

PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT
ASSESSOR'S PARCEL NUMBER 302-030-010

City of Perris
Riverside County, California

For Submittal to:

City of Perris
Development Services Department, Planning Division
101 North D Street
Perris, CA 92570

Prepared for:

Jericho Systems, Inc.
47 North First Street, Suite 1
Redlands, CA 92373-4601

Prepared by:

Ben Kerridge, Paleontologist/Report Writer
Ron Schmidling, Principal Paleontologist
CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

December 21, 2020

CRM TECH Contract No. 3649P
Approximately five acres
USGS Perris, Calif., 7.5' (1:24,000) quadrangle
Section 6, T4S R3W, San Bernardino Baseline and Meridian

EXECUTIVE SUMMARY

Between July and November 2020, at the request of Jericho Systems, Inc., CRM TECH performed a paleontological resource assessment on approximately five acres of vacant land in the City of Perris, Riverside County, California. The subject property of the study, Assessor's Parcel Number 302-030-010, is located on the southeastern corner of Nance Street and Webster Avenue, in the northwest quarter of Section 6, Township 4 South, Range 3 West, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed construction of an approximately 109,250-square-foot combination office/warehouse facility. The City of Perris, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would adversely affect any significant, nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program if necessary.

In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a records search at the appropriate repository, conducted a literature review, and carried out a systematic field survey of the project area. While no paleontological localities have been identified in the immediate vicinity of the project location, the results of these research procedures suggest that the proposed project's potential to impact significant, nonrenewable paleontological resources appears to be high in the undisturbed Pleistocene alluvium below the disturbed surface and near-surface soils. Therefore, CRM TECH recommends that a paleontological resource impact mitigation program be developed and implemented during the project to prevent impacts on such resources or reduce them to a level less than significant.

As the primary component of the mitigation program, all earth-moving operations in the project area reaching beyond the disturbed surface and near-surface soils should be monitored by a qualified paleontological monitor. Samples of sediment should be collected and processed to recover small fossils, and all fossil remains should be identified and curated at a repository with permanent retrievable storage. A report of findings, including an itemized inventory of recovered specimens, should be prepared upon completion of the procedures outlined above. The report and the inventory, when submitted to the City of Perris, would signify completion of the program to mitigate potential impacts on paleontological resources. Under these conditions, CRM TECH further recommends that the project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
INTRODUCTION	1
PALEONTOLOGICAL RESOURCES.....	4
Definition	4
Significance Criteria	4
Paleontological Sensitivity.....	5
SETTING.....	6
METHODS AND PROCEDURES	7
Records Search.....	7
Literature Review.....	7
Field Survey	8
RESULTS AND FINDINGS.....	8
Records Search.....	8
Literature Review.....	8
Field Survey	10
DISCUSSION.....	10
CONCLUSION AND RECOMMENDATIONS	10
REFERENCES	11
APPENDIX 1: PERSONNEL QUALIFICATIONS	13
APPENDIX 2: RECORDS SEARCH RESULTS	16

LIST OF FIGURES

Figure 1. Project vicinity.....	1
Figure 2. Project location	2
Figure 3. Aerial view of the project area.	3
Figure 4. Overview of the current natural setting of the project area	7
Figure 5. Geologic map of the project vicinity	9

INTRODUCTION

Between July and November 2020, at the request of Jericho Systems, Inc., CRM TECH performed a paleontological resource assessment on approximately five acres of vacant land in the City of Perris, Riverside County, California (Figure 1). The subject property of the study, Assessor's Parcel Number 302-030-010, is located on the southeastern corner of Nance Street and Webster Avenue, in the northwest quarter of Section 6, Township 4 South, Range 3 West, San Bernardino Baseline and Meridian (Figures 2, 3).

The study is part of the environmental review process for the proposed construction of an approximately 109,250-square-foot combination office/warehouse facility. The City of Perris, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the City with the necessary information and analysis to determine whether the proposed project would adversely affect any significant, nonrenewable paleontological resources, as required by CEQA, and to design a paleontological mitigation program if necessary.

In order to identify any paleontological resource localities that may exist in or near the project area and to assess the probability for such resources to be encountered during the project, CRM TECH initiated a records search at the appropriate repository, conducted a literature review, and carried out a systematic field survey of the project area. The following report is a complete account of the methods, results, and final conclusion of this study. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

