DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

May 8, 2023 14378

Dana Whitmer
3 Corporate Plaza, Suite 230
Newport Beach, California 92660

Subject: Paleontological Resources Inventory Report for the Santa Clarita Commerce Center Project, City of Santa Clarita, Los Angeles County, California

Dear Dana Whitmer:

This letter documents the results of the paleontological resources inventory in support of the conducted by Dudek for the proposed Santa Clarita Commerce Center Project (project). The approximately 22.31-gross-acre project site is in the western part of the City of Santa Clarita, which lies in the northern portion of Los Angeles County. Specifically, the project site is located at the northeast corner of Railroad Avenue and Oak Ridge Drive, just east of the Metrolink railway (Figure 1, Project Location).

The project would include construction of four industrial/warehouse buildings totaling approximately 433,185 square feet and associated improvements such as including loading docks, tractor-trailers, passenger vehicle parking spaces, stormwater detention basins, and landscape area. A new public street, Springbrook Avenue, would be constructed from Oak Ridge Drive to provide access to each buildings parking and loading areas.

To determine the paleontological sensitivity of the project site, Dudek performed a paleontological resources inventory for the project to comply with the California Environmental Quality Act (CEQA). The inventory consisted of a Natural History Museum of Los Angeles County (LACM) paleontological records search and review of geological mapping and geological and paleontological literature. The results of the paleontological records search were negative for paleontological resources within the project site; however, the LACM reported five fossil localities near the project site from geological units that underly the project site at an unknown depth below the ground surface.

1 Paleontological Resources

Paleontological resources are the remains or traces of plants and animals that are preserved in earth's crust, and per the Society of Vertebrate Paleontology ([SVP] 2010) guidelines, are older than written history or older than approximately 5,500 years. They are limited, nonrenewable resources of scientific and educational value and are afforded protection under state laws and regulations. This study satisfies requirements in accordance with state guidelines (13 PRC, 2100 et seq.) and Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792). This analysis also complies with guidelines and significance criteria specified by SVP (2010). Table 1 provides definitions for high, undetermined, low, and no paleontological resource potential, or sensitivity, as set forth in and by the SVP (2010) Guidelines for Determining Significance: Paleontological Resources.

Table 1. Paleontological Resource Sensitivity Criteria

Resource Sensitivity / Potential	Definition
High	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.). Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units which contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units which may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.
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 (see “definitions” section in this document) 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.
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.
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.

Source: SVP (2010)

2 Regulatory Framework

2.1 California Environmental Quality Act

The CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources, which are limited, nonrenewable resources of scientific, cultural, and educational value, are recognized as part of the environment under these state guidelines. This study satisfies project requirements in accordance with CEQA (13 PRC [Public Resources Code], 21000 et seq.).

Paleontological resources are explicitly afforded protection by CEQA, specifically in Section VII(f) of CEQA Guidelines Appendix G, the "Environmental Checklist Form," which addresses the potential for adverse impacts to "unique paleontological resource[s] or site[s] or … unique geological feature[s]." This provision covers fossils of signal importance – remains of species or genera new to science, for example, or fossils exhibiting features not previously recognized for a given animal group – as well as localities that yield fossils significant in their abundance, diversity, preservation, and so forth.

2.2 PRC Section 5097.5

The PRC Section 5097.5 (Stats 1965, c 1136, p. 2792) regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.

3 Methods

3.1 Geological Map Review, Literature Review, and Paleontological Records Search

Published geological maps and published and unpublished reports were reviewed to identify geological units on the site and determine their paleontological sensitivity.

A paleontological records search request was sent to the LACM on May 11, 2022. The purpose of the records search is to determine whether there are any known fossil localities in or near the project site to aide in determining whether a paleontological mitigation program is warranted to avoid or minimize potential adverse effects of construction on paleontological resources.

4 Results

4.1 Geological Map Review, Literature Review, and Paleontological Records Search

The project site lies within the Peninsular Ranges Geomorphic Province (California Geological Survey 2002). This province extends from the tip of the Baja California Peninsula to the Transverse Ranges (the San Gabriel and San Bernardino Mountains) and includes the Los Angeles Basin, offshore islands (Santa Catalina, Santa Barbara, San Nicholas, and San Clemente), and continental shelf. The eastern boundary is the Colorado Desert Geomorphic Province (California Geological Survey 2002; Morton and Miller 2006). The ancestral Peninsular Ranges were formed by uplift of plutonic igneous rock resulting from the subduction of the Farallon Plate underneath the North American Plate during the latter portion of the Mesozoic era (approximately 125 to 90 million years ago) (Abbott 1999).

