

August 27, 2015

Ms. Cheryl DeGano
Principal Environmental Analyst
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506

RE: *Paleontological Resource Assessment for the Sycamore Canyon Business Park Buildings 1 & 2, City of Riverside, Riverside County, California*

Dear Ms. DeGano:

At the request of Albert A. Webb Associates, Applied EarthWorks, Inc. (Æ) performed a paleontological resource assessment for the proposed Sycamore Canyon Business Park Buildings 1 & 2 Project (proposed Project) in the city of Riverside, Riverside County, California. The scope of work included a museum records search, a literature and geologic map review, and preparation of this technical memorandum (memo). This memo, which serves as a summary of our findings, was written in accordance with the guidelines set forth by the Society of Vertebrate Paleontology (SVP) (2010) and will satisfy the requirements of the California Environmental Quality Act (CEQA).

Project Description

Hillwood Investment Properties proposes to construct a 1.3-million-square-foot (ft²) warehouse project within the Sycamore Canyon Business Park in the Sycamore Canyon / Canyon Springs neighborhood in the eastern portion of the city of Riverside. The proposed Project includes the construction of two warehouse buildings located on a 72-acre parcel of land situated west of Sycamore Canyon Boulevard at the western terminus of Dan Kipper Drive, west of Lance Drive. Specifically, the proposed Project area is located in Township 3 South, Range 4 West, Section 4, San Bernardino Baseline and Meridian, as depicted on the Riverside East, CA 7.5' U.S. Geological Survey quadrangle map (Attachment 1).

The proposed Project consists of the grading, construction, and operation of a total approximately 1.3 million ft² of light industrial office and warehousing contained within two buildings on site, which will be subdivided into two parcels. Specifically, Building 1 will be sited within the southern three-quarters of the proposed Project area (Parcel 1) and will consist of 10,000 ft² of office space, 950,920 ft² of warehouse, 72 dock doors along the east and west side of the structure, 408 parking stalls, and 346 trailer stalls. Building 2 will be sited along the northern quarter of the proposed Project area (Parcel 2) and will consist of 10,000 ft² of office space, 337,704 ft² of warehouse, 48 dock doors along the south side of the structure, 281 parking stalls, and 80 trailer stalls. Building 1 will be approximately 41 ft in height from grade and Building 2 will be approximately 37 ft in height from grade. The proposed Project will also include excavation for water quality basins and a detention basin as well as grading of access roads.



Regulatory Context

Paleontological resources cannot be replaced once they are destroyed. Therefore, paleontological resources are considered nonrenewable scientific resources and are protected under the CEQA. Specifically, in Section V(c) of Appendix G of the CEQA Guidelines, the “Environmental Checklist Form,” the question is posed: “Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” In order to determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, mitigation of adverse impacts to paleontological resources is mandated by CEQA. In addition, paleontological resources are addressed under the Historic Preservation Element of the City of Riverside General Plan 2025 (2012). The following policies specifically address paleontological (or geological) resources and are set forth under Objective HP-1, which stipulates that the City of Riverside (City) will use “historic preservation principles as an equal component in the planning and development process:”

Policy HP-1.3: The City shall protect sites of archaeological and paleontological significance and ensure compliance with all applicable State and federal cultural resources protection and management laws in its planning and project review process.

Policy HP-1.4: The City shall protect natural resources such as geological features, heritage trees, and landscapes in the planning and development review process and in park and open space planning [City of Riverside, 2012, HP-25 – HP-26].

Sycamore Canyon Business Park Specific Plan

The proposed Project area is located within the northwestern extent of the Sycamore Canyon Business Park Specific Plan area. Originally adopted in 1984, the Sycamore Canyon Business Park Specific Plan stipulates the development of a planned industrial park consisting of approximately 920 acres of industrial and commercial uses within a 1,400-acre project area. The Specific Plan calls for a multipurpose use of the area that includes industrial, retail business and offices, and open space. Since its approval, the Specific Plan has been subject to a number of amendments. Environmental studies conducted in support of the Specific Plan identified no known fossil localities and concluded that only limited or negligible potential effects to paleontological resources could occur as the result of implementation of the Sycamore Canyon Business Park Specific Plan (City of Riverside, 1982).

Paleontological Resource Potential

Absent specific agency guidelines, most professional paleontologists in California adhere to the SVP (2010) guidelines to determine the course of paleontological mitigation for a given project. These guidelines establish protocols for the assessment of the paleontological resource potential of underlying geologic units and outline measures to mitigate adverse impacts that could result from project development. Using baseline information gathered during a paleontological resource assessment, the paleontological resource potential of the geologic unit(s) (or members thereof) underlying a Project area can be assigned to one of four categories defined by SVP (2010). These categories include high, undetermined, low, and no paleontological resource potential.