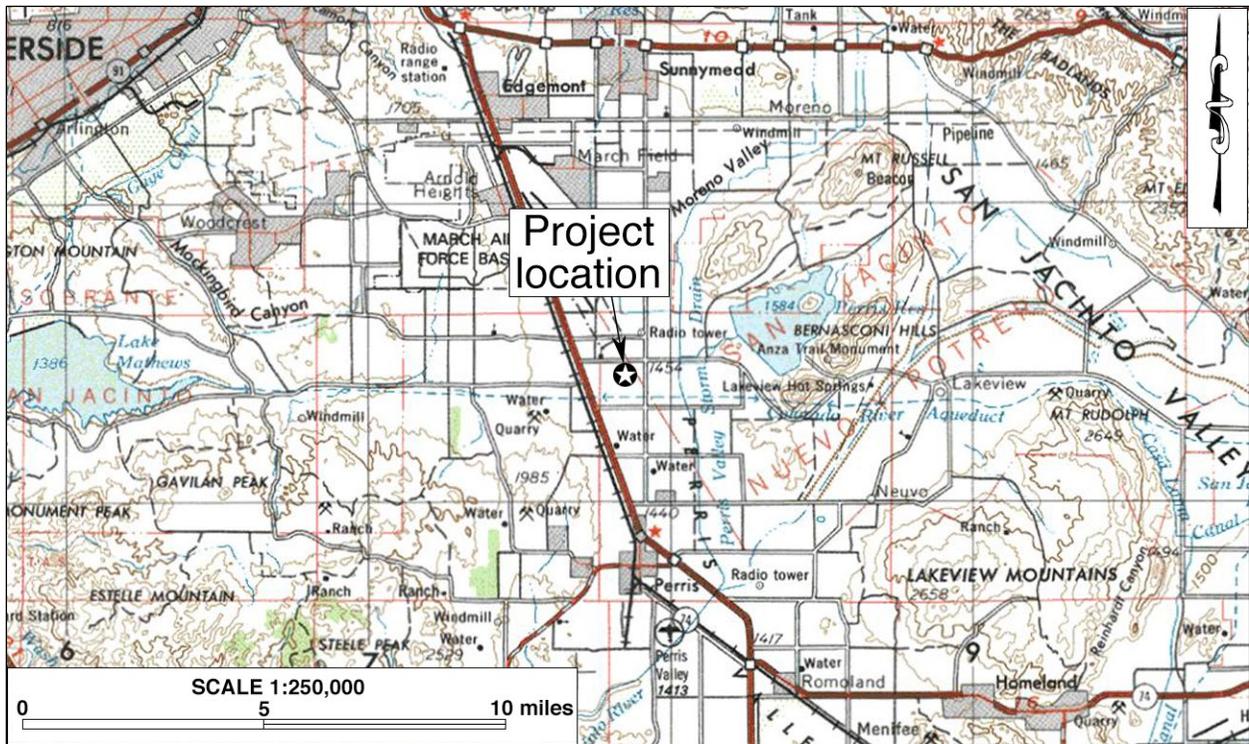


Figure 1. Project vicinity. (Based on USGS Santa Ana, Calif., 120'x60' quadrangle, 1979 edition)