According to the published geological mapping at a scale of 1:24,000 by Dibblee and Ehrenspeck (1996) and geotechnical borings for the project (GeoSoils Consultants 2011), the majority of project site is underlain by Holocene (< 11,700 years ago) Holocene alluvial deposits (map unit Qa) and minor outcrops of late Pleistocene (between approximately 11,700 and 129,000 years ago) alluvial gravels (map unit Qg) in the northeast corner of the project site. The geotechnical report indicated the majority of the project site is immediately underlain by Holocene alluvial deposits, with the southwest corner underlain by a blanket of artificial fill with a thickness up to 15 feet. While Holocene alluvial deposits are generally too young to yield significant paleontological resources, Pleistocene alluvial deposits are known to produce significant fossils in the vicinity of the City of Santa Clarita. Jefferson (1991) reported a mammoth (*Mammuthus columbi*) from Acton Railroad Station; a ground sloth (*Paramylodon* sp.) from the San Fernando Dam; a mastodon (Mammut) from Chatsworth; horse (*equus* sp.) and mammoth (*Mammuthus* sp.) from Sylmar; and mammoth (*Mammuthus* sp.) and bison (*Bison* sp.) from the Lower and Upper Van Norman Reservoirs, respectively,

The LACM records search results letter was received on May 14, 2022. No records of fossil localities were found within the boundaries of the project site; however, the LACM reported five fossil localities in the vicinity of project site (Confidential Attachment A). Of these localities, three are from the Saugus Formation which crops out nearby but is not anticipated to be impacted by implementation of the project since it was not reported in geotechnical borings conducted by GeoSoils Consultants (2011). Fossil locality, LACM VP (Vertebrate Paleontology) 5745, collected near Magic Mountain in fill dirt, consisted of mastodon (*Mammut*) and horse (*Equus*). A fossil bison (*Bison*) (LACM VP 3397) was reported from the spillway of the Van Norman Reservoir from 75 feet below the ground surface (Confidential Attachment A).

5 Summary and Management Recommendations

No paleontological resources were identified within the project site as a result of the institutional records search, desktop geological review, and paleontological survey. The paleontological records search conducted by the LACM revealed five nearby localities, two from the same or similar Pleistocene geological unit that underlies the project site at depth. Pleistocene alluvial deposits mapped in the northeast corner of project site have high paleontological sensitivity; Holocene alluvial deposits have low paleontological sensitivity on the surface, increasing with depth; and

artificial fill has no paleontological sensitivity. Based on the records search results and map and literature review, the project site has high potential to produce paleontological resources during planned construction activities in areas underlain by Pleistocene deposits and Holocene deposits at depth. In the event that intact paleontological resources are discovered on the project site, ground-disturbing activities associated with construction of the project, such as grading and augering during site preparation and trenching for utilities, have the potential to destroy a unique paleontological resource or site. Without mitigation, the potential damage to paleontological resources during construction would be a potentially significant impact. With implementation of the following recommended mitigation measure (MM), impacts would be reduced to below a level of significance. Impacts of the project are considered less than significant with mitigation incorporated during construction.

MM GEO-1: Paleontological Resources Impact Mitigation Program and Paleontological Monitoring. Prior to commencement of any grading activity on site, the applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (2010) guidelines. The qualified paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project that is consistent with the SVP (2010) guidelines and outlines requirements for preconstruction meeting attendance and worker environmental awareness training, where paleontological monitoring is required within the project site based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microinvertebrate and microvertebrate fossils), reporting, and collections management. A qualified paleontological monitor shall be on site during ground-disturbing activities (including augering) in areas underlain by Pleistocene gravel deposits and below a depth of five feet below the ground surface in areas underlain by Holocene alluvium to determine if they are old enough to preserve scientifically significant paleontological resources. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will allow grading to recommence in the area of the find.

Should you have any questions relating to this report and its findings please contact Michael Williams (mwilliams@dudek.com).

Respectfully Submitted,

Michael Williams, Ph.D.
Senior Paleontologist
Mobile: 225.892.7622
Email: mwilliams@dudek.com

Att.: *Figure 1, Project Location*
Attachment A, LACM Records Search Results (Confidential)
cc: *Sarah Siren, Dudek*
Patrick Cruz, Dudek

6 References

Abbott, P.L. 1999. "The Rise and Fall of San Diego: 150 Million Years of History Recorded in Sedimentary Rocks." San Diego, California: Sunbelt Publications.

