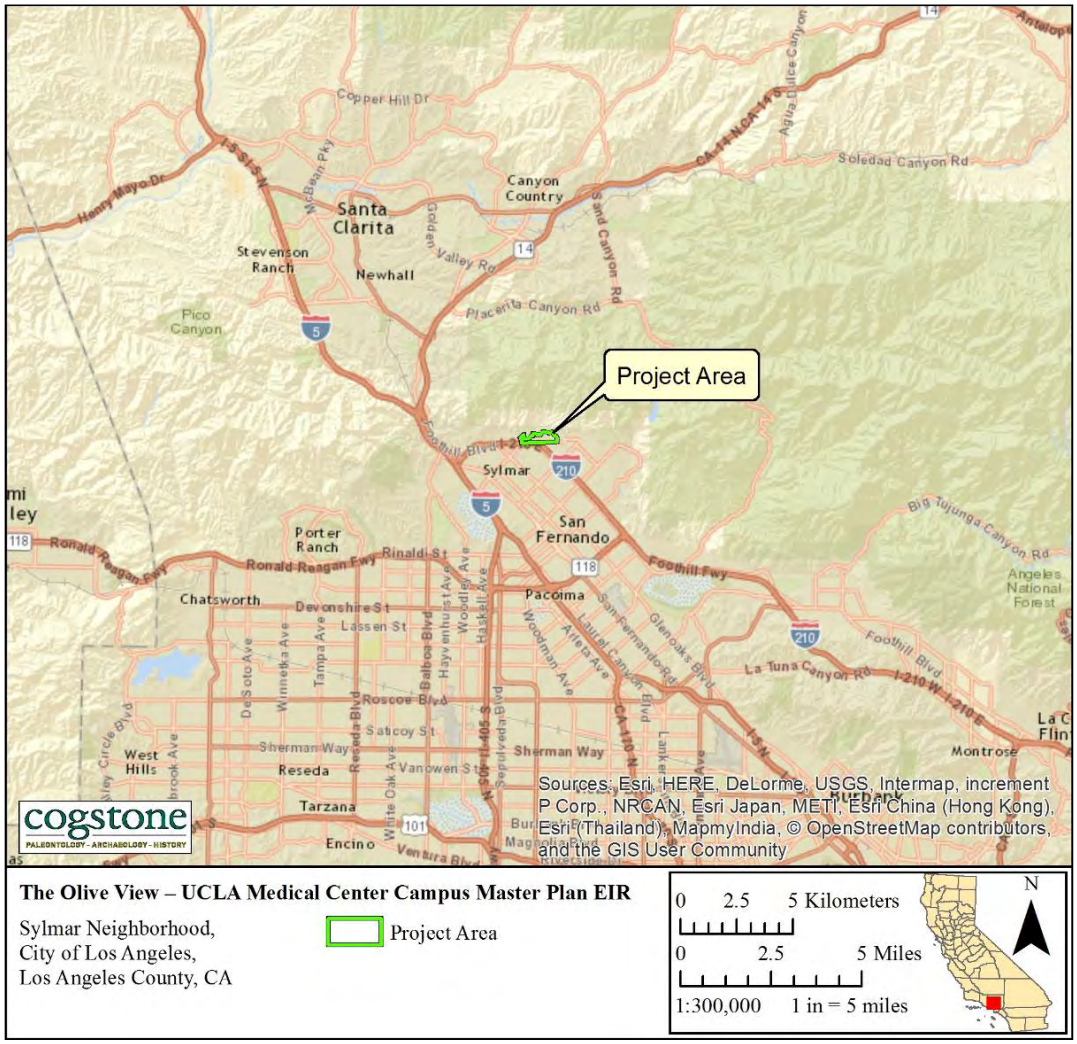

Figure 1. Project Vicinity

PROJECT LOCATION

The campus is bounded by the Angeles National Forest on the north, Olive View Drive on the south, Wilson Canyon Channel on the east, and Bucher Avenue on the west. Specifically, the Project is located on the San Fernando 7.5-minute United State Geological Survey (USGS) topographic map within sections 21 and 22 of Township 3 North, Range 15 West the San Bernardino Base Meridian (Figure 2 and Figure 3).

PROJECT DESCRIPTION

An Environmental Impact Report (EIR) will be prepared for the proposed Olive View-UCLA Medical Center Campus Master Plan Project. The Master Plan will guide future development of the campus and the delivery of health care services and health related community programs. For the purposes of the EIR, two tiers of development will be analyzed. Tier I entails near-term projects constructed before 2035, including an Ambulatory Care Center, research and development buildings, a Community Center, improvements to the existing hospital, appurtenant parking facilities, and other medical center campus improvements that would be located predominantly in the eastern third of the current campus. Tier II development would occur beyond 2035, and would include the construction of a new inpatient hospital, support services building, mental health outpatient care facility, long-term care and recuperative housing, retail space, County department buildings, and the reuse and renovation of the existing inpatient hospital for other purposes. Full build-out of the Master Plan could result in a total of approximately 1,965,300 square feet of development throughout the campus (Figure 4).

Ground disturbance for full build-out of the Master Plan could result in approximately 251,000 cubic yards of cut work and 70,000 cubic yards of fill to construct new campus buildings and structures. Additional earth disturbance for the proposed landscaping improvements on campus is anticipated to be shallow and proportionately insignificant.

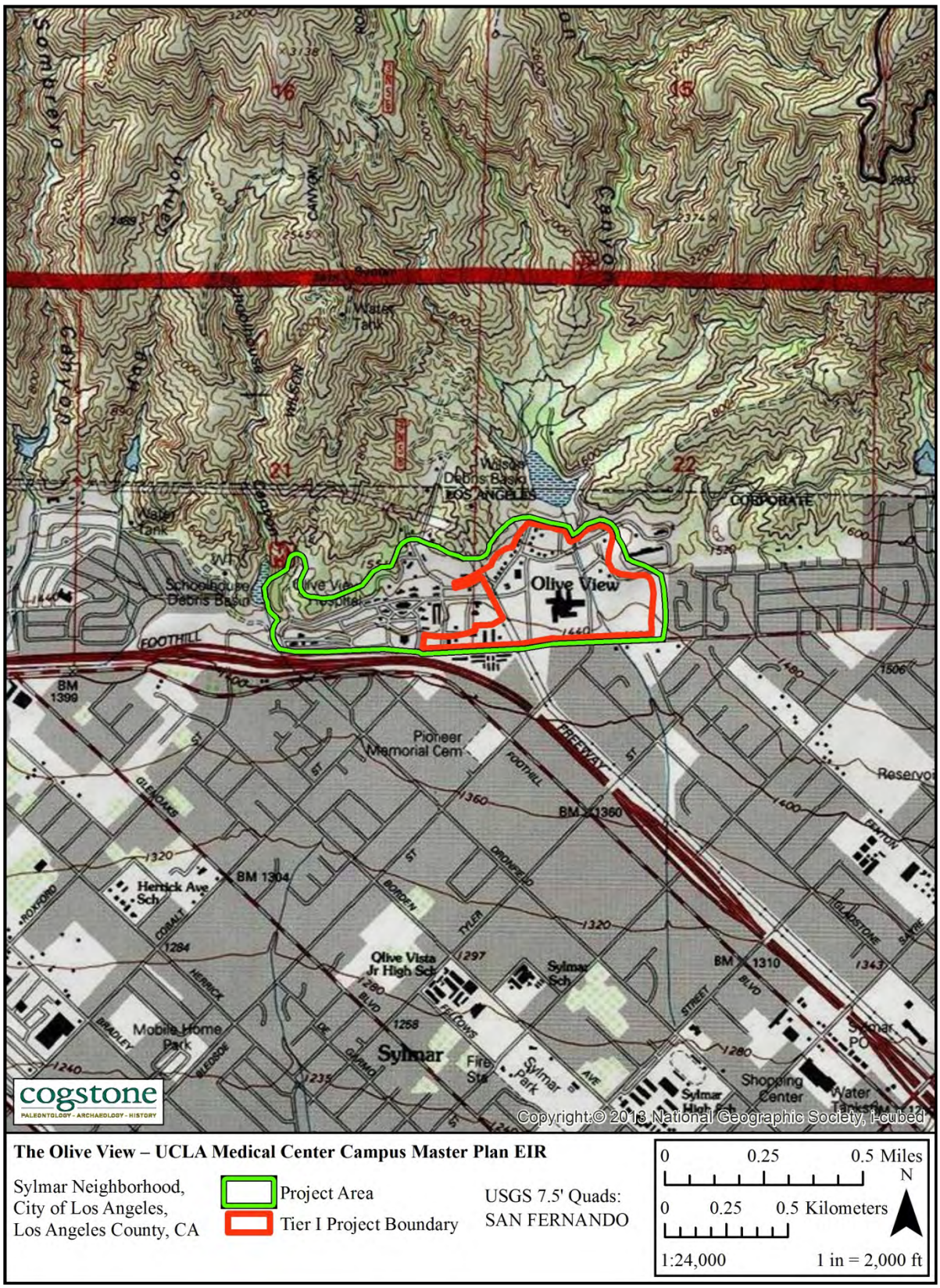

Figure 2. Project location map

Figure 3. Project Aerial

Figure 4. Olive View-UCLA Medical Center Master Plan.

PROJECT PERSONNEL

Cogstone Resource Management, Inc. (Cogstone) conducted the cultural resources studies for this report. Sherri Gust, M.A. served as Quality Control and wrote the prehistoric setting section of this report. Ms. Gust has over 35 years of experience in California Archaeology. Molly Valasik served as Project Manager for the project and wrote portions of this report. Ms. Valasik is a Registered Professional Archaeologist. She has a M.A. in Anthropology from Kent State University in Ohio and over seven years of experience in California archaeology.

Justin Lev-Tov served as Principal Investigator. Dr. Lev-Tov received his Ph.D. in Anthropology from the University of Tennessee Knoxville, and is a member of the Register of Professional Archaeologists. Dr. Lev-Tov has over seven years of experience in southern California archaeology.

Alyson Caine conducted the cultural resources records search at the South Central Coastal Information Center (SCCIC) in Fullerton. Ms. Caine holds a Master of Science in Paleopathology/Archaeology from Durham University, Durham, United Kingdom. Ms. Caine has three years of professional and academic training in prehistoric bioarchaeology and osteology and one year in California archaeology. Sarah Nava conducted the field survey and prepared the survey and records search portions of the report. Ms. Nava earned a B.A. in Anthropology in 2008 from California State University, Long Beach and has six years of field experience in southern California. Andre Simmons drafted the maps used in this report. Mr. Simmons has a M.A. in Anthropology from California State University, Fullerton, as well as a certificate in Geographic Information Systems (GIS) from the same institution. He has six years of field experience in southern California. Short resumes of all Cogstone staff involved in this Project are provided in Appendix A.

REGULATORY ENVIRONMENT

STATE LAWS AND REGULATIONS

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, a definition that includes historic resources, the act requires that alternative plans and mitigation measures be considered.

TRIBAL CULTURAL RESOURCES

As of 2015, CEQA established that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Pub. Resources Code, § 21084.2.). In order to be considered a "tribal cultural resource," a resource must be either:

(1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or
(2) a resource that the lead agency chooses, in its discretion, to treat as a tribal cultural resource.

To help determine whether a project may have such an effect, the lead agency must consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project (Pub. Resources Code, § 21080.3.1.).

In applying those criteria, a lead agency must consider the value of the resource to the tribe. For example, in considering the criterion that a resource is "associated with the lives of persons important in our past," a lead agency would ask whether the resource is associated with the lives of persons important to the relevant tribe's past. That determination must be supported with substantial evidence.

If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to tribal cultural resources.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

PRC § 5024.1, which is applicable to this Project, establishes the California Register of Historical Resources. Historic resources encountered during the Project other than the sewer may be eligible for inclusion on the CRHR since the undertaking is subject to PRC 5024.1. The register is a listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks from No. 770 on. The criteria for listing are the same as those of the National Register. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local

registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historic integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2) It is associated with the lives of persons important to local, California, or national history;
3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof. Consequently local project proponents as well as state entities are required to comply with PRC 5097.5 for their own activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below:

> In the event that human remains are encountered during project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

LOS ANGELES COUNTY

The Los Angeles County General Plan has the following policies regarding cultural resource protection (2015):

- Policy C/NR 14.1: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
- Policy C/NR 14.2: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.
- Policy C/NR 14.3: Support the preservation and rehabilitation of historic buildings.
- Policy C/NR 14.4: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).
- Policy C/NR 14.5: Promote public awareness of historic, cultural, and paleontological resources.
- Policy C/NR 14.6: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

BACKGROUND

ENVIRONMENTAL SETTING

GEOLOGY, HYDROLOGY, AND SOILS

The Project Area is located in the San Fernando Valley within the Transverse Ranges physiographic province. The Transverse Ranges is composed of parallel, east-west trending mountain ranges and sediment-filled valleys (USGS 1996). The San Fernando Valley is a structurally complex, sedimentologically diverse, and tectonically evolving late Tertiary-Quaternary basin that contains the headwaters of the Los Angeles River and its tributaries. Prior to the advent of flood control, the valley floor was composed of active alluvial fans and floodplains. Seasonal streams emanating from Pacoima and Big Tujunga Canyons drain the complex western San Gabriel Mountains and deposit coarse, highly permeable alluvium that contains generally high-quality ground water. The San Fernando Valley is a structural trough that has been filled from the sides, with the major source of sediment being large drainages in the San Gabriel Mountains. Deposition on the major alluvial fan of Tujunga Wash and Pacoima Wash, which issues from the San Gabriel Mountains, and on smaller fans, has been influenced by ongoing compressional tectonics in the valley. Late Pleistocene deposits have been cut by active faults and warped over growing folds. Holocene alluvial fans are locally ponded behind active uplifts (Yerkes 1997).

The Project Area is located at the base of the San Gabriel Mountains with elevation ranges from 1433 to 1551 feet above sea level. The Project Area is covered by fluvial and fan deposits that originated in the mountains to the north. A majority of the Project Area is underlain by recent Holocene alluvium and gravel (Dibblee 1991). The slopes in the northern Project Area are comprised of the Pacoima Formation which is a Pleistocene alluvial gravel and sand derived from the adjacent mountains (Dibble 1991). A small portion of the Project Area in the northeast corner is underlain by Quaternary older alluvium and gravel (Dibblee 1991)

Two intermittent streams are located in the Project vicinity. The first stream is located just west of the Project Area and originates in the Schoolhouse Canyon. The second stream is in the eastern portion of the Project site just east of Reagan Road and originates in the Wilson Canyon.

A majority of the present-day soil horizons in the Project area formed on alluvial fans and flood plains (Soil Survey Staff 2014). The Capistrano-Urban land complex is located in the western half of the Project Area and consists of very deep, well drained soils that formed in alluvium from sedimentary or granitic sources. The Soboba series is gravelly loamy sand located in the eastern half of the Project Area. It consists of deep, excessively drained soils that formed in recent alluvium from predominately granitic rock sources. Soboba soils represent very gravelly, cobbly, or stony soils. The Tujunga-Urban land complex is located within the undeveloped land

at the eastern edge of the Project area. It consists of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources.

A smaller portion of the soils in the Project Area formed on dissected terraces and foothills (Soil Survey Staff 2014). The Saugus series is a loam located on the slopes at the north end of the Project Area. Saugus loam is deep, well drained soils that formed from weakly consolidated sediments. Depth to a paralithic contact is 40 to 56 inches. Soper gravelly loamy sand also located on the slopes at the north end of the Project Area consist of moderately deep, well drained soils that formed in material weathered from conglomerate and sandstone. The soils are on hills and uplands. The depth to a paralithic contact is 24 to 40 inches.

CLIMATE, FLORA/FAUNA, AND CURRENT LAND USE

Today's Mediterranean-like climate is characterized by warm, dry summers and cool, moist winters, with rainfall predominantly falling between November and May. Climatic conditions in this region varied substantially during prehistoric times. Paleoclimatic research indicates that pine forests were present in the Santa Barbara coastal regions between 12,000 and 8,000 years ago (Heusser 1978). As the climate became warmer and drier, the pine forests were replaced approximately 5,700 years ago by Holocene-type grassland and oak woodland communities. Today's coastal sage scrub and chaparral communities became more pronounced by approximately 2,000 years ago

Current land use in the Project vicinity is mainly urban in character with medical buildings, parking lots, and landscaping. Native vegetation is present just outside the boundaries of the Project Area to the north. Low lying areas and gentler slopes are dominated by nonnative grasses with scattered coast live oak and valley oak. Higher elevations transition to chaparral. Areas between the nonnative grasses and chaparral are dominated by coastal sage scrub species such as yucca and buckwheat. This setting hosts a variety of animal resources including mule deer, brush rabbits, and black-tailed jackrabbits. In recent history, large mammals and many other terrestrial species have been driven from the Project Area due to human activity. Along the nearby intermittent streams, riparian vegetation exists. Willows, cottonwoods, a variety of shrubs and some grasses were among the plants present.

PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the past half century from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists defined a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains dating from about 7 to 3 thousand years before the present as the "Millingstone Horizon" (Wallace 1955). Later, the "Millingstone Horizon" was redefined as a cultural tradition named the Encinitas Tradition

(Warren 1968) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use "Millingstone Horizon" and some used Middle Holocene (the time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2).

Recently, it was recognized that generalized terminology is suppressing the identification of cultural, spatial, and temporal variation and the movement of peoples throughout space and time. These factors are critical to understanding adaptation and change (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.) (Sutton and Gardner 2010:7). Faunal remains vary by location but include shellfish, land animals, marine mammals, and fish.

The Encinitas Tradition is currently redefined as comprising four geographical patterns (Sutton and Gardner 2010:8-25). 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 before present, the Encinitas Tradition was replaced in the greater Los Angeles Basin by the Del Rey Tradition (Sutton 2010). This tradition has been generally assigned to the Intermediate and Late Prehistoric periods. The changes that initiated the beginning of the Intermediate Period include new settlement patterns, economic foci, and artifact types that coincided with the arrival of a biologically distinctive population. The Intermediate and Late Prehistoric periods have not been well-defined. Many archaeologists have proposed, however, that the beginning of the Intermediate marked the arrival of Takic-speaking groups (from the Mojave Desert, southern Sierra Nevada, and San Joaquin Valley) and that the Late Prehistoric Period reflected Shoshonean groups (from the Great Basin). Related cultural and biological changes occurred on the southern Channel Islands about 300 years later.

As defined by Sutton (2010), the Del Rey Tradition replaces usage of the Intermediate and Late Prehistoric designations for both the southern California mainland and the southern Channel Islands. Within the Del Rey Tradition are two regional patterns named Angeles and Island. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California.

PREHISTORIC CHRONOLOGY

The latest cultural revisions for the Project Area define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to inland Los Angeles County (Sutton and Gardner 2010; Table 2). This pattern is replaced in the Project Area by the Angeles pattern of the Del Rey

Tradition later in time (Sutton 2010; Table 1). 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.

Greven Knoll sites tend to be in valleys such as the Project Area. These inland peoples did not switch from manos/metates to pestles/mortars like coastal peoples (c. 5,000 years before present); this may reflect their closer relationship with desert groups who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its extent. In Phase I, other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts and flexed position burials (Table 1). In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering (Table 4). In addition, the Greven Knoll populations are biologically Yuman (based on skeletal remains), while the later Angeles populations are biologically Shoshonean (Sutton and Gardner 2010; Sutton 2010).

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. In Angeles Phase I, Elko points for atlatls or darts appear, small steatite objects such as pipes and effigies from Catalina are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. In addition, several Encinitas (Topanga) traits, such as discoidals, cogged stones, plummet-like charmstones, and cairn burials (see Sutton and Gardner 2010: Table 1) virtually disappear from the record. Mortuary practices changed to consist of primarily flexed primary inhumations, with extended inhumations becoming less common. Settlement patterns made a shift from general use sites being common to habitation areas separate from functional work areas. Subsistence shifted from mostly collecting to increased hunting and fishing. [Sutton 2010]

Angeles Phase II is identified primarily by the appearance of a new funerary complex, with other characteristics similar to Angeles I. The complex features killed (broken) artifacts, including manos, metates, bowls, mortars, pestles, points, and others, plus highly-fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material also often burned. None of the burning was performed in the burial feature. [Sutton 2010]

The Angeles Phase III is the beginning of what has been known as the Late Period and is marked by several changes from Angeles I and II. These include the appearance of small projectile points, steatite shaft straighteners and increased use of asphaltum all reflecting adoption of bow and arrow technology. In addition, obsidian sources changed from mostly Coso to Obsidian Butte, and shell beads derived from Gulf of California species began to appear. Subsistence

practices continued as before and the geographic extent of the Angeles Pattern increased. [Sutton 2010]

Angeles Phase IV is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and Mytilus shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. Smaller, special-purpose sites continued to be used. [Sutton 2010]

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Angeles Phase V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not. [Sutton 2010]

The Angeles Phase VI reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles Phase VI material culture is essentially Angeles Phase V, augmented by a number of Euro-Aamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euro-American material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled Olivella disk beads. [Sutton 2010]
The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering; although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation. [Sutton 2010]

Table 1. Cultural Patterns and Phases

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
Encinitas	Greven Knoll I	8,500 to 4,000	Abundant manos and metates, Pinto dart points for atlatls or spears, charmstones, 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 *Olivella* 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 (Takic 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 *Olivella* 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

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
	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 *Olivella* 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 Luiseño); apparent adoption of Chingichngish religion

ETHNOGRAPHY

The Project Area is within the traditional tribal territory of the Fernandeño, a subgroup of the Gabrielino/Tongva (Figure 5). The Tongva occupied Los Angeles County south of the Sierra Madre and portions of Orange County, as well as San Clemente and Santa Catalina (Kroeber 1976; McCawley 1996). Populations of the Tongva associated with Mission San Fernando were known as Fernandeño Indians, historically. However, both were populations of the Tongva Nation and the distinction is primarily geographical (McCawley 1996).

Two groups of Native Americans were present prehistorically in the San Fernando Valley, the Tataviam (Fernandeño) and the Tongva (Gabrielino). Tataviam territory stretched from Antelope Valley, through the Tejon Ranch area and into the San Fernando Valley. The Tongva 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 square miles (McCawly 1996: 3).

These semi-sedentary hunting and gathering tribes 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. They thrived by exploiting the abundant and rich animal and plant resources available in the area. Marine resources, such as fish, marine mammals and shellfish, were especially important and items were often traded between coastal and inland groups.

Acorns were one of the most important food resources utilized by Native American groups across California. The acorns were ground into a fine powder in order to make an acorn mush or

gruel. A dietary staple, acorns provided a large number of calories and nutrients. The ability to store and create stockpiles in case of lean times also contributed to the importance of acorns as a vital natural resource. Much of the material evidence available to archaeologists concerning the Tataviam and Tongva is a result of tools and technologies related to their subsistence activities. Acorns contain tannic acid, which is poisonous. Acorns must be ground and the tannic acid leached out before they are edible. Manos, metates, mortars and pestles used for processing acorns and other nuts and seeds are often found at archaeological sites.

In addition to plant resources, the tribes also hunted animals such as deer, rabbits and other small game. A wide variety of plants were also exploited not only for food, but also medicine, clothing, building materials etc. Lithic debitage from the manufacture of stone tools such as arrowheads is also frequently found.

After the advent of the Missions in California, the Tataviam were called the Fernandeño and the Tongva were called the Gabrielino. Many modern day descendants are active members of current tribes of Tataviam and Tongva.

Figure 5. Southern California Tribal Boundaries

HISTORIC SETTING

SPANISH AND MEXICAN ERA SETTING

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). Between 1769 and 1822, the Spanish had colonized California and established missions, presidios and pueblos (Bean and Rawls 1993).

The Project Area is located on a portion of land that was managed by the San Fernando Mission (Figure 6). Mission San Fernando Rey de España founded was on September 8, 1797. In the 1820's a Mission father by the name of Iballa, planted young olive trees from Spain and is credited for initiating the olive growing industry in Sylmar.