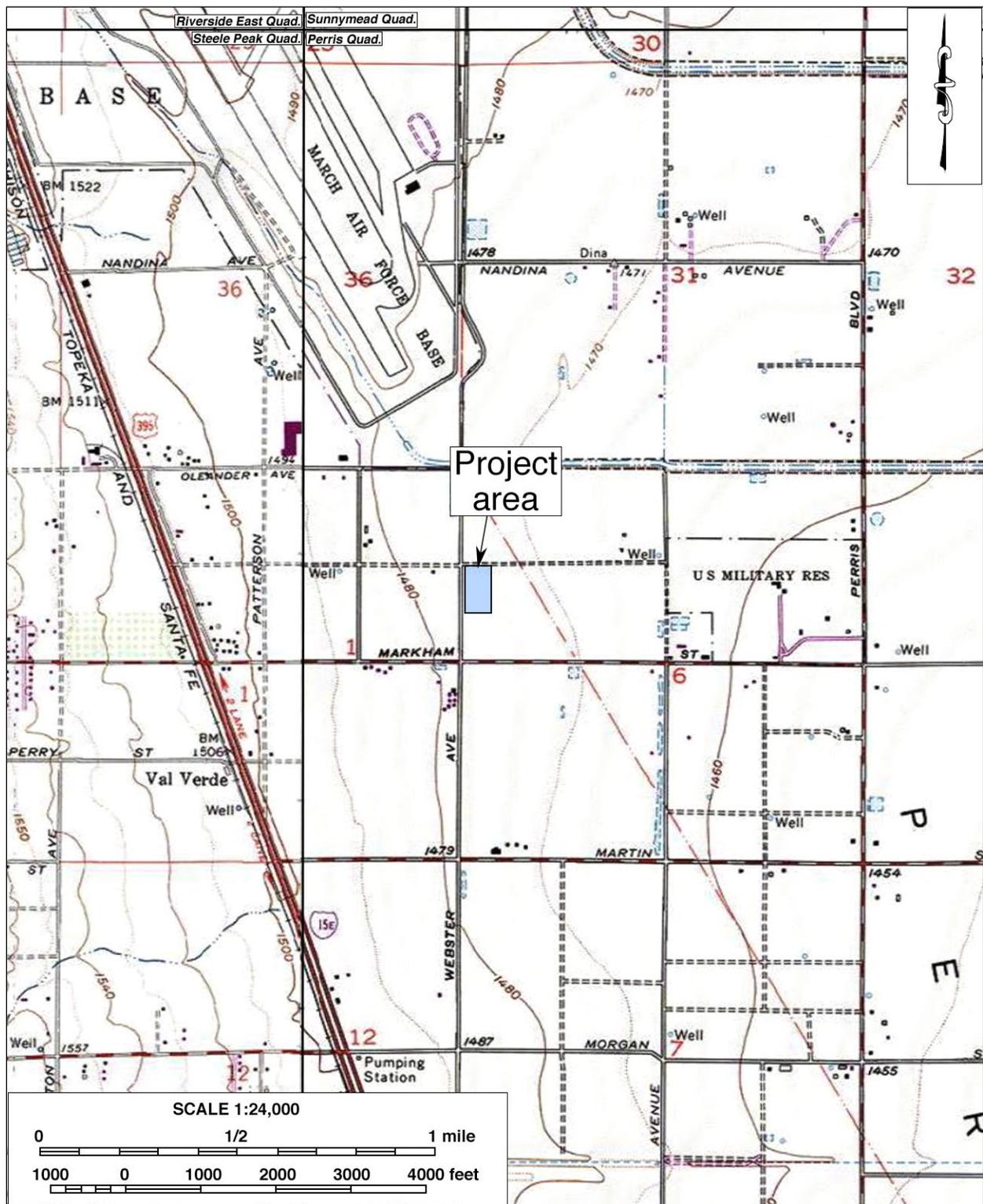


Figure 2. Project location. (Based on USGS Perris, Riverside East, Sunnymead, and Steele Peak, Calif., 7.5' quadrangles, 1978-1980 edition)



Figure 3. Aerial image of the project area.

PALEONTOLOGICAL RESOURCES

DEFINITION

Paleontological resources represent the remains of prehistoric life, exclusive of any human remains, and include the localities where fossils were collected as well as the sedimentary rock formations in which they were found. The defining character of fossils or fossil deposits is their geologic age, which is typically regarded as older than approximately 12,000 years, the generally accepted temporal boundary marking the end of the last late Pleistocene (circa 2.6 million to 12,000 years B.P.) glaciation and the beginning of the current Holocene epoch (circa 12,000 years B.P. to the present).

Common fossil remains include marine shells; the bones and teeth of fish, amphibians, reptiles, and mammals; leaf assemblages; and petrified wood. Fossil traces, another type of paleontological resource, include internal and external molds (impressions) and casts created by these organisms. These items can serve as important guides to the age of the rocks and sediments in which they are contained and may prove useful in determining the temporal relationships between rock deposits from one area and those from another as well as the timing of geologic events. They can also provide information regarding evolutionary relationships, development trends, and environmental conditions.

Fossil resources generally occur only in areas of sedimentary rock (e.g., sandstone, siltstone, mudstone, claystone, or shale). Because of the infrequency of fossil preservation, fossils, particularly vertebrate fossils, are considered nonrenewable paleontological resources. Occasionally fossils may be exposed at the surface through the process of natural erosion or because of human disturbances; however, they generally lay buried beneath the surficial soils. Thus, the absence of fossils on the surface does not preclude the possibility of their being present within subsurface deposits, while the presence of fossils at the surface is often a good indication that more remains may be found in the subsurface.

SIGNIFICANCE CRITERIA

According to guidelines proposed by Eric Scott and Kathleen Springer (2003) of the San Bernardino County Museum, paleontological resources can be considered to be of significant scientific interest if they meet one or more of the following criteria:

1. The fossils provide information on the evolutionary relationships and developmental trends exhibited 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 the interactions between paleobotanical and paleozoological biota;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; and/or
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.

PALEONTOLOGICAL SENSITIVITY

The fossil record is unpredictable, and the preservation of organic remains is rare, requiring a particular sequence of events involving physical and biological factors. Skeletal tissue with a high percentage of mineral matter is the most readily preserved within the fossil record; soft tissues not intimately connected with the skeletal parts, however, are the least likely to be preserved (Raup and Stanley 1978). For this reason, the fossil record contains a biased selection not only of the types of organisms preserved but also of certain parts of the organisms themselves. As a consequence, paleontologists are unable to know with certainty, the quantity of fossils or the quality of their preservation that might be present within any given geologic unit.

Sedimentary units that are paleontologically sensitive are those geologic units (mappable rock formations) with a high potential to contain significant nonrenewable paleontological resources. More specifically, these are geologic units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or are likely to be present. These units include, but are not limited to, sedimentary formations that contain significant paleontological resources anywhere within their geographical extent as well as sedimentary rock units temporally or lithologically amenable to the preservation of fossils.

