Appendix F
Paleontological Resources Report

ESA

5700 HANNUM AVENUE MIXED-USE RESIDENTIAL AND COMMERCIAL PROJECT, CULVER CITY, CALIFORNIA

Paleontological Resources Assessment Report

Prepared for
Lincoln Property Company West, LLC
915 Wilshire Boulevard, Suite 2050
Los Angeles, CA 90017

October 2023

ESA

5700 HANNUM AVENUE MIXED-USE RESIDENTIAL AND COMMERCIAL PROJECT, CULVER CITY, CALIFORNIA

Paleontological Resources Assessment Report

October 2023

Prepared for:
Lincoln Property Company West, LLC
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Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
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Project Manager:
Kyle Garcia, M.A., RPA

Principal Investigator and Author:
J.D. Stewart, Ph.D.

Project Location:
Venice (CA) USGS 7.5-minute Topographic Quad
Township 2 South, Range 14 West, Section 19

Acreage: 2.23 acres

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EXECUTIVE SUMMARY

5700 Hannum Avenue Mixed-Use Residential and Commercial Project – Paleontological Resources Assessment Report

LPC West, the Applicant, proposes to develop a mixed-use residential and commercial project (Project) on an approximately 2.23-acre site (Project Site) located at 5700 Hannum Avenue within the Fox Hills neighborhood of the City of Culver City (City). The Project would demolish the existing uses and would include the construction of a new 6-story mixed-use building, retail space, private open space, and common open space. The Project would excavate to a maximum depth of 27 feet below grade. **Environmental Science Associates (ESA)** has prepared this paleontological resources assessment for the Project to identify potential impacts to paleontological resources in accordance with the California Environmental Quality Act (CEQA).

The scope of work for this assessment included a geologic map and literature review, review of a site specific Preliminary Geotechnical Investigation report (Geotechnical Report) conducted for the Project, a paleontological resources records search through the Natural History Museum of Los Angeles County (NHMLAC), and the recommendation of mitigation measures to reduce impacts from the Project to paleontological resources to a less than significant level. The City is the lead agency pursuant to CEQA.

Geologic mapping indicates that the surface of the Project Site is primarily underlain by Pleistocene-age alluvium (Qoa), Holocene-age alluvium (Qa), and possibly by the Pleistocene-age Baldwin Hills Paleosol (Qop), also known as the Fox Hills Paleosol. The Pleistocene alluvium, Qoa, has a high sensitivity for paleontological resources, and the Holocene alluvium, Qa, has a low sensitivity due to the young age of the deposits. The Baldwin Hills paleosol[1], has a high sensitivity because the SVP Guidelines (2010) specifically call out paleosols as sensitive, although no reports were located that address paleontological resources in the paleosol. Moreover, numerous paleontological resources have been recovered from deeper deposits during construction of development projects immediately north of the Project Site. The paleontological records search conducted through the NHMLAC also indicates that older (Pleistocene-age) geologic units in the vicinity of the Project Site have produced a wide variety of paleontological resources located in the vicinity of the Project Site at unknown depths and depths up to 40 feet below ground surface.

[1] A paleosol is an ancient soil that was formed in the past.

Given the identification of numerous fossil specimens at depth during construction projects in the vicinity, the positive results of NHMLAC records search, and since excavations for the Project would extend to a maximum depth of 27 feet bgs, the potential to encounter buried paleontological resources during construction of the Project is considered high. Therefore, as the Project could directly or indirectly destroy unique paleontological resources, impacts on buried paleontological resources are considered potentially significant. As such, recommended mitigation measures, including retention of a Qualified Paleontologist, paleontological resources monitoring, and procedures to be followed in the event of the discovery of paleontological resources, are provided in the *Summary of Findings and Recommended Mitigation Measures* section of this report in order to reduce impacts to paleontological resources to a less than significant level under CEQA.

5700 HANNUM AVENUE MIXED-USE RESIDENTIAL AND COMMERCIAL PROJECT

Paleontological Resources Assessment Report

Introduction

LPC West, the Applicant, proposes to develop a mixed-use residential and commercial project (Project) on an approximately 2.23-acre site (Project Site) located at 5700 Hannum Avenue within the Fox Hills neighborhood of the City of Culver City (City). The Project Site is currently developed with an existing 2-story office building in the northern portion of the Project Site and associated surface parking. The Project would demolish these existing uses and would include the construction of a new 6-story mixed-use building, retail space, private open space, and common open space. The Project would excavate to a maximum depth of 27 feet below grade. **Environmental Science Associates (ESA)** has prepared this paleontological resources assessment for the Project to identify potential impacts to paleontological resources in accordance with the California Environmental Quality Act (CEQA). The scope of work for this assessment included a geologic map and literature review, review of a site-specific Geotechnical Report conducted for the Project, a paleontological resources records search through the NHMLAC, and the recommendation of mitigation measures to prevent potential impacts from the Project to significant paleontological resources, should they be encountered. The City is the lead agency pursuant to CEQA.

ESA personnel involved in the preparation of this report are as follows: Kyle Garcia, M.A., RPA Project Manager; J.D. Stewart, Ph.D., Principal Investigator and report author; Fatima Clark, B.A., report contributor; and Jaclyn Anderson, GIS specialist. Resumes of key personnel are included in **Appendix A** of this report.