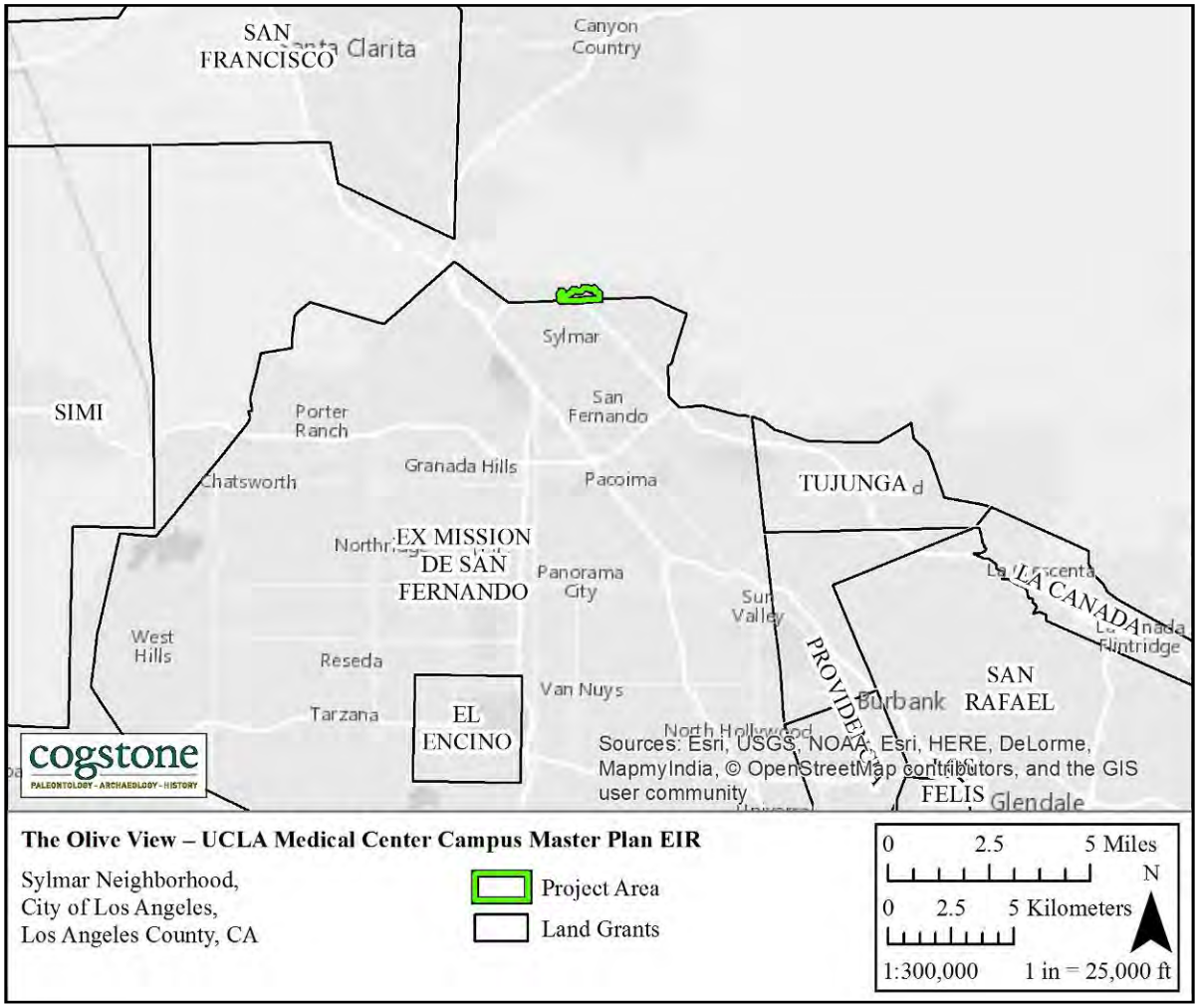

Figure 6. Mexican land grants surrounding the Project Area

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 (Bean and Rawls 1993; Robinson 1948).

AMERICAN ERA SETTING (1848-1896)

Settled in the mid nineteenth century, the City of Sylmar was originally part of an unincorporated portion of San Fernando known as "Morningside". When the City of San Fernando incorporated the City in September 16, 1874, it was renamed Sylmar, meaning "city of trees".
A businessman by the name of Robert Wideny published a pamphlet exalting the Sylmar's ideal climate for growing olives. Enticed by Widney's description, a group of Illinois businessmen, who later called themselves the Los Angles Olive Growers Association, purchased 2,000 acres south of Roxford Street and by 1890 they had planted 1,100 acres of olives. The olives were originally sold under the Tyler Olives label which was later changed to the Sylmar Packing Label. Sylmar olives became famous throughout California for high quality (Sylmar Chamber of Commerce 2016).

20TH CENTURY SETTING (1900- PRESENT)

The Project Area is located on the former Olive View Sanatorium property, which first opened in 1921 and consisted of 590 acres. Prior to the establishment of the Sanatorium, the area was used for agricultural practices. A review of the 1900 USGS topographic map depicts very few houses in the area and only one within the future Sanatorium's grounds (Figure 7). At that time, the Project Area was relatively isolated, connected indirectly to the Los Angeles metropolitan area only by means of the Pacific Electric "Red Car" lines and the Southern Pacific Railroad. The Olive View Sanatorium was primarily used for the treatment of tuberculosis because the warm, dry air and Mediterranean climate was considered therapeutic (McAvoy 1994). Patients were often brought to the sanatorium forcefully, and, prior to finding and employing chemotherapy and sulfonamide drugs in the from the mid-1940s, the sick were subjected to a variety of harsh and at best mildly effective treatments (Leovy 1995; Rutgers Global Tuberculosis Institute 2015).

By 1945, the topographic map depicts the Sanatorium as extensively developed with medical and supporting buildings (Figure 8). An extensive road network was built to suit the needs of the Olive View Sanatorium and a number of houses and other buildings were constructed close to the house depicted on the 1900 topographic map. A few buildings were destroyed by a 1962 wildfire, but more extensive alterations to the campus were caused by a change in its mission. The Olive View Sanatorium underwent extensive physical and organizational changes in 1970, when it transitioned from a tuberculosis hospital to a teaching hospital for UCLA (Figure 9). In

addition, buildings on the campus were severely damaged a year later during the 1971 San Fernando-Sylmar Earthquake (scvhistory.com n.d.).

Additional records provided by Environmental Data Resources (EDR), including aerial images (2016a), Sanborn Fire Insurance Maps (2016b), city directories (2016c) and topographic maps (2016d) were reviewed. The historic aerial images dated between 1928 and 2012 show the sanatorium's transformation from isolated campus to suburban medical center. The Sanborn maps, dating from 1923 and 1927, show details of many sanatorium buildings, many no longer extant. Finally, although the directories date between 1920 and 2013, no names are associated with the Project Area prior to 1975.

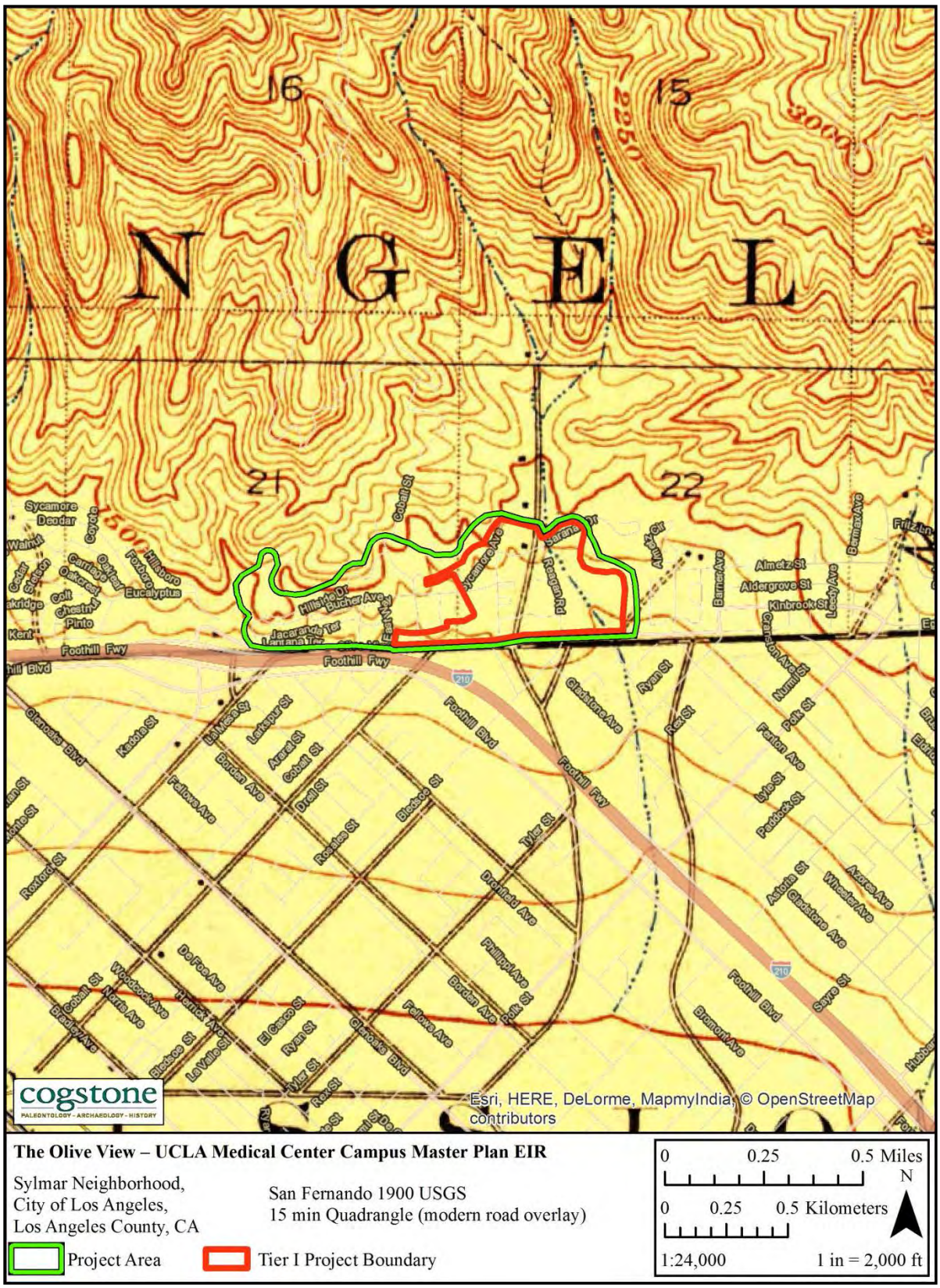

Figure 5. 1900 Map Showing House in Project Area along Main N-S Road

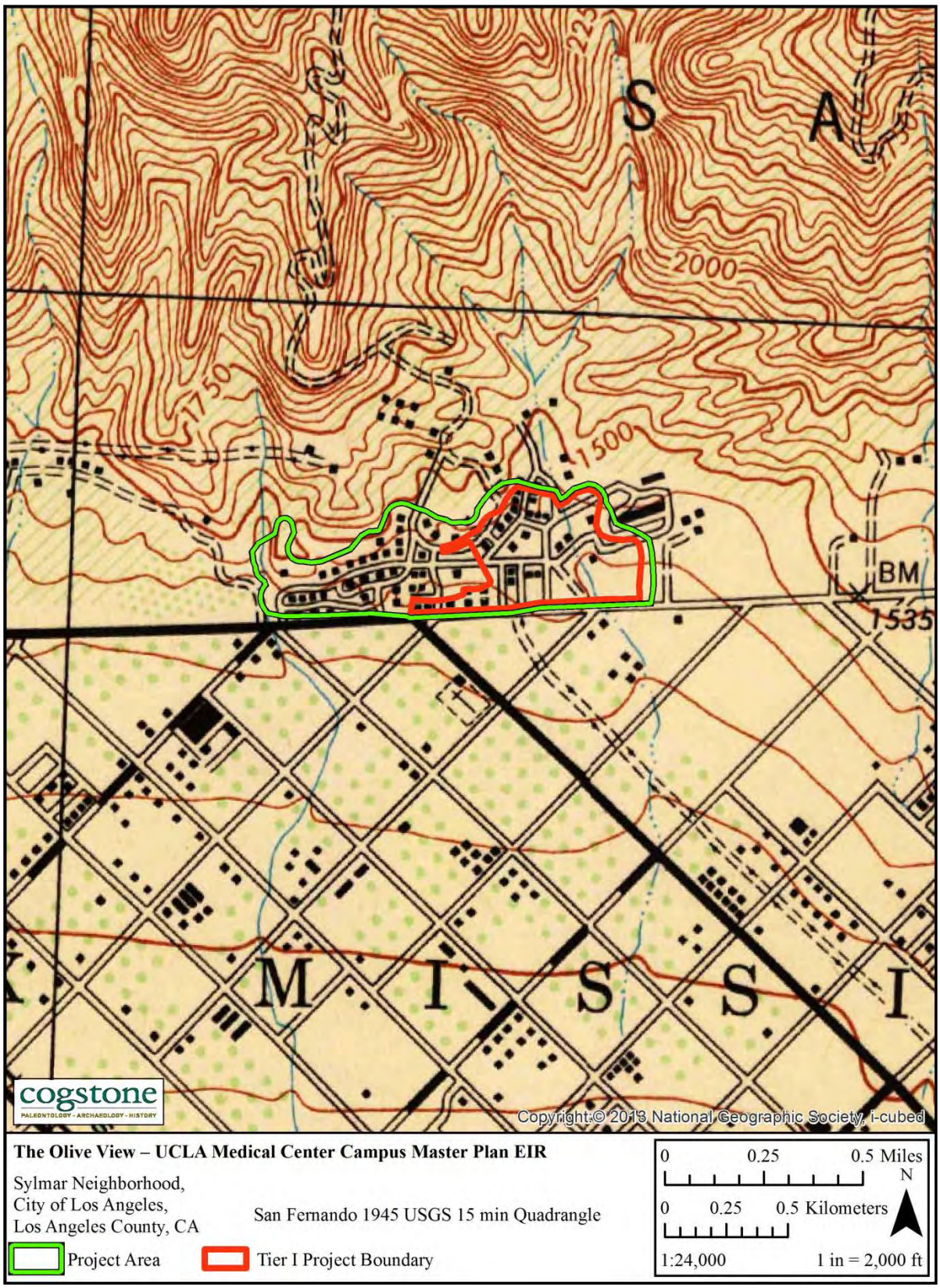

Figure 6. 1945 Map of the Project Area, Showing Sanatorium Fully Developed

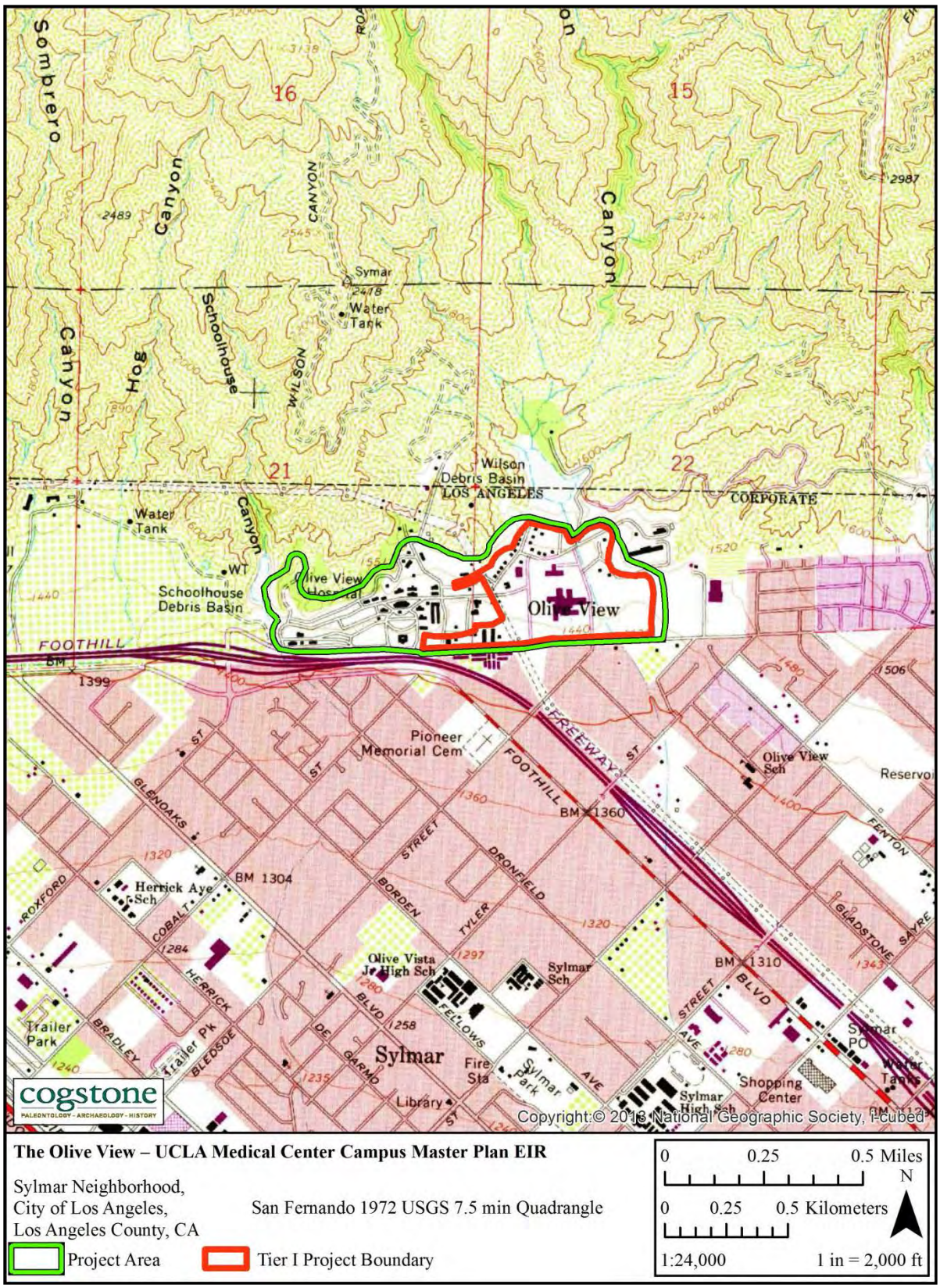

Figure 7. 1972 Map of the Project Area, Showing Olive View-UCLA Medical Center

SOURCES CONSULTED

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM

A search for archeological and historical records was completed by Alyson Caine, Cogstone on January 28th, 2016 at the South Central Coast Information Center (SCCIC), California State University at Fullerton. The search included a 1 mile-radius around the approximately 138.6-acre Project Area. Results indicate that 27 cultural resources investigations have been completed previously within a one mile radius of the Project Area (Appendix B). Five of these studies intersect the 138.6-acre Project Area.

The results of these studies indicate that three cultural resources have been previously recorded within the Project Area. Outside of the Project Area but within the one mile search radius are an additional three cultural resources consisting of a historic built environment resource and two California Historical Landmarks; the Angeles National Forest and San Fernando Pioneer Memorial Cemetery (Table 2).

TIER I

Within Tier I are two previously recorded cultural resources, P-19-175294 and P-19-187900. P-19-175294 is the Historic District Record for the Olive View-UCLA Medical Center and includes an inventory of 67 built environment resources (Table 3). The district record contains a 1994 letter from a representative of the State Historic Preservation Officer, concluding that the Olive View-UCLA Medical Center was eligible for the National Register of Historic Places (NRHP). However, the application was reassessed in 1995 the application and it was determined that the district lacked sufficient integrity to be eligible for listing on the NRHP.

P-19-187900 is a historic built environment resource for the Laundry and Linen Buildings within the Olive View Tuberculosis Sanitarium Complex. The structure consists of two concrete foundations.

TIER II

Within Tier II are two previously recorded cultural resources, is the previously described P-19-175294, Olive View-UCLA Medical Center Historic District as well as P-19-003794, a historic built environment resource associated with the Olive View Tuberculosis Sanitarium complex. Specifically, P-19-003794 consists of a concrete foundation and sidewalk associated with the Men's Solarium Wards 121 & 124 as well as a concrete subterranean transformer vault.

Table 2. Previously Recorded Resources Within a One-Mile Radius of the Project Area

Primary Number (P-19-)	Site Type	Year	Distance from the PA
3794	Historic medical building	2008	Within PA, Tier II
175294	Historic District, Olive View-UCLA Medical Center	1994	Within, Tier I & Tier II
186535	California Historical Landmark Angeles National Park	1979	1 mile
186537	California Historical Landmark San Fernando Pioneer Memorial Cemetery	1980	0.25 mile
187900	Historic medical building	2006	Within PA, Tier I
188089	Historic medical building	2007	0.25 miles

Table 3. Historic Resources Index for the Olive View UCLA Medical Center Historic District

Primary Number (P-19-)	Common Name	Year Constructed	HRI Number	NRS Code
175293	Warehouse	1926	097809	2S2
175292	Building 110	1923	097808	2S2
175291	Building 106	1923	097807	2S2
175294	UCLA Medical Center	1920	097810	2S2
175906	Garage	1962	099563	6Y
175590	Building 33, LACO 2519	1925	100286	6Y
175912	Storage Building	Unknown	099573	6Y
175910	Nursing Education	1993	099568	6Y
175909	Doctor's Office	1991	099567	6Y
175908	Material Management	1984	099566	6Y
175905	Weed Abatement	1955	099562	6Y
175907	Can Sterilizer	1962	099564	6Y
175911	Cubicle	Unknown	099570	6Y
175865	Bungalow F	1926	099519	2S2
175872	Convalescent Cottage	1927	099526	2S2
175882	Double Garage	1929	099536	2S2
175864	Bungalow E	1926	099518	2S2
175866	Building 114	1927	099520	2S2
175863	Bungalow D	1926	099514	2S2
175862	Building 307	1926	099513	2S2
175867	Bungalow C	1927	099521	2S2
175904	Canteen/Post Office	1953	099561	6Y
175861	Personnel Payroll	1925	099510	2S2
175903	Incinerator Building	1952	099560	6Y
175902	3-Car Garage	1932	099558	6Y
175860	Medical Transcription	1925	099509	2S2

Primary Number (P-19-)	Common Name	Year Constructed	HRI Number	NRS Code
175901	Trans Vault/Dist System	1931	099557	6Y
175900	Film Storage Vault	1930	099556	6Y
175868	Bungalow G	1927	099522	2S2
175899	Rec Park Toilets	1929	099555	6Y
175859	Garbage and Can House	1925	099507	2S2
175898	Double Garage	1929	099554	6Y
175897	Convalescent	1927	099553	6Y
175896	Toilet Building	1925	099552	6Y
175858	Cottage #1	1925	099505	2S2
175895	Transportation Garage	1924	099550	6Y
175894	Conference Center	1920	099549	6Y
175857	Barber Shop	1925	099503	2S2
175893	Coroner's Office	1935	099548	2S2
175892	Morgue	1931	099547	2S2
175891	Bungalow T	1931	099545	2S2
175890	Guest Cottage	1930	099544	2S2
175889	Bungalow S	1930	099543	2S2
175888	Bungalow R	1930	099542	2S2
175887	Bungalow Q	1930	099541	2S2
175886	Bungalow P	1930	099540	2S2
175885	Building #403	1930	099539	2S2
175884	Women Doctor's Cottage	1929	099538	2S2
175851	Cottage #4	1921	099495	2S2
175883	Film Storage Vault	1929	099537	2S2
175881	Bungalow O	1929	099535	2S2
175869	Building H	1927	099523	2S2
175870	Building I	1927	099524	2S2
175876	Building 303	1929	099530	2S2
175874	Garage/Lumber Storage	1928	099528	2S2
175871	Bungalow J	1927	099525	2S2
175877	Building 305	1929	099531	2S2
175873	Buildings #401 and #402	1928	099527	2S2
175875	Building 301	1929	099529	2S2
175878	Bungalow L	1929	099532	2S2
175855	Building 108	1923	099500	2S2
175879	Bungalow M	1929	099533	2S2
175854	Ward 103/Stationary	1921	099498	2S2
175853	Garage	1921	099497	2S2
175852	Cottage U	1921	099496	2S2
175856	Cottage #3	1923	099502	2S2
175880	Bungalow N	1929	099534	2S2

OTHER SOURCES

In addition to the records at the SCCIC, a variety of sources were consulted in June 2016 to obtain information regarding the Project Area. Sources included the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), California Historical Resources Inventory (CHRI), California Historical Landmarks (CHL), and California Points of Historical Interest (CPHI). Checks of the CHRI and CHL returned positive results (Table 4). In addition materials obtained from EDR including aerials, Sanborn Fire Insurance Maps, and City directories were reviewed.

Table 4. Other Sources Consulted

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historic United States Geological Survey topographic maps	Historic Topographic maps indicate that the Project Area was undeveloped prior to 1930. Between 1930 and 1945 Project Area experienced substantial development.
Historic Aerials NETR Online; Environmental Data Resources, Inc. (EDR)	Historic aerials show that prior to 1947, the Project Area consisted of agricultural fields. Between 1959 and 1969, Interstate Highway 210 and the Olive View Medical Center were constructed as well as a housing development to the east of the Project Area. Aerial photos from EDR dated between 1928 and 2012 provide 19 images of the Olive View Sanatorium/Olive View-UCLA Medical Center and the surrounding area. The photos show the sanatorium as developed and its transformation by 1976 into the medical center that exists today.
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Positive: The Angeles National Forest (#717) and The San Fernando Pioneer Memorial Cemetery (#753)
California Points of Historical Interest (1992 to 2010)	Negative
Office of Historic Preservation (OHP) Historic Resources Index (HRI)	Positive: See Table 3
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Positive: 8 land patents, see Table 5
Sanborn Fire Insurance Maps (EDR)	Positive: 1923 and 1927 maps of portions of the Olive View Sanatorium show numerous hospital and related buildings.
Phone and City Directories (EDR)	Positive: A compilation of various phone company and Los Angeles directories dating between 1920 and 2013 revealed the names of medical departments and companies servicing the Olive View-UCLA Medical Center between 1975 and 2013. No earlier information was listed.

A search of the Bureau of Land Management's General Land Office (GLO) records available online revealed that seven individuals as well as the Southern Pacific Railroad obtained land patents for portions of the Project Area between 1873 and 1926 (Table 5).

Table 5. Land Patents

Name	Year	Aliquots	Section	Township	Range
Eulogio De Celis	1873		21, 22	3N	15W
Christopher N. Wilson and William Helm	1877	N ½ SW ½	22	3N	15W
George Lundie	1884	NE ¼ SE ¼; NW ¼ SE ¼	22	3N	15W
Southern Pacific Railroad	1883		21	3N	15W
Christopher N. Wilson	1900	N ½ SE ½	21	3N	15W
John S. Hendrickson	1901	N ½ NW ¼	22	3N	15W
Harry Heath	1919	N ½ SE ½	22	3N	15W
George W. Fite	1926	N ½ SE ½	22	3N	15W

The earliest land patent issued for the Project Area was to Eulogio De Celis, Jr. De Celis' father held title to nearly the entire San Fernando Valley. Eulogio De Celis inherited his father's lands and sold them when they faced foreclosure (O'Neil 1997).