A geologic formation is defined as a stratigraphic unit identified by its lithic characteristics (e.g., grain size, texture, color, and mineral content) and stratigraphic position. There is a direct relationship between fossils and the geologic formations within which they are enclosed and, with sufficient knowledge of the geology and stratigraphy of a particular area, it is possible for paleontologists to reasonably determine the formation's potential to contain significant nonrenewable vertebrate, invertebrate, marine, or plant fossil remains.

The paleontological sensitivity for a geologic formation is determined by the potential for that formation to produce significant nonrenewable fossils. This determination is based on what fossil resources the particular geologic formation has produced in the past at other nearby locations. Determinations of paleontologic sensitivity must consider not only the potential for yielding vertebrate fossils but also the potential of yielding a few significant fossils that may provide new and significant taxonomic, phylogenetic, and/or stratigraphic data.

The Society of Vertebrate Paleontology issued a set of standard guidelines intended to assist paleontologists to assess and mitigate any adverse effects/impacts to nonrenewable paleontological resources. The guidelines defined four categories of paleontological sensitivity for geologic units that might be impacted by a proposed project, as listed below (Society of Vertebrate Paleontology 2010:1-2):

- **High Potential:** Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- **Undetermined Potential:** Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment.
- **Low Potential:** Rock units that are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances.

- **No Potential:** Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

SETTING

The City of Perris is situated in the northern portion of the Peninsular Ranges Province, which is bounded on the north by the Transverse Ranges Province, on the northeast by the Colorado Desert Province, and on the west by the Pacific Ocean (Jenkins 1980:40-41; Harms 1996:131). Extending southward to the southern tip of Baja California, the Peninsular Ranges Province is made up of a series of northwest-southeast trending structural blocks consisting of uplifted mountains that are separated by valley basins that have developed along the intervening fault zones (Jahns 1954:Plate 3; Harden 2004:465).

The mountains are made up mainly of igneous intrusive rocks, metasedimentary rocks, and some metavolcanic rocks (Harden 2004:466-468). The non-crystalline rocks in the western portion of the mountains consist of both metavolcanic and metasedimentary rocks that are mainly of Mesozoic age, while the eastern portion contains mainly metasedimentary rocks of Paleozoic and older age (*ibid.* 471-472). The crystalline basement rocks are present in both the western and the eastern portions and consist mainly of Mesozoic-age granitic rocks with some scattered gabbroic intrusions (*ibid.* 466-468).

The project area is located in the western portion of the Perris Valley, one of the many tectonically controlled valleys within the valley-and-ridge systems in the Perris Block, and roughly two miles from an outcropping of basement rocks that form part of Mount Russell near the Perris Reservoir to the east. Lying between the San Jacinto and Elsinore-Chino fault zones (English 1926), the Perris Block is considered to have been active since Pliocene time (Woodford et al. 1971:3421). Colluvial/alluvial sediments of varying thickness derived from the erosion of the elevated portions of the region cover the low-lying areas of the block, which are filled with nonmarine sediments of upper Pliocene through Recent ages (Mann 1955:Plate 1; Kennedy 1977:5), and the ridges are composed of plutonic igneous rocks, metasedimentary rocks, and late-stage intrusive dikes.

More specifically, the project location is in the northern portion of the City of Perris, roughly a quarter-mile south of March Air Reserve Base, in a formerly agrarian area that has been undergoing rapid transformation into an industrial park over the past decade (Google Earth 2008-2018). An existing warehouse occupies the adjacent property to the east, while most of the other surrounding properties consist of vacant land that formerly served as agricultural fields (NETR Online 1966-2016; Google Earth 2002-2018).

Historically also agricultural in use, the project area now lies vacant and overgrown with vegetation. A concrete pad is found near the center of the property, at a location where a small group of agricultural buildings once stood in recent years (Google Earth 2014-2018). The terrain in the project area is relatively level, with a slight incline to the north, and the elevations range roughly from 1,470 feet to 1,480 feet above mean sea level. The surface soil is composed of medium-brown sandy silt, and the existing vegetation includes mainly foxtail, wild mustard, tumbleweed, and grasses and shrubs of various sizes (Figure 4).



Figure 4. Overview of the current natural setting of the project area. (Photograph taken on December 10, 2020; view to the south)

METHODS AND PROCEDURES

RECORDS SEARCH

The records search service for this study was provided by the Western Science Center (WSC) in Hemet, California, which is one of the local institutions that maintain files on regional paleontological localities as well as supporting maps and documents. The records search results were used to identify previously completed paleontological resource assessments as well as known paleontological localities within a one-mile radius of the project area.