Methodology

In order to assess whether a particular project area has the potential to contain significant fossil resources at the subsurface, it is necessary to review published geologic mapping to determine the geology and stratigraphy of the area. Geologic units are considered to be “sensitive” for paleontological resources if they are known to contain significant fossils anywhere in their extent. Therefore, a search of pertinent local and regional museum repositories for paleontological localities within and nearby the project area is necessary to determine whether fossil localities have been previously discovered within a particular rock unit. For this proposed Project, a



museum records search was conducted at the San Bernardino County Museum (SBCM) on August 25, 2015. The records search was supplemented by a review of the University of California Museum of Paleontology's (UCMP's) online database, which contains paleontological records for Riverside County.

Resource Context

The proposed Project area is located southwest of the Box Springs Mountains within the Sycamore Canyon area, part of the geologically complex Peninsular Ranges geomorphic province (Morton and Miller, 2006). A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and diastrophic history (Norris and Webb, 1976). The Peninsular Ranges are a northwest-southeast oriented complex of blocks that extend 125 miles from the Transverse Ranges and Los Angeles Basin to the tip of Baja California. The Peninsular Ranges are bounded to the east by the Colorado Desert and range in width from 30 to 100 miles (Norris and Webb, 1976). The proposed Project area is situated within the Perris Block, a relatively stable rectangular structural unit positioned between the Santa Ana Mountains of the Peninsular Ranges and San Jacinto Fault Zone. The proposed Project area is approximately 5 miles south of the northwest-trending strike-slip San Jacinto Fault Zone, which extends from the San Andreas Fault Zone in the north to the Imperial Valley in the south. The geology in the vicinity of the proposed Project area is dominated by Cretaceous plutonic rocks of the Peninsular Ranges Batholith, local Mesozoic metasedimentary rocks, and widespread Pleistocene age alluvial fan and valley deposits (Morton and Miller, 2006).

According to Morton and Miller (2006), the proposed Project area is directly underlain by Cretaceous granitic rock of the Val Verde Pluton (Kvt). The Val Verde Pluton is part of the Peninsular Ranges Batholith and consists of granitic rock composed of massive to foliated, coarse-grained, biotite hornblende tonalite, characterized by a granular texture and visible crystals of quartz, plagioclase feldspar, mafic minerals, and secondary minerals. Although the proposed Project area is entirely underlain by intrusive igneous rock, Pleistocene age alluvial sediments, mapped by Morton and Miller (2006) as Quaternary Very Old Alluvium (Qvof), are exposed less than 250 ft southeast of the proposed Project area. The Pleistocene age alluvial unit is composed of moderately to well-consolidated, well-dissected, tan to orange or reddish-brown sand and silt with subordinate cobbles and pebbles and well-developed soil (Morton and Miller, 2006). In general, the alluvial deposits were derived from erosion in the San Gabriel-San Bernardino Mountains and subsequent deposition along the south-facing bajada and nearby washes and streams, including the Santa Ana River.

During a field reconnaissance survey conducted on May 19 and 20, 2015, in support of the cultural resource assessment for the proposed Project, AEA Staff Archaeologist Robert Lichtenstein documented the topography and exposed geology in the proposed Project area. One notable feature was an active ephemeral wash that bisects the proposed Project area. The wash runs roughly north to south through a gully that drains from the residential development above the proposed Project area. Recent sedimentation and erosion cycles have occurred within the wash, with the maximum depth of sedimentation at approximately 5 ft. The sedimentary material within the wash channel was derived from the surrounding granitic bedrock, which is exposed at the surface in the proposed Project area and at a very shallow depth below poorly developed soil. Based on field observations, the coarse sand and pebble sediments within the wash channel are likely of Holocene age and are likely too young to contain fossilized material.

Due to the high heat of formation deep below the surface of the Earth, plutonic igneous rocks do not contain fossils. The nearby Pleistocene age alluvial deposits have proven to yield scientifically significant paleontological resources throughout Southern California from the coastal areas to the inland valleys; however, these deposits are located outside of the proposed Project area (Morton and Miller, 2006; Springer et al., 2009).



Records Search Results

The SBCM reports that there are no previously recorded vertebrate fossil localities in the Project area or nearby (Scott, 2015). Additionally, a review of online museum collections records maintained by the UCMP returned no previously recorded fossil localities in the vicinity of the Project area (UCMP, 2015). However, the UCMP database maintains records for at least five vertebrate locality records identified within unnamed Pleistocene deposits in Riverside County, similar to the Quaternary Very Old Alluvium exposed just south of the proposed Project area. Recovered specimens include mammoth, rodent, and reptile.