California National Guard records from 1886 list a person named Christopher N. Wilson as a First Lieutenant, Commissary from Los Angeles. Los Angeles city directories between 1892 and 1910 list an attorney by that name at various downtown addresses, but sometimes give him a San Fernando affiliation in addition.

Individuals named John S. Hendrickson and George W. Fite could be linked to the San Fernando Valley in the period during which the land patents were granted. John S. Hendrickson was born in 1867 or 1868 in Germany, having come to California from Illinois within four years of his U.S. arrival. By 1900 he had settled in San Fernando but his profession was not recorded. He died in 1916 and is buried in Glendale. George W. Fite was born in 1887 and died in 1958, being buried in Sylmar. A 1930 directory listing in Los Angeles shows this man living on Park Drive and working as the president of a trust company. The San Fernando Valley Directory of 1939-1940 lists the same man living by that time at a San Fernando address and working as a clerk.

Three of the other land patent holders listed in Table 5, William Helm, George Lundie and Harry Heath, could not be definitively linked to the Project Area, although individuals with all those names do occur in various historical records in the City of Los Angeles.

NATIVE AMERICAN CONSULTATION

The Los Angeles County Department of Public Works (LADPW) conducted the tribal consultation that is summarized below. A Sacred Lands File search request was submitted to the Native American Heritage Council (NAHC) on April 6, 2016. The NAHC replied on July 5, 2016 that a search of their records returned negative results for sacred lands located within the Project Area. The NAHC requested that nine tribes be consulted about the Project. LADPW mailed letters on April 11, 2016 to one tribe, the Fernandeño Tataviam Band of Mission Indians (Tataviam), which was the only tribe to request formal notification of LADPW projects occurring in the Project vicinity. The letter provided project information and requested any information related to tribal cultural resources within or adjacent to the Project Area.

Sedna Villavicencio of the Fernandeño Tataviam Band of Mission Indians Tribal Historic and Cultural Preservation Department responded by letter on April 21, 2016 requesting the estimated cubic yards of soil disturbance. On June 9, 2016, LADPW responded by letter with the cubic yardage as well as additionally information. On July 14, 2016 the Tataviam responded that the Project Area is located within the sensitivity zone of two villages, Passenga and Achoicominga and requested that LADPW undertake consultation with the Tataviam during the planning stages, and that all ground disturbing activities be monitored by professional Native American monitors.

Based on the information provided by the Tataviam, the LADPW has determined that there are no known Tribal Cultural Resources, as defined by PRC 21074, within the Project Area and therefore will not include the recommended mitigation measure for inclusion in the environmental document. The LADPW has concluded that a mutual agreement cannot be reached and has decided to close consultation, PRC 21080.3.2(b). All consultation correspondence is provided as Appendix C to this report.

FIELD SURVEY METHODS AND RESULTS

The cultural resources survey stage is important in a project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of other areas of cultural resources sensitivity. The survey area ran east-to-west and extended from the northwestern part of Bucher Avenue to the Wilson Canyon Park road located at 118°26'27.371"W, 34°19'34.668"N. The north-to-south oriented portion of survey area ran parallel to Olive View Drive and extended to foothills running along Hillside Drive. The survey consisted of walking parallel transects in open areas, spaced at 10-meter intervals within the Project Area, while closely inspecting the ground

surface. Existing disturbances (e.g., rodent burrows, ditches) were examined for artifacts or buried cultural deposits. Areas with built environments and modern features were excluded from the survey area.

Sarah Nava, Cogstone Staff Archaeologist, completed an intensive-level pedestrian survey of the 138.6-acre Project Area on February 15, 2016 (Figure 10). Approximately 35.2 acres of the Project Areas was not surveyed due to restricted access at the western end and the eastern end of the Project Area. These restricted areas included fenced off construction zones (Figure 11), steep slopes and hills fenced off in the northern part of the Project area, and county restricted areas (Figure 12). No construction crews were present during the day the Project Area was surveyed; therefore Cogstone staff was not able to access those portions of the Project Area. The inaccessible fenced off areas included the locations of the historic period morgue and incinerator which was used to cremate bodies (Bob Ross, personal communication 2016).

The Project Area consists of a medical complex and is therefore a built environment, limiting ground visibility due to buildings and paved streets and parking lots (hardscape). In areas without hardscape, visibility was limited due to recent grass growth from winter rains. In general, ground visibility within the Project Area was poor and limited to 10 percent.

TIER I

P-19-175294
The survey within Tier I observed portions of the Olive View-UCLA Medical Center Historic District, P-19-175294, while other previously recorded buildings appeared to have been demolished, leaving only foundations.

P-19-187900
The survey within Tier I also identified the two concrete foundations that comprise P-19-187900 All previously recorded features were still present.

TIER II

P-19-175294
Similar to the survey for Tier I, the Tier II survey also observed portions of the Olive View-UCLA Medical Center Historic District, P-19-175294, while other previously recorded buildings appeared to have been demolished, leaving only foundations.

P-19-003794
The concrete foundation and sidewalk associated with the Men's Solarium Wards 121 & 124 and the concrete subterranean transformer vault were identified during the Tier II survey. The concrete foundation and sidewalk previously recorded are no longer present however, the subsurface transformer vault is still present and appears to be in use.

No archaeological resources were identified within the Tier I or Tier II Project Areas. Historic built environment resources encountered, possibly relating to the previously recorded sites, are discussed and evaluated in a separate architectural history assessment.

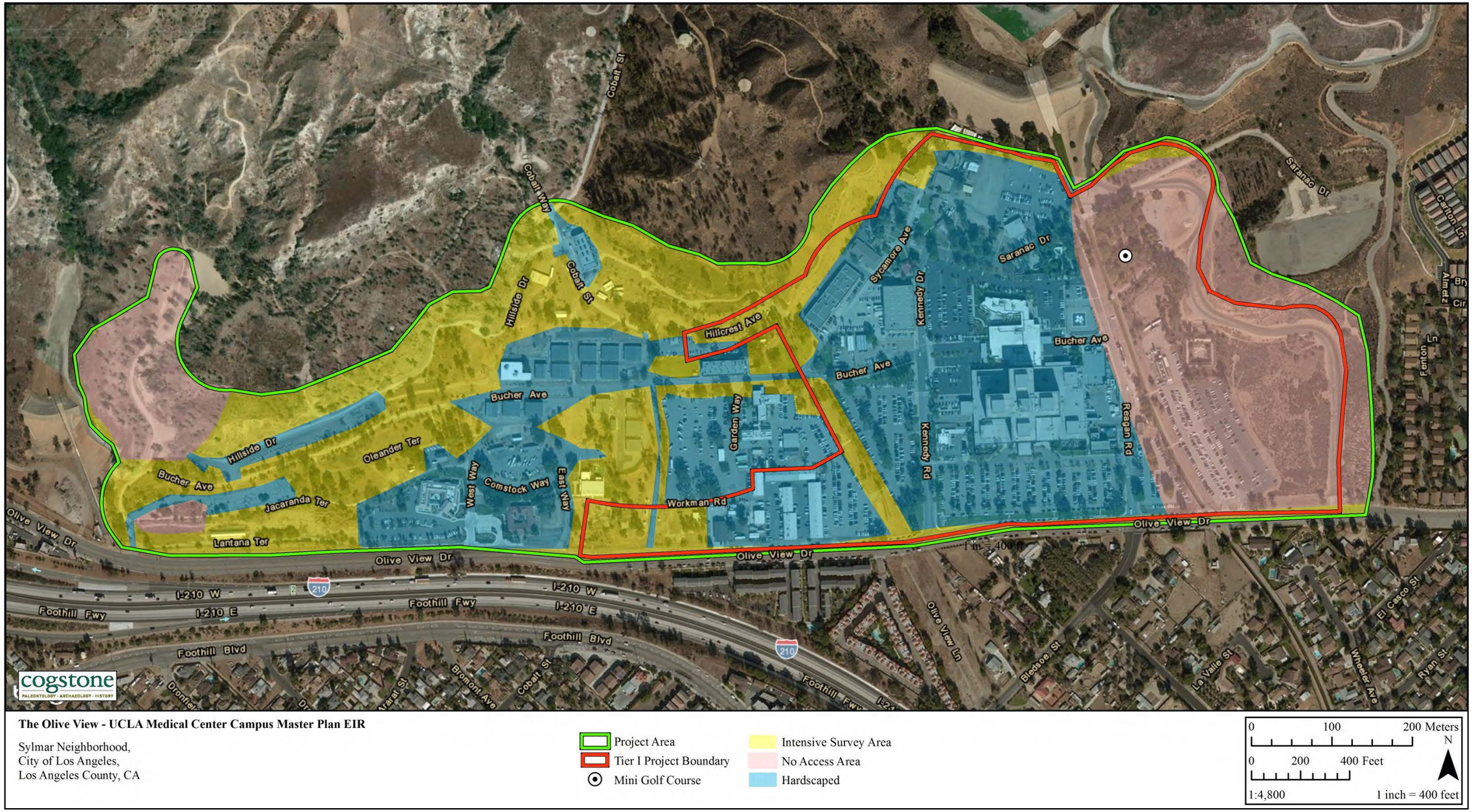

Figure 10. Map Showing Surveyed Area

Figure 11. Construction Zone and Fenced Area at Northeast Corner of Survey Area

Figure 12. One of Many "No Trespassing" Signs around the Survey Area

CONCLUSIONS

Identification efforts by Cogstone for this report included a review of existing literature and historic maps, review of a record search conducted at the South Central Coastal Information Center, and pedestrian survey. Native American consultation was conducted by LADPW. No archaeological resources have been previously recorded or were observed during the survey of Tier I and Tier II Project Areas. However, a total of two historic built environment resources and one historic district record all associated with the Olive View Tuberculosis Sanitarium Complex have been recorded with Tier I and Tier Project Areas. Based on the results of the record search and land use history, both Tier I and Tier II Project Areas demonstrate moderate sensitivity for historical archaeological deposits associated with the hospital complex and preexisting farmhouses. Tier I and Tier II Project Areas exhibit a low sensitivity for prehistoric archaeological resources.

None of the archival sources consulted mentioned or showed the existence of a cemetery for Olive View Sanatorium patients. Yet cemeteries, some not well marked, were common features of nineteenth and early twentieth century institutions for the "unwanted", including indigent tuberculosis patients, of which Olive View had many (Molina 2006). There is documentary evidence suggesting that many patients at Olive View were poor and came there with an advanced stage of the disease. Deaths at the facility were noted in contemporary discussions of treatment programs there (Molina 2006: 135-136). Abel (2013: 64) suggests that tuberculosis sanatoriums "attempted to conceal fatalities from patients as well as the public" and documented the large number of terminal stage patients received at Olive View, along with the harsh treatment regimen.

The historic district record for P-19-175294 contains a map of the Olive View medical campus showing a historic period morgue located just north of a parking lot and square-shaped reservoir and east of the modern hospital, along Reagan Road in the eastern third of the medical campus within Tier I (Figure 9). In addition, the same site record and map shows an incinerator located adjacent to the morgue (McAvoy 1994). The district record also shows a coroner's office, located in the western central part of the campus. Modern aerial images (see Figure 3) show that these buildings have all been demolished and that the eastern end of the campus surrounding the former morgue has been altered via the construction of a parking lot, support facilities, and a concrete drainage channel. We do not know whether patients who died were cremated at Olive View Sanatorium, buried in an informal "potter's field" on the sanatorium grounds, or elsewhere. The incinerator, alternatively, may have been used to destroy contaminated medical materials and clothing. An undocumented cemetery and/or a historic period dump may exist on the grounds of the Olive View-UCLA Medical Center. The most likely location for these would be the formerly isolated eastern third of the campus within Tier I.

RECOMMENDATIONS

In the event of an unanticipated discovery, all work must be suspended within 50 feet of the find until it is evaluated by a qualified archaeologist. If prehistoric cultural resources are discovered, all consulting tribes will be notified. We recommend that construction personal will be required to participate in cultural sensitivity training prior to the commencement of work.

Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The remains shall be left in place and free from disturbance until a final decision as to the treatment and their disposition has been made. The County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American, historic or modern.

If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC), who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

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APPENDIX A: QUALIFICATIONS

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

MOLLY VALASIK
Principal Investigator for Archaeology

EDUCATION

2009	M.A., Anthropology, Kent State University, Kent, Ohio
2006	B.A., Anthropology, Ohio State University, Columbus, Ohio

SUMMARY QUALIFICATIONS

Ms. Valasik is a Registered Professional Archaeologist (RPA) with seven years of professional and academic archaeological field and research experience. She meets the qualifications required by the Secretary of the Interior's *Standards for Archaeology*, and is a skilled professional who is well-versed in the compliance procedures of CEQA and Section 106 of the NHPA and in working with a variety of federal, state, and local agencies throughout California. Ms. Valasik has managed a variety of projects at Cogstone in the water, transportation, energy, development and federal sectors. Her role at Cogstone has ranged from GIS Manager, Field Director, Archaeology Supervisor, and beginning in 2014 Principal Investigator for Archaeology.

SELECTED PROJECTS

Park Place Extension and Grade Separation EIR EA, Caltrans District 7, El Segundo, Los Angeles County, CA. Managed a pedestrian survey to record and evaluate cultural resources within the archaeological and architectural APEs for a ~0.5-mile project along NBSF and UPRR rail lines and spur tracks on behalf of the City of El Segundo. Cogstone's services included records search, NAHC consultation, Historic Properties Survey Report (HPSR) with appended Archaeological Survey Report (ASR) and a Historic Resources Evaluation Report (HRER). Seven built-environment resources were identified, evaluated, and DPR 523 forms were prepared. Sub to Michael Baker. Principal Investigator. 2015-ongoing

SR-138 Palmdale Boulevard PA/ED (Sierra Highway), Caltrans District 7, Palmdale, Los Angeles County, CA. Managed cultural resource assessment including records search, Sacred Lands search, NAHC consultation, field survey, mapping. Prepared an Archaeological Survey Report (ASR) and Historic Property Survey Report (HPSR) to Caltrans standards for PA/ED environmental documents. Sub to Parsons. Task Manager/Principal Investigator. 2015-ongoing

Arlington Avenue Widening Project, Caltrans District 8, Riverside, Riverside County, CA. Cogstone completed the record search, sacred lands search, NAHC consultation, intensive-level pedestrian archaeological survey, and coordination and approval by District 8 of the APE map for the widening of Arlington Avenue. Prepared a Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR). Sub to Michael Baker. Principal Investigator. 2015

Rose Creek Bike Trail, Caltrans District 11, San Diego, San Diego County, CA. Cogstone completed the record search, sacred lands search, NAHC consultation, intensive-level pedestrian archaeological survey, in-depth background research, and approval by District 11 of the APE map for a two mile long bike trail. Prepared a Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR). Sub to Nasland Engineering. Principal Investigator. 2015

I-5 Jeffrey Open Space Trail (JOST) Segments 1 & 2, Caltrans District 12, Irvine, Orange County, CA. For the construction of a recreational trail and bridge, coordinated record search, Sacred Lands search, NAHC consultation; preparation of Area of Potential Effects (APE) maps for archaeological and architectural resources with RBF and Caltrans; intensive pedestrian survey and mapping; preparation of ASR, HPSR, PIR technical reports on behalf of the City of Irvine in compliance with CEQA. Sub to Michael Baker. Task Manager/ Principal Archaeologist. 2015-ongoing

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

JUSTIN LEV-TOV
Project Manager and Principal Investigator

EDUCATION

2000	Ph.D., Anthropology, University of Tennessee, Knoxville
1994	M.A., Anthropology, University of Tennessee, Knoxville
1990	B.A., Anthropology, University of Maryland, College Park

SUMMARY QUALIFICATIONS

Dr. Lev-Tov is a Qualified Principal Investigator and Registered Professional Archaeologist with over 7 years of experience in California and neighboring states. In addition, he has over 10 years of experience in the eastern and southeastern U.S., and has participated in archaeological projects in Greece, Israel, and Jordan. He is accepted as a principal investigator for prehistoric and historical archaeology by the California Historic Resources Information System (chris.org). He has conducted technical studies and prepared cultural resources chapters for CEQA/EIR compliance documents for public and commercial developments. He has expertise in the archaeology of the western and southeastern United States including research, survey, assessment of impacts/effects, and significance criteria and determinations. He also possesses 30 years of experience in faunal analysis and is widely published.

CALIFORNIA AND SOUTHWEST PROJECTS

High Desert Corridor/ SR-138 Widening Project, Caltrans District 7 On-Call (07A3145)/LA Metro, Los Angeles and San Bernardino Counties, CA. This project proposed by Caltrans and Metro involves construction of a new, approximately 63-mile long, east-west freeway/expressway and rail line between SR-14 in Los Angeles County and SR-18 in San Bernardino County. Phase II/III testing and data recovery at the three sites that will be directly impacted by the project. Analyzed lithic material. Compliance with Section 106 of the NHPA and CEQA are required. Sub to Parsons Transportation Group. Principal Archaeologist. 2015-ongoing

Property One, LLC, Demolition, Redlands. Monitored the demolition of three non-historic buildings and several pavements/foundations of previously demolished buildings located within Redlands' Santa Fe Depot/Chinatown National Register Historic District. Directed mechanical trenching on several of the parcels to check for buried remnants of historic buildings. Analyzed recovered artifacts and applied both the National Register of Historic Places and California Register of Historical Resources criteria of significance to resources discovered within the project area. Authored the letter report of findings sent to the client. Project Director. 2015

U.S. Navy Southwest Facilities and Engineering. Contract to conduct cultural resources investigations on all U.S. Navy Southwest region bases, for a period of five years beginning in Fiscal Year 2015. Participated in the project as author of background chapters on historic and prehistoric contexts of various naval and marine bases, drafted field safety plans for each military base, and analyzed faunal remains, including shell beads, from Naval Weapons Station Seal Beach and Naval Weapons Station Seal Beach Detachment Fallbrook. Senior Faunal Analyst/Project Director. 2015

Blythe Solar, Blythe. An approximately 5,000-acre survey for a solar photovoltaic electrical array on BLM and private lands. Participated briefly as a crew member on the Phase I cultural resources survey. Project Director. 2014

Line 235, Sempra Energy, Inc., Barstow. Survey for a natural gas pipeline replacement route between Daggett and Barstow. Participated in the Phase I cultural resources survey on BLM lands as a crew member, then led a crew recording newly discovered or previously recorded sites in the right of way. Researched historical background for historic period sites and authored DPR forms for all sites. Project Director. 2014

ANDRE-JUSTIN C. SIMMONS
Archaeologist and Cross-trained Paleontologist/GIS Supervisor

EDUCATION

2014 M.A., Anthropology: Specializing in Anthropological Archaeology, California State University, Fullerton
2012 Certificate in Geographic Information Systems, California State University, Fullerton
2010 B.A., Anthropology and History, California State University, Fullerton, graduated *cum laude*

SUMMARY QUALIFICATIONS

Mr. Simmons is a Registered Professional Archaeologist (RPA) and cross-trained paleontologist with extensive field experience in survey, monitoring, faunal analysis, laboratory analysis, and excavation. He exceeds the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. Further, he is certified in Geographic Information Systems (GIS) and specializes in ESRI's ArcGIS software. Mr. Simmons is responsible for supervising GIS data collection and management and supervises production of GIS maps. Mr. Simmons is well versed in CEQA and NHPA Section 106 compliance procedures and reporting. He has over six years of experience in California Archaeology and paleontological monitoring along with more than 24 hours of paleontology training and over four years of GIS experience.

SELECTED PROJECTS

Bodie Hills FY14-15 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Mono County, CA. Class III Cultural Resources Inventory survey of 2,721 acres of BLM land identified for vegetation management. Work includes records search, intensive pedestrian survey, archaeological resource inventory and NRHP site evaluations, and a technical report. The survey area is located between the Town of Bridgeport and Lee Vining. GIS Specialist. 2014-2015

WECC Path 42, Southern California Edison, Riverside County, CA. Conducted a cultural resources records search and field survey (2011-2012); monitoring and compliance reporting (2014) for a 14.5 mile transmission line segment near Thousand Palms. Archaeological/ Paleontological Technician/ GIS Specialist.

High Desert Corridor/ SR 138 Widening Project, FHWA/Caltrans District 7, Los Angeles and San Bernardino Counties, CA. Records search, pedestrian survey, GIS mapping and site recording for Extended Phase I (XPI) Testing, subsurface testing of four archaeological sites in the Area of Potential Effects (APE). Sub to Parsons. Archaeologist/GIS Supervisor. 2014-2015

Exposition Light Rail Phase 2, Culver City to Santa Monica, Los Angeles County, CA. Conducted monitoring, site recording and GIS mapping along a 6.6-mile segment of the historic electric easement that is being replaced with a new light rail line. Sub to URS. Archaeological/Paleontological Monitor. 2012-2014

OC-44 Pipeline Rehabilitation/Replacement, Mesa Water District, Newport Beach, Orange County, CA. Conducted a Phase I Cultural Resources Assessment to determine the potential for adverse effects to historic properties during rehabilitation and replacement of the pipeline beneath San Diego Creek, between Jamboree Road and MacArthur Blvd. Records search, Sacred Lands search, NAHC consultation, intensive-level pedestrian survey and GIS mapping of the ~15.75 APE with negative results. Sub to Michael Baker/RBF Consulting. Archaeologist/GIS Technician. 2014

Blossom Plaza Mixed-Use Development, Forest City Development, Los Angeles, Los Angeles County, CA. The project involves development of 360,071 sf of residential and commercial space, intermodal parking, and a cultural plaza adjacent to the Chinatown Gold Line Metro station. Tasks included records search, archaeological resources monitoring and artifact recovery of construction excavation on block containing portions of the Zanja Madre, historic Chinese businesses and residences and a 19th Century hotel. GIS mapping, field data recording and artifact mapping. GIS Technician. 2014

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PALEONTOLOGY - ARCHAEOLOGY - HISTORY

SARAH NAVA
Archaeologist/Cross-Trained Paleontologist
and GIS Technician

EDUCATION

2013	Archaeology Field Program, Pimu Catalina Island Archaeology Project, California State University, Northridge, RPA Scholarship Recipient
2013	GIS Certification Program, Southwestern Community College
2008	B.A., Anthropology, California State University, Long Beach

SUMMARY QUALIFICATIONS

Ms. Nava is a dual-qualified archaeologist/paleontologist with six years of cultural resource management experience. As a field technician, crew chief, and geospatial technician, she has conducted monitoring, survey, site recording, and excavation. Her laboratory activities include artifact sorting, data entry, and generating site location maps. She specializes in using geographical information systems in cultural resource management and archaeology. She uses data collected in the field to analyze through GIS and software technologies. She has completed over 120 hours of cultural resource management workshops. She has presented research data and conclusions at professional conferences. Her professional memberships include the Society for American Archaeology and Society for California Archaeology.

SELECTED PROJECTS

Caltrans District 6, On-Call Paleontology (06A1786), Merced, Madera, Tulare, Kings, and Kern Counties, CA. Contributor to User Guide Book for the Fossil Sensitivity Inventory Link (FOSIL) Geospatial Database, responsible for producing a GIS training guide Sub to Parsons. Geospatial Technician. 2014

Caltrans District 6, On-Call Paleontology (06A1320), Merced, Madera, Tulare, Kings, and Kern Counties, CA. SR 99 Arboleda Drive Interchange widening: sorted and documented collection of 1,667 late Pleistocene fossils, including a mammoth, recovered from 128 localities. SR 41 Kettleman City widening: conducted paleontological monitoring during construction. Assisted with preparation and identification of the 800 vertebrate, invertebrate and plant fossils recovered during paleontological monitoring for the widening and rehabilitation of an 8.5 mile segment of the highway. Sub to URS Corporation. Paleontology Monitor/Laboratory Technician. 2013

Exposition Light Rail Phase 2, Exposition Transit Authority, Los Angeles County Metropolitan Transportation Authority, Culver City to Santa Monica, Los Angeles County, CA. Conducted archaeological/paleontological monitoring during construction of multiple stations, tracks and utility relocations. Field Technician. Sub to URS. 2013

Perris Valley Line Project, Metrolink, Riverside County Transportation Commission, Riverside County, CA. The project involved a 24-mile extension of the Metrolink 91 Line extending the connection from Riverside through Moreno Valley to Perris. Provided paleontological monitoring for construction of four new stations, upgrading associated track and utility relocations. Sub to HDR Engineering. 2013

Metropole Vault Replacements, Southern California Edison, Avalon, Catalina Island, Los Angeles County, CA. Conducted archaeological monitoring and coordinated with Native American monitors during ground disturbing activities of a 30,000 s.f. APE that resulted in an excavation. The site is located in proximity to the original Tongva tribal village on the island. Archaeological Field Technician. 2014

Fort Irwin National Training Center, San Bernardino, CA. Cultural Resources Inventory Survey of 14,316 Acres and National Register Evaluation of Archaeology Sites. Archaeological Field Technician. 2013

NAVFAC Atlantic Division, Naval Air Weapons Station China Lake, Kern County, CA. Section 110 Intensive Archaeological Inventory on Ranges. Conduct Section 110 archaeological inventory and site recording; Primary Client: Cultural Resource Analysts. Crew Chief. 2015

cogstone
PALEONTOLOGY - ARCHAEOLOGY - HISTORY

ALYSON CAINE
Osteologist and Archeologist

EDUCATION

2013 M.Sc., Palaeopathology, Archaeology, Durham University, Durham, United Kingdom
2012 B.A., Anthropology (Human Biology Track), Sociology Minor, Temple University, Philadelphia, Pennsylvania

SUMMARY QUALIFICATIONS

Ms. Caine is a qualified osteologist and archaeologist, with five years of professional and academic training in prehistoric bioarchaeology and osteology. She has experience with analysis, identification of human skeletal remains, survey, and monitoring. She has excavated and analyzed prehistoric human remains on Bronze Age sites in Oman and the UAE as well as experience working on projects in California. Ms. Caine belongs to professional societies including Society for American Archaeologists, American Association of Physical Anthropologists, and Paleopathology Association. Her research interests focus on Bioarchaeology, Forensic Anthropology, Skeletal and Dental Biology, Near East Studies (Bronze and Iron Age), Paleopathology, Isotopic Analysis, and Migration Studies.