LITERATURE REVIEW

In conjunction with the records searches, CRM TECH paleontologist Ben Kerridge pursued a literature review on the project area and vicinity. Sources consulted during the review include primarily topographic, geologic, and soil maps of the Perris area, published geologic literature pertaining to the project location, preliminary paleontological sensitivity assessment by the general plans of the County of Riverside and the City of Perris, aerial and satellite images available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software, and other materials in the CRM TECH library, including unpublished reports produced during similar surveys in the vicinity.

FIELD SURVEY

On December 10, 2020, CRM TECH paleontological surveyor Daniel Ballester carried out the field survey of the project area. The survey was completed on foot at an intensive level by walking a series of parallel north-south transects at 10-meter (approximately 30-foot) intervals. In this way, the ground surface in the entire project area was systematically examined to determine soil types, verify the geological formations, and search for indications of paleontological remains. Ground visibility was generally poor (approximately 25 percent on average) due to the dense vegetative cover (Figure 4).

RESULTS AND FINDINGS

RECORDS SEARCH

The records search by the WSC identified no known paleontological localities within the project area or a one-mile radius (Radford 2020; see Appendix 2). However, the WSC reported “numerous localities within similarly mapped alluvial sediments throughout the region and as close as 7 miles from the project area” (*ibid.*). These localities were discovered in Pleistocene alluvium, which are known to contain Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), Sabertooth cat (*Smilodon fatalis*), Ancient horse (*Equus* sp.), and many other Pleistocene megafauna (*ibid.*).

According to the WSC, the soils in the project area also consist of very old alluvial fan deposits from the Pleistocene Epoch (Radford 2020). Therefore, the WSC considers any fossil specimen that may be discovered in the project vicinity to be scientifically significant and recommends that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any fossils unearthed during the project (*ibid.*).

LITERATURE REVIEW

The surface geology within the project area was mapped by Rogers (1965) as *Qal*, or alluvium of Holocene age. This is the same material mapped as the surface material in the Domenigoni Valley, the site of important vertebrate paleontological finds in recent decades (Springer and Scott 1994:47A; Springer et al. 1998:79A; Springer et al. 1999:77A). Most of these fossil remains were recovered from depths greater than 10 feet below the surface, unearthed because of the deep excavation required for a major reservoir construction, which is much deeper than normally required for typical real estate development projects except in such case as deep cuts for utility installation.

More recently, Morton (2003) mapped the surface geology in the project area as entirely *Qvofa* (Figure 5), namely alluvial fan deposits of early to middle Pleistocene age, which is well-known for their paleontological sensitivity. Correspondingly, the County of Riverside’s paleontological sensitivity map classifies the project location as high sensitivity (“High B”; RCIT n.d.).

High B is a sensitivity equivalent to High A, but is based on the occurrence of fossils at a specified depth below the surface. This category indicates fossils that are likely to be encountered at or below 4 feet of depth and may be impacted during construction activities. (County of Riverside 2015:4.9-11).