Project Location

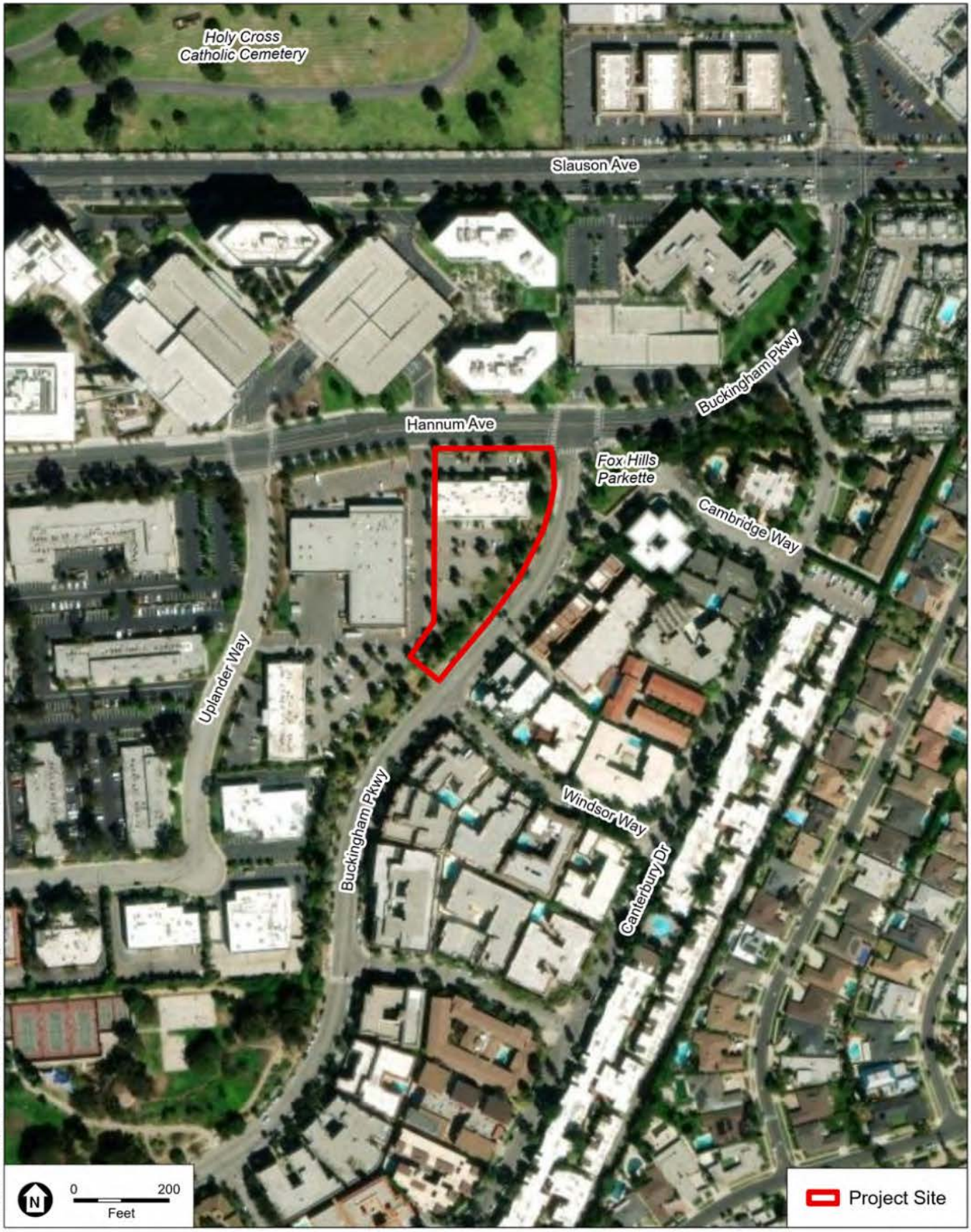
The Project Site is located in an urbanized area of the southeastern portion of the City and approximately 0.7 mile away from the San Diego Freeway (I-405) (**Figure 1**). The Project Site is bound by Hannum Avenue to the north, Buckingham Parkway to the east and south, and business park uses to the west (**Figure 2**). The Project Site is situated within Section 19 of Township 2 South, Range 14 West on the Venice, CA U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (**Figure 3**).

5700 Hannum Project

Figure 1

Regional and Project Vicinity Location

ESA

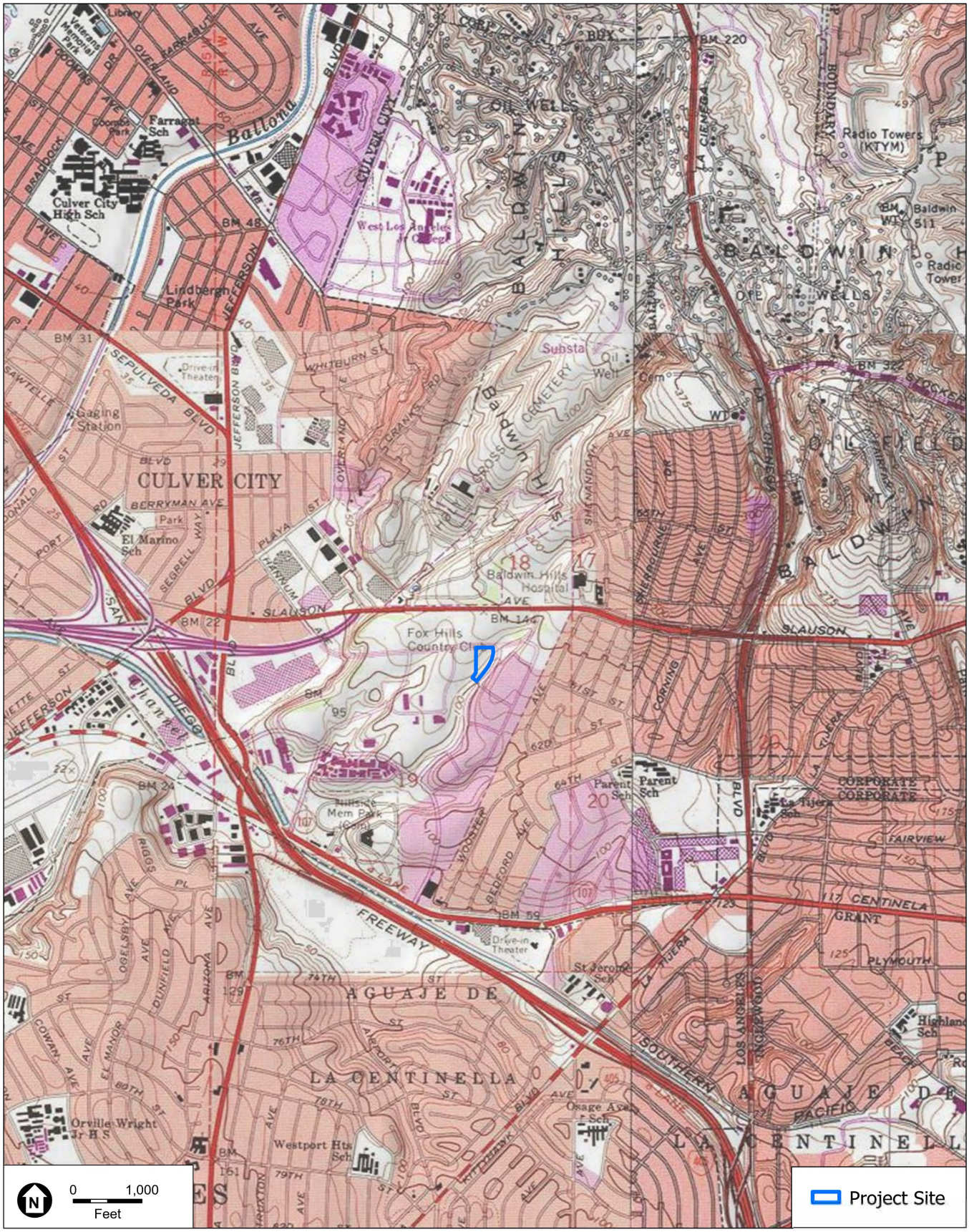


SOURCE: ESA, 2022; ESRI Imagery, 2022

5700 Hannum Project

Figure 2
Aerial Photograph

ESA



SOURCE: Topoquad Venice, 1982; ESRI, 2022; ESA, 2023

5700 Hannum Project

Figure 3
Project Location

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Project Description

The Project Site is currently occupied by an approximately 30,672 square foot two-story office building. The remainder of the Project Site includes surface parking and associated landscaping. The sidewalks adjoining the Project Site to the north, west, and south are landscaped with street trees and trees are scattered throughout the existing surface parking lot. Vehicle access to the Project Site is provided via two ingress and egress points, which are located along Hannum Avenue and Uplander Way.