SELECTED PROJECTS

Metropole Vault Replacements, Southern California Edison, Avalon, Catalina Island, Los Angeles County, CA. Archaeological monitoring during ground disturbing activities of a 30,000 s.f. APE for replacement of two underground electrical vaults. The site is located in proximity to the original Tongva tribal village on the island. Coordinated with the Most-Likely Descendant (MLD) and Native American monitor during the excavation of unanticipated discovery of human remains. Cogstone was responsible for the collections management of all artifacts and human remains during excavation. Wrote the report summarizing the osteological analysis and cataloguing. Osteologist and Report Author. 2015

Bodie Hills FY14-15 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Mono County, CA. Class III Cultural Resources Inventory survey of 2,721 acres of BLM land identified for vegetation management. Work includes records search, intensive pedestrian survey, archaeological resource inventory and NRHP site evaluations, and a technical report. Prepared site records and revisions and lab work for final report. The survey area is located between the Town of Bridgeport and Lee Vining. Archaeology Technician. 2015

Fort Irwin, U.S. Army National Training Center/GSA Region 9, San Bernardino County, CA. Class III Cultural Resources Inventory Survey of 9,309 acres and National Register Evaluation of Archaeology Sites. Conducted cultural and paleontological survey, site recording and site evalution to Section 106 standards. The contract also involves biological surveys of the area which will be conducted by Louis Berger Group in Spring
2015. Archaeology Technician. 2014-ongoing

FBI Sonnet Ring, MCB Quantico, Prince William County, VA. Joint project with Louis Berger Group. Phase I and Phase II Archaeological Survey of land areas that could be adversely affected by projects proposed in the Marine Corps Base Quantico (MCBQ) Master Plan. Specifically, evaluated impact of construction activities associated with installation of a fiber optic line including surveys and National Register eligibility evaluations. Organized lab material and created illustrations for report. Archaeology Technician. 2015

High Desert Corridor/ SR 138 Widening Project, FHWA/Caltrans District 7, Los Angeles and San Bernardino Counties, CA. The project involves construction of a new, approximately 63-mile long, east-west freeway/expressway between SR 14 in Los Angeles County and SR 18 in San Bernardino County. Cogstone conducted a field pedestrian survey for Extended Phase I (XPI) Testing, subsurface testing of four archaeological sites in the Area of Potential Effects (APE), and lab work. Conducted archaeological excavation to identify cultural materials. Caltrans is the lead federal and state agency; compliance with Section 106 and CEQA required. Sub to Parsons Transportation Group. Archaeology Technician. 2015

APPENDIX B: PREVIOUSLY RECORDED CULTURAL STUDIES

Previous Cultural Resources Studies within a One-Mile Radius of the Project Area

Report No. LA-	Title	Year	Distance from Project
620	Cultural Resource Survey of Tentative Tract No. 38876, Sylmar, Calif.	1979	1 mile
622	Cultural Resource Survey and Impact Assessment for Tentative Tract No. 35525 in Sylmar, Los Angeles County, Calif.	1979	1 mile
710	Cultural Resource Survey and Impact Assessment for Tract No. 29707 in the Community of Sylmar, City and County of Los Angeles, California (EIR No. 39-80-cuz, Lot at 14042 Astoria Street)	1980	1 mile
824	Letter of Tentative Tract 39052	1980	1 mile
1073	Cultural Resources Survey and Impact Assessment for Tentative Tract 42400 in the City of Los Angeles	1981	.25 mile
1362	Archaeological Reconnaissance Report: Los Pinetos Grazing Allotment ARR.	1978	1 mile
1378	An Archaeological Survey and Impact Assessment of Tt 36453, a Parcel at 14363 Bledsoe Street, Sylmar, Los Angeles	1984	.25 mile
1692	Archaeological Reconnaissance Report: Divide Fire Rehab	1988	.25 mile
1746	Cultural Resource Survey and Impact Assessment for the City of Los Angeles Department of Water and Power Proposed Maclay Water Storage Tanks, Los Angeles, California	1989	1 mile
2317	A Class I Cultural Resources Investigation for the Proposed Elsmere Canyon Solid Waste Management Facility, Newhall, Los Angeles County, California	1991	1 mile
2517	A Phase 1 Archaeological Study for Eight Areas Proposed for the New Los Angeles Police Training Academy, and Driver Training Facility, City of Los Angeles County, California	1991	In PA
2683	Draft Environmental Impact Report for the Police Bond Program Police Driver Training Facility	1992	In PA
3806	Assessment of the Archaeological Impact of the Proposed Development of Tentative Tract No. 26179 City of Los Angeles	1976	.25 mile
4361	Cultural Resource Inventory West End Fuels Management Project, Tujunga Ranger District, Angeles National Forest, Los Angeles County, California	1993	1 mile
4658	Archaeological Monitoring Report for Tentative Tract 52473 Located at 13775 Glenoaks Boulevard, Sylmar, Los Angeles County, California	1999	1 mile
5176	A Cultural Resources Site Survey of Herrick Avenue From Monte Street to Olden Street, Sylmar, California	1997	1 mile
5541	Cultural Resource Assessment: Cingular Wireless Facility No. Vy 098-01 Los Angeles County, California	2001	.25 mile
5926	Cultural Resources Assessment AT&T Wireless Services Facility No. 14012 Los Angeles County, California	2002	1 mile

Report No. LA-	Title	Year	Distance from Project
7894	Archaeological Resources Assessment for the Proposed Olive View Medical Center Emergency Services Expansion, City of Los Angeles, California	2006	In PA
9137	Archaeological Resources Assessment For The Proposed Olive View Medical Center Emergency Services Expansion City of Los Angeles, California	2006	In PA
9191	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11413A (MacLay Tanks), 13601 West Astoria Street, Sylmar, Los Angeles County, California	2007	1 mile
9990	Sayre Fire: Emergency Fire Damaged Pole Replacements, Gavin 16Kv Distribution Circuit, Los Angeles County, CA	2009	1 mile
10263	Cultural Resource Records Search and Site Visit Results for Clearwire Candidate CA- LOS0048B (RMA TAX), 14110 Polk Street, Sylmar, Los Angeles County, California	2009	1 mile
10756	A Cultural Resources Overview and Preliminary Assessment of the Pacoima/Panorama City Redevelopment Plan Amendment/Expansion Project Area, Los Angeles County, California	2010	1 mile
11379	Verizon Wireless - Olive View- 10370 - Trileaf Project #315884 13665 Polk Street, Sylmar, California 91342 Los Angeles County, San Fernando Quadrangle (Delorme)	2011	1 mile
11896	Archaeological Survey Report Olive View Medical Center Replacement Construction Sylmar, Los Angeles County	2012	In PA
11962	Seismically Retrofit the existing Physical Education Building at the Olive Vista Middle School in Sylmar, CA	2012	1 mile

APPENDIX C: NATIVE AMERICAN CONSULTATION

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☒ **CEQA Tribal Consultation List (AB 52)** – *Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2*

☐ **General Plan (SB 18)** - *Per Government Code § 65352.3.*

Local Action Type:

___ **General Plan** ___ **General Plan Element** ___ **General Plan Amendment**

___ **Specific Plan** ___ **Specific Plan Amendment** ___ **Pre-planning Outreach Activity**

Required Information

Project Title: Olive View - UCLA Medical Center Campus Master Plan

Local Government/Lead Agency: County of Los Angeles

Contact Person: Andrew Moey

Street Address: P.O. Box 1460

City: Alhambra **Zip:** 91802-1460

Phone: 626-300-2333 **Fax:**

Email: AMOEY@dpw.lacounty.gov

Specific Area Subject to Proposed Action

County: Los Angeles **City/Community:** Sylmar

Project Description:
An Environmental Impact Report (EIR) will be prepared for the proposed Olive View - UCLA Medical Center Campus Master Plan Project. The Master Plan will guide future development of the campus and the delivery of health care services and health related community programs. For the purposes of the EIR, two tiers of development will be analyzed. Tier I entails near-term projects constructed before 2035, including an Ambulatory Care Center, research and development buildings, a Community Center, improvements to the existing hospital, appurtenant parking facilities, and other medical center campus improvements that would be located predominantly in the eastern third of the campus. Tier II development would occur beyond 2035, and would include the construction of a new inpatient hospital, support services building, mental health outpatient care facility, long-term care and recuperative housing, retail space, County department buildings, and the renovation and reuse of the existing inpatient hospital for other purposes. Full build-out of the Master Plan could result in a total of approximately 1,382,000 square feet of development throughout the campus.

Additional Request

☒ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): San Fernando

Township: 3N **Range:** 15W **Section(s):** 21 & 22

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX

July 5, 2016

Andrew Moey
County of Los Angeles

Sent via e-mail: Amoey@dpw.lacounty.gov
Number of Pages: 3

RE: Proposed Olive View – UCLA Medical Center Campus Master Plan Project, Community of Sylmar; San Fernando USGS Quadrangle, Los Angeles County, California

Dear Mr. Moey:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent of the reference codes below is to avoid or mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects under AB-52.

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 **require public agencies** to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

> **Within 14 days** of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.3.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.3.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measurers.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A search of the SFL was completed for the USGS quadrangle information provided with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

Native American Heritage Commission
Tribal Consultation List
Los Angeles County
June 30, 2016

Santa Ynez Band of Mission Indians
Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez , CA 93460
kkahn@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
(562) 761-6417 Voice/Fax

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street Fernandeno
San Fernando , CA 91340 Tataviam
(818) 837-0794 Office

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100
Los Angeles , CA 90067
Gabrielino
(626) 676-1184 Cell

Barbareno/Ventureno Band of Mission Indians
Julie Lynn Tumamait-Stennslie, Chair
365 North Poli Ave Chumash
Ojai , CA 93023
jtumamait@hotmail.com
(805) 646-6214

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto , CA 92581 Cahuilla
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina , CA 91723
gabrielenoindians@yahoo.com Gabrielino
(626) 926-4131

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 Gabrielino Tongva
Los Angeles , CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Olive View - UCLA Medical Center Campus Master Plan Project, Community of Sylmar; San Fernando USGS Quadrangle, Los Angeles County, California.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
"To Enrich Lives Through Effective and Caring Service"

GAIL FARBER, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: PJ-2

April 11, 2016

Ms. Caitlin B. Gulley
Tribal Historic and Cultural Preservation Officer
Fernandeño Tataviam Band of Mission Indians
1019 Second Street
San Fernando, CA 91340

Dear Ms. Gulley:

COUNTY OF LOS ANGELES ASSEMBLY BILL 52
FORMAL NOTIFICATION OF DEADLINE
REQUEST CONSULTATION ON TRIBAL CULTURAL RESOURCES
FOR OLIVE VIEW-UCLA MEDICAL CENTER CAMPUS MASTER PLAN

Public Works is contacting you in compliance with California Assembly Bill (AB) 52 (including California Public Resources Code Section 21080.3.1) because you are listed as the tribal contact person in a tribal request for notice of proposed projects in this geographic area for which the County is the lead agency for compliance with the California Environmental Quality Act. In compliance with formal notification requirements we are issuing the following proposed project notification:

Project Name: Olive View-UCLA Medical Center Campus Master Plan

Proposed Project: The Olive View-UCLA Campus Master Plan (Master Plan) will guide future campus development and health care services. Proposed development over the next 20 years, under the Master Plan, could include a new ambulatory care center, research and development buildings, community center, parking facilities, and improvements to the existing hospital and campus infrastructure. Long-term development (beyond the year 2035), could include a new inpatient hospital, support services building, mental health outpatient care facility, long-term care and recuperative housing, retail space, and renovation and reuse of the existing inpatient hospital for other purposes. Build-out of the Master Plan could result in approximately 1,382,000 square feet of development throughout the campus.

Location: 14445 Olive View Drive, Sylmar, California 91342. The campus is generally bounded by the Angeles National Forest on the north, Olive View Drive on the south, Wilson Canyon Park on the east, and Bucher Avenue to the west.

Ms. Caitlin B. Gulley
April 11, 2016
Page 2

If you wish to begin processing a formal consultation under AB 52, your deadline to request consultation with the County is set by State law (California Public Resources Code Section 21080.3.1(d)) and requires that you send a written request for consultation to the address below within 30 days of the receipt of this notice.

If you do not wish to initiate formal consultation on this proposed project, no response to this notice is needed. If you do not wish to formally consult under AB 52 on this proposed project, you may participate in the California Environmental Quality Act process for this project on any issue of concern as an interested California Native American tribe, person, citizen, or member of the public.

Please send written responses for the proposed project to:

Mr. Andrew K. Moey
County of Los Angeles
Department of Public Works
Project Management Division I
P.O. Box 1460
Alhambra, CA 91802-1460

If you have any questions, please contact me at (626) 300-2333 or amoey@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works

ANDREW K. MOEY
Interim Assistant Deputy Director
Programs Development Division

AM:ms
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cc: Chief Executive Office (Carrie Voong)
County Counsel (Lauren Dods)
Department of Health Services (Carolyn Rhee)
ICF International (Mario Anayo, Brittany Hoedemaker, Lee Lisecki)

Fernandeño Tataviam Band of Mission Indians
Tribal Historic & Cultural Preservation

April 21, 2016

County of Los Angeles
Department of Public Works
Project Management Division I
P.O Box 1460
Alhambra, CA 91802-1460

RE: Formal Request for Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subdivision (b), (d) and (e) for Olive View-UCLA Medical Center Campus Master Plan

Dear Mr. Moey,

This letter constitutes a formal request for tribal consultation under the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code section 21080.3.1 subdivisions (b), (d) and (e)) for the mitigation of potential impacts to tribal cultural resources for the above referenced project (Project).

The Fernandeño Tataviam Band of Mission Indians requests that the lead agency forward to the contact below the estimated cubic yards of soil disturbance for the Project. Additional data may be requested from your agency. Please contact Caitlin Gulley with any questions or for additional information:

Caitlin Gulley, Director
Tribal Historic and Cultural Preservation Department
1019 Second St.
San Fernando, CA 91340

Sincerely,

Sedna Villavicencio
Tribal Historic and Cultural Preservation Department

1019 Second Street, Suite 1 | San Fernando | California, 91340 | (818) 837-0794 | Fax (818) 837-0796

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

GAIL FARBER, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

June 9, 2016

IN REPLY PLEASE
REFER TO FILE: PJ-2

Ms. Caitlin B. Gulley
Tribal Historic and Cultural Preservation Department
1019 Second Street
San Fernando, CA 91340

Dear Ms. Gulley:

SUBJECT: REQUEST FOR CONSULTATION PURSUANT TO ASSEMBLY BILL 52 (AB 52) FOR PROPOSED OLIVE VIEW-UCLA MEDICAL CENTER CAMPUS MASTER PLAN PROJECT

Thank you for responding to our recent letter regarding the Olive View-UCLA Medical Center Campus Master Plan (proposed Project). The proposed Project is located at 14445 Olive View Drive, Sylmar, California (see enclosed Figures 1 and 2). An Environmental Impact Report (EIR) will be prepared by the lead agency, the County of Los Angeles (COUNTY), for the proposed Project in compliance with the California Environmental Quality Act (CEQA).

We understand that the Fernandeño Tataviam Band of Mission Indians is formally requesting consultation with the County of Los Angeles under the provisions of AB 52 which is found at 21080.3.1 of the Public Resources Code and related sections for the mitigation of potential impacts to tribal cultural resources for the proposed Project.

In your letter, you requested an estimation of cubic yards of soil disturbance for the proposed Project. Please be aware that development under the Master Plan would proceed sequentially and occur over a number of years. Buildout of the campus, which is expected to occur sometime after the year 2035, could result in approximately 251,000 cubic yards of cut work and 70,000 cubic yards of fill to construct new campus buildings and structures. Additional earth disturbance for the proposed landscaping improvements on campus is currently anticipated to be shallow and proportionately insignificant.

The EIR for the proposed Project will analyze the impacts to the environment due to the proposed development and related campus improvements that could occur under the Master Plan. For the purposes of the analysis in the EIR, proposed Master Plan

development is described as occurring in two phases or tiers. Tier I would include near-term projects, such as a proposed new ambulatory care center and an administration building, as well as other development that could occur over the next 20 years (up to the year 2035). Tier I development would occur primarily within the eastern third of the campus in the vicinity of the existing hospital building and could total approximately 619,500 square feet of new buildings and facilities. Tier II would include proposed development beyond the year 2035. The impacts of Tier I development will be quantified to the extent possible in the EIR. Since Tier II development would occur much further in the future, the EIR will include a qualitative discussion of potential Tier II impacts.

I would also like to take this opportunity to provide you with the preliminary results of the cultural resources records search and survey conducted on behalf of the County by Cogstone Resource Management. A search for cultural resources was completed at the South Central Coastal Information Center of the California Historical Resources Inventory System by Ms. Alyson Caine, on January 28, 2016. The search included a 1-mile radius around the approximately 138.6 acre proposed Project area. No archaeological sites have been previously recorded within the proposed Project area or within the 1-mile radius. However, multiple built environment resources associated with the Historic Olive View Tuberculosis Sanatorium have been recorded within the proposed Project area (P-19-3794, P-19-18700, and P-19-1745294). In addition, two California Historical Landmarks, the Angeles National Forest and San Fernando Pioneer Memorial Cemetery, are located within a 1-mile radius.

An intensive-level pedestrian survey of the proposed Project area was conducted on February 15, 2016, by Archeologist and Paleontologist, Ms. Sarah Nava. The survey consisted of walking parallel 10-meter wide transects in open areas while closely inspecting the ground surface. Existing disturbances (e.g., rodent burrows, and ditches) were examined for artifacts or buried cultural deposits. No archaeological resources were identified within the proposed Project area.

Through the AB 52 consultation process, the County will gain information to determine if the proposed Project may cause a substantial adverse change to a tribal cultural resource and if so, consider feasible measures to avoid or minimize significant adverse impacts. As defined in the statute (Public Resource Code Section 20174), tribal cultural resources are sites, features, places, a cultural landscape, sacred places or objects, which are of cultural value to the Tribe and are either eligible for the California Historic Register or a local historic register, or identified as a tribal cultural resource at the County of Los Angeles' discretion. Please assist us by specifically identifying tribal cultural resources within the proposed Project boundaries. AB 52 contains provision for

information provided by a California Native American tribe through the consultation process to be maintained confidential. Please provide any available information known to the Fernandeno Tatavium Band of Mission Indians about the proposed Project area, as well as any comments, issues and/or concerns relating to the potential for impacts to tribal cultural resources at the proposed Project site. I would appreciate your response by June 9, 2016, to facilitate the consultation process.

Information may be addressed to:

Mr. Andrew K. Moey
County of Los Angeles
Department of Public Works
Project Management Division I
P.O. Box 1460
Alhambra, CA 91802-1460

If you have any questions, please contact me at (626) 300-2333 or amoey@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works

ANDREW K. MOEY
Interim Assistant Deputy Director
Project Management Division I

AM:ms
U:\pmdl\health\OVUCLAMP\Admin\Corr\Letter\AB52 Response

Enc.

cc: Chief Executive Office (Carrie Voong)
Department of Health Services (Carolyn Rhee)
ICF International (Mario Anaya, Brittany Hoedemaker, Lee Lisecki)

Fernandeño Tataviam Band of Mission Indians
Tribal Historic & Cultural Preservation

Rudy Ortega Jr.
Tribal President

Tribal Historic & Cultural Preservation Committee
Steve Ortega
Chairman
Arturo Paredes Jr.
David Ortega

July 14, 2016

Andrew Moey
County of Los Angeles
Department of Public Works
P.O Box 1460
Alhambra, CA 91802

RE: Tribal Consultation Pursuant to the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subdivision (b), (d) and (e) for Olive View-UCLA Medical Center Campus Master Plan Project (Project)

Dear Mr. Moey,

This letter constitutes formal mitigation recommendations from the Fernandeño Tataviam Band of Mission Indians (Tataviam) for the Project. Due to the facts that the Project property is located within the sensitivity zone of 2 villages, Passenga and Achoicominga, contains open space, superficial development and development prior to the current protections of CEQA, Tataviam recommends that the Project implement the language below:

- All ground disturbing activities performed on the Project property shall be monitored by professional Native American monitors.
- The applicant shall retain one professional Native American monitor per excavation team to monitor all ground disturbing activities performed on the Project property.
- The applicant, or their agent, shall enter into an agreement with the Fernandeño Tataviam Band of Mission Indians (Tataviam), as a condition of project approval by the lead agency, in which Tataviam shall be identified to provide the following professional services:
    - Consultation and project support during the project planning stages related to cultural resources and mitigation under the California Environmental Quality Act (CEQA), Public Resources Code section 21080.3.1, subdivision (b), (d) and (e).
    - Professional Native American monitoring procurement
    - Management of Native American monitoring activities and related project oversight

Should the applicant desire a review of alternative mitigation measures by Tataviam, they may request a Consultation Form from the Tribal Historic and Cultural Preservation Department.

1019 Second Street, Suite 1 | San Fernando | California, 91340 | (818) 837-0794 | Fax (818) 837-0796

Sincerely,

Caitlin B. Gulley, Director
Tribal Historic and Cultural Preservation Department
cgulley@tataviam-nsn.us

1019 Second Street, Suite 1 | San Fernando | California, 91340 | (818) 837-0794 | Fax (818) 837-0796

Appendix F

Geotechnical Evaluation and Paleontological Report

Appendix F1

Geotechnical Evaluation

PRELIMINARY GEOTECHNICAL EVALUATION
OLIVE VIEW – UCLA MEDICAL CENTER MASTER PLAN
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
14445 OLIVE VIEW DRIVE
SYLMAR, CALIFORNIA

PREPARED FOR:
ICF International
601 W. Fifth Street, Suite 900
Los Angeles, California 90071

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

March 18, 2016
Project No. 209600002

March 18, 2016
Project No. 209600002

Mr. Lee Lisecki
ICF International
601 W. Fifth Street, Suite 900
Los Angeles, California 90071

Subject: Preliminary Geotechnical Evaluation
Olive View – UCLA Medical Center Master Plan
Los Angeles County Department of Public Works
14445 Olive View Drive
Sylmar, California

Dear Mr. Lisecki:

In accordance with your request and authorization, Ninyo & Moore has performed a preliminary geotechnical evaluation for the Olive View – UCLA Medical Center Master Plan project located at 14445 Olive View Drive in Sylmar, California. Our evaluation was conducted in general accordance with the scope of services presented in our proposal dated February 2, 2015. This report presents our findings and conclusions regarding the subject site. We understand that the results of this evaluation will be utilized in the preparation of an Environmental Impact Report for the project.

We appreciate the opportunity to provide geotechnical consulting services for this project.

Sincerely,
NINYO & MOORE

Michael Rogers, PG, CEG
Senior Geologist

PROFESSIONAL GEOLOGIST
MICHAEL E. ROGERS
No. 2364
CERTIFIED
ENGINEERING
GEOLOGIST
Exp. 6/30/17
STATE OF CALIFORNIA

Soumitra Guha, PhD, PE, GE
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
SOUMITRA GUHA
NO. GE 2632
EXP. 6/30/17
GEOTECHNICAL
STATE OF CALIFORNIA

ZH/MER/CAP/SG/sc

Distribution: (1) Addressee (via e-mail)

TABLE OF CONTENTS

Figures

1. INTRODUCTION

In accordance with your request and authorization, we have performed a preliminary geotechnical evaluation for the Olive View – UCLA Medical Center Master Plan project (project) located at 14445 Olive View Drive in Sylmar, California (Figure 1). This Los Angeles County Department of Public Works (LACDPW) project involves development of a master plan that includes renovation of existing buildings and construction of a new hospital building, administrative building, central utility plant and other structures. We have performed a geotechnical evaluation of the site geologic conditions and the impacts associated with potential geologic and seismic hazards for inclusion in the Environmental Impact Report (EIR) for the project.

The purpose of our evaluation was to assess the geologic conditions at the site and develop preliminary conclusions regarding potential geologic and seismic impacts associated with the project in accordance with the California Environmental Quality Act (CEQA). Where appropriate, recommendations to mitigate potential geologic hazards, as noted in this report, have been provided. Our evaluation was based on review of readily available geologic and seismic data, geotechnical literature and reports, and site reconnaissance. Subsurface exploration was not conducted as part of our evaluation.