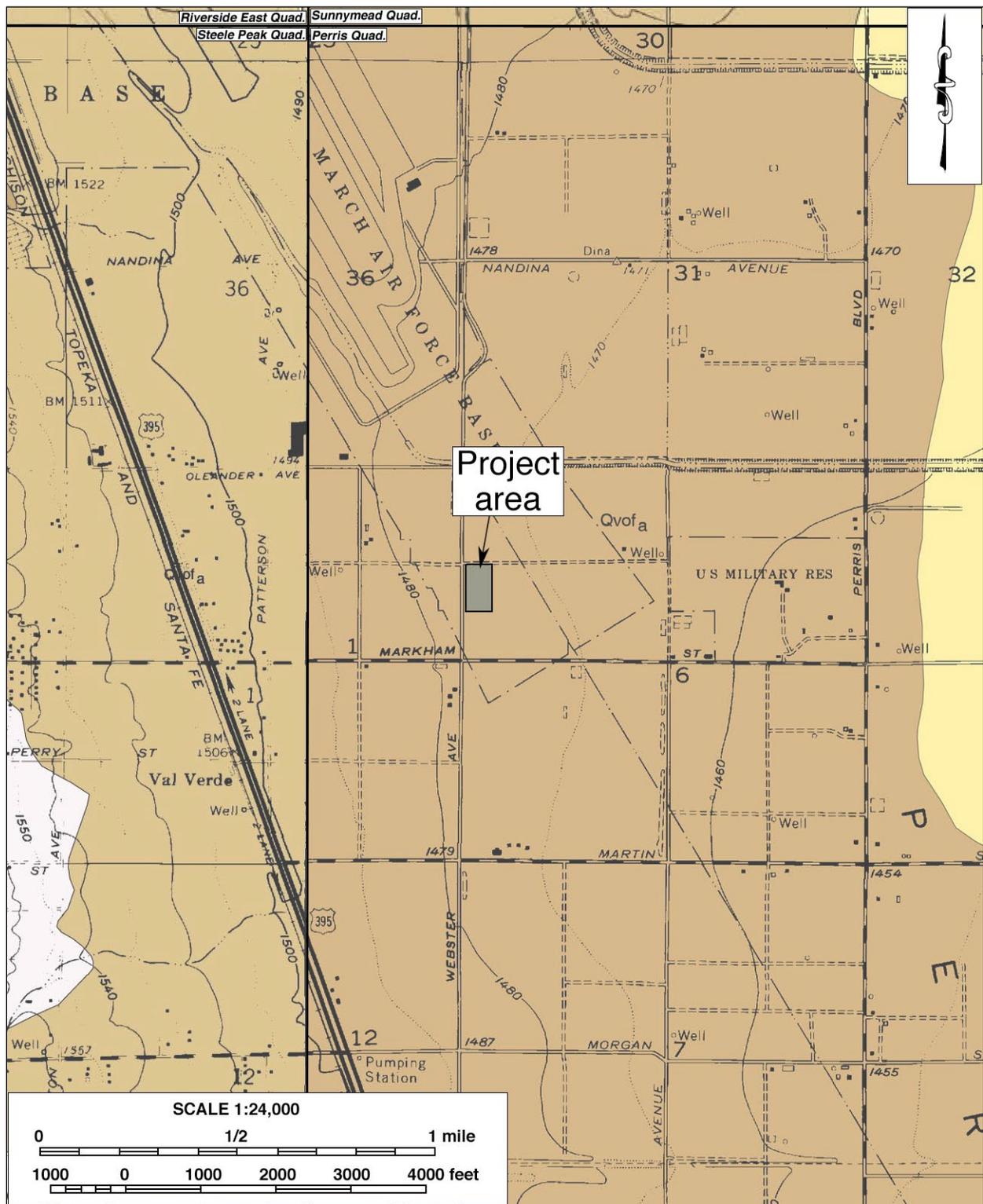


Figure 5. Geologic map of the project vicinity. (Based on Morton 2001; 2003; Morton and Cox 2001; Morton and Matti 2001)

Similarly, the City of Perris General Plan identifies the project area as a part of Area No. 1, which is defined as Pleistocene-aged older valley sediments and is considered to be of high sensitivity for paleontological resources (City of Perris 2008:Exhibit CN-7).

FIELD SURVEY

Throughout the course of the field survey, no notable surface manifestation of any paleontological remains was observed within the project area. While surface visibility was hampered by the presence of a significant amount of vegetative ground cover, in light of past agricultural operations on the property and the resulting ground disturbance, no intact fossil remains had been anticipated on the surface or in shallow deposits prior to the survey, in any event.

DISCUSSION

The results of the records search and the literature review indicate a consensus among recent studies that the project area is situated upon exposures of Pleistocene-age alluvium, which has a high potential to contain significant, nonrenewable fossil remains, especially in undisturbed subsurface sediments. These soils are known to have yielded significant fossils elsewhere in Riverside County. While no paleontological localities have been discovered in the immediate vicinity of the project location, the WSC identified numerous vertebrate fossil remains throughout the region from similarly mapped soil units. Therefore, any earth-moving activities within the project area reaching beyond the previously disturbed surface sediments may potentially disrupt or adversely affect paleontological resources.

CONCLUSION AND RECOMMENDATIONS

CEQA guidelines (Title 14 CCR App. G, Sec. V(c)) require that public agencies in the State of California determine whether a proposed project would “directly or indirectly destroy a unique paleontological resource” during the environmental review process. The present study, conducted in compliance with this provision, is designed to identify any significant, non-renewable paleontological resources that may exist within or adjacent to the project area, and to assess the possibility for such resources to be encountered in future excavation and construction activities.

Based on the research results presented above, the proposed project’s potential to impact significant, nonrenewable paleontological resources appears to be high in the undisturbed Pleistocene alluvium below the disturbed surface and near-surface soils. Therefore, CRM TECH recommends that a paleontological resource impact mitigation program be developed and implemented during the project to prevent impacts on such resources or reduce them to a level less than significant. The mitigation program should be developed in accordance with the provisions of CEQA (Scott and Springer 2003) as well as the proposed guidelines of the Society of Vertebrate Paleontology (2010), and should include but not be limited to the following components:

- All earth-moving operations in the project area reaching beyond the disturbed surface and near-surface soils should be monitored by a qualified paleontological monitor. The monitor should be

prepared to quickly salvage fossils as they are unearthed to avoid construction delays and should collect samples of sediments that are likely to contain fossil remains of small vertebrates or invertebrates. However, the monitor must have the power to temporarily halt or divert grading equipment to allow for the removal of abundant or large specimens.

- Samples of sediment should be collected and processed to recover small fossils, and all fossil remains should be identified and curated at a repository with permanent retrievable storage.
- A report of findings, including an itemized inventory of recovered specimens, should be prepared upon completion of the procedures outlined above. The report should include a discussion of the significance of the paleontological findings, if any. The report and the inventory, when submitted to the City of Perris, would signify completion of the program to mitigate potential impacts on paleontological resources.

Under these conditions, CRM TECH further recommends that the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

REFERENCES

City of Perris

2008 City of Perris General Plan, Conservation Element. <https://www.cityofperris.org/home/showpublisheddocument?id=449>.

County of Riverside

2015 County of Riverside General Plan. <https://planning.rctlma.org/ZoningInformation/GeneralPlan.aspx>.

English, W.A.

1926 *Geology and Oil Resources of the Puente Hills Region, Southern California*. U.S. Geological Survey Bulletin 146. Washington, D.C.

Google Earth

2002-2018 Aerial photographs of the project vicinity; taken in 2002-2006, 2008, 2009, 2011-2014, 2016, and 2018. Available through the Google Earth software.

Harden, Deborah R.

2004 *California Geology*. Prentice Hall, Upper Saddle River, New Jersey.

Harms, Nancy S.

1996 *A Precollegiate Teachers Guide to California Geomorphic/Physiographic Provinces*. National Association of Geoscience Teachers, Far West Section, Concord, California.

Jahns, R.H.

1954 Geology of the Peninsular Range Province, Southern California and Baja California. In R.H. Jahns (ed.): *Geology of Southern California*; Chapter II. California Division of Mines Bulletin 170, Part 3. San Francisco.

Jenkins, Olaf P.

1980 Geomorphic Provinces Map of California. *California Geology* 32(2):40-41.

Kennedy, Michael P.

1977 *Recency and Character of Faulting along the Elsinore Fault Zone in Southern Riverside County, California*. California Division of Mines and Geology Special Report 131. Sacramento.

Mann, John F., Jr.

1955 *Geology of a Portion of the Elsinore Fault Zone, California*. California Division of Mines Special Report 43. San Francisco.

- Morton, Douglas M.
 2001 Geologic Map of the Steele Peak 7.5' Quadrangle, Riverside County, California. U.S. Geological Survey Open-file Report 01-449. Washington, D.C.
 2003 Preliminary Geologic Map and Digital Database of the Perris 7.5' Quadrangle, Riverside County, California. U.S. Geological Survey Open-file Report 03-270. Washington, D.C.
- Morton, Douglas M. and Brett Cox
 2001 Geologic Map of the Riverside East 7.5' Quadrangle, Riverside County, California. U.S. Geological Survey Open-file Report 01-452. Washington, D.C.
- Morton, Douglas M. and Jonathan C. Matti
 2001 Geologic Map of the Sunnymead 7.5' Quadrangle, Riverside County, California. U.S. Geological Survey Open-file Report 01-450. Washington, D.C.
- NETR (Nationwide Environmental Title Research) Online
 1966-2016 Aerial photographs of the project vicinity; taken in 1966, 1967, 1978, 1997, 2002, 2005, 2009, 2010, 2012, 2014, and 2016. <http://www.historicaerials.com>.
- Radford, Darla
 2020 Paleontological Records Review for the Proposed Nance and Webster Industrial Warehouse Project. (See Appendix 2)
- Raup, David M., and Steven M. Stanley
 1978 *Principle of Paleontology*. W.H. Freeman and Company, San Francisco.
- RCIT (Riverside County Information Technology)
 n.d. Map My County. https://gis.countyofriverside.us/Html5Viewer/?viewer=MMC_Public.
- Rogers, Thomas H.
 1965 Geological Map of California, Santa Ana Sheet (1:250,000). California Division of Mines and Geology, Sacramento.
- Scott, Eric, and Kathleen Springer
 2003 CEQA and Fossil Preservation in California. *Environmental Monitor* Fall:4-10. Association of Environmental Professionals, Sacramento, California.
- Society of Vertebrate Paleontology
 2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. http://vertpaleo.org/Membership/Member-Resources/SVP_Impact_Mitigation_Guidelines.aspx.
- Springer, Kathleen B., and Eric Scott
 1994 First Record of Late Pleistocene Vertebrates from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 14(3):47A.
- Springer, Kathleen B., Eric Scott, Lyndon K. Murray, and W.G. Spaulding
 1998 Partial Skeleton of a Large Individual of *Mammot americanum* from the Domenigoni Valley, California. *Journal of Vertebrate Paleontology* 18(3):78-A.
- Springer, Kathleen B., Eric Scott, J. Christopher Sagebiel, and Kimberly Scott
 1999 A Late Pleistocene Lake-Edge Vertebrate Assemblage from the Diamond Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 19(3):77-A.
- Woodford, Alfred O., John S. Shelton, Donald O. Doehring, and Richard K. Morton
 1971 Pliocene-Pleistocene History of the Perris Block, Southern California. *Geological Society of America Bulletin* 82(12):3421-3448.

