PRE-CONSTRUCTION PALEONTOLOGICAL ASSESSMENT OF THE 7±ACRE LYLES DIVERSIFIED, INC. COMMERCIAL PROJECT SITE LOCATED SOUTH OF THE INTERSECTION OF MADISON AVENUE AND GOLDEN GATE CIRCLE, CITY OF MURRIETA, RIVERSIDE COUNTY

Prepared by

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Prepared for

Mr. Todd R. Sheller
Lyles Diversified, Inc.
1210 West Olive Avenue
Fresno, CA 93728

APN 910-230-003, Development Plan 2020-2140

USGS topographic quadrangle: 7.5' *Murrieta*, California.
Unsectioned portion of Township 7 South, Range 3 West, SBBM

January, 2018

Revised
June, 2020

The undersigned certifies that the attached report is a true and accurate description of the results of a PALEONTOLOGICAL assessment described herein.

John A. Minch PhD.
California Professional Geologist #3269

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EXECUTIVE SUMMARY

This Pre-construction Paleontological Survey Report documents the findings of a paleontological site investigation conducted by Archeological Associates for the 7±acre Lyles Diversified, Inc. commercial project site identified as APN 910-230-003, Development Plan 2020-2140. The property is located at the northwestern end of the Temecula Valley immediately south of the intersection of Madison Avenue (26501 Madison Ave.) and Golden Gate Circle in the City of Murrieta, Riverside County. Presently, it is desired to develop commercial enterprises within the study area.

The survey investigation included a records search, literature review, a field reconnaissance, and report. The survey was completed using currently accepted paleontologic methods that satisfy mitigation requirements for paleontological resources. The on-site field reconnaissance conducted on December 10, 2017 was performed in order to: 1) evaluate existing paleontological resources, 2) determine the impact to identified and/or anticipated paleontological resources resulting from the proposed undertaking, and 3) to determine appropriate mitigation measures necessary to minimize anticipated adverse impacts to paleontological resources resulting from construction (if any).

The parcel is underlain by the Pauba Formation and Older Quaternary Alluvium that are considered to have a moderate to high potential for the discovery of significant fossils. No recorded fossil localities are known from the project site and the field study failed to identify any exposed fossils. However, present site conditions indicate paleontological monitoring is warranted. The monitoring can be part-time during the 5-foot over-excavation of the building pads in the Older Quaternary Alluvium, increasing to full-time during excavation in the Pauba Formation and of the deeper utilities (e.g. deeper removals, storm drains and sewers).

I. INTRODUCTION

The following report was written for Lyles Diversifed, Inc.by Archaeological Associates. It details the results of a Pre-Construction Paleontological Assessment of the a 7±acre commercial project site identified as APN 910-230-003, Development Plan 2020-2140. The study area is located immediately south of the intersection of Madison Avenue and Golden Gate Circle in the City of Murrieta, Riverside County. Presently it is desired to construct a two story office building, warehouse, and a bioretention basin on the property.

The survey was performed in order to: (1) evaluate existing paleontological resources at the site and surrounding area, (2) determine if the proposed development poses any significant adverse impact to existing paleontological resources, and (3) to outline appropriate mitigation measures in order to minimize adverse impacts to the paleontological resources (if any).

II. DESCRIPTION OF THE SITE

Regionally, the study area is situated at the northwestern end of the Temecula Valley a short distance southeast of the historic core of Murrieta, southwestern Riverside County (fig. 1). More specifically, it is located adjacent to Warm Springs Creek immediately south of the intersection of Madison Avenue and Golden Gate Drive. Legally, the subject property lies within an unsectioned portion of Township 7 South, Range 3 West, SBBM as shown on a portion of the *Murrieta.* USGS 7.5' Topographic Quadrangle (fig. 2)

Geographically, the site is situated on the southern edge of the Perris Plain on the boundary between the sloping alluvial fan surface and the linear trough of the Elsinore Fault Zone. Topographically, the property consists of a dissected portion of the slope between the Perris Plain and the linear trough of the Elsinore Fault Zone. Elevations range from 1040 to 1079 feet above mean sea level throughout the project site (fig. 4). The parcel is largely devoid of vegetation as it has been recently disced. The exception is the section of Warm Springs Creek that adjoins the property on the south. It is very overgrown in this area. The parcel is currently devoid of any standing structures although a temporary water well has been installed for construction purposes.