The Project would demolish the existing surface parking and two-story office building and construct a new multi-family and retail mixed-use building. The Project would include a 6-story building and two subterranean levels that would include a total of 309 multi-family dwelling units (including 27 Very Low Income units) and 5,600 square feet retail use. The Project's 309 residential units would consist of 39 studio units, 180 one-bedroom units, and 90 two-bedroom units. The Project would include a total of 428 vehicular parking spaces (404 residential and 24 commercial), with 342 spaces provided within two subterranean levels and 86 spaces provided on the enclosed 1st level of the building. The Project Site would be fenced during construction for security purposes. The Project would require excavation to accommodate two levels of subterranean parking, footings, and foundations. Earthwork would require a net export of approximately 51,400 cubic yards (cy) of soil. Construction staging would be entirely internal to the Project Site. The Project would excavate to a maximum depth of 27 feet below grade.

Regulatory Framework

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable state laws and regulations, as well as professional standards.

State

California Environmental Quality Act

The CEQA Guidelines (California Code of Regulations Title 14, Chapter 3, Section 15000 et seq.), define the procedures, types of activities, individuals, and public agencies required to comply with CEQA. As part of CEQA's Initial Study process, one of the questions that the lead agency must answer relates to paleontological resources: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (CEQA Guidelines Section 15023, Appendix G, Section VII, Part f).

The loss of a significant paleontological resource, which includes any identifiable fossil that is unique, unusual, rare, uncommon, diagnostically, or stratigraphically important, and/or those that add to an existing body of knowledge in specific areas—stratigraphically, taxonomically, and/or regionally—would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are

disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "directly or indirectly destroy a significant paleontological resource or unique geologic feature" (CEQA Guidelines Appendix G, Section VII, Part f). In general, for project sites that are underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides the following: "Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor."

California PRC Section 5097.5

Other State requirements for paleontological resource management are included in Public Resources Code (PRC) Section 5097.5. This statute prohibits the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, defines the removal of paleontological sites or features as a misdemeanor, and requires reasonable mitigation of adverse impacts to paleontological resources from developments on public (State, county, city, district) lands.

Local

City of Culver City General Plan

The City's General Plan does not include policies, goals, and objectives for paleontological resources.

Society for Vertebrate Paleontology Standard Guidelines

The Society of Vertebrate Paleontology (SVP) Guidelines (SVP 2010) outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies, (including California) with paleontological resource-specific laws, ordinances, regulations, and standards accept and use the professional standards set forth by the SVP.

Paleontological Resources Significance Criteria

As defined by the SVP (2010:11), significant nonrenewable paleontological resources are:

> *Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).*

Multiple paleontological studies have additional criteria for the assessment of significance for fossil discoveries (e.g., Murphey et al. 2019; Murphey and Daitch 2007; Scott and Springer 2003). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
4. The fossils demonstrate unusual or spectacular circumstances in the history of life.
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important (Murphey et al. 2019; Murphey and Daitch 2007; Scott and Springer 2003). Any identifiable vertebrate fossil is significant (SVP 2010). Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

Paleontological Potential

Paleontological potential is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, the past history of the geologic unit in producing significant fossils, and the fossil localities recorded from that unit. Paleontological potential is derived from the known fossil data collected from the entire geologic unit and not just from one specific survey. In its “Standard Procedures for the Assessment and Mitigation of

Adverse Impacts to Paleontological Resources," the SVP (2010) defines four categories of paleontological sensitivity, or potential, for rock units: high, low, undetermined, and no potential.

- **High Potential.** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e. g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.).
- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically will not require impact mitigation measures to protect fossils.
- **Undetermined Potential.** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.
- **No Potential.** Some rock units have no potential to contain significant paleontological resources, for instance high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor impact mitigation measures relative to paleontological resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, monitoring will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area.

Methods

The Project Site was the subject of thorough background research and analysis to assess its paleontological sensitivity. The research included geologic map and literature review, review of the Geotechnical Report prepared for the Project, and a paleontological records search conducted by the NHMLAC.