Findings and Recommendations

Based on the literature review and museum records search results, the paleontological sensitivity of the proposed Project area was determined in accordance with the SVP's (2010) sensitivity scale. In addition, Riverside County's paleontological sensitivity map was reviewed, which indicated that the proposed Project area has a low paleontological sensitivity (County of Riverside, 2008). As a result, the tonalite of the Val Verde Pluton is determined to have no paleontological resource potential because plutonic igneous rocks do not contain fossils due to the high heat of formation. Therefore, further paleontological resource management is not recommended (see Attachment 1). However, should Project-related ground-disturbing activities extend beyond the current Project boundary and into the sensitive Pleistocene age alluvial deposits nearby, then further paleontological resource consultation may be required.

It has been a pleasure assisting you with this Project. If you have any questions, please do not hesitate to contact Jessica DeBusk at jdebusk@appliedearthworks.com or (626) 578-0119.

Sincerely,

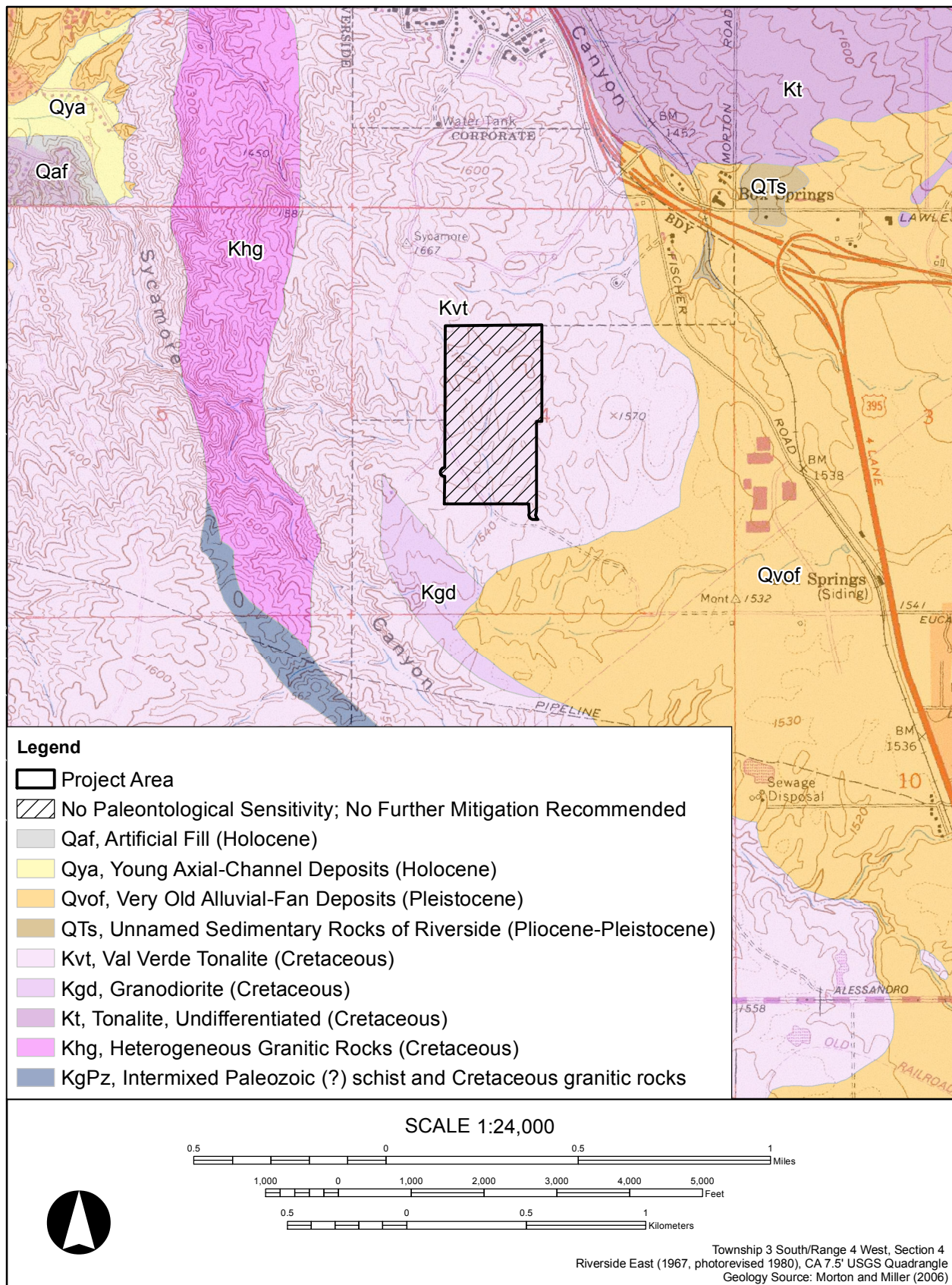
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References

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- University of California Museum of Paleontology (UCMP), 2015, Paleontological database, <http://www.ucmp.berkeley.edu/>, accessed June 2015.



Attachment 1. Geology and Paleontological Sensitivity for the Sycamore Canyon Business Park Project.