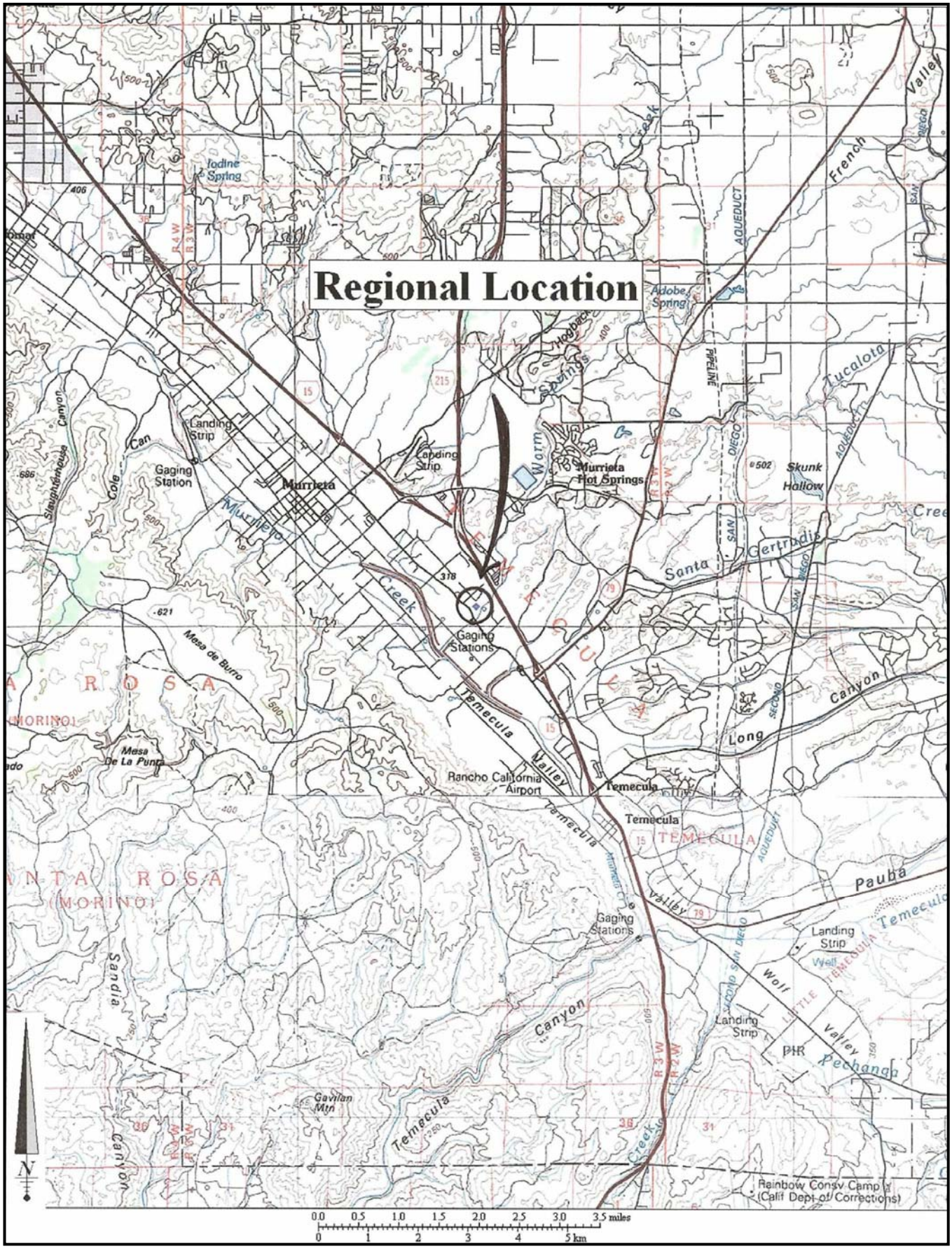


Figure 1. Regional location map (USGS *Santa Ana* 1:100,000 scale Topographic Map Sheet, 1983).