The Olive View – UCLA Medical Center site is located in a State of California (1979) Earthquake Fault Zone (EFZ, formerly Alquist-Priolo Special Studies Zone) related to surface ruptures caused by the 1971 San Fernando (Sylmar) Earthquake. Significant damage occurred to the buildings at the site in 1971 due to ground shaking from the San Fernando Earthquake. The potential for surface rupture to occur at the site due to future earthquakes is a potentially significant hazard to existing and planned structures. Fault trenching studies to evaluate the presence and relative activity of faulting at the site have been conducted by other geotechnical consultants. We understand that additional trenching studies will be needed in the future to evaluate buildable zones for the master planning scheme.

2. SCOPE OF SERVICES

Ninyo & Moore's scope of services has included review of geotechnical background materials, geologic reconnaissance of the project area, and geotechnical analysis. Specifically, we have performed the following tasks:

- Review of readily available topographic and geologic maps, published geotechnical literature, geologic and seismic data, groundwater data, and aerial photographs.
- Review of the referenced fault rupture hazard reports provided by ICF International that were obtained from the LACDPW.
- Review of the geotechnical aspects of LACDPW project planning documents, including a description of the master plan elements and brief overview of the fault rupture hazard investigations that have been conducted at the site.
- Geotechnical reconnaissance by a representative from Ninyo & Moore conducted on February 4, 2016, to observe and document the existing surface conditions at the project site.
- Compilation and analysis of existing geotechnical data pertaining to the site.
- Assessment of the general geologic conditions and seismic hazards affecting the area and evaluation of their potential impacts on the project.
- Preparation of this report presenting the results of our study, as well as our conclusions regarding the geologic and seismic impacts on the project, and preliminary recommendations to address the impacts to be included in the EIR.

3. PROJECT DESCRIPTION

Based on our review of the preliminary plans (SmithGroup JJR, 2015), we understand that the proposed project involves the development of a new long-term master plan to guide future medical campus development and delivery of health care services and health-related community programs. Future development under the master plan would include a new ambulatory care center, a replacement central utility plant, renovation of the existing inpatient hospital, outpatient clinics, research and development, education facilities, as well as community/public service areas. The master plan includes eventual replacement of the main hospital building. Other planned improvements include site utilities, hardscape, pavements, landscaping, and low impact development (LID) practices for on-site stormwater management/infiltration.

4. SITE DESCRIPTION

The Olive View – UCLA Medical Center is located north of Interstate 210 and east of Interstate 5 in the Sylmar community of the City of Los Angeles (Figure 1). The medical center campus is situated on the northern edge of the San Fernando Valley at the base of the San Gabriel Mountains (Figures 1 and 2). The campus is approximately 235 acres and is bounded by the Angeles National Forest and the Wilson Debris Basin to the north, Olive View Drive on the south, Wilson Canyon Channel on the east, and Bucher Avenue on the west (Figure 2). The project site is currently improved with an inpatient hospital, outpatient clinics, research/development and education facilities, and community/public service areas. The site is also improved with paved roads and parking areas, landscaped areas, retaining walls, developed pedestrian open space, and undeveloped hillside and canyon areas, unpaved roads and trails.

The project site includes both developed and undeveloped areas. The developed portion of the campus is located in the southern, low-lying portion of the site and west of the Wilson Canyon Channel. The undeveloped portion of the site is located in the elevated northern portion of the site and to the east of the Wilson Canyon Channel. Topography and surface gradients are variable across the site. The topography of the developed portion of the campus slopes gently down toward the west and south, varying from an approximate elevation of 1,500 feet above mean sea level (MSL) near the northeast part of the project area to an approximate elevation of 1,430 feet above MSL along the south part of the project area. The elevations in the hillside areas in the northern portion of the site range from approximately 1,850 feet above MSL to approximately 1,500 feet above MSL.

5. GEOLOGY

5.1. Regional Geology

The project site is located on the northern edge of the San Fernando Valley, a Tertiary-Quaternary period sediment-filled basin within the Transverse Ranges geomorphic province of southern California (Norris and Webb, 1990). Rock units in the province include older Precambrian-era and Jurassic-period metavolcanic, metasedimentary and igneous rocks.

Cretaceous-age marine and non-marine sedimentary and metasedimentary rocks and younger Tertiary-age rocks comprised of volcanic, marine, and non-marine sediments overlie the older rocks (Norris and Webb, 1990). More recent Quaternary sediments, primarily of alluvial origin, comprise the low-lying valley and drainage areas within the region, including the area where the Olive View – UCLA Medical Center Campus project site is located.

The rock formations in the province have been folded and uplifted due to compression and rotation associated with a restraining bend on the San Andreas Fault. The folding and uplifting of the region led to characteristic east-to-west trending structural troughs and mountain ranges. The San Fernando Valley formed as sediment infilled a subsiding basin between the San Gabriel Mountains to the north and the Santa Monica Mountains to the south (Norris and Webb, 1990).

5.2. Site Geology

The medical center is situated on a gently sloping alluvial fan and rock formations at the margin between the northern San Fernando Valley and western end of the San Gabriel Mountains. Regional geologic maps indicate that the upper, elevated northwestern portion of the site is underlain by Tertiary-age Towsley Formation generally comprised of cobble conglomerate and coarse-grained sandstone, and Cretaceous-age metamorphic rocks (Dibblee, 1991). Other elevated hillside areas in the western, northern and eastern portions of the site are mapped as being underlain by Pacoima Formation and older alluvium comprised of weakly consolidated sand and gravel. The lower southern portion of the site, where the existing improvements are located, and the eastern portions of the site at the base of Wilson Canyon are mapped as being underlain by young (Holocene) alluvial deposits generally comprised of gravel, sand and clay sediments. A regional geologic map of the site vicinity is shown on Figure 3.

5.3. Santa Susana (Olive View) Fault

Previous geologic mapping and references indicate the presence of a roughly east-west trending fault (the Olive View Fault) across the northwestern portion of the site (Figure 3).

Although not labeled on the referenced map (Dibblee, 1991) used for Figure 3, the fault has been named as the Olive View fault by others (California Department of Conservation, Division of Mines and Geology [CDMG], 1975; URS, 2010). The United States Geological Survey (USGS) has designated the fault as the eastern extension of the active Santa Susana Fault Zone (USGS, 2014a). This active fault was associated with surface ruptures at the project site caused by the 1971 San Fernando (Sylmar) Earthquake (CDMG, 1975; State of California, 1979).

5.4. Groundwater

The site is located within the San Fernando Valley Groundwater Basin (State of California, 2016). Historic groundwater monitoring well data from the State of California Water Resources Control Board's GeoTracker website (State of California, 2016) were reviewed for our evaluation. Monitoring well data were not available for the medical center site, but were reviewed for commercial properties located in the Sylmar community south of the site. These properties were involved in environmental clean-up activities where monitoring wells were installed and groundwater data from LACDPW wells were utilized. Based on the groundwater information reviewed from the GeoTracker website, groundwater levels from 1993 to 2013 in the Sylmar community approximately 1½ miles south of the project site have ranged from approximately 125 to 200 feet below the ground surface. The historic high groundwater mapped by the California Geological Survey (CGS) near the southern portion of the medical center site is approximately 120 feet deep (CDMG, 1998).

Groundwater levels may be influenced by seasonal variations, precipitation, subsurface stratification, groundwater pumping, irrigation practices, and other factors and are subject to fluctuations. Shallow perched conditions may be present.

6. FAULTING AND SEISMICITY

6.1. Regional Fault Setting

The Olive View-UCLA medical center project site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion at the site

is considered significant. Table 1 lists selected principal known active faults within approximately 50 kilometers of the project area and the maximum moment magnitude (M_{max}) as published by the USGS (2008 and 2014a) in general accordance with the Uniform California Earthquake Rupture Forecast, version 3 (UCERF) (Field, et al., 2013). The approximate fault-to-site distances listed in Table 1, measured from the existing hospital building, were calculated using the USGS web-based program (USGS, 2008).

Table 1 – Principal Regional Active Faults

Fault	Approximate Fault-to-Site Distance [1] miles (kilometers)	Maximum Moment Magnitude [1] (M_{max})
Santa Susana [2]	<0.1 (<0.1)	6.9
Northridge Blind Thrust	0.5 (0.8)	6.9
Sierra Madre (San Fernando)	1.7 (2.8)	7.3
San Gabriel	3.2 (5.2)	7.3
Verdugo	4.7 (7.5)	6.9
Holser	8.6 (13.9)	6.8
Simi-Santa Rosa	14.4 (23.2)	6.9
Hollywood	16.2 (26.0)	6.7
Oak Ridge	16.6 (26.8)	7.4
Upper Elysian Park Blind Thrust	17.0 (27.3)	6.7
Santa Monica	17.3 (27.9)	7.4
Raymond	19.0 (30.5)	6.8
San Cayetano	19.6 (31.6)	7.2
Newport-Inglewood (Los Angeles Basin)	19.7 (31.8)	7.5
Malibu Coast	21.0 (33.8)	7.0
Puente Hills Blind Thrust (LA)	21.2 (34.1)	7.0
Anacapa-Dume	21.9 (35.3)	7.2
San Andreas	22.0 (35.3)	8.2
Palos Verdes	25.3 (40.8)	7.7
Clamshell-Sawpit Canyon	27.5 (44.3)	6.7

Notes:
[1] USGS, 2008
[2] USGS, 2014a

The fault-to-site distance web-based calculator for faults in California is not available as part of the 2014 National Seismic Hazard Map database. However, the 2014 National Seismic

Hazard Map itself shows the Santa Susana fault crossing through the northern portion of the site (USGS, 2014a). Accordingly, the Santa Susana fault is considered to be in the immediate vicinity of the campus site and the fault-to-site distance in Table 1 is shown as less than 0.1 mile. The active Santa Susana fault was not mapped as crossing the project site as part of the USGS 2008 National Seismic Hazard Map (USGS, 2008) database, and is shown to be located approximately 2.9 miles west of the site.

The numerous faults in southern California include active, potentially active, and inactive faults. As defined by the CGS, active faults are faults that have ruptured within Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years. Figure 4 shows the approximate site location relative to the principal faults in the region based on the Fault Activity Map of California (Jennings, C.W., and Bryant, W.A., 2010).

The active Northridge Blind Thrust Fault (source of the 1994 Northridge Earthquake) is located approximately 0.5 mile southwest of the project site. Blind thrust faults are low-angle faults at depths that do not break the surface and are, therefore, not shown on Figure 4. Although blind thrust faults do not have a surface trace, they can be capable of generating damaging earthquakes and are included in Table 1.

6.2. 1971 San Fernando (Sylmar) Earthquake

The Olive View-UCLA Medical Center site was previously subjected to substantial ground shaking, surface rupture and earthquake-related damages resulting from the 1971 San Fernando Earthquake (also known as the Sylmar Earthquake). The Magnitude 6.5 earthquake included roughly 12 miles of surface rupture in the site vicinity and produced a maximum slip of 6 feet. The approximate locations of faults associated with major surface ruptures that were mapped at the project site are shown on Figure 5. Other surface ruptures and landslides that occurred at the site as a result of the 1971 earthquake are shown on references reviewed for this evaluation (CDMG, 1975). Damage to the medical center site

included the collapse of stair towers adjacent to buildings, the partial collapse of medical buildings, and the collapse of parking structures. Some structures damaged in the earthquake were later demolished (Southern California Earthquake Data Center, 2016).

The extensive urban damages and loss of life that resulted from the 1971 San Fernando Earthquake led to the enactment of the Alquist-Priolo Act, signed into California law on December 22, 1972.

6.3. 1972 Alquist-Priolo Earthquake Fault Zoning Act

As presented in the CDMG, Special Publication 42 (Hart, E.W., and Bryant, W.A., 1997), the 1972 Alquist-Priolo Earthquake Fault Zoning Act (AP Act) requires the State Geologist to delineate EFZs along known active faults in California. The AP Act also requires building setbacks to be established from the trace of an active fault. EFZs must meet the requirements of being "sufficiently active" (evidence of movement within the last approximate 11,000 years) and "well-defined" (detectable by a trained geologist). It is known that faults often rupture along a complex zone that may include the movement of multiple splays/strands rather than of a single strand. The EFZs are intended to be sufficiently wide enough on both sides of a known active fault to include these known or unknown splays/strands of the fault. The purpose of the AP Act was to prohibit the location of most structures for human occupancy across the traces of active faults, thus mitigating the hazard of fault rupture.

The project site is located in a State of California (1979) EFZ related to surface ruptures caused by the 1971 San Fernando (Sylmar) Earthquake. Figure 5 shows the site location relative to the mapped EFZ.

7. METHODOLOGY FOR GEOLOGIC IMPACT AND HAZARD ANALYSES

As outlined by the CEQA, the proposed project has been evaluated with respect to potential geologic and seismic impacts associated with the project. Evaluation of impacts due to potential geologic and seismic hazards is based on our review of readily available published geotechnical literature and geologic and seismic data pertinent to the proposed project, and site reconnaissance. The references and data reviewed include, but are not limited to, the following:

- Geologic maps and fault maps from the CDMG, CGS and USGS.
- Topographic maps from the USGS.
- Seismic data from the CGS and USGS.
- Geotechnical publications by the CDMG, CGS and USGS.
- State of California EFZ Maps (formerly Alquist-Priolo Special Studies Zones Maps).
- State of California Seismic Hazards Zones Reports and Maps.
- Fault rupture studies by URS Corporation (URS) and AMEC Environment & Infrastructure, Inc. (AMEC).
- Aerial photographs.
- Safety Element of the Los Angeles City General Plan.

8. THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA guidelines (California Environmental Resources Evaluation System [CERES], 2005a, 2005b), a project is considered to have a geologic impact if its implementation would result in or expose people/structures to potential substantial adverse effects, including the risk of loss, injury, or death from hazards involving one or more of the geologic conditions presented in Table 2. Table 2 also presents the impact potential as defined by CEQA associated with each of the geologic conditions discussed in the following sections.

Table 2 – Summary of Potential Geologic Impacts/Hazards

Geologic Condition	Impact Potential[1]			
	Potentially Significant Impact	Less than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
Earthquake Fault Rupture	x			
Strong Seismic Ground Shaking		x		
Seismically Related Ground Failure, Including Liquefaction		x		
Landslides		x		
Substantial Soil Erosion		x		
Subsidence			x	
Compressible/Collapsible Soils		x		
Expansive Soils		x		
Groundwater and Excavations		x		

Note:
[1]Reference: CERES, 2005, Appendix G – Environmental Checklist Form, Final Text, dated October 26. Website: http://ceres.ca.gov/topic/envlaw/ceqa/guidelines/appendices.html

9. CONCLUSIONS AND RECOMMENDATIONS FOR POTENTIAL GEOLOGIC AND SEISMIC IMPACTS/HAZARDS

Based on our review of geologic and seismic background information, and geotechnical reconnaissance, implementation of the proposed master plan project is not anticipated to have a significant impact on the geologic environment. However, future development at the project site may be subjected to potential impacts from geologic and seismic hazards. Potential impacts on the proposed project based on our preliminary evaluation are provided in the following sections.

The potential geologic and seismic hazards described below may be addressed by employing sound engineering practice in the design and construction of the proposed project elements. This practice includes the implementation of appropriate geotechnical recommendations prior to the design and construction of the facilities at the project site. Typical methods to reduce potential hazards that may be encountered during the construction of improvements are described in the following sections. Where appropriate, recommendations to mitigate potential geologic hazards are provided. Prior to design of the planned improvements, detailed subsurface geotechnical evaluation should be performed to address the site-specific conditions at the locations of the planned improvements and to provide detailed recommendations for design and construction.

9.1. Surface Fault Rupture

Surface fault rupture is the offset or rupturing of the ground surface by relative displacement across a fault during an earthquake. There could be potentially significant impacts associated with siting project improvements across the trace of an active fault. Damage due to fault rupture may include offset/damage to foundations and structural elements. As previously discussed, the medical center site was subjected to surface rupture and damage to structures resulting from the 1971 San Fernando Earthquake. Surface ruptures related to faulting were mapped along the trace of the Olive View fault in the northwestern part of the site. In addition, other ground surface ruptures were mapped at various locations within the project site (CDMG, 1975; State of California, 1979). Due to the surface ruptures along the active Olive View fault (Santa Susana Fault Zone) from the 1971 earthquake, an EFZ was established along the fault. Much of the project site is located within the EFZ (Figure 5).

Fault trenching studies to evaluate the presence and relative activity of faulting at portions of the site have been conducted by other geotechnical consultants on behalf of the LACDPW (URS, 2008; URS, 2010; AMEC, 2013). URS conducted a fault trenching study in 2008 for the proposed Psychiatric Urgent Care Facility in the southern part of the site, and conducted a fault trenching study in 2010 for the proposed Day Care Facility in the southern part of the site. Their studies generally involved performance of subsurface trenches and test pits adjacent to the facilities to explore for the presence of active faulting. URS generally concluded that the trenches exposed older (Pleistocene) alluvium that was not cut by active (Holocene epoch [last 11,000 years]) faulting. Based on their conclusions, URS established a "trench shadow corridor" area for the investigated sites that is free of active faulting and feasible for permitting structures intended for human occupancy in accordance with the provisions of the AP Act.

Based on a figure included in the preliminary project plans (SmithGroup JJR, 2015), AMEC prepared a map in 2013 titled "Preliminary Planning Map for Subsurface Fault Rupture Hazards" as part of the master planning study for the medical center site. The map shows a summary of fault trench locations performed by AMEC and other geotechnical consultants at the site. The map illustrates color-coded areas of the project site where fault trenching has "cleared" areas of active faulting for "potential building sites"; and areas where additional fault trenching can be performed and is "required." The map also illustrates many areas of the site located within the EFZ where fault trenching may not be feasible, including the location of the existing hospital building.

The preliminary project plans indicate that additional fault trenching will be needed in the future to evaluate buildable zones for the master planning scheme (SmithGroup JJR, 2015). Future geologic investigations to evaluate the location and relative activity of potentially active fault splays at the site and the feasibility of locating future site improvements should be conducted by geologic consultants for the LACDPW prior to design of structure locations. The fault investigations should be conducted by a California State Certified Engineering Geologist and should typically involve participation by experts in the field of

paleoseismology, geomorphology and soil stratigraphy. The fault investigations should be reviewed by the CGS. Other methods to explore for the presence of active faulting might include geophysical studies such as high resolution seismic reflection, seismic refraction, ground penetrating radar, and gravity and/or magnetic profiling.

Where the fault investigations find that no active fault splays are present at building sites, proposed structures intended for human occupancy may be feasible for permitting in accordance with the provisions of the AP Act. Where active fault splays are found at the project site, the locations may be deemed not feasible for construction of occupied structures, and appropriate building setback zones will need to be established.

The impacts related to surface rupture at the project site are potentially significant, but can be reduced with methods such as detailed fault investigations to clear sites of active faulting, including review by the CGS, and/or development of structural setback zones.

9.2. Seismic Ground Shaking

Earthquake events from one of the regional active or potentially active faults near the project area could result in strong ground shaking which could affect the project site. The level of ground shaking at a given location depends on many factors, including the size and type of earthquake, distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures and improvements perform during ground shaking.

The 2013 California Building Code (CBC) recommends that the design of structures be based on spectral response accelerations in the direction of maximum horizontal response (5 percent damped) having a 1 percent probability of collapse in 50 years. Such spectral response accelerations represent the Risk-Targeted Maximum Considered Earthquake (MCE_R) ground motion. The horizontal peak ground acceleration (PGA) that corresponds to the MCE_R for the site was calculated as 1.20g using the USGS (2014b) seismic design tool (web-based). The mapped PGA (PGA_M) which is defined as the Maximum Considered Earthquake Geometric Mean (MCE_G) PGA with adjustment for site class effects in

accordance with the American Society of Civil Engineers (ASCE) 7-10 Standard was estimated to be 1.14g using the USGS (2014b) seismic design tool in accordance with the ASCE 7-10 Standard. These estimates of ground motion do not include near-source factors that may be applicable to the design of structures on site.

This potential level of ground shaking could have high impacts on project improvements without appropriate design mitigation, and should be considered during the detailed design phase of the project. Mitigation of the potential impacts of seismic ground shaking can be achieved through project structural design. Structural elements of planned improvements can be designed to resist or accommodate appropriate site-specific ground motions and to conform to the current seismic design standards, including CBC and County of Los Angeles building regulations. Appropriate structural design and mitigation techniques would reduce the impacts related to seismic ground shaking.

9.3. Liquefaction

Liquefaction is the phenomenon in which loosely deposited granular soils located below the water table undergo rapid loss of shear strength due to excess pore pressure generation when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact due to rapid rise in pore water pressure causing the soil to behave as a fluid for a short period of time. Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking. The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of slabs due to sand boiling, buckling of deep foundations due to liquefaction-induced ground settlement.

According to Seismic Hazard Zones Maps published by the State of California (CDMG, 1999), a portion of the project area in the northeastern part of the site near the mouth of Wilson Canyon is located within an area considered susceptible to liquefaction (Figure 6).

This portion of the site within the lower-lying canyon bottom area was mapped as potentially liquefiable due to the tendency for shallower groundwater and loose, younger alluvial sediments to accumulate in canyon bottoms. However, the overall historic high groundwater levels at the site are deep, on the order of 120 feet or more below the ground surface, and much of the project site is not considered susceptible to liquefaction. Areas of the project site mapped as being underlain by rock formations are not susceptible to liquefaction.

Assessment of the liquefaction potential at the project site should be evaluated by subsurface geotechnical exploration prior to detailed design and construction of project improvements and incorporated into the design, as appropriate. Structural design and mitigation techniques should be developed to reduce the potential impacts of liquefaction. Therefore, the potential impacts due to liquefaction are considered to be less than significant with incorporation of techniques such as structural design, in-situ ground modification, or supporting foundations with piles at depths designed specifically for seismically induced settlement.

9.4. Landslides

Landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and/or the earth materials are too weak to support themselves. Earthquake-induced landslides may also occur due to seismic ground shaking. Landslides can consist of rockfalls, shallow slumps, mudflows and erosional failures, or deeper-seated rotational and block failures. Shallow failures are typically caused by high incident rainfall or concentrated surface runoff conditions that weaken surficial materials. Rotational slides and block-type slides form deeper within the ground, and are generally related to discontinuities in the rock that manifest into a sliding surface. Rainfall and other water infiltration into the ground can exacerbate and initiate these deeper sliding conditions. Landslides can also be caused by construction activities, such as grading that undercuts the toe of a slope or induces loading at the top of a slope.

Existing landslides are not shown on the northern hillside areas of the site on the geologic maps reviewed. However, the northern portion of the project site contains steep, natural

slopes that have been subjected to fires. In addition, portions of the slopes on the northern part of the site have been designated on the State Seismic Hazard Zones Map (Figure 6) as having potential for earthquake–induced landslides (CDMG, 1999). Furthermore, landslides that were caused by earthquake ground shaking were mapped at the site following the 1971 San Fernando Earthquake (CDMG, 1975).

The southern portion of the project site has shallower slope gradients and has been extensively developed and is primarily covered with pavements, hardscape and structures. The developed southern portion of the site includes some graded slopes at shallow gradients associated with landscaping and open space areas.

Due to the presence of steep hillside areas and previously mapped earthquake–induced landslides in the northern portion of the site, there is a potential for landslides, mudflows or seismic slope instability to impact the proposed project site. Detailed assessment of the landslide and mudflow potential in areas of project improvements should be performed prior to design and construction of improvements and incorporated into the design, as appropriate, to reduce the construction and operational impacts related to landslides. Therefore, the potential impacts due to landslides are considered to be low with incorporation of recommendations discussed below.

To evaluate the potential for landslides, surficial slope failures and/or mudflows to affect future planned improvements, evaluation may include review of geologic maps showing the locations of previous mapped landslides and potential earthquake-induced landslide zones relative to these project components. Where appropriate in close proximity to potential landslide areas, surface reconnaissance to map the locations of landslides and/or subsurface evaluation could be performed. Evaluation of the landslide and surficial slope failure hazard would be performed during design and prior to construction so that, in the event the hazard exists, common design and construction practices can be implemented.

Common construction practices for potentially unstable slope conditions and for areas with the potential for landslides and surficial slope failures include: excavating potentially

unstable material resulting in a flatter and more stable slope configuration; reduction of landslide driving forces by removal of earth materials at the top of the landslide; construction of buttress and/or stabilization fills; construction of retaining walls, installation of rock bolts on the face of the slope, or installation of protective wire mesh on the slope face; and/or the construction of debris impact walls at the toe of the slope to contain rock fall debris. Graded slopes created for future developments within the project site should also be designed to reduce the potential for landslides or mudflows.

9.5. Soil Erosion

Erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion can occur by varying processes and may occur at the project site where soil or rock is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses. Review of geologic maps and site reconnaissance indicate that surface exposures at the site are comprised of variable types of soil and rock materials. In addition, the site comprises varied topographic terrain ranging from gentle to steep gradients. In a general sense, steeper slope gradients, such as in the northern portion of the site, provide a higher erosion potential for similar soil types.

Sandy soils typically have low cohesion, and have a relatively higher potential for erosion from surface runoff when exposed in slopes or utilized near the face of fill embankments. Surface soils with higher amounts of clay tend to be less erodible as the clay acts as a binder to hold the soil particles together. Additionally, large portions of the site, including the eastern and northern portions, are currently undeveloped and subject to potential water- and wind-related soil erosion. Soil erosion and soil runoff from natural drainages and non-vegetated areas on the adjacent slopes has the potential to impact the site.