Results

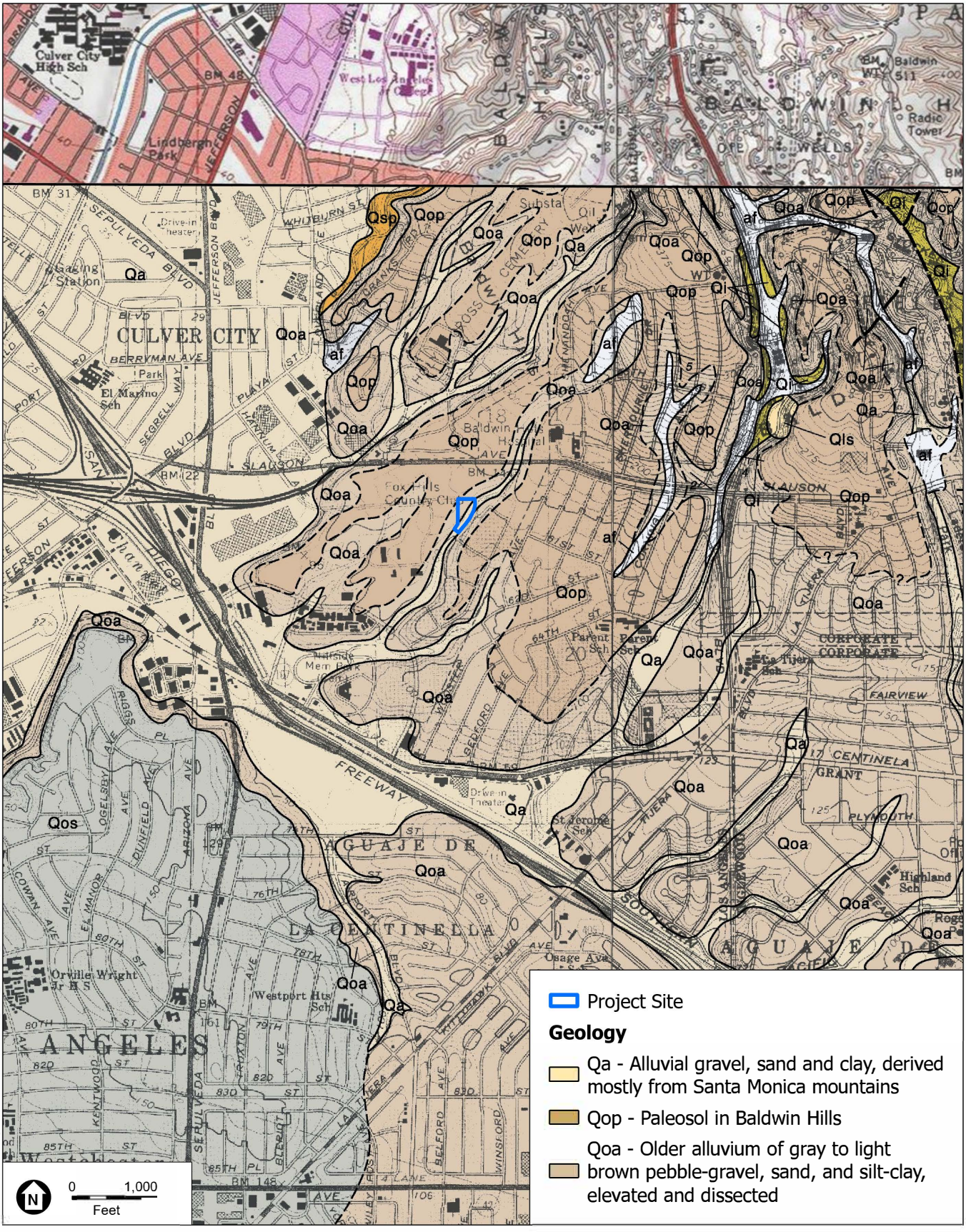
Geologic Setting

The Project Site is situated in the northern portion of the Los Angeles Basin (Basin), a structural depression approximately 50 miles long and 20 miles wide (Yerkes et al. 1965; Ingersoll and Rumelhart 1999). The Basin is located within the Transverse Ranges, a physiographic-structural province that includes a series of east–west-trending mountains and valleys that interrupt the northwest-southeast orientation of other major California ranges, including the Peninsular Ranges, Coast Ranges, and the Sierra Nevada. The Basin is bounded on the north by the Santa Monica Mountains, the Elysian Hills, Repetto Hills, and Puente Hills and on the east, and by the Santa Ana Mountains and San Joaquin Hills to the southeast. The Basin formed between 3 and 18 million years ago as a result of tectonic subsidence (Critelli et al. 1995). Continuous sedimentation into the Basin began during the middle Miocene Epoch around 13 million years ago, as thousands of feet of sediments were deposited in a marine environment (Yerkes et al. 1965). Deposition of terrestrial alluvial sediments commenced during the Pleistocene Epoch, approximately 2.6 million years ago and ended 11,700 years ago.

More specifically, the Project Site lies on the southwest slope of the Baldwin Hills, which are situated near the south edge of the Los Angeles Basin. The area where the Baldwin Hills recently formed was a marine habitat as late as 36,200 and 28,450 radiocarbon years ago (Bandy and Marincovich (1973). The subsequent uplift of the Baldwin Hills is the result of tension along the Newport –Inglewood fault. Several smaller uplifts (e.g., Signal Hill, Rosecrans Hills, and Dominguez Hills) also resulted from tension along this fault. Both the San Pedro and Lakewood formations are exposed in the Baldwin Hills.

Geologic Map and Literature Review

There is disagreement between geologists over the geologic conditions at the Project Site. For example, according to Poland et al. (1959) the Project Site geology is the San Pedro Sand Formation, a nearshore marine deposit. However, Dibblee and Minch (2007) mapped the Project Site in 2007 (the most recent geologic mapping including the Project Site) as Qop (Fox Hills paleosol), Qoa (Late Pleistocene alluvium) and Qa (Holocene-age alluvium) (**Figure 4**). Qa is surficial alluvium of Holocene age, that implies clasts of Santa Monica Slate from the Santa Monica Mountains are present. These clasts would have been transported down the coast before the uplift of the Baldwin Hills (more than 28,000 years ago) and then reworked into Holocene alluvium. The Qa has a low sensitivity for paleontological resources due to the young age of the deposits. Qoa and the Qop are likely from the late Pleistocene. If the Fox Hills paleosol is of late Pleistocene age, it would have been developed between the latest date for marine sediments (28,000 calendar years ago) and the end of the Pleistocene Epoch (11,500 calendar years ago). The Qoa has a high sensitivity for paleontological resources given its age. The authors who named the Fox Hills paleosol (Hsu et al. 1982) never stated whether they believed it was of Pleistocene or Holocene age. Pleistocene sediments have a rich fossil history in Southern California and particularly the Los Angeles Basin. The most common terrestrial fossils include the bones of mammoth, bison, horse, wolf, camel, antelope, and giant ground sloth, as well as small animals such as rodents, birds, and lizards (Graham and Lundelius 1994; Jefferson 1991a,



SOURCE: Topoquad Venice, 1982; ESRI, 2022; ESA, 2023

5700 Hannum Project

Figure 4
Geologic Map

ESA

1991b; Miller 1971). The most common marine fossils are various types of mollusks, with occasional bony fish and shark elements (isolated teeth). Terrestrial organisms are sometimes found in Los Angeles Basin Pleistocene marine sediments, documenting animals that washed out to sea.

In connection with the Project, Geotechnologies, Inc. (2022) reproduced the mapping of Poland et al. (1959) and describe the soils in the northern portion of the Project Site as marine terrace deposits, which could be compatible with the San Pedro Sand Formation. Geotechnologies, Inc. (2022) encountered fill materials down to depths of one and three feet below ground surface (bgs), followed by marine terrace deposits, then bedrock (siltstone).

Based on a literature review and the Geotechnologies, Inc. (2022) study, the northwestern corner of the Project Site might host sediments of the Baldwin Hills paleosol (also known as the Fox Hills paleosol)[2], which is thought to be of latest Pleistocene age. The Baldwin Hills paleosol within the Project Site is here assigned a high sensitivity for paleontological resources as it is a paleosol. Beneath the Baldwin Hills paleosol is the older Quaternary alluvium.

Pleistocene deposits in Culver City west of the Baldwin Hills have produced many Pleistocene vertebrate and invertebrate fossils. For instance, in 2016, paleontological resources monitoring was conducted for a construction project located in the vicinity of the Project Site. There, 78 fossil specimens were collected from sediments at 28 to 29 feet below street level, both *in situ* and from spoil piles excavated at that level (SWCA 2016). The taxa represented by the collected fossils range from mammal (*Camelops hesternus*) and plant (*Pinus* sp.) remains, to a large number of mollusks (Bivalvia and Gastropoda). Similarly, from 2017 to 2018, paleontological resources monitoring was conducted for a project located in Culver City. The monitoring yielded several paleontological specimens (gastropod and bivalve shells) at depths of 25 to 41 feet bgs that extended past the artificial fill throughout the entire property (ESA 2018).

In 2018, paleontological resources monitoring was conducted for another project in the vicinity of the Project Site. The paleontological resource mitigation efforts there produced approximately 100 specimens consisting of marine mammal (otariid, and cetacean), terrestrial vertebrates (*Bison,* rodents, rabbits, amphibians, and snakes), invertebrate, and plant fossils (ESA 2021). Finally, in 2019, ESA monitored construction activity in Culver City. Fossils of *Bison, Camelops, Smilodon* (saber-toothed cat)*,* and *Paramylodon* (ground sloth) were found there (ESA, in prep.)

[2] A paleosol is an ancient soil that was formed in the past.