APPENDIX 1

PERSONNEL QUALIFICATIONS

PROJECT PALEONTOLOGIST/REPORT WRITER
Ben Kerridge, M.A.

Education

2019-2020 Physical Geology, California Geology, and Historical Geology Coursework, Fullerton College, Fullerton, California.
2014 Geoarchaeological Field School, Institute for Field Research, Kephallenia, Greece.
2010 M.A., Anthropology, California State University, Fullerton.
2009 Project Management Training, Project Management Institute/CH2M HILL, Santa Ana, California.
2004 B.A., Anthropology, California State University, Fullerton.

Professional Experience

2015- Project Archaeologist/Paleontologist/Report Writer, CRM TECH, Colton, California.
2015 Teaching Assistant, Institute for Field Research, Kephallenia, Greece.
2009-2014 Publications Delivery Manager, CH2M HILL, Santa Ana, California.
2006-2009 Technical Publishing Specialist, CH2M HILL, Santa Ana, California.
2002-2006 English Composition/College Preparation Tutor, various locations, California.

PALEONTOLOGICAL SURVEYOR/FIELD DIRECTOR
Daniel Ballester, M.S., RPA

Education

2013 M.S., Geographic Information System (GIS), University of Redlands, California.
1998 B.A., Anthropology, California State University, San Bernardino.
1997 Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994 University of Puerto Rico, Rio Piedras, Puerto Rico.

- Cross-trained in paleontological field procedures and identifications by CRM TECH Geologist/Paleontologist Harry M. Quinn.

Professional Experience

2002- Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
1999-2002 Project Archaeologist and Paleontological Surveyor/Monitor, CRM TECH, Riverside, California.
1998-1999 Field Crew, K.E.A. Environmental, San Diego, California.
1998 Field Crew, A.S.M. Affiliates, Encinitas, California.
1998 Field Crew, Archaeological Research Unit, University of California, Riverside.

RON SCHMIDTLING, M.S.
Principal Paleontologist

Education

- 1995 M.S., Geology, University of California, Los Angeles.
1991 Pasadena City College, Pasadena, California.
1985 B.A., Archaeology, Paleontology, Ancient Folklore, and Art History, University of Southern Mississippi, Hattiesburg.

Professional Experience:

- 2020- Principal Paleontologist, CRM TECH, Colton, California.
2014- Instructor of Earth Science, History of Life, Ecology, and Evolutionary Biology, Columbia College Hollywood, Reseda, California.
2013, 2015 Volunteer, excavation of a camarasaur and a diplodocid in southern Utah, Natural History Museum of Los Angeles County, California.
1993-2014 Consultant, Getty Conservation Institute, Brentwood, California.
 - Geological Consultant on the Renaissance Bronze Project, characterizing constituents of bronze core material;
 - Paleontological Consultant for Antiquities/Conservation, identifying the foraminifera and mineral constituents of a limestone torso of Aphrodite;
 - Scientific Consultant on the Brentwood Site Building Project, testing building materials for their suitability in the museum galleries.
1999-2001 Archaeological and Paleontological Monitor, Michael Brandman Associates, Irvine, California.
1997 Department of Archaeology, University of California, Los Angeles.
1994 Scientific Illustrator and Teaching Assistant, Department of Earth and Space Sciences and Department of Biological Sciences, University of California, Los Angeles.

Memberships

AAPS (Association of Applied Paleontological Sciences), USA; CSEOL (Center for the Study of Evolution and the Origin of Life), Department of Earth Sciences, University of California, Los Angeles.

Publications and Reports

Author, co-author, and contributor on numerous paleontological publications and paleontological resource management reports.

APPENDIX 2

RECORDS SEARCH RESULTS



CRM TECH
Nina Gallardo
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

August 10, 2020

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the Proposed Nance and Webster Industrial Warehouse Project (CRM TECH No. 3649P) in the city of Perris, Riverside County, California. The project site is located at the southeast intersection of Nance Street and Webster Avenue in Section 6 of Township 4 South and Range 3 West on the Perris CA USGS 7.5 minute topographic quadrangle.

The geologic unit underlying the project area is mapped entirely as very old alluvial fan deposits dating to the Pleistocene epoch (Morton, 2003). Pleistocene alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region and as close as 7 miles from the project area. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), Sabertooth cat (*Smilodon fatalis*), Ancient horse (*Equus sp.*) and many other Pleistocene megafauna.

Any fossils recovered from the Proposed Nance and Webster Industrial Warehouse Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Pleistocene alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, or would like further information, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

A handwritten signature in black ink, appearing to read 'Darla Radford', is written over a white background.

Darla Radford
Collections Manager

Proposed Nance and Webster Warehouse Project

Project area, one mile radius, geologic mapping, and any WSC fossil localities.

Legend

-  Project area and one mile radius
-  Very old alluvial fan deposits (Pleistocene)