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Jefferson, G.T. 1991. *A Catalog of Late Quaternary Vertebrates from California.* Natural History Museum of Los Angeles County, Technical Reports 7:1-174. Unpublished revision: 18 May 2012.

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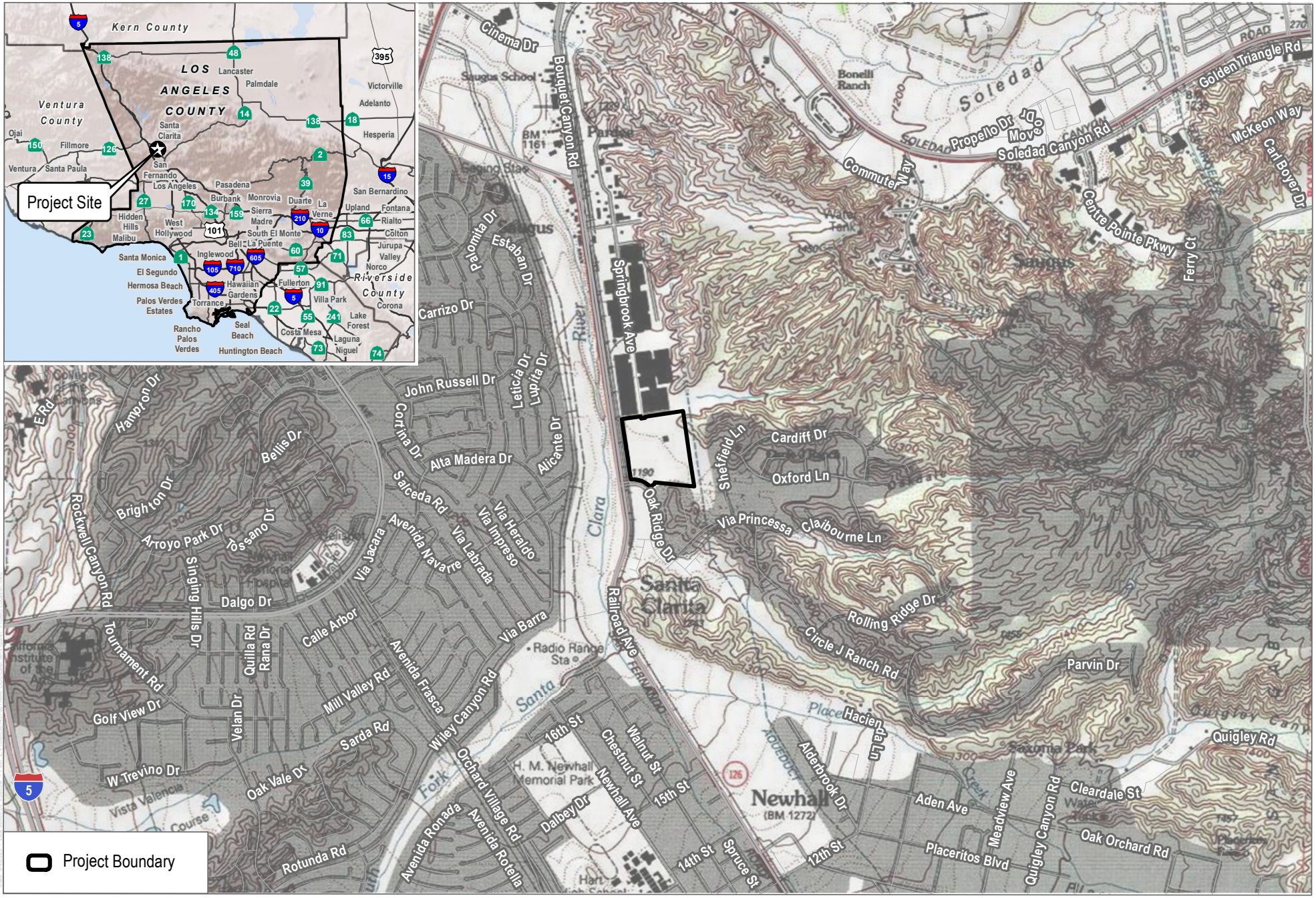
SVP (Society of Vertebrate Paleontology). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. https://vertpaleo.org/Membership/Member-Resources/SVP_Impact_Mitigation_Guidelines.aspx.



SOURCE: USGS 7.5-Minute Series Newhall Quadrangle

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0 1,000 2,000 Feet

FIGURE 1

Project Location

Santa Clarita Commerce Center Project

Attachment A

LACM Records Search Results (Confidential)