Natural History Museum of Los Angeles County Records Search

ESA requested a database search on July 12, 2023, from the NHMLAC for records of fossil localities in and around the Project Site. The purpose of the museum records search was to (1) determine whether any previously recorded fossil localities occur in the Project Site, (2) assess the potential for disturbance of these localities during construction, and (3) evaluate the paleontological sensitivity within the Project Site and vicinity. The results from the NHMLAC were received on July 12, 2023 (**Appendix B**).

Paleontological records from the NHMLAC also indicate that older Pleistocene-age geologic units in the vicinity of the Project Site have produced a variety of paleontological resources from the Pleistocene.

Specifically, the results indicate that one group of fossil localities (LACM IP 42395–42408) yielded fossil specimens of sponge trace fossils (E*ntobia*), oysters (*Ostrea*), scallops (*Leptopecten, Chlamys*), and other unsorted invertebrates from approximately 2 feet down to 10 feet bgs. Additional fossil localities (LACM IP 23224, LACM VP 4942, LACM VP 3789, LACM VP 7332, LACM VP 1170) exist nearby from the same sedimentary deposits that occur in the Project Site, either at the surface or at depth (**Table 1**). LACM IP 23224 yielded specimens of cerith, dove snail, nutclam, wentletrap, bivalve, slipper shell, top snail, scallop, jewel boxes, horn snail, cardita, hatchet shell, venus clam, and tower shell at unknown depths. LACM 4942 produced specimens of mammoth, bison, and hare at 16 feet bgs. LACM 3789 yielded a specimen of mammoth at 14 feet bgs. LACM VP 7332 yielded a fossil specimen of mammoth at 40 feet bgs. Finally, LACM VP 1170 produced fossil specimens of sloth, camel, weasel, bison, deer, sabertooth cat, pronghorn antelope, mastodon, peccary, horse, coot, and unidentified birds at unknown depths.

TABLE 1
SUMMARY OF NHMLAC FOSSIL LOCALITIES

Locality Number	Formation	Taxa	Depth
LACM IP 42395 - 42408	Pleistocene terrace deposits	Sponge trace (E*ntobia*),oysters (*Ostrea*), scallops (*Leptopecten, Chlamys*), and other unsorted invertebrates	50 cm - 3 m bgs
LACM IP 23224	Unknown formation (Pleistocene)	Cerith (*Lirobittium*), dove snail (*Amphissa*), nutclam (*Acila [Truncacila]*), wentletrap (*Hirtoscala*), bivalve (*Saccella*), slipper shell (*Crepidula*), top snail (*Calliostoma, Norrisia*), scallop (*Leptopecten*), jewel boxes (*Chama*), horn snail (*Bittium*), cardita (*Cyclocardia*), hatchet shell (*Thyasira*), venus clam (*Compsomyax*), tower shell (*Turritella*), nut clam (*Nuculana*)	Unknown

Locality Number	Formation	Taxa	Depth
LACM VP 4942	Unknown formation (Pleistocene, massive sandy mudstone with scattered pieces of gravel)	Mammoth (*Mammuthus*); bison (*Bison*); hare (*Lepus*)	16 feet bgs
LACM VP 3789	Unknown (Pleistocene; pebbly gray-green to brown mud that directly overlies a gray-green fine sand)	Mammoth (*Mammuthus*)	14 feet bgs
LACM VP 7332	Unknown formation (Pleistocene; silty sand)	Mammoth (*Mammuthus*)	40 feet bgs
LACM VP 1170	Unknown formation (Pleistocene)	Sloth (*Megalonyx*), camel (*Camelops*), weasel (*Mustela frenata*), bison (*Bison*), deer (*Odocoileus*), sabertooth cat (*Smilodon*), pronghorn antelope (*Capromeryx*), Mastodon (*Mammut*), peccary (Platygonus*), horse (Equus*), coot (Fulica), unidentified birds (Aves)	unknown

SOURCE: Bell, 2023

Paleontological Sensitivity Analysis

The literature and geologic mapping review and the records search results presented above were used to assign paleontological sensitivity to the geologic units at surface and underlying the Project Site, following the guidelines of the SVP (2010):

- **Fill Material:** As indicated by geotechnical testing (Geotechnologies, Inc. 2022), fill material is present at the surface of the Project Site and extends to depths between 1 and 3 feet. It is unclear as to where the fill material came from and so assigning an age is not possible. Given that the fill is described as artificial and is likely the result of past grading or construction activities at the Project Site, it is unlikely to contain intact fossiliferous deposits. Therefore, this unit is assigned **No Potential** to contain significant paleontological resources.
- **Qa:** Alluvial gravel, sand and silt-clay, derived from Santa Monica Mountains; includes gravel and sand of stream channels. Those authors imply that it is of Holocene age. The Geotechnical Report for this Project (Geotechnologies, Inc. 2022) identified the sediments below the artificial fill only as "Native Soils" or "Terrace Deposits." This unit is assigned **Low Potential** to contain paleontological resources given its young age.
- **Qop:** Paleosol in Baldwin Hills (Fox Hills paleosol of Hsu et al. 1982), gray to rusty brown, sandy, locally pebbly, moderately indurated "hardpan" on **Qoa.** This unit is assigned a **High Potential** to contain paleontological resources because the Guidelines of the Society of Vertebrate Paleontology (2010) specifically call out paleosols as sensitive. ESA was unable to locate any reports that address paleontological resources in the Fox Hills paleosol.
- **Qoa:** Older alluvium of gray to light brown pebble-gravel, sand, and silt-clay, elevated and dissected in Baldwin Hills designated as Baldwin Hills sandy gravel by Hsu et al, 1982, where it is much dissected and eroded. Given that LACM IP localities 42395–42408 located in the vicinity of the Project site produced sponge trace fossils, oysters, scallops, and other

unsorted invertebrate fossils, this unit is assigned a **High Potential** for significant paleontological resources. Almost any unit that produces marine invertebrate fossils in this area will also produce marine vertebrate fossils. A radiocarbon date of shells from this unit would tell us whether it is younger than, or older than, 45,000 radiocarbon years, the approximate maximum reliable age obtained by that technique. As detailed above, some marine deposits in the Baldwin Hills produce late Pleistocene radiometric dates (Bandy and Marinkovich 1973).