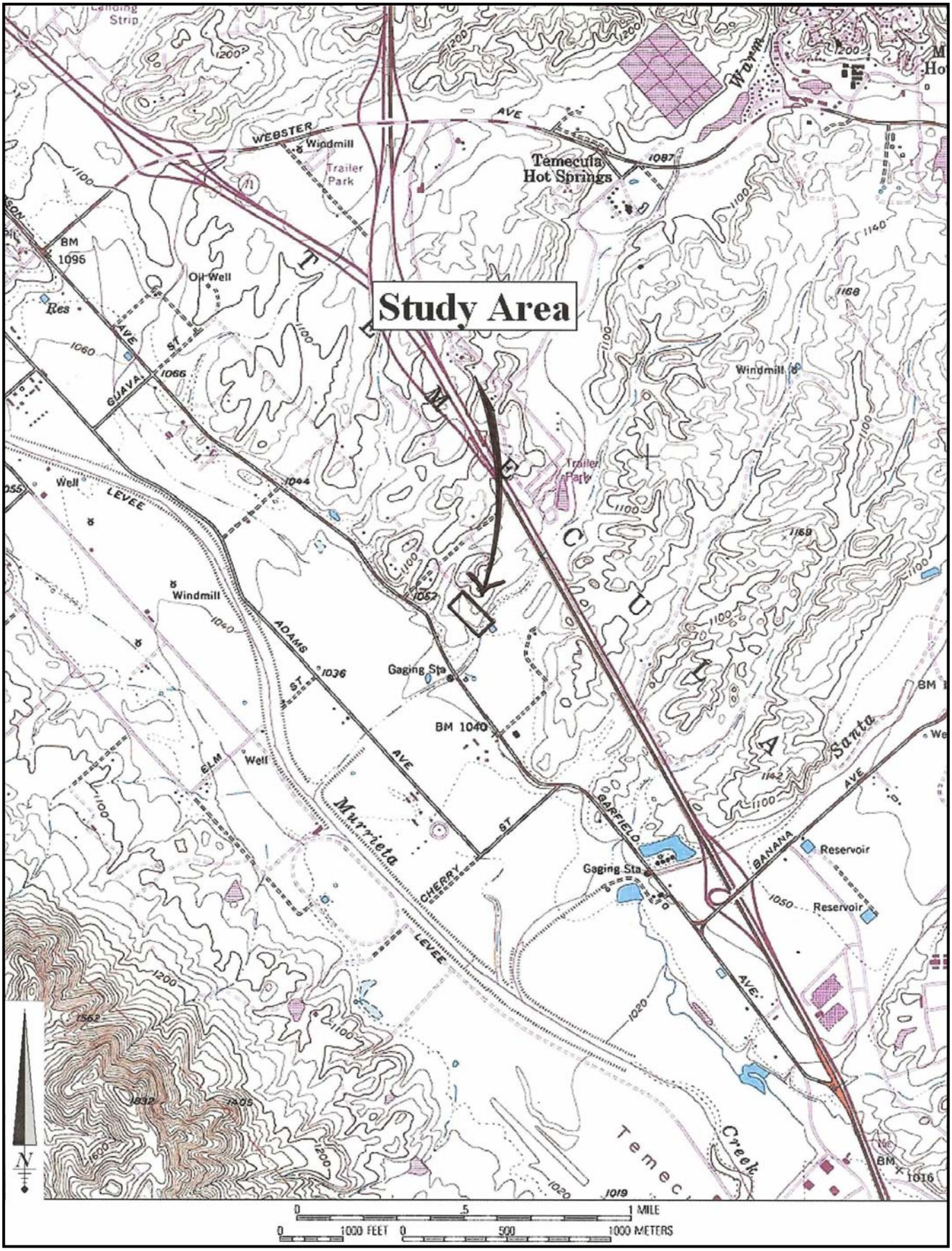


Figure 2. Study area plotted on a portion of the *Murrieta.* USGS 7.5' Topographic Quadrangle (1976/79).

III. RECORDS SEARCH AND LITERATURE REVIEW

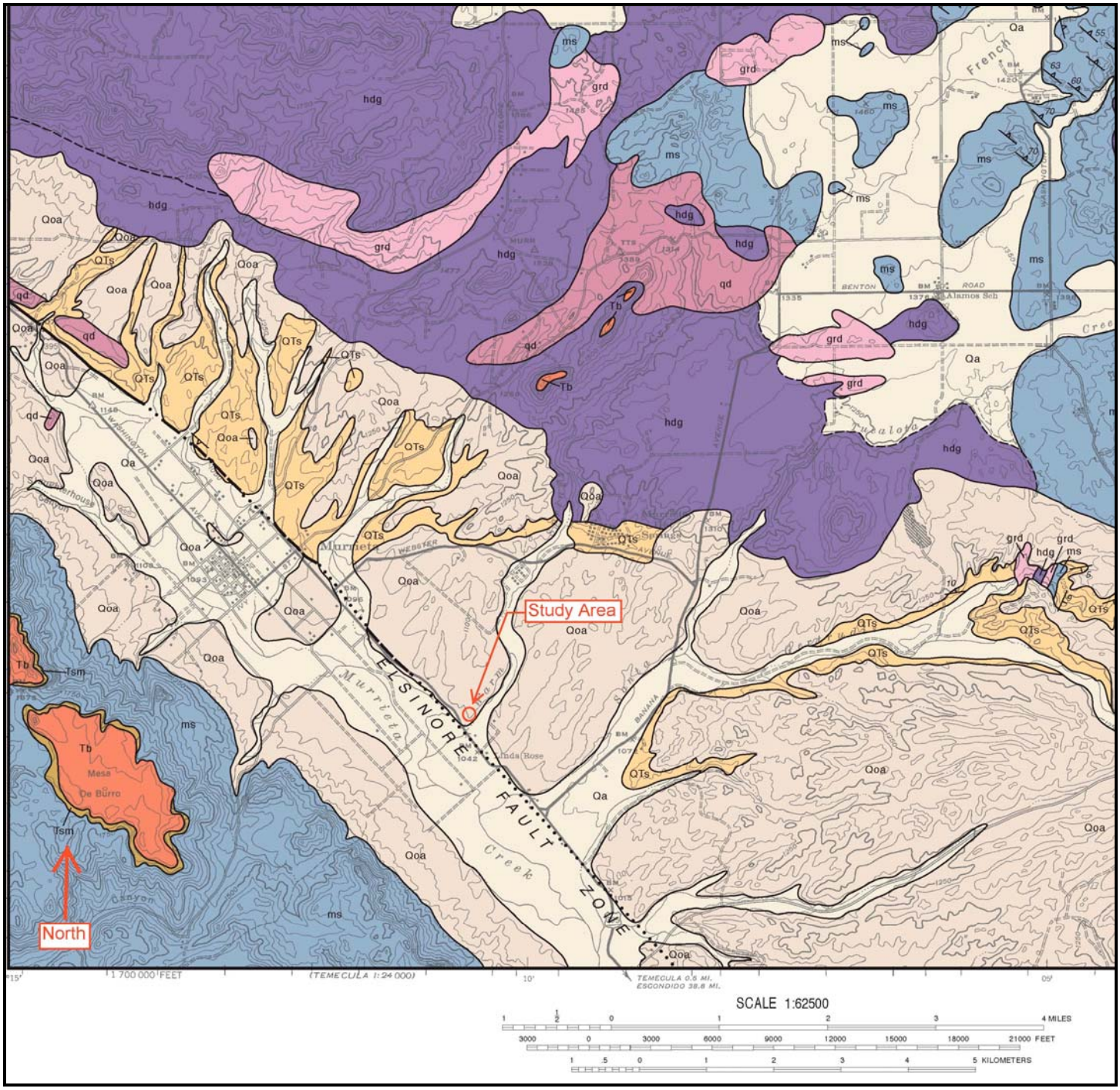
All available literature considered pertinent to the site, including previously recorded lists of fossils and paleontological fossil localities recorded for the general site vicinity, was reviewed. The purpose of the literature search was to determine: (1) pertinent geologic and paleontologic site information, and (2) the paleontologic sensitivity of identified and/or anticipated geologic units underlying the site.

A records search from the Natural History Museum of Los Angeles County (LACM) shows no fossil localities mapped within the boundaries of the study area (McLeod 2017). To the east-southeast of the proposed project area, up Pauba Valley, LACM has the vertebrate fossil localities LACM 6967 and 7456 from similar Quaternary alluvial sediments near Temecula Creek that produced small fossil specimens of tree frog, Hyla, lizard, Anniella, garter snake, Thamnophis, pocket gopher, Thomomys, and pocket mouse, Peromyscus.

LACM's closest fossil vertebrate locality in the Pauba Formation is LACM 7941, immediately southeast of the proposed project area west of the Temecula Valley Freeway (I-15) and south of Date Street, that produced fossil specimens of undetermined elephant, Proboscidea, and fossil horse, Equus. Their next closest Pauba Formation locality is LACM 5447, southeast of locality LACM 7941 east of the Temecula Valley Freeway (I-15) and north of Winchester Road [Banana Avenue], that produced further specimens of fossil horse, Equus. Their next closest vertebrate fossil localities from the Pauba Formation are LACM 5891 and 5892, situated southeast of the proposed project area just east of locality LACM 5447 along Margarita Road south of Winchester Road and Santa Gertrudis Creek, that also produced specimens of fossil horse, Equus.

A records search from the Western Science Center has numerous fossil localities within a 1-mile radius (Radford 2017). Most of the known fossil localities within the project area come from the Harveston II Project completed in 2004. From this collection there are 23 sites located within a 1 mile radius from the Madison Avenue Commercial Project site. This project resulted in the collection of over 100 specimens dating to the Rancholabrean North American Mammal Age, including *Bison sp*., *Equus sp*., and *Mammuthus columbi*..

A review of other unpublished documents relating to regional and/or detailed geologic studies was also conducted. These were supplemented with an examination of the regional geologic map delineating the geology of the rock formations underlying the project site (Fig. 3: Diblee, 2008).



Legend: Oa- Surficial Sediments/ **Qoa-** Older Surficial Sediments (Pauba Formation)/ **OTs**-Terrestrial Deposits/ **Tb**-Santa Rosa Basalt (basalt)/ **Tsm**-Martinez ? Formation (sandstone)/ **gr, q, ql, qd, qdx, qdin qdh, hdg**-Plutonic Rocks (diorite)/ **mig**-Migmatite/ **ms, mq, msq, mb-**Metasedimentary Rocks

Figure 3. Geologic map of study area (Dibblee, 2008). *Murrieta* 15' USGS Topographic Quadrangle).

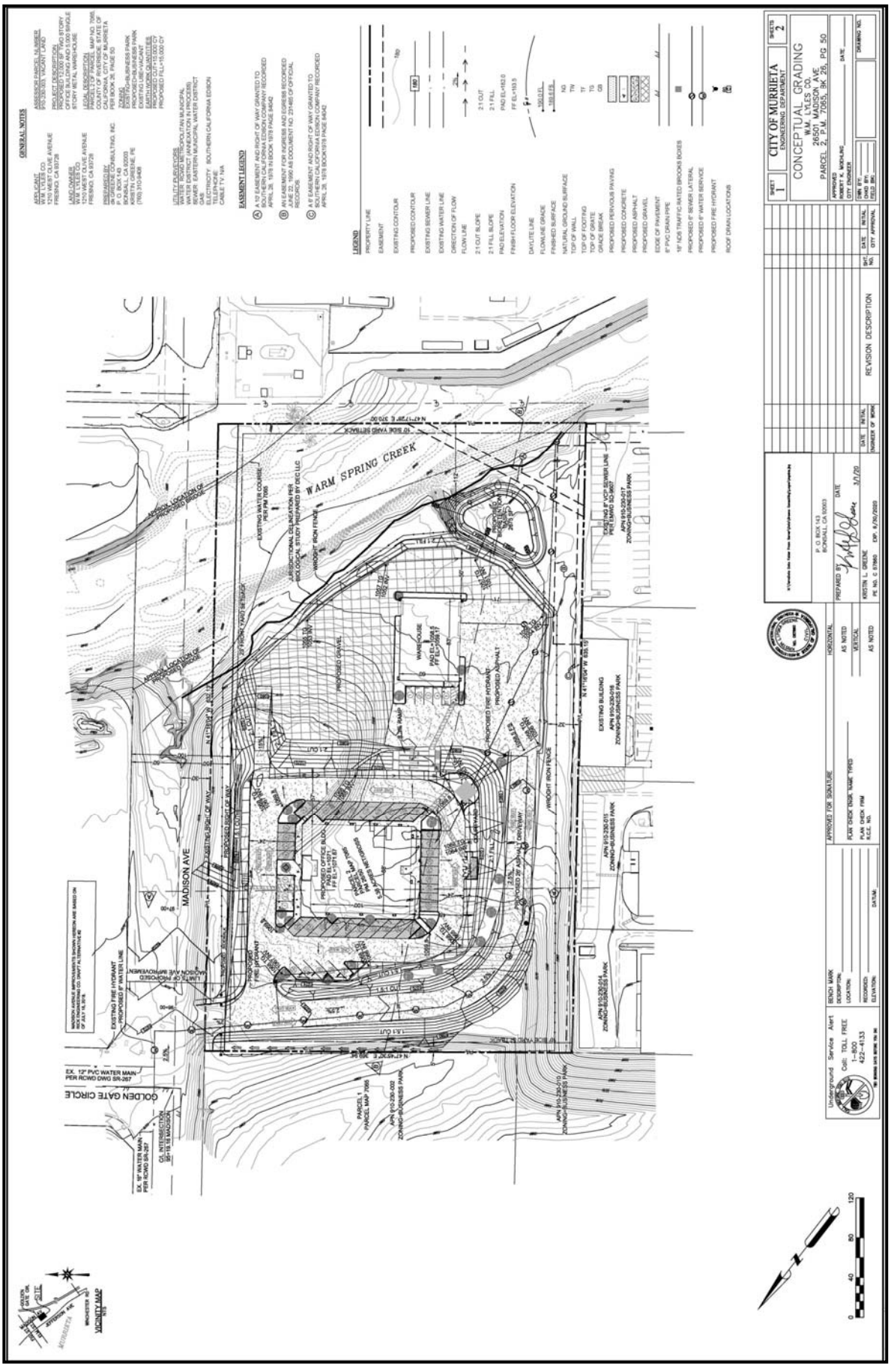


Figure 4. Study area as shown on Conceptual Grading Plan.

No additional recorded fossil localities, fossil lists, published or unpublished literature within the boundaries of the project site were discovered during the additional research.

IV. GEOLOGY/BIOSTRATIGRAPHY

The study area is underlain by sediments that have been mapped as Quaternary Alluvium and the Pauba Formation (Fig. 3). The Quaternary Alluvium is variously mapped as the Pauba Formation and Older Quaternary Alluvium. The Pauba Formation, Older Quaternary Alluvium, and Recent Alluvium are all deposited in the same alluvial fan environment and consist of light brown to red brown angular to sub rounded, poorly sorted, fanglomerate and coarse arkosic sandstone. The observable difference between the three Pleistocene to Recent alluvial units is in the relative position of each unit with the older units uplifted more and slightly more consolidated.

As a result of the low rates of sedimentation in broad flat valleys the sediments in areas mapped as Quaternary Alluvium are typically as old as Pleistocene in age. The Older Alluvium and some younger alluvium are known to contain highly significant fossil localities. The Quaternary Alluvium in this area is considered to be of moderate paleontologic sensitivity at the surface. This sensitivity increases to moderate to high with depth.

Many to most geologic maps indicate the broad valley areas as Quaternary Alluvium (Holocene to latest Pleistocene) when in fact these surfaces were largely formed sometime in the Pleistocene and were probably formed before the latest Pleistocene. The sediments in the active channels are Holocene while the surrounded surfaces are older. Many of these channels are incised into the surface indicating a lowering of base level, probably related to lowering of sea level. The deeper alluvium in these channels often contains a Pleistocene vertebrate fauna.

V. FIELD RECONNAISSANCE

A pedestrian survey of the study area was conducted by Dr. John A. Minch, Robert S. White and Susan Klein on December 10, 2018. Dr. Minch is a Certified Vertebrate Paleontologist and a State of California Professional Geologist (No. 3269). The field survey was conducted to investigate and make visual observations of each geologic unit present on the surface of the site. No paleontologic resources were encountered during the field reconnaissance.

VI. CONCLUSIONS AND RECOMMENDATIONS

No published fossil localities are known to exist on the site. No fossil remains were encountered on the site during the field reconnaissance. The Pauba Formation and older alluvium were deposited by streams flowing across the study area during the Pleistocene Epoch. Fossils of land animals are known from the surrounding region.

A. Potential Environmental Impacts

1. The Older Quaternary Alluvium Deposits are considered to have a moderate to high potential for the discovery of significant fossils.

2. The Pauba Formation is considered to have a high potential for the discovery of significant fossils.

B. Mitigation Recommendations

- Present site conditions indicate paleontological monitoring is warranted. The monitoring can be part-time during the 5-foot over-excavation of the building pads in the Older Quaternary Alluvium, increasing to full-time during excavation in the Pauba Formation and the deeper utilities (e.g. deeper removals, storm drain and sewers) in the Older Quaternary Alluvium. Supervision by AA's paleontologist will be maintained during paleontologic grading observations when grading in the on-site geologic units. In the event that fossils are exposed, the paleontologist shall be allowed to divert or direct grading in the area of exposure to facilitate evaluation, and (if identified as potentially significant) to salvage significant fossils.

- All fossils collected shall be prepared and identified by a qualified paleontologist. Excavated significant fossil finds shall be offered to the County or its designee, on a first-refusal basis. These actions, as well as, final mitigation and disposition of the resources, shall be subject to County guidelines and regulations.

REFERENCES

DIBLEE, T.W., Jr.

2008 Geologic Map of the Murrieta 15' Minute Quadrangle, Riverside County, California, John A. Minch, *editor,* Santa Barbara Museum of Natural History, DF-417, 1:62,500, color.

McLEOD, SAMUEL A.

2017 Paleontological Records Search for APN 910-230-003 in the City of Murrieta, Riverside County. Natural History Museum of Los Angeles County. Unpublished letter report on file with Archaeological Associates, Sun City.

RADFORD, DARLA

2017 Paleontological Records Search for APN 910-230-003 in the City of Murrieta, Riverside County. Western Science Center. Unpublished letter report on file with Archaeological Associates, Sun City.

Plate I. Top: Looking east along the southern boundary from the southwest property corner. **Bottom:** Looking west across the northern margin of the property from midway along the northern boundary.

Plate II. Top: Looking southeast across study area from the northwest property corner. **Bottom:** Looking south across eastern margin of property from the northern boundary.

APPENDIX A
Records Searches

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

18 September 2017

Archaeological Associates
P.O. Box 180
Sun City, CA 92586

Attn: Robert S. White, Principal

re: Paleontological resources for the proposed 5 acre Madison Avenue Commercial Project, APN 910-230-003, in the City of Murrieta, Riverside County, project area

Dear Robert:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed 5 acre Madison Avenue Commercial Project, APN 910-230-003, in the City of Murrieta, Riverside County, project area as outlined on the portion of the Murrieta USGS topographic quadrangle map that you sent to me via e-mail on 4 September 2017. We do not have any vertebrate fossil localities that lie directly within the proposed project area boundaries, but we do have fossil localities nearby from the same deposits that occur in the proposed project area.

Surface deposits in the very southeastern portion of the proposed project area consist of younger Quaternary Alluvium, derived as fluvial deposits from Warm Spring Creek that currently flows through that portion of the proposed project area. These younger Quaternary deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but to the east-southeast of the proposed project area, up Pauba Valley, we have the vertebrate fossil localities LACM 6967 and 7456 from similar Quaternary alluvial sediments near Temecula Creek that produced small fossil specimens of tree frog, *Hyla*, lizard, *Anniella*, garter snake, *Thamnophis*, pocket gopher, *Thomomys*, and pocket mouse, *Peromyscus*. Most of the proposed project though, the slightly more elevated portion, has exposures of the late Pleistocene Pauba Formation, and these deposits may occur at relatively shallow depth in the southeastern portion

of the proposed project area also. Our closest fossil vertebrate locality in the Pauba Formation is LACM 7941, immediately southeast of the proposed project area west of the Temecula Valley Freeway (I-15) and south of Date Street, that produced fossil specimens of undetermined elephant, Proboscidea, and fossil horse, *Equus*. Our next closest Pauba Formation locality is LACM 5447, southeast of locality LACM 7941 east of the Temecula Valley Freeway (I-15) and north of Winchester Road [Banana Avenue], that produced further specimens of fossil horse, *Equus*. Our next closest vertebrate fossil localities from the Pauba Formation are LACM 5891 and 5892, situated southeast of the proposed project area just east of locality LACM 5447 along Margarita Road south of Winchester Road and Santa Gertrudis Creek, that also produced specimens of fossil horse, *Equus*.

Shallow excavations in the younger Quaternary Alluvium exposed in the very southeastern portion of the proposed project area are unlikely to uncover significant vertebrate fossils. Deeper excavations in there that extend down into older sedimentary deposits, as well any excavations in the Pauba Formation exposed in most of the proposed project area, may well encounter significant vertebrate fossil remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected from the older deposits in the proposed project area and processed to determine their small fossil potential. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

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

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

WESTERN SCIENCE CENTER

September 11, 2017

Archaeological Associates
Robert S. White
P.O.Box 180
Sun City, CA 92586

Dear Mr. White,

This letter presents the results of a record search conducted for the Madison Avenue Commercial Project in the city of Murrieta in Riverside County, California. The project site consists of 5 acres located south of the Madison Avenue and Golden Gate Circle intersection, west of Interstate 15 and east of Murrieta Creek. The project location lies in an unsectioned portion of Township 7 South, Range 3 West on the Murrieta, CA USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped primarily as Quaternary alluvium deposits dating from the Pliocene to Holocene period (Jennings, Strand & Rogers, 1977). The alluvium units within the project area are considered to be of high paleontological sensitivity, and the Western Science Center has numerous fossil localities within a 1 mile radius. Most of the known fossil localities within the project area come from the Harveston II Project completed in 2004. From this collection there are 23 sites located within a 1 mile radius from the Madison Avenue Commercial Project site. This project resulted in the collection of over 100 specimens dating to the Rancholabrean North American Mammal Age, including *Bison sp*., *Equus sp*., and *Mammuthus columbi*.. There is no report for this project, but a faunal list of all known specimen collected can be supplied if further information is required.

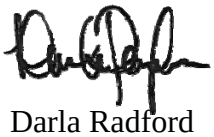
One additional site from the Principe Collection in Murrieta is thought to be located within a 1 mile radius of the Madison Avenue Commercial Project. The Principe Collection is a salvage collection obtained by the Western Science Center with little scientific data associated, but some general information as to the site locations has been preserved. The site thought to be within a 1 mile radius from the project consisted of *Bison sp*., and *Mammuthus columbi* fossil specimen. There is no report or additional information for this collection and the exact location of the site is based on recollection and associated records and not exact scientific measurements. The project is included nonetheless for its relevance to the fauna of Murrieta.

The proposed location for the Madison Avenue Commercial Project is considered paleontologically sensitive and it is expected that any fossils recovered from the project area would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive Pleistocene units and it is the recommendation of the Western Science Center that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

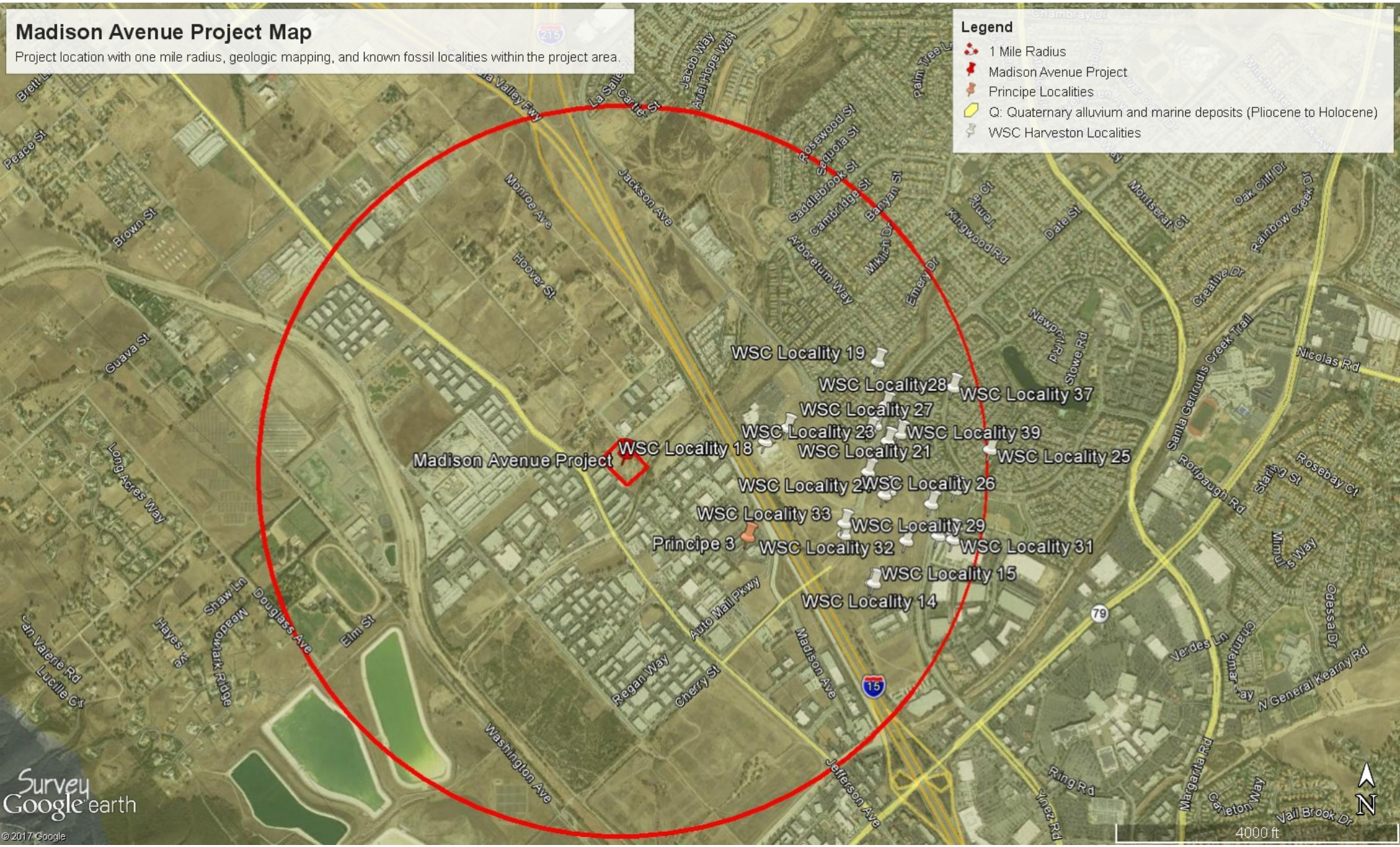
2345 Searl Parkway ♦ Hemet, CA 92543 ♦ phone 951.791.0033 ♦ fax 951.791.0032 ♦ WesternScienceCenter.org

If you have any questions, or would like further information about the Principe Collection or the Harveston II Project, please feel free to contact me at dradford@westerncentermuseum.org.

Sincerely,



Darla Radford
Collections Manager


Madison Avenue Project Map
Project location with one mile radius, geologic mapping, and known fossil localities within the project area.
Legend
1 Mile Radius
Madison Avenue Project
Principe Localities
Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)
WSC Harveston Localities
WSC Locality 19
WSC Locality28
WSC Locality 37
WSC Locality 27
WSC Locality 23
WSC Locality 39
Madison Avenue Project
WSC Locality 18
WSC Locality 21
WSC Locality 25
WSC Locality 2
WSC Locality 26
WSC Locality 33
WSC Locality 29
Principe 3
WSC Locality 32
WSC Locality 31
WSC Locality 15
WSC Locality 14
Jackson Ave
Monroe Ave
Hoover St
Brown St
Guava St
Long Acres Way
Elm St
Douglass Ave
Shaw Ln
Meadowmark Ridge
Hayes Ave
San Valerie Rd
Lucille Cir
Auto Mall Pkwy
Regan Way
Cherry St
Madison Ave
Washington Ave
Jefferson Ave
Ring Rd
Vinez Rd
Margarita Rd
Carleton Way
Vail Brook Dr
Verdes Ln
Chanteimar Way
N General Kearny Rd
Odessa Dr
Mimi's Way
Starling St
Rosebay Ct
Rorpaugh Rd
Nicolas Rd
Santa Gertrudis Creek Trail
Creative Dr
Rainbow Creek Dr
Oak Cliff Dr
Montserat Ct
Dale St
Kingwood Rd
Newport Rd
Stowe Rd
Emery Dr
Arboretum Way
Mikich Dr
Banyan St
Cambridge St
Saddlebrook St
Sequoia St
Rosewood St
Jacob Way
Ariel Hope Way
La Salle Cartier St
Palm Tree Ln
Peace St
Brett L
Chambray Dr
Winchester Creek Ave
Survey
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