Future construction at the project site would result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. However, the erosion potential during construction can be minimized with prudent site

management practices during construction. A Storm Water Pollution Prevention Program (SWPPP) incorporating Best Management Practices (BMPs) for erosion control should be prepared prior to the start of construction in accordance with governing agencies. Following development of site improvements, erosion can be minimized by long-term erosion management practices and drainage provisions incorporated into the design and maintenance of the project. Potential soil erosion related to project site development is considered to have a low impact with incorporation of appropriate design and construction practices.

With the implementation of BMPs incorporated in the project SWPPP during planned construction, water- and wind-related soil erosion can be limited and managed within construction site boundaries. Examples of these procedures could include surface drainage measures for erosion due to water, such as the use of erosion prevention mats or geofabrics, silt fencing, sandbags and plastic sheeting, and temporary drainage devices. Positive surface drainage should be accommodated at project construction sites to allow surface runoff to flow away from site improvements or areas susceptible to erosion. To reduce wind-related erosion, wetting of soil surfaces and/or covering exposed ground areas and soil stockpiles could be considered during construction operations, as appropriate.

During long-term operation of future developments at the project site, soil erosion can be mitigated through site drainage design and maintenance practices. Design procedures can be performed to reduce soil erosion such as appropriate surface drainage design of roadways and facilities to provide for positive surface runoff. Design should address reducing concentrated run-off conditions that could cause erosion and affect the stability of project improvements.

9.6. Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep soil deposits are present. Subsidence in areas of deep soil deposits is typically associated with regional groundwater withdrawal or other fluid withdrawal from the ground such as oil and natural gas. Subsidence can result in the development of ground cracks and damage to site improvements.

The City of Los Angeles and County of Los Angeles references do not indicate mapped areas of subsidence. Historic subsidence is not known to have occurred or been reported in the site region. The Safety Element of the Los Angeles City General Plan (1996) includes information regarding the City's program to preclude potential subsidence within the City. Subsurface extraction activities within the City of Los Angeles are regulated by the Oil Drilling District procedures, which contain provisions for monitoring and imposing measures to preclude subsidence related to oil and gas extraction. Therefore, the potential for subsidence in the Project area is relatively low.

9.7. Compressible/Collapsible Soils

Compressible soils are generally comprised of soils that undergo decrease in volume when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon where the soils undergo a significant decrease in volume upon increase in moisture content, with or without an increase in external loads. Buildings, structures and other improvements may be subject to excessive settlement-related distress when compressible soils or collapsible soils are present.

Based on our background review, the project area is underlain by fill soils, alluvial sediments, and sedimentary rock formations. The alluvial deposits underlying the site are generally unconsolidated to weakly consolidated, based on the young nature of the deposits, reflecting a depositional history without substantial loading, and may be subject to collapse. Older, undocumented fill soils related to previous site development are considered potentially compressible/collapsible. Due to the presence of potentially compressible/collapsible soils at the site, there is a potential for differential settlement to cause damage to project improvements. The potential impacts of settlement are significant without appropriate mitigation during detailed project design and construction.

Since future development within the project area will involve construction of new improvements that would load the existing soils, potential settlement and/or collapsible soils will be a consideration in the detailed design and construction of project improvements. Assessment of soil settlement should be performed prior to detailed design and construction

of project improvements and mitigation techniques should be developed, as appropriate, to reduce the impacts related to settlement.

To evaluate the potential for settlement to affect future project components, surface reconnaissance and subsurface evaluation should be performed. During the detailed design phase of the project, site-specific geotechnical evaluations should be performed to assess the settlement potential of the on-site natural soils and undocumented fill. This may include detailed surface reconnaissance to evaluate site conditions, and drilling of exploratory borings or test pits and laboratory testing of soils, where appropriate, to evaluate site conditions.

Examples of possible mitigation measures for soils with the potential for settlement include removal of the compressible/collapsible soil layers and replacement with compacted fill, surcharging to induce settlement prior to construction of improvements, allowing for a settlement period after or during construction of new fills, and specialized foundation design, including the use of deep foundation systems to support structures. Various in-situ soil improvement techniques are also available, such as dynamic compaction (heavy tamping) or compaction grouting.

9.8. Expansive Soils

Expansive soils include clay minerals that are characterized by their ability to undergo significant volume change (shrink or swell) due to variations in moisture content. Sandy soils are generally not expansive. Changes in soil moisture content can result from rainfall, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors. Volumetric change of expansive soil may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs-on-grade, or pavements supported on these materials.

Based on our background review and site reconnaissance, the near-surface soils in the project site are predominantly comprised of sandy, coarse-grained materials. These soils typically have a low expansion potential. However, clayey soils may be present in areas of

the project site. Constructing project improvements on expansive soils could have a significant impact on future improvements.

Assessment of the potential for expansive soils should be performed during the design phase of the project through subsurface exploration and mitigation techniques should be developed, as appropriate, to reduce the impacts related to expansive soils. The potential impacts due to expansive soils would be reduced with incorporation of techniques such as over-excavation and replacement with non-expansive soil, soil treatment, moisture management, and/or specific structural design for expansive soil conditions developed during design of the project.

9.9. Groundwater and Excavations

The depth of historic high groundwater at the project site is on the order of 120 feet below the ground surface (CDMG, 1998). Based on the groundwater information reviewed from the GeoTracker website, groundwater levels from 1993 to 2013 in the Sylmar community approximately 1½ miles south of the project site have ranged from approximately 125 to 200 feet below the ground surface (State of California, 2016).

Proposed future improvements at the project site are anticipated to consist of excavations and site grading for new structures. Based on the deep groundwater levels reported in the site region and the anticipated depth of construction activities, groundwater may not have a significant impact on excavations for the planned project improvements. However, areas of shallower perched groundwater may be encountered during excavations, and, if encountered, could have an impact on the construction activities at the sites.

Wet or saturated soil conditions encountered in excavations during construction for the project can cause instability of the excavations, and present a constraint to construction activities. Excavations in areas with shallow perched groundwater may need to be cased/shored and/or dewatered to maintain stability of the excavations and adjacent improvements and provide access for construction.

Groundwater levels may be influenced by seasonal variations, precipitation, irrigation, soil/rock types, groundwater pumping, and other factors and are subject to fluctuations. On-site infiltration of storm water related to LID guidelines may have an impact on existing and planned site improvements and should be evaluated during the detailed design phase of the project.

Further study, including subsurface exploration, should be performed during the detailed design phase of planned improvements to evaluate the presence of seepage and/or perched groundwater, and to evaluate the potential for stormwater infiltration at the site, and the potential impacts on design and construction of project improvements. Mitigation techniques should be developed, as appropriate, to reduce the impacts related to groundwater. The potential impacts due to groundwater would be reduced with incorporation of techniques such as casing, shoring and/or construction dewatering.

10. LIMITATIONS

The purpose of this study was to evaluate geotechnical conditions and potential geologic and seismic hazards at the site using readily available geotechnical data, site reconnaissance, and to provide a preliminary geotechnical report which can be utilized in the preparation of an EIR for the project.

The geotechnical analyses presented in this report have been conducted in general accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No other warranty, implied or expressed, is made regarding the conclusions, recommendations, and professional opinions expressed in this report. Our preliminary conclusions and recommendations are based on a review of readily available geotechnical literature, geologic and seismic data, and an analysis of the observed conditions. Variations may exist and conditions not observed or described in this report may be encountered.

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N

SCALE IN FEET

0 2,400 4,800

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore	SITE LOCATION	FIGURE
PROJECT NO. 209600002 / DATE 3/16	OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN 14445 OLIVE VIEW DRIVE SYLMAR, CALIFORNIA	1

209600002_SL.dwg 15:39:19 02/19/2016 GK

REFERENCE: SMITH GROUP JJR, 2015, OLIVE VIEW-UCLA MEDICAL CENTER CAMPUS MASTER PLAN, APPENDIX, PREPARED FOR COUNTY OF LOS ANGELES, DRAFT PRINT DATED AUGUST 26.

LEGEND	
— — · — — · —	SITE BOUNDARY

N

SCALE IN FEET

0 600 1,200

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore		SITE AERIAL VIEW	FIGURE
PROJECT NO.	DATE	OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN 14445 OLIVE VIEW DRIVE SYLMAR, CALIFORNIA	2
209600002	3/16		

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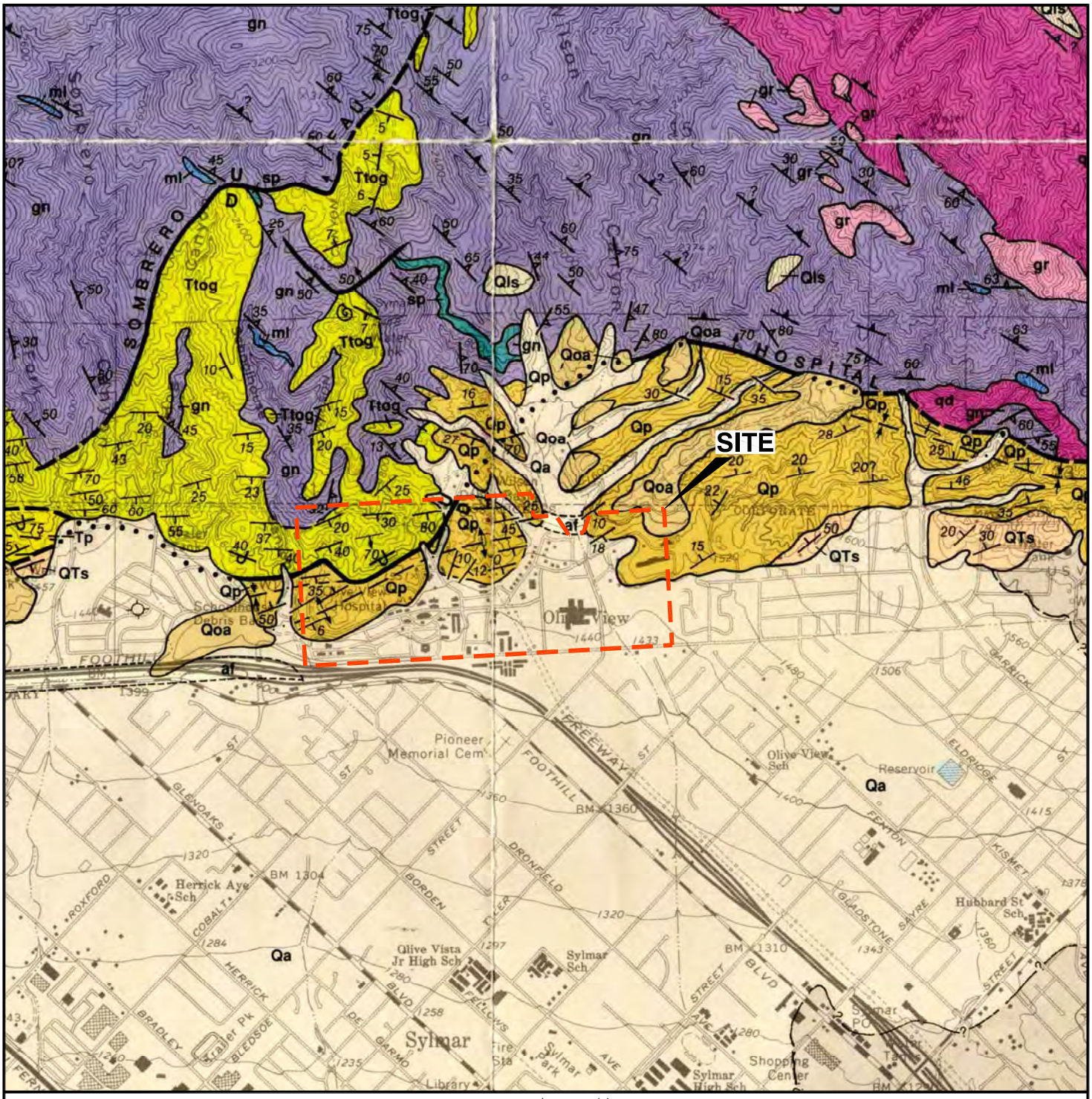

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N

SCALE IN FEET

0 2,000 4,000

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

Af	ARTIFICIAL FILL	Ttog	TOWSLEY FORMATION CONGLOMERATE AND SANDSTONE
Qa	ALLUVIUM	gn	MENDENHALL GNEISS
Qoa	OLDER ALLUVIUM		GEOLOGIC CONTACT
Qp	PACOIMA FORMATION GRAVEL AND SAND		FAULT; DOTTED WHERE CONCEALED
		80	STRIKE AND DIP OF BEDDING
			ANTICLINE

Ninyo & Moore

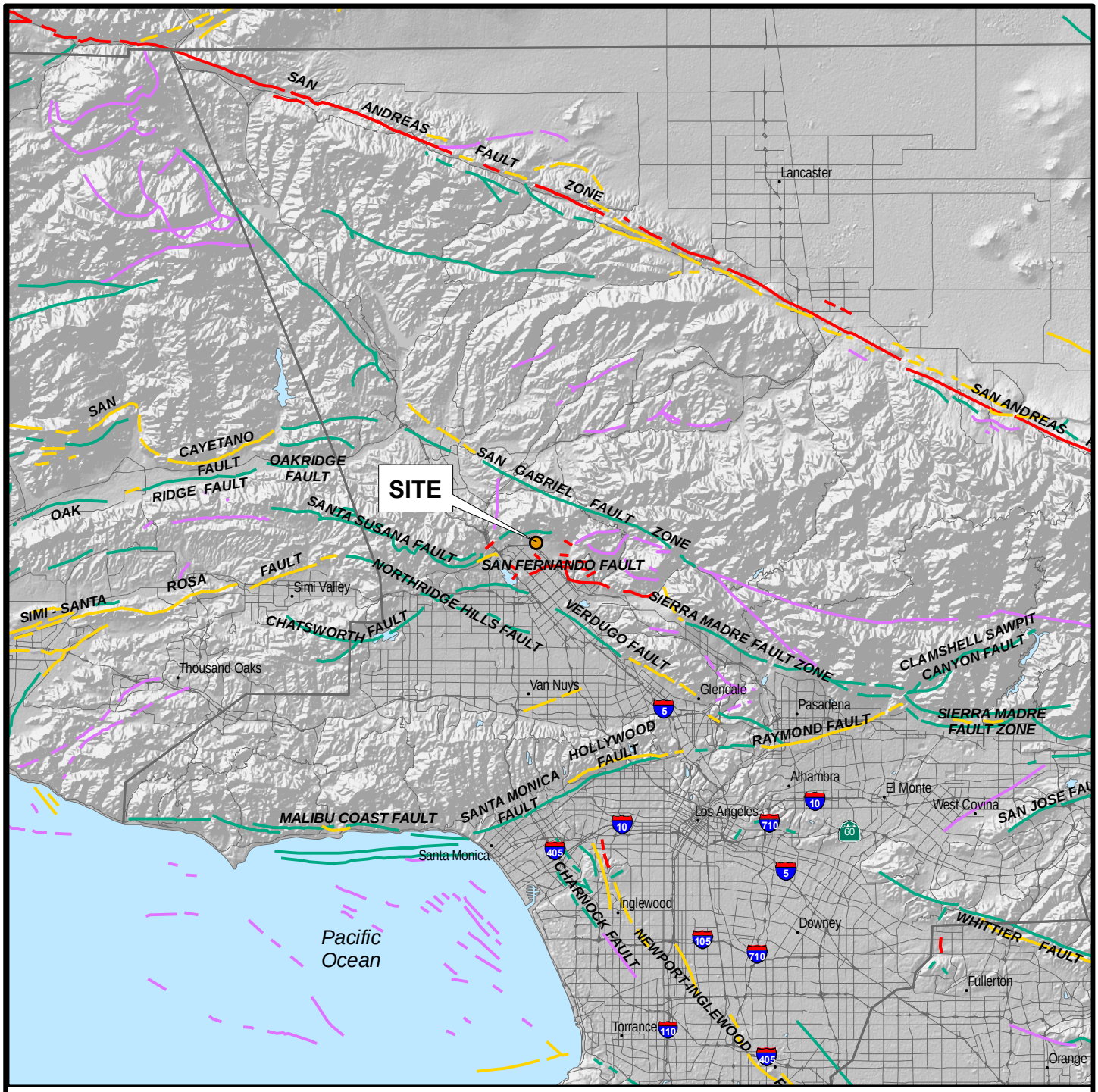
REGIONAL GEOLOGY

FIGURE 3

PROJECT NO.	DATE
209600002	3/16

OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN
14445 OLIVE VIEW DRIVE
SYLMAR, CALIFORNIA

209600002_RG.dwg 10:16:22 02/22/2016 GK



GIS DATA SOURCE: CALIFORNIA GEOLOGICAL SURVEY (CGS); ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI)
REFERENCE: JENNINGS, C.W. AND BRYANT, W.A., 2010, FAULT ACTIVITY MAP OF CALIFORNIA.

LEGEND

FAULT ACTIVITY:

- HISTORICALLY ACTIVE
- LATE QUATERNARY
- HOLOCENE ACTIVE
- QUATERNARY
- COUNTY BOUNDARIES

N

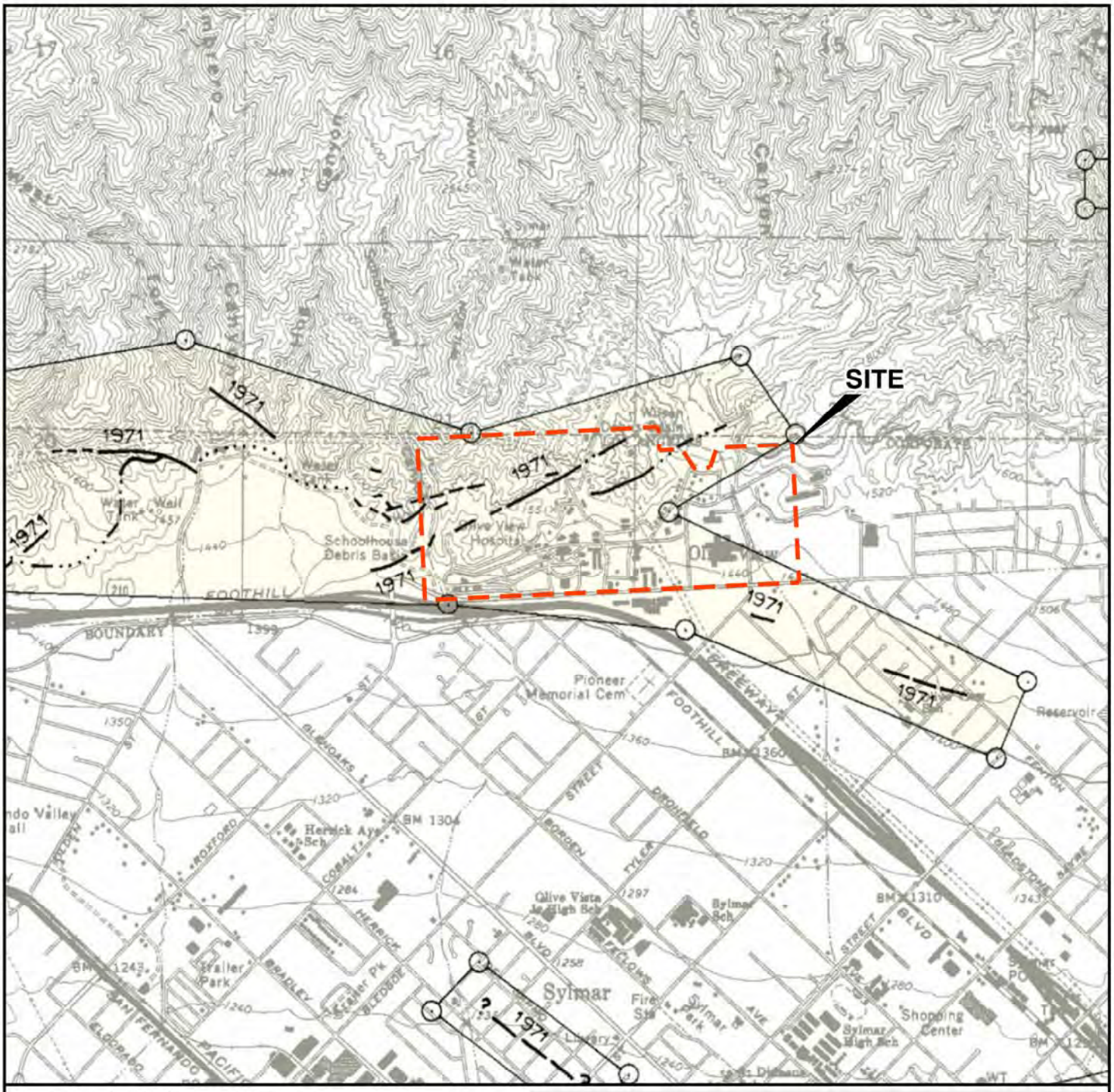
10 0 10

Miles

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE

Ninyo & Moore	FAULT LOCATIONS	FIGURE
PROJECT NO.	DATE	OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN 14445 OLIVE VIEW DRIVE SYLMAR, CALIFORNIA	4
209600002	3/16		

209600002_FL.....GK



REFERENCE: STATE OF CALIFORNIA SPECIAL STUDIES ZONES, 1976 SAN FERNANDO QUADRANGLE, DATED JANUARY 1,

N

SCALE IN FEET

0 2,000 4,000

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

Potentially Active Faults

1906 C

Faults considered to have been active during Holocene time and to have a relatively high potential for surface rupture, solid line where accurately located, long dash where approximately located, short dash where inferred, dotted where concealed; query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by creep or possible creep.

Special Studies Zone Boundaries

These are delineated as straight-line segments that connect encircled turning points so as to define special studies zone segments.

Seaward projection of zone boundary.

Ninyo & Moore

PROJECT NO.	DATE
209600002	3/16

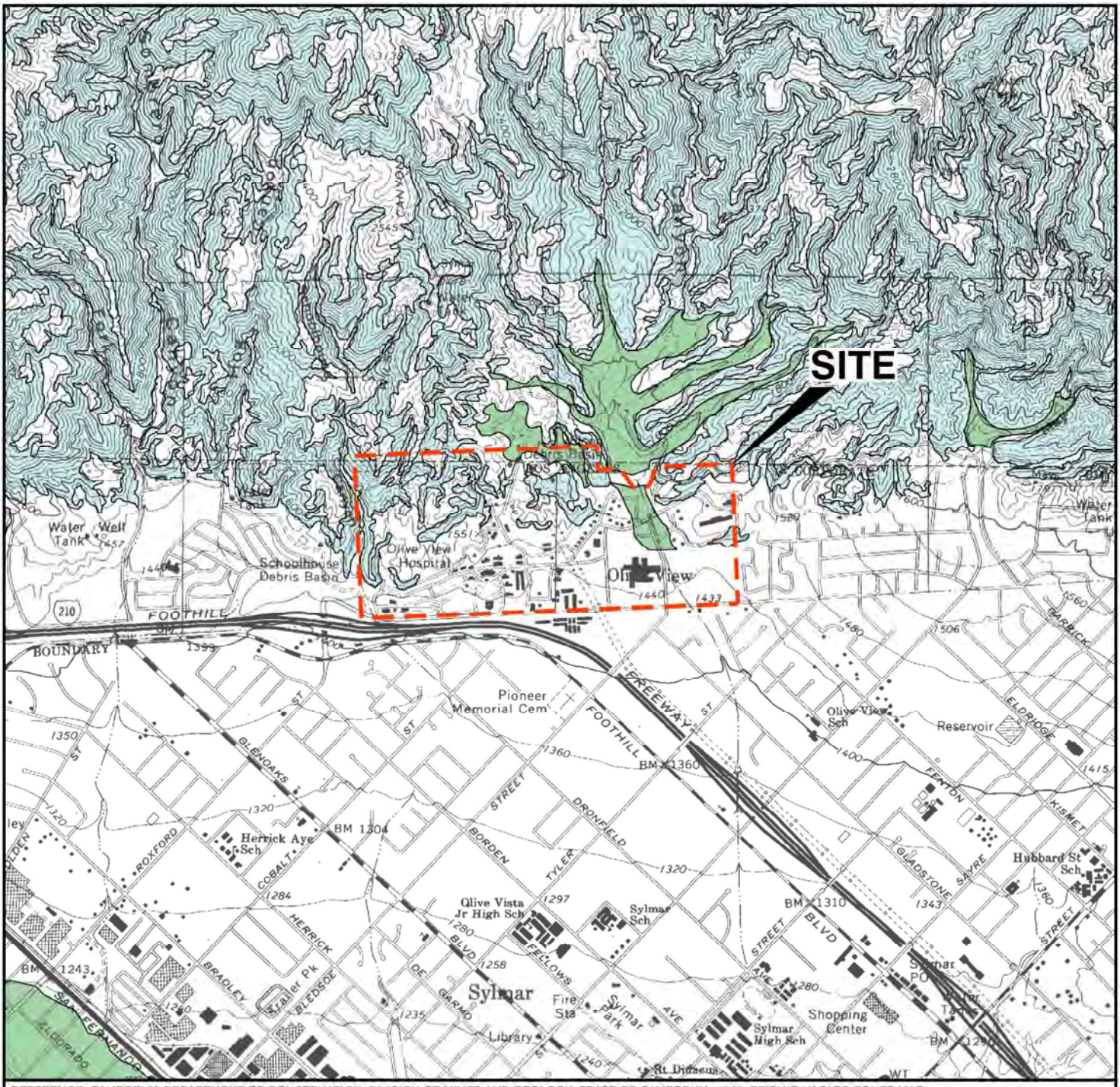
EARTHQUAKE FAULT ZONES

OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN
14445 OLIVE VIEW DRIVE
SYLMAR, CALIFORNIA

FIGURE

5

209600002_EFZ.dwg 16:04:19 02/19/2016 GK



REFERENCE: CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF MINES AND GEOLOGY, STATE OF CALIFORNIA, 1999, SEISMIC HAZARD ZONES MAP SAN FERNANDO QUADRANGLE, 7.5-MINUTE SERIES: SCALE 1:24,000.