Summary of Findings and Recommendations

Geologic mapping indicates that the surface of the Project Site is underlain by Pleistocene-age older alluvium (Qoa) and Holocene-age alluvium (Qa), and possibly by the Pleistocene-age Baldwin Hills Paleosol (Qop), also known as the Fox Hills Paleosol. The Pleistocene alluvium, Qoa, has a high sensitivity, whereas the Holocene alluvium has a low sensitivity for paleontological resources due to the young age. Sediments mapped as older alluvium located in the vicinity of the Project Site produced a significant number of marine invertebrate fossils, and it is probable that these same deposits will produce significant paleontological resources fossils on the Project Site. The Holocene alluvium, Qa, is not expected to produce significant paleontological resources given its young age. The Baldwin Hills Paleosol, Qop, has a high potential because the SVP Guidelines (2010) specifically call out paleosols as sensitive, although no reports were located that address paleontological resources in the paleosol. Since excavations at the Project Site are estimated to reach depths of up to 27 feet bgs, which is likely deeper than previous excavations on the Project Site, they have the potential to impact older alluvium and possibly the Baldwin Paleosol, which have a high sensitivity for retaining paleontological resources as discussed above. Therefore, the Project could directly or indirectly destroy unique paleontological resources, and impacts on buried paleontological resources are considered potentially significant. As such, the following recommendations are provided below in order to reduce impacts to paleontological resources to a less than significant level under CEQA.

1. Prior to the issuance of grading permits, the Applicant shall retain a Qualified Paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting and shall be responsible for monitoring and overseeing paleontological monitors (meeting SVP standards) that will observe grading and excavation activities.
2. Paleontological monitoring shall be conducted during construction excavations into undisturbed older alluvial sediments and undisturbed Baldwin Hills Paleosol. Monitoring shall consist of visually inspecting fresh exposures of rock for larger fossil remains and, where appropriate, collecting and wet screening sediment samples of promising horizons for smaller fossil remains. If significant vertebrate fossils are found by screening, it will be necessary to collect a 6,000-pound sample for screening from each producing geologic unit, per SVP Guidelines (2010). The sample(s) can be collected by construction machinery and stockpiled and processed in a safe location on site, or transported to another site for processing. The frequency of monitoring inspections shall be determined by the Qualified Paleontologist and shall be based on the rate of excavation and grading activities, the materials being excavated, and the depth of excavation, and if found, the abundance and type of fossils encountered. Full-time monitoring can be reduced to part-time inspections, or ceased entirely, if determined adequate by the Qualified Paleontologist. If a potential fossil is

found, the Qualified Paleontologist and the monitor shall have authority to temporarily stop excavation activity or to temporarily divert or redirect grading and excavation activities in the area of the exposed fossil to facilitate evaluation of the discovery. An appropriate buffer area shall be established by the Qualified Paleontologist around the find where construction activities shall not be allowed to continue. Work shall be allowed to continue outside of the buffer area. At the Qualified Paleontologist's discretion, and to reduce any construction delay, the grading and excavation contractor shall assist in removing rock/sediment samples for initial processing and evaluation. If preservation in place is not feasible, the Qualified Paleontologist shall implement a paleontological salvage program to remove the resources from their location.

3. If the older Quaternary alluvium produces any mollusk fossils, a specimen shall be submitted for radiocarbon dating. If the Fox Hills Paleosol produces any pedogenic calcium carbonate, a sample shall be submitted for radiocarbon dating.

4. Any significant fossils recovered during Project-related excavations shall be prepared to the point of identification. The residue form sediment samples shall be dried and sorted with a binocular dissecting microscope. Both macrofossils and vertebrate microfossils shall be prepared to the point of identification, identified, and curated into an accredited repository. The Qualified Paleontologist shall prepare a final report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall accompany the specimens to the accredited repository. The report shall also be submitted by the Applicant to the City of Culver City to signify the satisfactory completion of the Project and required mitigation measures.

References

Bandy, O. L., and L. Marincovich, Jr. 1973. Rates of late Cenozoic Uplift, Baldwin Hills, Los Angeles, California. Science 181:653-655.

Bell, Alyssa. 2023. Paleontological resources for the 5700 Hannum Project. Prepared for Environmental Science Associates by the Natural History Museum of Los Angeles County. 2 p.

Dibblee and Minch. 2007. Geologic map of the Venice and Inglewood Quadrangles, Los Angeles County, California. Dibblee Foundation Map DF-322. Scale 1:24000

ESA. 2018. Ivy Station Project, City of Culver City and City of Los Angeles, County of Los Angeles California: Archaeological and Paleontological Monitoring Report. Prepared for: Culver City Triangle Investor, Inc., c/o Lowe Enterprises Real Estate Group, 8740 Washington Boulevard, Suite A, Culver City, CA 90232. Prepared by: ESA.

ESA. 2021. 8777 Washington Project; Culver City, County of Los Angeles, California: Archaeological and Paleontological Monitoring Report. Prepared for: CLPF-8777 Washington, L.P., 3129-B S La Cienega Blvd., Los Angeles, CA 90016. Prepared by: ESA.

ESA. In prep. Culver Studios Project: Culver City, County of Los Angeles, California: Paleontological Monitoring Report. Prepared by: ESA.

Geotechnologies, Inc. 2022. Preliminary Geotechnical Engineering Investigation, Proposed Mixed-Use Development, 5700 Hannum Avenue, Culver City, California. Prepared for: LPC West, Inc., 915 Wilshire Boulevard, Suite 2050, Los Angeles, CA 90017. Prepared by: Geotechnologies, Inc., 439 Western Avenue, Glendale, CA 91201. 47 pp.

Graham, R.W., and E.L. Lundelius. 1994. FAUNMAP: A database documenting the late Quaternary distributions of mammal species in the United States. Illinois State Museum Scientific Papers XXV(1).

Hsu, E.Y., R. B. Saul, S. S. Tan, J. Treiman, and F. H. Weber, Jr. 1982. Slope Stability and Geology of the Baldwin Hills, Los Angeles County, California. California Department of Conservation Division of Mines and Geology Special Report 152:1-93. Scale 1:48,000.

Ingersoll, R. V. and P. E. Rumelhart. 1999. Three-stage basin evolution of the Los Angeles basin, southern California. Geology 27: 593–596.

Jefferson, G.T. 1991a. A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.

Jefferson, G.T. 1991b. A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.

Miller, W. E. 1971. Pleistocene Vertebrates of the Los Angeles Basin and Vicinity: exclusive of Rancho La Brea. Los Angeles County Museum of Natural History, No. 10.

Murphey, P. C., and D. Daitch. 2007. Paleontological overview of oil shale and tar sands areas in Colorado, Utah and Wyoming. Scale 1:500,000. U.S. Department of Energy, Argonne National Laboratory. Report prepared for the U.S. Department of Interior Bureau of Land Management.

Murphey, P. C., G. E. Knauss, L. H. Fisk, T A. Deméré, and R. E. Reynolds. 2019. Best Practices in Mitigation Paleontology. Proceedings of the San Diego Society of Natural History no. 47.

Poland, J.F., A. A. Garrett, and A. Sinnot. 1959. Geology, hydrology, and chemical character of ground waters in the Torrance-Santa Monica area, California: U.S. Geological Survey Water Supply Paper 1461, 425 p.

Scott, E. and K. Springer. 2003. CEQA and Fossil Preservation in California. The Environmental Monitor.

Scott, E., K. Springer, and J. C. Sagebiel. 2004. Vertebrate paleontology in the Mojave Desert: the continuing importance of "follow-through" in preserving paleontologic resources. In The human journey and ancient life in California's deserts: Proceedings from the 2001 Millennium Conference. Ridgecrest: Maturango Museum Publication 15: 65–70.

Society of Vertebrate Paleontology (SVP). 2010. Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources.

SWCA Environmental Consultants. 2016. Final Paleontological Resources Monitoring and Mitigation Report for the Washington National Project, Culver City, Los Angeles County, California. Prepared for: Greystar, 2615 Pacific Coast Highway, Suite 208, Hermosa Beach, CA 90254. Prepared by: SWCA Environmental consultants, 150 South Arroyo Parkway, Second Floor, Pasadena, CA 91105.

Appendix A
Personnel Qualifications

ESA

Kyle Garcia, M.A., RPA

Principal Archaeologist

EDUCATION

M.A., Anthropology (Archaeology Option), California State University Los Angeles,

B.A., Anthropology, (Physical/ Biological Emphasis), University of California, Santa Barbara

18 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

Register of Professional Archaeologists

Riverside County Registered Archaeologist and Paleontologist

Orange County-Certified Archaeologist and Paleontologist

40-Hour HAZWOPER Training – Update, 2019

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

Pacific Coast Archaeological Society

Kyle Garcia has 18 years of experience in the archaeology and prehistory of southern California, with a specialization in faunal analysis. During his career, he has authored or contributed to more than 800 projects subject to the requirements of the California Environmental Quality Act, the National Environmental Policy Act (NEPA), and regulations implementing Section 106 of the National Historic Preservation Act (Section 106 of the NHPA). He is well-versed in the archaeological resources of California's coastal, interior, and island settings. He is skilled in evaluation historic and prehistoric archaeological resources; agency and Native American consultation; pedestrian surveys, testing and evaluation excavations as well as archaeological and paleontological construction monitoring, and laboratory processing. During his tenure, he has authored or contributed to more than 500 technical reports and sections to support all levels of CEQA and NEPA documents. Kyle's portfolio of projects includes energy, water, and transportation infrastructure as well as residential, commercial, mixed-use, institutional, and urban redevelopment serving public and private sector clients. Kyle has conducted archaeological work throughout California and is a certified archaeologist and paleontologist in Riverside and Orange counties.

Representative Experience

Archaeological/Paleontological Monitoring. Kyle has managed more than 120 archaeological and/or paleontological construction monitoring projects in Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. His recent monitoring experience in Culver City for mixed-use development projects include Ivy Station, Culver Studios (9336 Washington Blvd), 8888 Washington Blvd, and 8777 Washington Bvld projects. His recent monitoring experience in the City of Los Angeles for mixed-use development projects include the Park Fifth Apartments (437 Hill St), Essex Hollywood (6250 Sunset Blvd), 6th and Virgil Project, 1500 Figueroa, 1340 Figueroa, and 10000 Santa Monica Blvd.

Paleontology. In addition to his archaeological work, Kyle has been cross-trained in paleontological mitigation monitoring and assisted in the excavations of a Miocene whale fossil near Irvine and a new species of extinct tuna in Laguna Niguel, California. Kyle has also managed or conducted more than 200 paleontological assessments and 40 paleontological monitoring projects throughout southern California. He has assisted ESA's paleontologists with the preparation of paleontological reports in compliance with CEQA and local paleontological guidelines, including guidelines for the Society for Vertebrate Paleontology.

Large-Scale Development Projects. Kyle directed the 1,400-acre field survey and the successful site recordation of over 150 prehistoric and historic archaeological resources per the Section 106 Process for a confidential project in

Riverside County; served as the Deputy Project Manager for the 240-acre Archaeological Treatment & Restoration Plan for The Cove project that was subject to Section 106, responsible for the field survey, Native American consultation, final report, and supervised the thorough recordation and documentation of over 350 significant artifacts. In Arizona, he led crews on a pedestrian survey and site recordation of more than 200 historic and prehistoric archaeological resources during a Class III Inventory on an 11,000-acre portion of the La Osa Ranch Project site in Pinal County.

Water Infrastructure. Kyle has performed the archaeological and paleontological resources surveys and assessments for a number of regional water infrastructure projects including the Reservoir No. 1 Reconstruction Project MND for Burbank; the Pasadena Groundwater Storage Program; and recycled water facilities projects for San Clemente, Pasadena, the Town of Rosamond, and Palmdale.

Transportation Infrastructure. Kyle is often sought after to conduct Peer Review services of controversial projects across southern California including the Needles Highway Safety Realignment Project for the County of San Bernardino, various infrastructure projects for Caltrans/San Bernardino Associated Governments, and the I-710 Corridor Project Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the City of Commerce.

In addition to road projects, Kyle has provided archaeological and paleontological services—cultural resources assessments and monitoring—on and around the Los Angeles International Airport (LAX). Among these include the cultural resources assessment of the proposed concrete pad/apron area and staging area within the southwest portion of LAX, known as the Southwest Remain Overnight Apron Project/West Aircraft Maintenance Area Project. He was also the ESA PCR cultural resources task manager for the EIR and Archaeological/Paleontological Monitoring for the LAX Central Utility Plant Replacement Project. Finally, Kyle was the PCR project manager for the archaeological and paleontological monitoring services during earthmoving operations associated with the development of the Crossfield Taxiway project. Monitoring was in compliance with the mitigation measures outlined in the Master Plan EIS/EIR pursuant to CEQA, NEPA, and Section 106.

Energy Projects. Kyle is well-versed in the potential effects of energy production projects on Southern California Archaeology through his service as an on-call consultant to Southern California Edison (SCE), where he has served as the Project Director and Manager for over 100 SCE projects and managed SCE purchase order contracts in excess of $1.5 million. These projects were subject to requirements of CEQA, Section 106 of the NHPA, and other local ordinances. These projects included deteriorated pole replacements, conduit and vault installations, and distribution circuit installations (aboveground and underground) located throughout SCE's service area in Central and Southern California. Kyle not only managed the budgets and supervised the work for these projects but also conducted most of the record searches, surveys, report writing, site recordation, and client/agency coordination for these projects. In addition to his SCE work, Kyle was the project manager for a 150-acre ground-mounted solar

power project in San Bernardino County and assisted with a 245-acre confidential petroleum exploration project on California's Central Coast.

Education Facilities. Kyle's academic experience includes conducting cultural and paleontological records searches in support of an Initial Study/MND for the proposed John Thomas Dye School Improvement project in the Bel Air Community of the city of Los Angeles; the Long Beach Unified School District's District-Wide Cultural Resources Assessment; and the University High School Beautification project. In addition, Kyle has supervised ESA PCR staff paleontologists during paleontological monitoring services for the Stephen S. Wise Middle School Relocation project in the city of Los Angeles; he also supervised the subsequent fossil identification/analysis and final report preparation services for this project. These services have been conducted pursuant to a Mitigation Monitoring and Reporting Program that was established to implement the mitigation measures identified in the EIR for the project.

Cultural Resources Sensitivity Training. He is well-versed in conducting Cultural Resources Sensitivity Training Sessions to government staff, applicants, contractors, engineers, and construction personnel with regard to the procedures to implement in the event that archaeological or paleontological resources are encountered during construction.

Geographic Information Systems. Kyle has also gained valuable experience with recording historic and prehistoric archaeological sites with Garmin, Magellan, and sub-meter Trimble GeoXT Global Positioning System (GPS) units. He has worked with GIS software such as ArcPad, ArcGIS, and ArcView and developed methods for using these products to accurately and efficiently record archaeological sites.

Presentations. Kyle presented a paper at the 72nd Annual Meeting for the Society of American Archaeology Conference in Austin, Texas in 2007. The paper focused on prehistoric 'yoni' features encountered on a project site proposed to be developed in western Riverside County, California. The project was subject to requirements of CEQA and Section 106 of the NHPA. Kyle has also presented a poster at the Society of California Archaeology Conference in Fish Camp, California in 2016 titled *Urban Archaeology Strikes Again! - 250 Years of Los Angeles History and Archaeology Uncovered in One Downtown City Block*. Kyle also presented a paper on historic archaeology and CEQA at a 2015 workshop for the California Preservation Foundation in Los Angeles.

Joseph D. Stewart, PhD

Qualified Paleontologist

EDUCATION

Ph.D., Systematics & Ecology, University of Kansas

M.A., Systematics and Ecology, University of Kansas

B.A. Degree, Biology, University of Kansas

40 YEARS EXPERIENCE

QUALIFICATIONS

Meets Society of Vertebrate Paleontology definition of qualified professional paleontologist

Orange County Certified Paleontologist

SPECIALIZED SKILLS

Identification of fossil fish and Pleistocene microvertebrate fauna

PROFESSIONAL AFFILIATIONS

Society of Vertebrate Paleontology

Research Associate, Natural History Museum of Los Angeles County

Joseph D. Stewart has more than 40 years of experience in the field of paleontology, with 30 years of experience in California. He has authored or co-authored 40 peer-reviewed articles for scientific journals and books. Within these, he has authored or co-authored descriptions of three new genera and three new species. He is a recognized authority on fossil fishes of Cretaceous rocks of North America and Cenozoic rocks of the western coast of North America. As a result, Dr. Stewart is often called upon to identify paleontological and archaeological specimens. He has served as expert witness for the U.S. Department of Justice.

Dr. Stewart has extensive experience finding and excavating fossils for county, state, and provincial institutions. His field work includes projects in cooperation with the U.S. Bureau of Land Management, National Parks Service, U.S. Army Corps of Engineers, U.S. Navy, U. S. Department of Energy, Federal Aviation Administration, California Energy Commission, Caltrans, and California State Parks. The Bureau of Land Management's national website features one of his excavations from 2004. He has supervised monitoring of construction activity in numerous California counties and municipalities. In addition to fieldwork, he has experience in the supervision of preparators, surveyors, curatorial assistants, and excavators. He also has extensive experience preparing fossils, and has processed, recovered, and identified thousands of microvertebrate fossils.

Relevant Experience

Crestavilla Retirement and Assisted Living Community Project, Laguna Niguel, CA. *Principal Paleontologist.* Dr. Stewart supervised paleontological monitoring during the construction of a new 224-unit retirement and assisted living facility and an approximately 1,870 square-foot Spiritual Resource Center (Shepherd of the Hills Church) within a four-story structure located over a one-level subterranean parking structure. The monitoring led to the identification of a remarkable collection of vertebrate fossils, including the first record of a gulper shark (*Centrophorus*) from any Neogene sediments of coastal California and the first reported specimens of the cookie-cutter shark (*Isistius*) from the Capistrano Formation. Additionally, the project yielded the most complete fossil tuna ever found in California and it probably represents a species new to science.

Palos Verdes Peninsula Water Reliability Project, Palos Verdes Peninsula, CA. *Principal Paleontologist.* Dr. Stewart supervised paleontological monitoring during construction of new potable water pipelines and a new booster pump station to replace the current water distribution system serving the Palos Verdes Peninsula. The monitoring led to the identification and salvage of numerous fossils from Altamira Shale deposits of the Monterey Formation, including fossils of leaf imprints, sardine scales, fish parts (vertebrae, dentary, mandible) and the fossil appendage (dactyl) of a type of Mantis shrimp (Stomatopod). The Mantis

shrimp specimen is believed to be the only second known occurrence in southern California of *Angelosquilla altamierensis*, and the only one with a known precise locality and provenience.

Syphon Reservoir Improvement Project, Orange County, CA. *Principal Paleontologist.* Dr. Stewart supervised paleontological monitoring during geotechnical explorations (including borings, exploratory test pits, and abutment/seismic trenches) at the Syphon Reservoir, as the project is located within geologic formations (Silverado and Sespe/Vaqueros) that have a high paleontological potential for yielding paleontological resources. Sediment sampling was conducted to identify the presence/absence of microvertebrate fossils.

Oaks at Monte Nido, Santa Monica Mountains, Unincorporated Los Angeles County, CA. *Principal Paleontologist.* Dr. Stewart was in charge of the preparation of the Paleontological Resources Assessment Report, which included a pedestrian survey. The pedestrian survey yielded the identification of a sandstone boulder that contains a fossil impression of the skull of a small-toothed cetacean "dolphin" and the identification of fossilized shells of pelecypods (e.g., bivalves such as clams, mussels, oysters, and cockles) and gastropods (e.g., snails and slugs). The project proposes the development of 15 single-family residences on separate individual recorded parcels within the Monte Nido Community, along the scenic route of Piuma Road.

Path 15 500 kV Power Transmission Line Between Los Banos and Gates substations, Merced and Fresno Counties, CA. *Principal Paleontologist.* Dr. Stewart supervised paleontological monitoring during construction of an 80-mile, high-voltage transmission line in the San Joaquin Valley. Dr. Stewart's team located an extensive bonebed in Middle Miocene sediments, dating back approximately 15 million years. Dr. Stewart and his team excavated and prepared over 1,200 vertebrate fossils, deposited them at the University of California Museum of Paleontology, and preserved the site for future research. They also discovered a smaller bonebed of late Miocene age (ca. 7 million years). As a result of his diligent analysis, the project schedule was maintained and there were no delays in construction.

Heritage Fields/Great Park Paleontological Review, Orange County, CA. *Principal Paleontologist.* Dr. Stewart conducted Phase I and II paleontological assessments at the Heritage Fields / Great Park in Orange County, California where he and his team discovered significant portions of a Miocene-aged (15 million years ago) whale fossil, and a Pleistocene microvertebrate fauna dating to before 28,000 years ago.

Calnev Pipeline Project, San Bernardino County, CA, and Clark County, NV. *Principal Paleontologist.* Dr. Stewart directed paleontological survey of a 234-mile-long project area in San Bernardino County, California and Clark County, Nevada and wrote the paleontological assessment.

Appendix B

NHMLAC Records Search (Confidential)

ESA