N

SCALE IN FEET

0 2,000 4,000

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

EARTHQUAKE-INDUCED LANDSLIDES

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

LIQUEFACTION:

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Ninyo & Moore

PROJECT NO.	DATE
209600002	3/16

SEISMIC HAZARD ZONES

OLIVE VIEW - UCLA MEDICAL CENTER MASTER PLAN
14445 OLIVE VIEW DRIVE
SYLMAR, CALIFORNIA

FIGURE

6

209600002_SHZ.dwg 15:54:19 02/19/2016 GK

Appendix F2

Paleontological Report

PALEO SOLUTIONS
Paleontological and Archaeological Compliance and Consulting Services

PALEONTOLOGICAL TECHNICAL STUDY: OLIVE VIEW – UCLA MEDICAL CENTER CAMPUS MASTER PLAN PROJECT COMMUNITY OF SYLMAR, LOS ANGELES COUNTY, CALIFORNIA

Prepared for:

ICF INTERNATIONAL

Lee Lisecki, Principal
601 W. Fifth Street
Los Angeles, CA 90071

CC:

OLIVE VIEW – UCLA MEDICAL CENTER CAMPUS

14445 Olive View Drive
Los Angeles, CA 91342

Prepared by:

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Marianne Grillo – Report Author
Joey Raum – Report Author

PSI Report#: CA16LosAngelesICF01R-P

JUNE 2016

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FIGURES

TABLES

1.0 EXECUTIVE SUMMARY

This report presents the results of the paleontological technical study conducted by Paleo Solutions, Inc. (Paleo Solutions) under contract to ICF International (ICF) in support of the Olive View – University of California, Los Angeles (UCLA) Medical Center Campus Master Plan (Project or Master Plan) being proposed by the Olive View – UCLA Medical Center (Applicant). This work was required by the County of Los Angeles to meet their requirements as the lead agency under the California Environmental Quality Act (CEQA). All paleontological work was completed in compliance with CEQA and Los Angeles County guidelines.

The Olive View-UCLA Medical Center Campus is located at 14445 Olive View Drive within the community of Sylmar, at the north end of the San Fernando Valley, in the City of Los Angeles, California. Full build-out of the Master Plan could result in approximately 1,386,000 square feet of development throughout the campus, which would occur in two tiers. Tier I entails near-term projects constructed before 2035, including an Ambulatory Care Center, research and development buildings, a Community Center, improvements to the existing hospital, appurtenant parking facilities, and other medical center campus improvements that would be located predominantly in the eastern third of the current campus. Tier II development would occur beyond 2035, and would include the construction of a new inpatient hospital, support services building, mental health outpatient care facility, long-term care and recuperative housing, retail space, County department buildings, and the reuse and renovation of the existing inpatient hospital for other purposes.

The paleontological study for the Project included a geologic map review, literature search, institutional records search, reconnaissance survey, and analysis of the paleontological potential of geologic units within the Project site. Geologic mapping of the Project area indicates that the site is primarily underlain by Quaternary (Holocene) alluvium and Pleistocene Pacoima Formation. According to the records searches, there are no previously recorded fossil localities from within the Project site, but older Quaternary deposits similar to the Pleistocene Pacoima Formation have produced significant fossil vertebrate remains nearby. Recovered fossils include specimens of mastodon (*Mammut*), horse (*Equus*), bison (*Bison*), and mammoth (*Mammuthus*). No fossils were discovered during the reconnaissance survey, however, the fine to medium grained Pacoima Formation outcrops observed during the survey appear conducive to fossil preservation. Based on the results of the records search and survey, the Pacoima Formation is considered to have moderate sensitivity (PFYC 3a). Quaternary alluvium has a low potential (PFYC 2) to contain paleontological resources at the surface due to its young age, but may be underlain by sensitive deposits at depth.

Due to the moderate paleontological potential of geologic units within the Project site, mitigation of potential adverse impacts resulting from construction-related ground disturbance is recommended. Prior to the start of construction, a paleontological resources monitoring plan should be prepared and implemented. Monitoring is recommended during earthmoving activities impacting native sediments of the Pacoima Formation. Additionally, periodic paleontological spot checks are recommended during excavations in areas mapped as Quaternary alluvium to determine if older, paleontologically sensitive sediments are present. If present, monitoring should be implemented.

TABLE 1. OLIVE VIEW – UCLA MEDICAL CENTER CAMPUS MASTER PLAN PROJECT SUMMARY

Project Name	Olive View – UCLA Medical Center Campus Master Plan Project				
Project Description	Olive View – UCLA Medical Center is proposing to make improvements to the existing hospital building as well as build many new buildings, parking structures, and open recreational areas. Construction would involve grading, landscaping, and infrastructure improvements such as storm drains, water, sewer, and streets.				
Project Area	The Project site is located in the Community of Sylmar within the mid-western portion of Los Angeles County. Specifically, it is located on the UCLA Medical Center on 14445 Olive View Drive, which is bounded by the Angeles National Forest and Wilson Canyon Debris Basin on the north, Olive View Drive on the south, Los Angeles County Flood Control District facilities and Wilson Canyon Park on the east, and Bucher Avenue to the west. The terrain comprises low to low-moderate relief flat and developed areas and moderate relief hills along the northern and eastern margins.				
Total Acreage	~230 acres				
Location (PLSS) and Land Owner	**Quarter-Quarter**	**Section**	**Township**	**Range**	**Land Ownership**
	NESE, L3, L4	21	T3N	R15W	Undetermined
	NWSW, NESW, L1, L2	22			Undetermined
Topographic Map(s)	USGS San Fernando, California 7.5’ Quadrangle				
Geologic Map(s)	Geologic map of the San Fernando and Van Nuys (north ½) Quadrangles, Los Angeles County, CA (Dibblee and Ehrenspeck, 1991)				
Mapped Geologic Formation(s) and Age	**Formation & Map Symbol**	**Age**	**Paleontological Sensitivity**		
	Quaternary alluvium (Qa)	Holocene	Low		
	Pacoima Formation (Qp)	Pleistocene	Moderate		
Surveyor(s)	Joey Raum				
Date Surveyed	June 1, 2016				
Formations Surveyed	Quaternary alluvium, Pacoima Formation				
Previously Documented Fossil Localities within the Project area	None				
Paleontological Results	No paleontological resources were observed or collected during the survey.				
Disposition of Fossils	Not applicable; No fossils observed or collected during survey.				
Recommendation(s)	It is recommended that monitoring be performed during all earthmoving activities impacting native sediments of the Pacoima Formation. Additionally, periodic paleontological spot checks should be conducted when excavation exceeds depths of five feet into areas mapped as Quaternary alluvium to determine if older, paleontologically sensitive sediments are present. If present, monitoring should be implemented. Prior to the start of construction a paleontological resources monitoring plan should be prepared and implemented. The plan should include specific locations and construction activities requiring monitoring, procedures to follow for monitoring and fossil discovery, and a curation agreement with the Natural History Museum of Los Angeles County.				

2.0 INTRODUCTION

This report presents the results of the paleontological technical study conducted by Paleo Solutions for ICF in support of the Olive View – UCLA Medical Center Master Plan Project being proposed by the Olive View – UCLA Medical Center. This work was required by the County of Los Angeles to meet their requirements as the lead agency under CEQA. All work was completed in compliance with CEQA and Los Angeles County guidelines.

2.1 PROJECT LOCATION

The Project site is located in the community of Sylmar within the mid-western portion of Los Angeles County (Figure 1). The City of San Fernando is located to the south and the City of Santa Clarita is located to the north. Specifically, the Project site is located north of Olive View Drive and Interstate 210, west of Reagan Road, east of Cobalt Street, and south of Bucher Avenue. The street address for the Olive View - UCLA Medical Center is 14445 Olive View Drive, Sylmar, CA 91342. Direct access to UCLA Medical Center is from Olive View Drive (Figure 2).

2.2 PROJECT BACKGROUND

This Project site is part of the existing Olive View - UCLA Medical Center on 230 acres of land. The proposed site is within the Sylmar Community Plan, a part of the General Plan of the City of Los Angeles. The properties that compose the Olive View-UCLA Medical Center Campus are zoned for public facilities (PF), with the portion that is Wilson Canyon Channel zoned for open space (OS) by the City of Los Angeles. The area surrounding the campus is further defined by the City of Los Angeles as being for residential use.

The Olive View-UCLA Medical Center, which is the largest public facility in Sylmar, was historically established as a tuberculosis sanitarium in October 1920, and was later converted to an acute care hospital in 1970. The Sylmar Earthquake of 1971 damaged the hospital beyond repair, prompting the construction of the current hospital in the 1980s. In 1992, the medical center incorporated UCLA into its name, representing the collaboration with the UCLA David Geffen School of Medicine. The medical center became a part of the Valley Care system in 1997, which serves residents in the San Fernando and Santa Clarita valleys. In 2008, the Sayre fire damaged more than 40 buildings on the campus and the childcare center was totally destroyed.

The campus currently consists of 31 permanent buildings and 29 trailers and other modular structures. The buildings range in age from 5 to 80 years old, and therefore exhibit a wide range of architectural styles. The oldest buildings, particularly the bungalows in the north of campus, have been repurposed for campus support uses. The modular structures and trailers provide space and additional storage for the campus and are scattered throughout the campus. The majority of buildings on the campus were identified by the master plan as candidates for eventual demolition. The exception is the existing hospital, which is to remain, and if a new hospital is built, it is to be repurposed.

The existing hospital's main six-story tower houses the inpatient and outpatient services and is located in the eastern third of the campus. The hospital was completed in 1987 and is the dominant structure on the campus. Emergency Services is housed directly north of the main tower, and the imaging center is to the west. Directly attached to the Emergency Services Building is the Isolation Unit, which serves as a regional treatment center for tuberculosis. These buildings are connected to facilitate collaboration between the related programs. The aforementioned cluster of buildings are all located east of Kennedy Road, and are surrounded by surface parking lots.

Buildings west of Kennedy Road house mostly campus support, administration, storage, and materials management services. There are also various parking lots and trailers in the western portion of campus. A new Child Care Center has been built on East Way. The Community Mental Health building, constructed in 2011, is at the far west end of the site, adjacent to West Way. This one-story building serves as a psychiatric urgent care center.

As evidenced by the medical center's name, the Olive View-UCLA Medical Center is a major affiliate of the David Geffen School of Medicine at UCLA. The hospital operates post-graduate residency training programs sponsored either directly or by UCLA in 22 medical specialties. The medical center also operates an on campus School of Nursing.

2.3 PROJECT DESCRIPTION

Olive View - UCLA Medical Center is requesting approval of several discretionary actions, including the approval of a Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] Construction General Permit), Haul Route Permit, Grading, excavation, and building permits, approvals from the City of Los Angeles for off-site intersection improvements, certification of the Environmental Impact Report (EIR) and approval of the master plan by the County Board of Supervisors, and any other permits or approvals that may be required. The Applicant proposes to construct on the approximately 230-acre Olive View - UCLA Medical Center property in the community of Sylmar, an Inpatient Hospital, Ambulatory Care Center, Research and Development, Community Center, Administration, Retail, Mental Health, Long Term Care Residential, Materials Management, Central Utility Plant, Support Services Buildings, and Parking Facilities throughout the grounds.

2.3.1 Site Plan

The proposed Project is intended to guide development of the campus over time and the delivery of health care services and health related community programs. The master plan provides alternate paths for that development and flexibility to allow the master plan to adapt to changes over time. The master plan also includes an analysis and assessment of existing campus infrastructure and buildings, future considerations and recommendations for the campus' land use, and a series of design guidelines that dictate building placement, form, and materiality. The elements of the Master Plan consist of Tier I and Tier I development. Tier I development consists of a 276,000 square foot Ambulatory Care Center, renovation or new construction of 530,000 square feet for Inpatient Services, 20,000 square feet for a Community Center, 120,000 square feet for UCLA Faculty Offices and Medical Office Building, Educational Facilities, and Research Facilities, 77,000 square feet for Central Utility Expansion, 30,500 square feet for a Materials Management Building, 96,000 square feet for Administrative Services, Community

Open Space and Landscaping throughout the campus, Parking, Vehicle Circulation, and Pedestrian Circulation consisting of 1,674 new parking spaces, and 482,400 square feet for Utility Infrastructure. Tier II development consists of approximately 600,000 square feet for Inpatient Services, 68,100 square feet for a Supply Services Building, 15,000-40,000 square feet for a Mental Health Outpatient care facility, 135,000 square feet for Long-Term Care/Residential with 69 units for Recuperative Housing, a Senior Center, Fitness Center, and Child Care Center, 40,000 square feet for Retail Space, Community Open Space and Landscaping throughout the Campus, two additional parking structures, and relocation of the County Fire Department, Agricultural Commissioner, and Sheriff's Building.

2.3.2 Master Plan Objectives

1. Provide for development opportunities that are consistent with the goals and policies of the County's General Plan.
2. Reorganize, expand, and integrate outpatient services with the specific goal of being more community based and patient centered.
3. Locate inpatient and outpatient services into dedicated buildings to optimize the quality of care and operational effectiveness, while reducing administrative, operational, and maintenance costs.
4. Ensure that operative costs are reduced in accordance with the prescriptions of the federal injunction.
5. Comply with the seismic safety regulations developed by the Office of Statewide Health Planning and Development.
6. Identify feasible opportunities to exceed state energy requirements and pursue green building sustainable design to the maximum extent possible.
7. Develop resources that are consistent with the needs of the 2035 planning horizon.

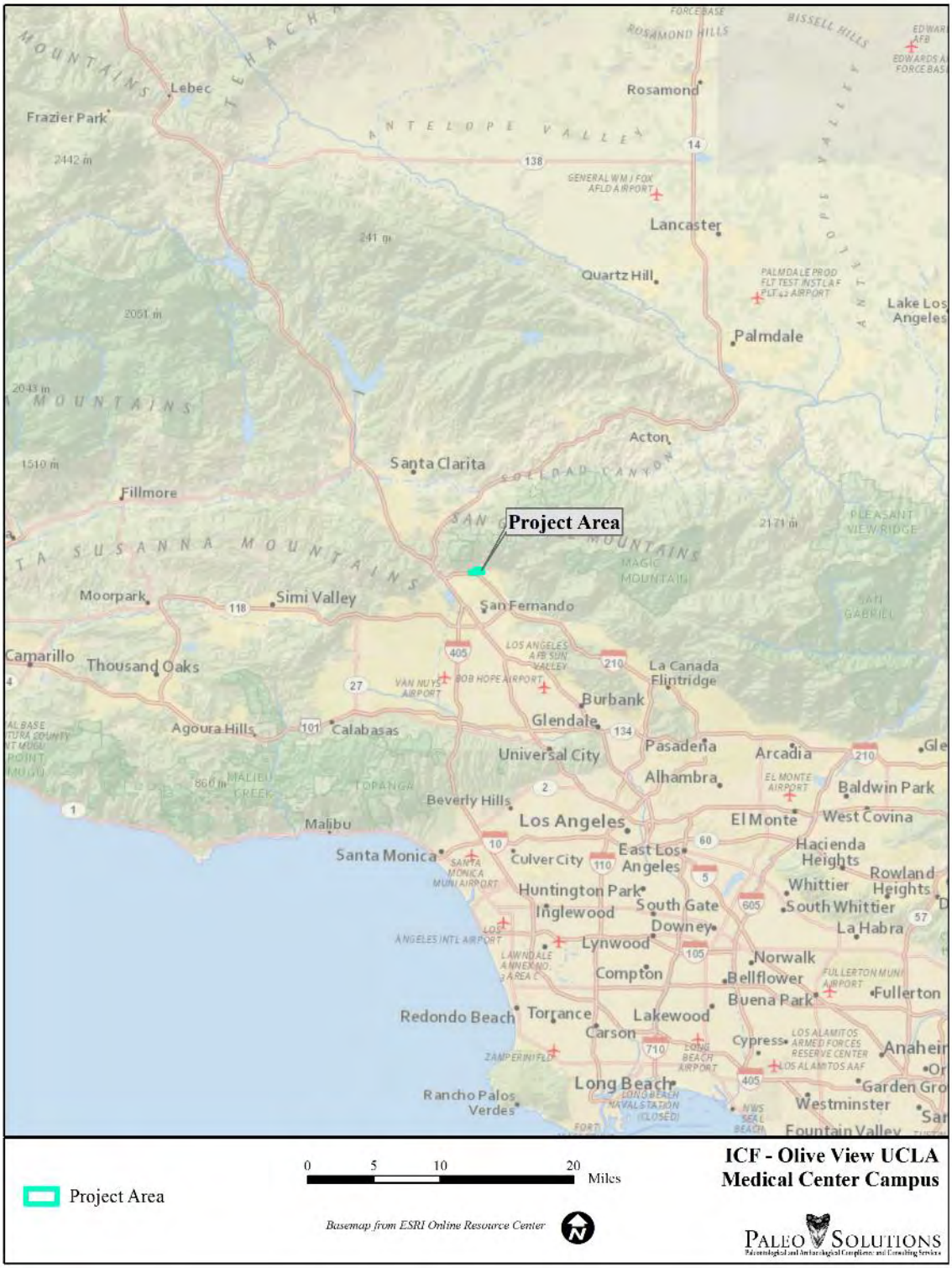

Figure 1. Project location map.

Figure 2. Project Site Plan (by Smithgroup JJR).

3.0 DEFINITION AND SIGNIFICANCE OF PALEONTOLOGICAL RESOURCES

As defined by Murphey and Daitch (2007): "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 remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Paleontological resources include not only fossils themselves, but also the associated rocks or organic matter and the physical characteristics of the fossils' associated sedimentary matrix.

The fossil record is the only evidence that life on earth has existed for more than 3.6 billion years. Fossils are considered non-renewable resources because the organisms they represent no longer exist. Thus, once destroyed, a fossil can never be replaced. Fossils are important scientific and educational resources because they are used to:

- Study the phylogenetic relationships amongst extinct organisms, as well as their relationships to modern groups;
- Elucidate the taphonomic, behavioral, temporal, and diagenetic pathways responsible for fossil preservation, including the biases inherent in the fossil record;
- Reconstruct ancient environments, climate change, and paleoecological relationships;
- Provide a measure of relative geologic dating that forms the basis for biochronology and biostratigraphy, and which is an independent and corroborating line of evidence for isotopic dating;
- Study the geographic distribution of organisms and tectonic movements of land masses and ocean basins through time;
- Study patterns and processes of evolution, extinction, and speciation; and
- Identify past and potential future human-caused effects to global environments and climates."

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or track ways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. According to Bureau of Land Management (BLM) Instructional Memorandum (IM) 2009-011 a "Significant Paleontological Resource" is defined as: Any paleontological resource that is considered to be of scientific interest, including most vertebrate fossil remains and traces, and certain rare or unusual invertebrate and plant fossils. Assessment of significance is also subject to the CEQA criterion that the resource constitutes a "unique paleontological resource or site." A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides

new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2008).

The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material. Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions.

A separate issue is the potential of a given geographic area or geologic unit to preserve fossils. Information that can contribute to assessment of this potential includes:

- The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
- Observation of fossils within the project vicinity;
- The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conducive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
- Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

4.0 LAWS, ORDINANCES, REGULATIONS AND STANDARDS

This section of the report presents the state and local regulatory requirements pertaining to paleontological resources that will apply to this Project.

4.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The procedures, types of activities, persons, and public agencies required to comply with CEQA are defined in the Guidelines for Implementation of CEQA (State CEQA Guidelines), as amended on March 18, 2010 (Title 14, Section 15000 et seq. of the California Code of Regulations [i.e., 14 CCR Section 15000 et seq.) and further amended January 4th, 2013. One of the questions listed in the CEQA Environmental Checklist is: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (State CEQA Guidelines Section 15064.5 and Appendix G, Section V, Part C).

4.2 STATE OF CALIFORNIA PUBLIC RESOURCES CODE

The State of California Public Resources Code (Chapter 1.7), Sections 5097 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, and define the excavation, destruction, or removal of paleontological "sites" or "features" from public lands without the express permission of the jurisdictional agency as a misdemeanor. As used in Section 5097, "state lands" refers to lands owned by, or under the jurisdiction of, the state or any state agency. "Public lands" is defined as lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

4.3 LOS ANGELES COUNTY GUIDELINES

The County of Los Angeles General Plan Conservation and Open Space Element (1980) contains goals and policies regarding paleontological resources. This general Plan is currently under revision and is expected to have more specific guidance regarding paleontological resources in the updated version. The Conservation and Open Space Element establishes the goals of preserving and protecting sites of historical, archaeological, and scientific values, and defines the following policies relative to paleontological resources:

- Protect cultural heritage resources, including historical, archaeological, paleontological, and geological sites;
- Encourage public use of cultural heritage sites consistent with the protection of these resources;
- Promote public awareness of cultural resources; and
- Encourage private owners to protect cultural resources.

4.4 CITY OF LOS ANGELES GUIDELINES

The City of Los Angeles (City of Los Angeles, 2001), in Section 3 of the Conservation Element of the General Plan, requires that measures be taken to protect the City's archaeological and paleontological resources for historical, cultural, research and/or educational purposes. One policy and one program support this requirement. This policy requires that the City continue to identify and protect significant archaeological and paleontological sites and/or resources known to exist or that are identified during land development, demolition or property modification activities.

5.0 METHODS

This paleontological study included a geologic map review, literature search, institutional records search, and reconnaissance survey. The goal of this report is to identify the level of paleontological potential of the Project site, and make recommendations for the mitigation of adverse impacts on paleontological resources that may occur as a result of the proposed construction. Joey Raum, B.S. conducted the paleontological reconnaissance survey. Marianne Grillo, B.S. performed the background research and co-authored this report with Joey Raum, B.S. Geraldine Aron, M.S. oversaw all aspects of the Project as the Paleontological Principal

Investigator. Courtney Richards, M.S. performed technical review of the report. GIS maps were prepared by Paul Nesbit.

Paleo Solutions reviewed geologic mapping of the Project area by T.W. Dibblee, Jr. and H. E. Ehrenspeck (1991). The literature reviewed included published and unpublished scientific papers. A paleontological records search was conducted at the Natural History Museum of Los Angeles County (LACM). Dr. Samuel McLeod performed the search. The results of the records search (dated May 16, 2016) are attached as Appendix A. Additional searches of available online databases, including the PaleoBiology Database (PBDB) and University of California Museum of Paleontology database (UCMP), were conducted by Paleo Solutions staff.

The survey was conducted by Paleo Solutions staff member Joey Raum on June 1, 2016. The paleontological survey was performed in order to search for paleontological resources that may be impacted during construction. The survey also sought to determine the paleontological sensitivity of the geologic deposits underlying the survey areas.

The survey was conducted after a review of aerial photographs indicated the survey sections were within areas of native sediment and vegetation. The pedestrian survey included transects of the survey area with the majority of focus occurring along the northwestern and easternmost margins of the survey area, where Pacoima Formation (Qp) is mapped (see Figure 3). These areas comprise moderate to high relief slopes and relatively minimal disturbances to native sediments compared to the remaining survey area. The remaining survey area is mapped as Quaternary alluvium (Qa). In addition to searching for paleontological resources, one of the primary goals of this reconnaissance was to confirm the presence of Pleistocene age sediments in areas mapped as Pacoima Formation (Qp). Areas mapped as Quaternary alluvium (Qa) were visually inspected through windshield surveying, unless sediments were exposed, in which case they were more closely inspected. Methodologies included close inspection of sediment and bedrock outcrops. Rock exposures as well as the surrounding areas were photographed and documented. Reference points were acquired using a Trimble GPS unit. Sediment and bedrock lithologies were recorded and analyzed and used to better interpret the Project's paleontological sensitivity, and thus better understand the Project's potential impact.

6.0 GEOLOGY AND PALEONTOLOGY

The Project site is situated in the Transverse Ranges Geomorphic Province, which is comprised of east west trending mountain ranges and valleys (Wagner, 2002). Specifically, it is located in the northern portion of the San Fernando Valley and abuts against the San Gabriel Mountains. The San Fernando Valley encompasses approximately 226 square miles bounded by the Santa Susana Mountains on the north and northwest, the San Gabriel Mountains on the north and northeast, San Rafael Hills to the east, and Santa Monica Mountains and Chalk Hills to the south (California's Groundwater Bulletin 118, 2004).

6.1 MAPPED GEOLOGY

High resolution (1:24,000 scale) geologic mapping of the Project site by Dibblee and Ehrenspeck (1991) indicates that the site is primarily underlain by Quaternary (Holocene) alluvium with minor exposures of Pleistocene Pacoima Formation. The geographic distributions

of the geologic units in the Project site, as mapped by Dibblee and Ehrenspeck (1991), are illustrated in Figure 3.

6.1.1 Quaternary Alluvium (Qa)

Quaternary alluvial deposits are Holocene in age (11,700 years old or less). These deposits are composed of undissected alluvial gravel, sand and silt (Dibblee and Ehrenspeck, 1991) derived from alluvial fan deposits from the San Gabriel Mountains adjacent to the north (McLeod, 2016).

6.1.2 Pacoima Formation (Qp)

The Pacoima Formation was deposited in the Pleistocene age (2.59 million to 11.7 thousand years ago). The Formation is terrestrial and is composed of weakly consolidated brown alluvial gravel and sand derived from adjacent mountains (Dibblee and Ehrenspeck, 1991).

6.2 PALEONTOLOGICAL RECORDS SEARCH RESULTS

Paleo Solutions requested a paleontological search of records maintained by LACM (Appendix A). Searches of the University of California Museum of Paleontology (UCMP) online database and PaleoBiology Database (PBDB) and literature were also conducted. The records and literature reviews indicate that there are four recorded localities (LACM 5745, LACM 3387, LACM 7152, LACM 1733) in older Quaternary alluvial deposits, similar to the Pacoima Formation, southwest of the proposed Project area (McLeod, 2016). No other paleontological resources have been recorded in the immediate area in Quaternary alluvium or Pacoima Formation (UCMP, 2016; Jefferson, 1991; PBDB, 2016).

LACM 5745, southwest of the proposed Project area just east of the Golden State Freeway (I-5) and south of the Foothill Freeway (I-210), produced fossil specimens of mastodon (*Mammut*), and horse (*Equus*), in fill dirt. Southwest of the proposed Project area, LACM 3397 produced fossil bison (*Bison*) at a 75 foot depth; LACM 7152 produced fossil mammoth (*Mammuthus*) and bison (*Bison*) in terrace deposits; and LACM 1733 produced fossil horse (*Equus*) at unknown depth (McLeod, 2016).

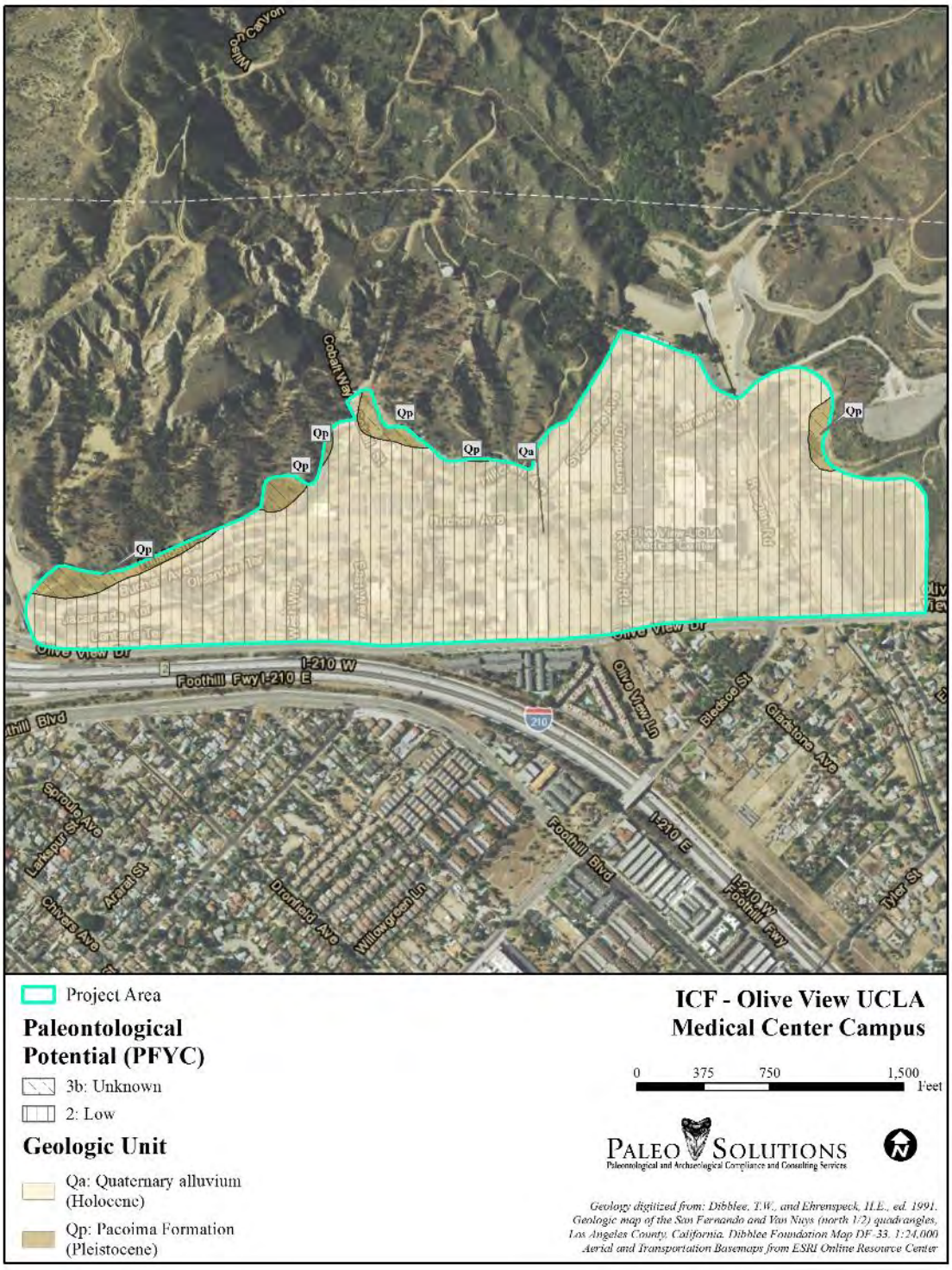

Figure 3. Geologic map.

7.0 RECONNAISSANCE SURVEY RESULTS

The survey area has a gentle southward slope and comprises relatively flat and low to low-moderate relief terrain with more moderate to high relief hills located along the northern margin. Vegetation cover on the ground and along slopes is moderate and comprises mostly dry tall grasses with some shrubs and larger trees. The majority of the survey area is moderately to well developed with disturbances such as grading, paved roads, fences, and buildings (see Figures 4, 5 and 9). Disturbances to the survey corridor along the northern margin of the survey area are more minimal but include grading, paved roads and lots, fences, and numerous old foundations, drainages, and structures (see Figures 6, 7, 8, 9, 11 and 12).

7.1 GEOLOGY

Pacoima Formation (Qp) sediments comprise moderately lithified siltstone and fine to medium grained sandstone with variable amounts of subangular to subrounded plutonic small pebble to cobble sized clasts. The matrix color is grey brown to red brown, and it weathers to light grey brown. Sediments appear massive, and no bedding or sedimentary structures were observed (see Figures 10-24). Material sorting varies from moderately sorted to poorly sorted. Coarser and more poorly sorted sediments were observed towards the western end of the survey area, while moderately sorted sections were observed throughout most of the other outcrops. Sediment outcrops occur along the slopes of the moderate to steep relief northern hills and in some low relief drainages (see Figures 10-18, 21-24, 26 and 27). Nearly vertical exposures range from ten to 50+ feet thick, with the largest exposures occurring near the western end of the survey area.

Quaternary alluvium (Qa) sediments comprise poorly compacted silt with subrounded to rounded plutonic granule to pebble sized clasts. These younger looser sediments cover the majority of the survey area surface, and thin layers less than one foot thick cover the top of the exposed Pacoima Formation sediments (see Figures 24 and 25).

Areas mapped as Pacoima Formation (Qp) were confirmed to comprise older sediments than the lower lying areas mapped as Quaternary alluvium (Qa). One area mapped as Quaternary alluvium (Qa) appears to comprise Pacoima Formation (Qp) sediments, based on the moderate relief and similarities of lithologies to Qp sediments observed in the northwestern and eastern margins of the survey area (see Figures 26 and 27). This area is located near the site entrance along Cobalt Street and is shown circled in Figure 28.

7.2 PALEONTOLOGY

No paleontological resources were observed during the survey. Although sediments conducive to fossil preservation were observed.

Figure 4. South-central end of the survey area, located north of Olive Drive Road. Area is mapped as Qa and is relatively flat, low lying and has disturbances including grading, paved roads and lots, fences, and buildings. View west.

Figure 5. Flat and relatively low lying interior survey area, mapped as Quaternary alluvium (Qa). This area is moderately to highly developed including disturbances such as paved roads, fences, lights, and buildings. View west.

Figure 6. Disturbed Qp area, including grading, fencing, a paved road and remnants of a stone structure. View north.

Figure 7. Area mapped as Pacoima Formation (Qp) showing grading disturbances and an installed artificial drainage.

Figure 8. Northern margin of the survey area, mapped as Pacoima Formation (Qp), showing disturbances such as grading, paved roads, and fences. View west.

Figure 9. Northern margin of survey area, showing transition from major disturbances and minor disturbances (right and left sides, respectively). View east.

Figure 10. Exposed Pacoima Formation (Qp) sediments along slopes at the eastern margin of the survey area. View north.

Figure 11. Exposed Pacoima Formation (Qp) sediments along slopes adjacent to the survey area. Lower lying flat and paved area is mapped as Quaternary alluvium (Qa). View north.

Figure 12. Graded area mapped as Pacoima Formation (Qp), showing Quaternary alluvium (Qa) in the lower flat area (bottom of photo) and partially exposed Qp sediments along the hillside (center of photo). View north.

Figure 13. Vertical exposure of Pacoima Formation (Qp) sediments. Sparse to moderate vegetation coverage along slope exposures. View west.

Figure 14. Located near the western end of the survey area, this is the largest (~50+ feet thick) exposure of Pacoima Formation (Qp) observed. View northwest.

Figure 15. Exposed Pacoima Formation (Qp) sediments, comprising reddish brown colored moderately to poorly sorted siltstone to medium grained sandstone with subangular to subrounded plutonic pebble to cobble sized clasts. View southwest.

Figure 16. Exposed Pacoima Formation (Qp) sediments, comprising reddish brown colored moderately to poorly sorted siltstone to medium grained sandstone with subangular to subrounded plutonic pebble to cobble sized clasts. View northeast.

Figure 17. Graded area mapped as Pacoima Formation (Qp) with exposed Qp sediments along the upper hillside. View north.

Figure 18. Exposed Pacoima Formation (Qp) sediments comprising massive poorly sorted silt to medium sandstone with subangular to subrounded plutonic pebble to cobble sized clasts. View north.

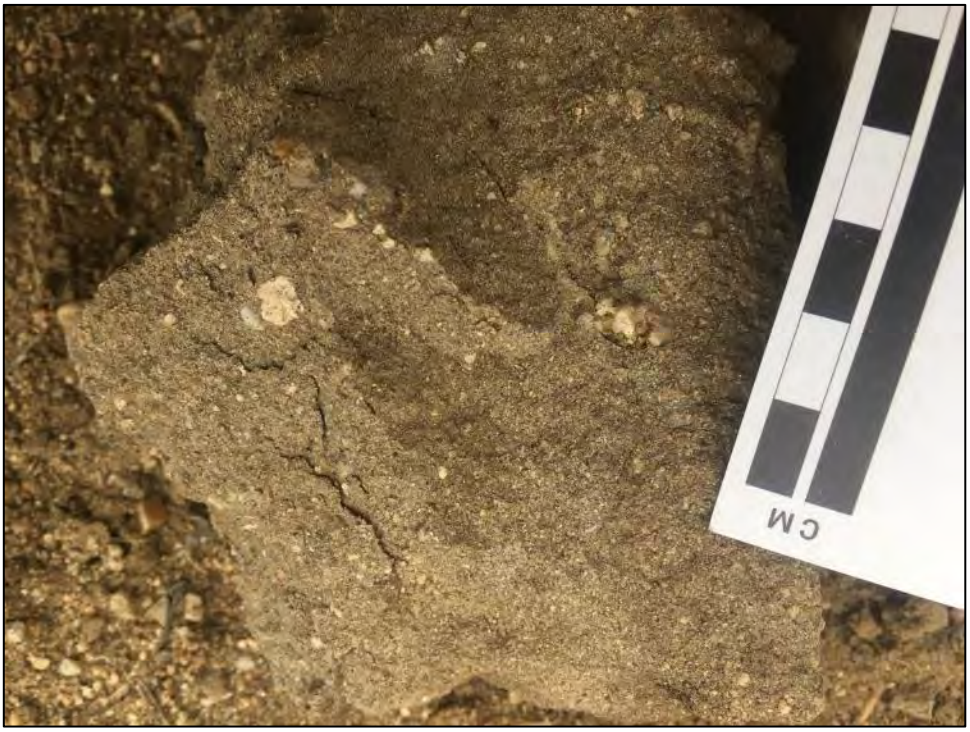

Figure 19. A clasts of Pacoima Formation (Qp) comprising moderately lithified and moderately sorted siltstone and medium grained sandstone with subangular to subrounded plutonic granule to pebble sized clasts. View down.

Figure 20. A clasts of Pacoima Formation (Qp) comprising moderately lithified and moderately sorted siltstone and medium grained sandstone with subangular to subrounded plutonic granule to pebble sized clasts. View down.

Figure 21. Exposed Pacoima Formation (Qp) sediments comprising massive poorly sorted silt to medium sandstone with subangular to subrounded plutonic pebble to cobble sized clasts. View west.

Figure 22. Exposed Pacoima Formation (Qp) sediments comprising massive moderately sorted silt to medium sandstone with subangular to subrounded plutonic granule to pebble sized clasts. View northeast.

Figure 23. Low relief wash exposing Pacoima Formation (Qp) sediments. View north.

Figure 24. Pacoima Formation (Qp) sediments exposed shallowly below Quaternary alluvium (Qa). View north.

Figure 25. Quaternary alluvium (Qa) comprising silt with subrounded to rounded granule to pebble sized plutonic clasts. Qa is mapped across the majority of the survey area and also covers much of the Qp sediments. View down.

Figure 26. Mapped as Quaternary alluvium (Qa), the moderate relief and exposed moderately lithified sediments indicates that this may be Pacoima Formation (Qp). View south.

Figure 27. Mapped as Quaternary alluvium (Qa), the moderate relief and exposed moderately lithified sediments indicates that this may be Pacoima Formation (Qp).

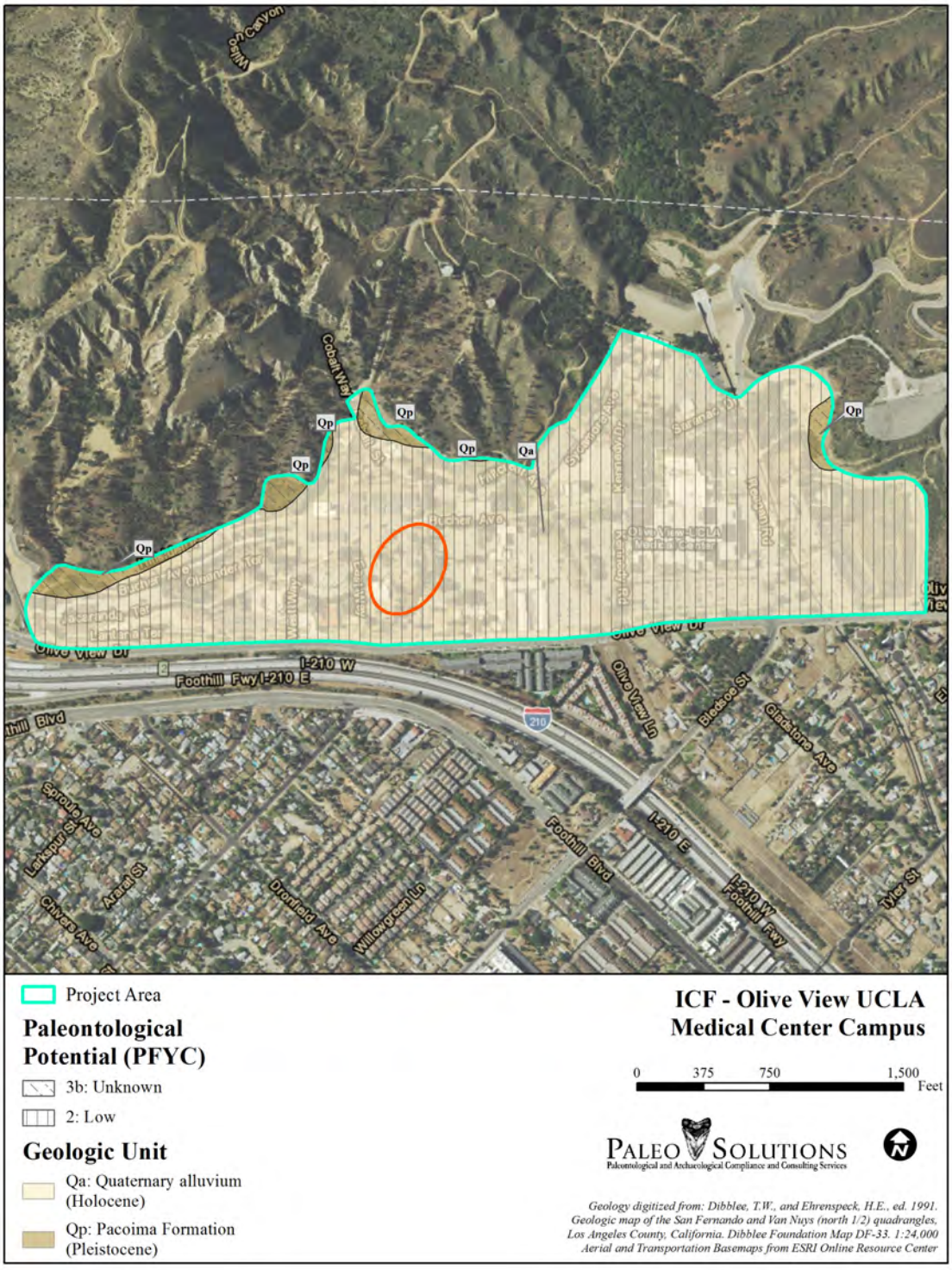

Figure 28. Olive View Medical Center Survey map. The orange circle is where Pacoima Formation (Qp) sediments were observed in the area mapped as Quaternary alluvium (Qa).

8.0 RESOURCE ASSESSMENT

Based on the results of the geologic map review, literature and museum records searches, and reconnaissance survey, the paleontological potential of the geologic units within the Project site were ranked using the Potential Fossil Yield Classification (PFYC) System.

8.1 PALEONTOLOGICAL POTENTIAL CLASSIFICATION CRITERIA

The PFYC system was developed by the BLM (BLM, 2007). It is a predictive resource management tool that classifies geologic units on their likelihood to contain paleontological resources on a scale of 1 (very low potential) to 5 (very high potential). This system is intended to aid in predicting, assessing, and mitigating paleontological resources.

Class 1 – Very Low
Potential to find paleontological resources is highly unlikely and mitigation is usually unnecessary. Units are typically igneous, metamorphic, or at least Precambrian in age.

Class 2 – Low
Low likelihood of finding vertebrate or significant invertebrate or plant fossils, and mitigation is usually unnecessary. Units are sedimentary and usually younger than 10,000 years old.

Class 3b – Unknown
Includes sedimentary units that have unknown potential, but exhibit conditions in which significant fossils could be preserved. Mitigation concerns are moderate, and surface disturbing activities may need to be assessed due to their potential to impact paleontological resources.

Class 3a – Moderate
Includes sedimentary geologic units that are known to have vertebrate fossils and scientifically significant invertebrate or plant fossils, but occurrences are widely scattered. Mitigation concerns are moderate, and surface disturbing activities may need to be assessed due to their potential to impact paleontological resources.

Class 4 – High
Significant fossils occur often and potential to adversely impact paleontological resources is high. A field survey is usually required to assess the impact of the proposed action, and planning of resource preservation and conservation should be considered. Construction activities may require onsite monitoring or spot-checking.

Class 5 – Very High
Geologic units are highly fossiliferous with vertebrate or scientifically significant invertebrate or plant fossils. The potential to impact significant fossils is high, and a field survey by a qualified paleontologist is typically required before the proposed ground disturbance occurs. On-site monitoring of construction activities is usually necessary.

8.2 SENSITIVITY OF GEOLOGICAL UNITS

According to the records searches conducted by LACM and Paleo Solutions staff, there are four previously recorded fossil localities from older Quaternary (Pleistocene) alluvium, similar in both age and composition to the Pacioma Formation, in the vicinity of the Project site. Additional fossil resources have not been recorded from the surrounding Pacoima Formation or Quaternary (Holocene) alluvium (McLeod, 2016; UCMP, 2016; PBDB, 2016).

Based on PFYC guidelines applied to the results of the literature review, records search, and survey completed for this study, the Pacoima Formation has moderate potential (PFYC 3a) for paleontological resources in the vicinity of the Project site based on the generally fine to medium grained nature of the sediments observed during the survey (see Section 7), and the report of significant Pleistocene fossils from similar alluvial deposits in the vicinity (McLeod, 2016). Previously disturbed areas and areas mapped as Quaternary alluvium have low potential (PFYC 2) for paleontological resources at the surface due to their young age, but may shallowly overlie older paleontologically sensitive deposits.

9.0 IMPACTS TO PALEONTOLOGICAL RESOURCES

Ground disturbance in geologic units and geographic areas known to contain scientifically significant fossils may produce adverse impacts to nonrenewable paleontological resources (State CEQA Guidelines, 14 CCR Sections 15064.5[3] and 15023; State CEQA Guidelines Appendix G, Section V, Part C).

Direct impacts to paleontological resources concern the physical destruction of fossils, usually by human-caused ground disturbance. Indirect impacts to paleontological resources typically concern the loss of resources to theft and vandalism resulting from increased public access to paleontologically sensitive areas. Cumulative impacts to paleontological resources concern the incremental loss of these nonrenewable resources to society as a whole.

Surface grading or shallow excavations in the uppermost few feet of the younger Quaternary alluvium in the proposed Project area are unlikely to uncover significant fossil vertebrate remains. However, deeper excavations in the proposed Project area that extend down into older sedimentary deposits, as well as any excavations in the Pacoima Formation in the northern margin of the proposed Project area, may well encounter significant vertebrate fossils (McLeod, 2016). Therefore, grading and other earthmoving activities may potentially result in significant direct impacts to paleontological resources throughout the entirety of the Project site.

10.0 RECOMMENDATIONS

Due to the moderate paleontological potential of the Pacoima Formation, and the potential for Quaternary alluvium to produce significant paleontological resources at depth, mitigation of potential adverse impacts resulting from construction-related ground disturbance is recommended. It is recommended that monitoring be performed during earthmoving activities impacting native sediments of the Pacoima Formation to reduce potential impacts to a less than significant level. Additionally, periodic paleontological spot checks should initially be

conducted when excavation exceeds depths of five feet into areas mapped as Quaternary alluvium to determine if older, paleontologically sensitive sediments are present. If present, monitoring should be implemented. Prior to the start of construction a paleontological resources monitoring plan should be prepared and implemented by a qualified paleontologist. The plan should include specific locations and construction activities requiring monitoring, procedures to follow for monitoring and fossil discovery, and a curation agreement with LACM.

11.0 REFERENCES

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12.0 APPENDIX A

NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY RECORDS SEARCH RESULTS

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007
tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

16 May 2016

Paleo Solutions, Inc.
911 South Primrose Avenue, Unit N
Monrovia, CA 91016

Attn: Paul Nesbit, GIS specialist

re: Paleontological resources for the proposed ICF Olive View - UCLA Medical Center Project, in the Community of Sylmar, Los Angeles County, project area

Dear Paul:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed ICF Olive View - UCLA Medical Center Project, in the Community of Sylmar, Los Angeles County, project area as outlined on the portion of the San Fernando USGS topographic quadrangle map that you sent to me via e-mail on 2 May 2016. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities nearby from the same sedimentary deposits that occur as subsurface deposits in the proposed project area.

Surface deposits in the almost all of the proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the San Gabriel Mountains adjacent to the north. These younger Quaternary surface deposits typically do not contain significant vertebrate fossils in the uppermost layers, but older Quaternary deposits found at depth may well contain significant vertebrate fossil remains. In the northern margin of the proposed project area there are older Quaternary deposits derived from the San Gabriel Mountains that may be referred to as the Pacoima Formation in this area. We have no vertebrate fossil localities identified as coming from the Pacoima Formation, but similar older Quaternary deposits nearby have produced significant fossil vertebrate remains.

Our closest vertebrate fossil locality from these deposits is LACM 5745, south of west of the proposed project area just east of the Golden State Freeway (I-5) and south of the Foothill Freeway (I-210), that produced fossil specimens of mastodon, *Mammut*, and horse, *Equus*, in fill dirt. Our next closest fossil vertebrate localities in these Quaternary deposits occur at or near the Van Norman Reservoir, southwest of the proposed project area. These localities include LACM 3397 that produced fossil bison, *Bison*, at a seventy-five foot depth, LACM 7152 that produced fossil mammoth, *Mammuthus*, and bison, *Bison*, in terrace deposits and LACM 1733 that produced fossil horse, *Equus*, at unknown depth.

Surface grading or shallow excavations in the uppermost few feet of the younger Quaternary Alluvium in the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations in the proposed project area that extend down into older sedimentary deposits, however, as well as any excavations in the older Quaternary deposits in the northern margin of the proposed project area, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally collect any specimens without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice