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May 16, 2019

Casey Malone
Victorville 88 Estate Partners, LLC
12671 High Bluff Drive, Suite 150
San Diego, CA 92130

Subject: Cultural and Paleontological Resources Services for the TTM 20280 Project, City of Victorville, County of San Bernardino, California (C-0290)

Dear Mr. Malone:

Duke Cultural Resources Management, LLC (DUKE CRM) is under contract to Victorville 88 Estate Partners, LLC (Client) to conduct a cultural and paleontological resources assessment for the TTM 20280 Project (Project), in the City of Victorville, San Bernardino County, California (Attachment A, Map 1 – Project Vicinity). The project is 17.7 acres and consists of the development of a 74 single-family lots in a residential subdivision. The City of Victorville (City) is the lead agency for the California Environmental Quality Act (CEQA).

The Project lies on Assessor Parcel Numbers (APNs): 0395-221-10, 0395-234-01, 11, and 12, 0395-245-02, 04, and 07, 0395-246-07 and 08, 0395-254-02, and 03, 0395-246-07, and 0395-254-02 and 03. The Project is located in the N ½ of Section 7, T5N, R4W, as shown on the USGS *Victorville, CA* 7.5-minute quadrangle map (Attachment A, Map 2 – Project Location). The Project is located east of Cahuenga Road, south of Hopland Street and Gloria Lane, west of utility transmission lines, and north of undeveloped land (Attachment A, Map 3 - Aerial Imagery).

Cultural Records Search

Sarah Nava, B.A., of DUKE CRM conducted a records search at the South Central Coastal Information Center (SCCIC) on April 4, 2019. The SCCIC is part of the California Historical Resources Information System (CHRIS) and is located at California State University, Fullerton. The records search included a review of all recorded historic and prehistoric archaeological sites within a one mile radius of the Project, as well as a review of known cultural resource survey and excavation reports.

Mapped data from the SCCIC indicates that there are four cultural resources located within one mile of the Project, but no resources within the Project. Two of these resources (36-005201 and 36-012007) are of prehistoric age. 36-005201 is a hunting blind approximately ½ mile northeast of the Project and 36-012007 is a lithic scatter approximately 1 mile east of the Project. The other two cultural resources date to the historic period. 36-007694 is a segment of the Los Angeles District of Water and Power Boulder Dam to Los Angeles Transmission Lines built in the 1930s – 1940s, and runs parallel to the eastern border of the Project at a distance of approximately 300 feet. Based on our review of the Primary Record for 36-007694, this resource is registered on the National Register of Historic Places[1]. 36-023934 is Village Park, a public park built in the late 1960s which is located ¼ mile south of the Project.

[1] Primary Record, P-36-007694, *State of California Department of Parks and Recreation*, 2018.

Nineteen cultural resource reports are on file at the SCCIC within the one mile radius. One previous study (SB-05196[2]) includes a portion of the current Project. This report documents historical and paleontological resource monitoring during construction in 2006 for the Victory Ridge Development, due north of the current Project. Soil excavation depths varied between 3-10 feet below ground surface. No prehistoric or historic material was discovered during monitoring for the Victory Ridge Development.

Paleontological Records Search

The geology in the vicinity of the Project has been mapped by Dibblee and Minch[3] at a scale of 1:24,000. A review of this map indicates the Project is underlain entirely by older alluvial sediments (*Qoa*) (Attachment A, Map 4 – Geology). Older alluvial sediments are composed of moderately bedded to unbedded silt, sand, and gravel, deposited in the Pleistocene Epoch (2.5 million years ago to 11,700 years ago)[3]. The City of Victorville General Plan 2030, Draft Environmental Impact Report[4] assigns a high paleontological potential to older Quaternary deposits (Pleistocene deposits) (p. 5.5-15 – 5.5-16) (Attachment 1, Map 5 – Paleontological Sensitivity).

On April 23, 2019, the Western Science Center (Hemet) performed a paleontological records search for known fossil localities within and in the vicinity of the Project. This records search did not produce any fossil localities within one mile of the Project (Attachment B). Mr. Scherzer also performed a search of the online University of California Museum of Paleontology collections[5], San Diego Natural History Museum collections[6], Paleobiology Database[7], and NEOTOMA[8], and other published literature for nearby (within 3 miles) fossil localities in similar deposits. These searches produced nine fossil localities:

- SBCM 1.114.27 and 1.114.28 produced remains of horse (*Equus*), mammoth (*Mammuthus*), and camelid (Camelidae), approximately one mile northeast of the Project;
- SBCM 1.114.3 produced remains of horse (*Equus*), approximately two miles northeast of the Project;
- SBCM 1.114.25 and 1.114.26 produced remains of rabbit/hare (*Lepus*), approximately two miles north of the Project[7];
- SBCM 1.114.7 produced remains of mammoth (*Mammuthus*), approximately three miles southeast of the Project[7];
- SBCM 1.114.29 produced remains of Gopher tortoise (*Gopherus*), rodent (Rodentia), horse (*Equus*), and camelid (Camelidae), approximately 2 miles southwest of the Project[7,9];
- Scott, et al.[10] documented remains of Harlan's ground sloth (*Paramylodon harlani*), Short-face bear (*Arctodus simus*), Southern mammoth (*Mammuthus meridianalis*), horse (*Equus*),

[2] Alexandrowicz, John Stephen, "Historical and Paleontological Resources Monitoring for Tract #15083 – Phase II, The Victory Ridge Development, City of Victorville, San Bernardino County, California, Archaeological Consulting Services Technical Series No. 120, (August 12, 2006).
[3] Thomas W. Dibblee, T.W., and John A. Minch, "Geologic map of the Shadow Mountains & Victorville 15 minute quadrangles, San Bernardino & Los Angeles Counties, California" *Dibblee Geological Foundation*, 2008.
[4] City of Victorville, "Draft program environmental impact report, City of Victorville General Plan 2030, SCH. NO. 2008021086," www.sbcounty.gov/uploads/lafco/proposals/3082/3082_ede_draft_eir.pdf, (August 14, 2018).
[5] ucmpdb.berkeley.edu/
[6] sdnhm.org/science/paleontology/resources/collection-database/
[7] paleobiodb.org
[8] ucmp.berkeley.edu/faunmap/
[9] George T. Jefferson, "A catalogue of Late Quaternary vertebrates from California: part two. Mammals," *Natural History Museum of Los Angeles County Technical Reports*, (1991).

Giant camel (cf. *Titanotylopus*), Western camel (*Camelops*), llama (*Hemiauchenia*), and Meadow vole (*Microtus*), in the City of Victorville.

- In addition, "Mojave River" produced remains of Bighorn sheep (*Ovis Canadensis*), coyote (*Canis latrans*), and mammal (mammalia) in San Bernardino County, but the precise location of the locality was not given[8] (Table 1).

These records search findings are consistent with the City of Victorville General Plan 2030 Draft Environmental Impact Report[4], which assigns a high paleontological potential to older Quaternary deposits (Pleistocene deposits).

Table 1 - Geologic Units and Their Paleontological Potential

Age	Geologic Unit[3]	Fossils Present[5,7,9,10]	Paleontological Sensitivity
Pleistocene	Older alluvial sediments (*Qoa)*	Horse, mammoth, camelid, rabbit/hare, Gopher tortoise, rodent, Harlan's' ground sloth, Short-face bear, Southern mammoth, Giant camel, Western camel, llama, Meadow vole, Bighorn sheep, coyote, mammal	High

Field Survey

On April 19, 2019, Ben Scherzer of DUKE C R M performed a pedestrian field survey of the Project to determine the potential for impact to cultural and paleontological resources. The entire Project was surveyed by pedestrian transects with three meter spacing oriented north-south. The Project is gently sloping to the south, and is bordered to the north by modern housing development and to the south by open space. Much of the northern portion of the Project has been the site of modern fill dumping, and shows only occasional patches of native ground surface. The southern portion of the Project shows evidence of recent discing or grading. In general, the sediment in the Project is composed of granitic pebbles and gravel, with occasional rounded cobbles. Cutwalls in the northeastern portion of the Project, which reached approximately 3 feet below ground surface on the northeast side of a dirt road, showed stratigraphy of likely native soil, with several horizons of caliche or calcrete. No cultural or paleontological material was observed during the field survey (see Attachment C for Project photographs).

Recommendations

Given the lack of cultural resources in the Project, including in the portion north of Gloria Lane that was subject to soils removal to variable depth but as deep as 10 feet below ground surface, and the evidence of surface disturbance in the southern portion of the Project, we recommend that there is a low sensitivity for archaeological resources. No additional recommendations are made for archaeology.

The Project is anticipated to disturb sediments with high potential to contain scientifically significant, nonrenewable paleontological resources. The Project is located on deposits identified as having high paleontological sensitivity (*Qoa*), and multiple localities are documented nearby from similar sediments. Therefore, it is recommended that any ground disturbance be monitored full time by a qualified paleontological monitor within native sediments. This monitoring will include all areas of the Project, including the previously disturbed area north of Gloria Lane, as paleontological material can occur at a greater depth than cultural material. A paleontological monitor shall be

[10] Eric Scott, Kathleen Springer, and Lyndon K. Murray, New records of Early Pleistocene vertebrates from the west-central Mojave Desert, San Bernardino County, California," *Journal of Vertebrate Paleontology* 17, no. 3, (September, 1997).

present to observe ground disturbing activities in the Project area. The monitor shall work under the direct supervision of a qualified paleontologist (B.S./B.A. in geology, or related discipline with an emphasis in paleontology and demonstrated experience and competence in paleontological research, fieldwork, reporting, and curation):

1. The qualified paleontologist shall be on-site at the pre-construction meeting to discuss monitoring protocols.
2. Paleontological monitoring shall start at full-time. If significant paleontological resources are not observed after 50% of the ground disturbing activities, monitoring shall be reduced to part-time or spot checks, as determined by the project paleontologist.
3. The monitor shall be empowered to temporarily halt or redirect grading efforts if paleontological resources are discovered.
4. In the event of a paleontological discovery the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area.
5. In consultation with the qualified paleontologist the monitor shall quickly assess the nature and significance of the find. If the specimen is not significant it shall be quickly removed and the area cleared.
6. If the discovery is significant the qualified paleontologist shall notify the Client and the City immediately.
7. In consultation with the City the qualified paleontologist shall develop a plan of mitigation which will likely include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation of the find in a local qualified repository, and preparation of a report summarizing the find

Thank you for contacting DUKE C R M on this request. We look forward to working with you on this Project. If you have any questions or comments, you can contact DUKE C R M at (949) 356-6660 or by e-mail at curt@dukecrm.com.

Sincerely,

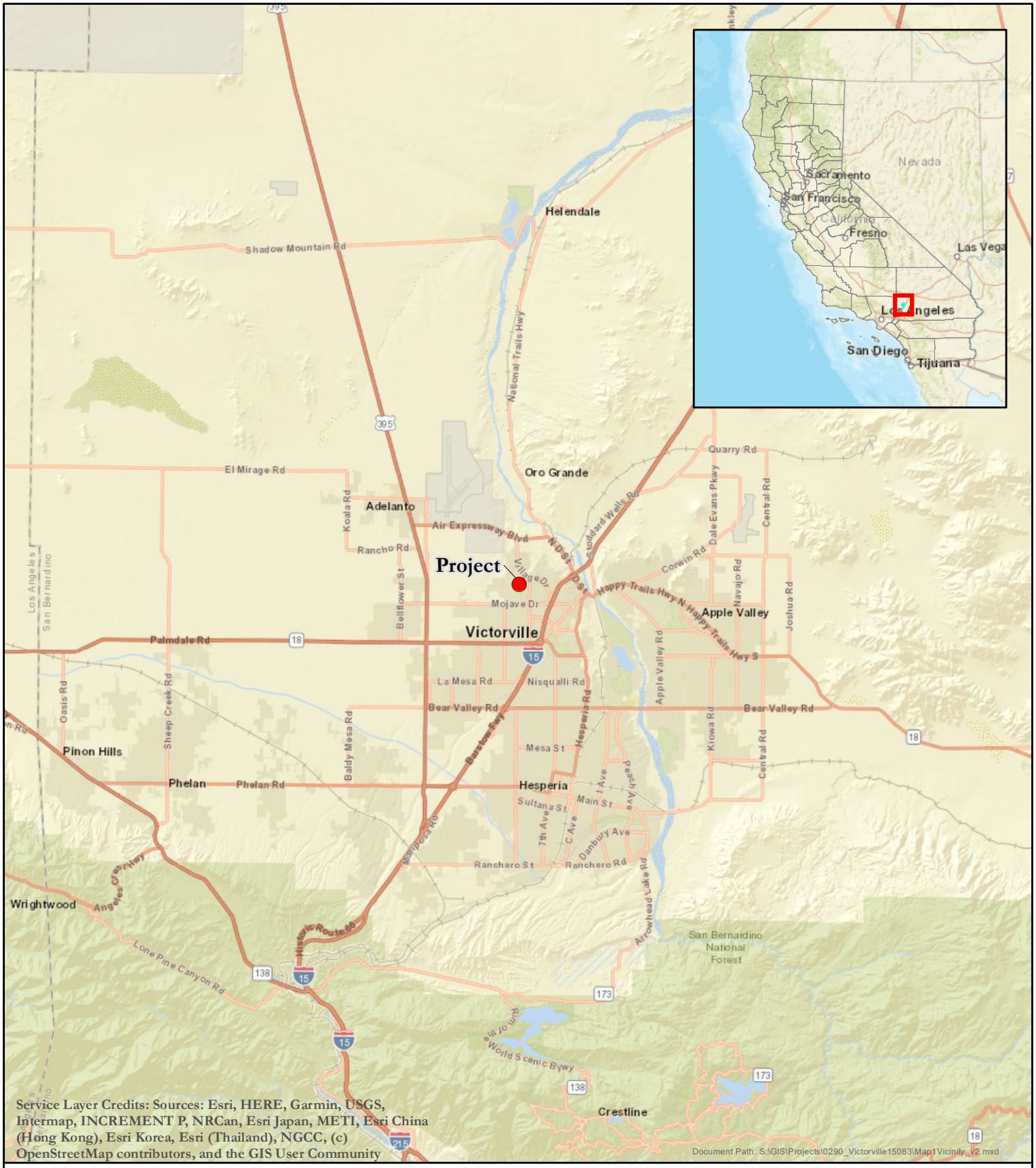
DUKE CULTURAL RESOURCES MANAGEMENT, LLC

Curt Duke, M.A. RPA
President/Archaeologist

Attachment A: Project Maps
Attachment B: Paleontological Records Search Results
Attachment C: Field Survey Photographs

Attachment A

Project Maps



Map 1- Project Vicinity

TTM 20280 Project
City of Victorville,
San Bernardino County, CA

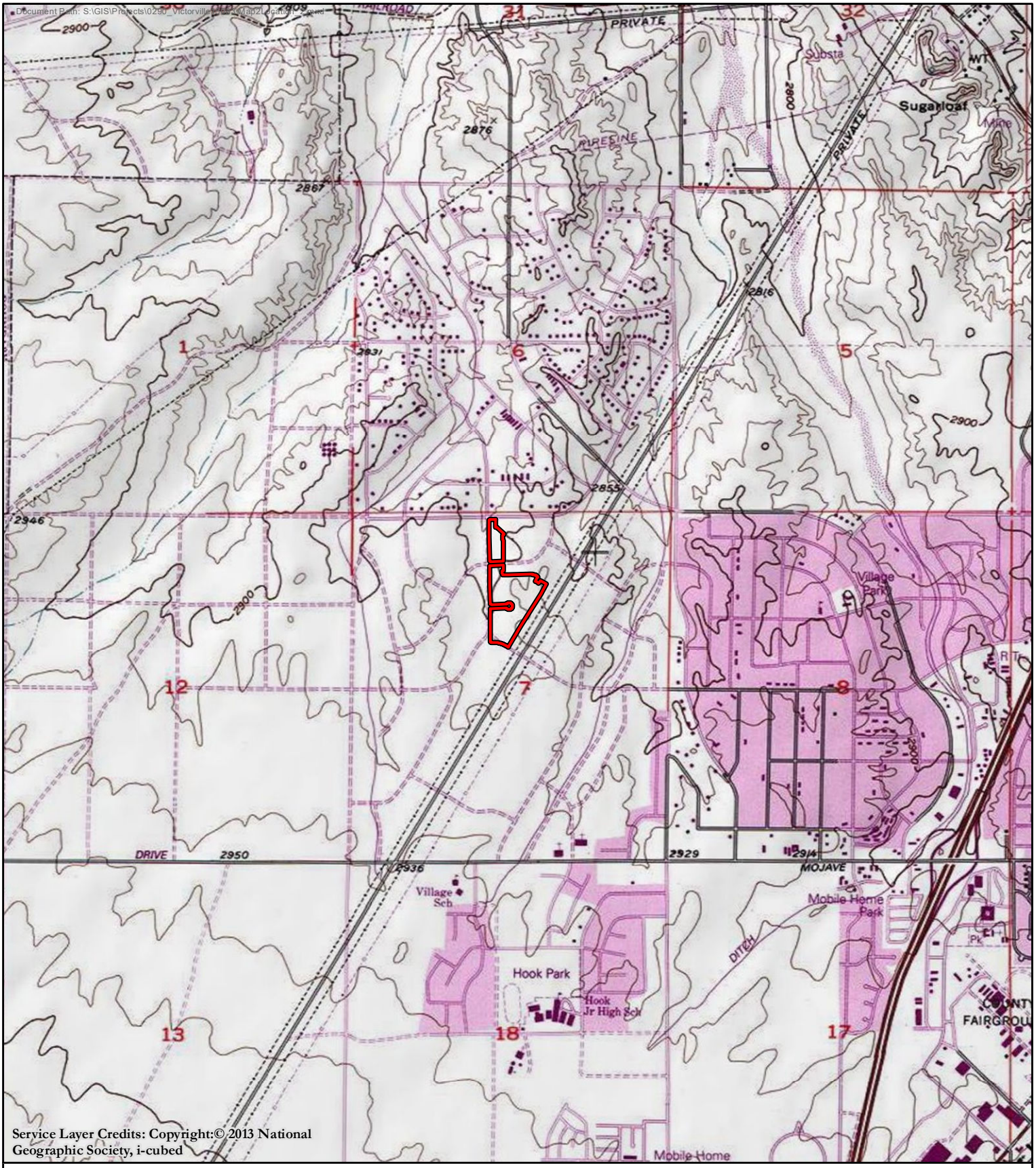
DUKE CRM

0 2.5 5 Miles

1 inch = 5 miles

1:316,800

N



Map 2- Project Location

TTM 20280 Project
City of Victorville,
San Bernardino County, CA

Project Location

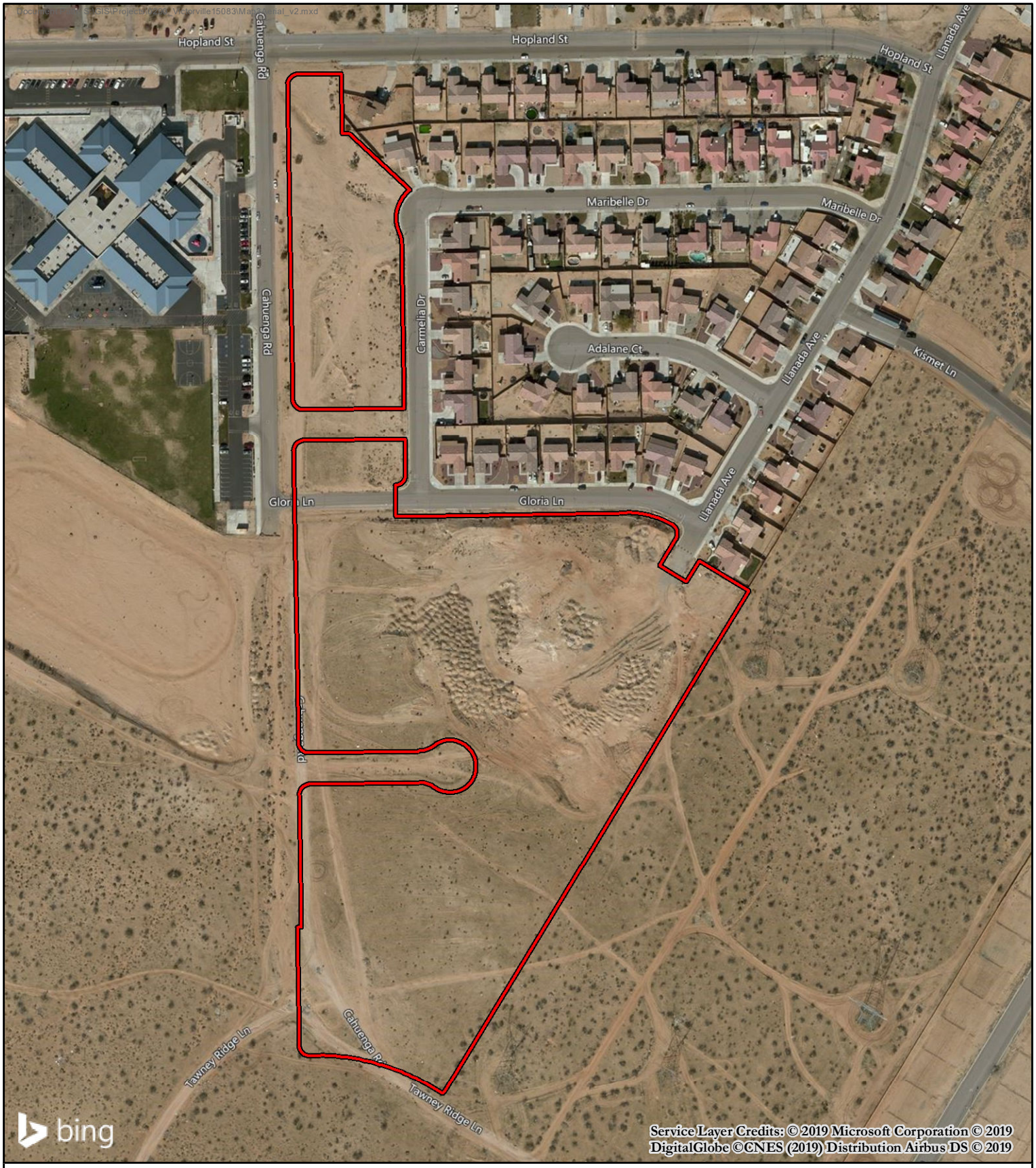
0 1,000 2,000 Feet

1 inch = 2,000 feet

1:24,000

N

DUKE CRM



Map 3- Aerial Imagery
TTM 20280 Project
City of Victorville,
San Bernardino County, CA

Project Location

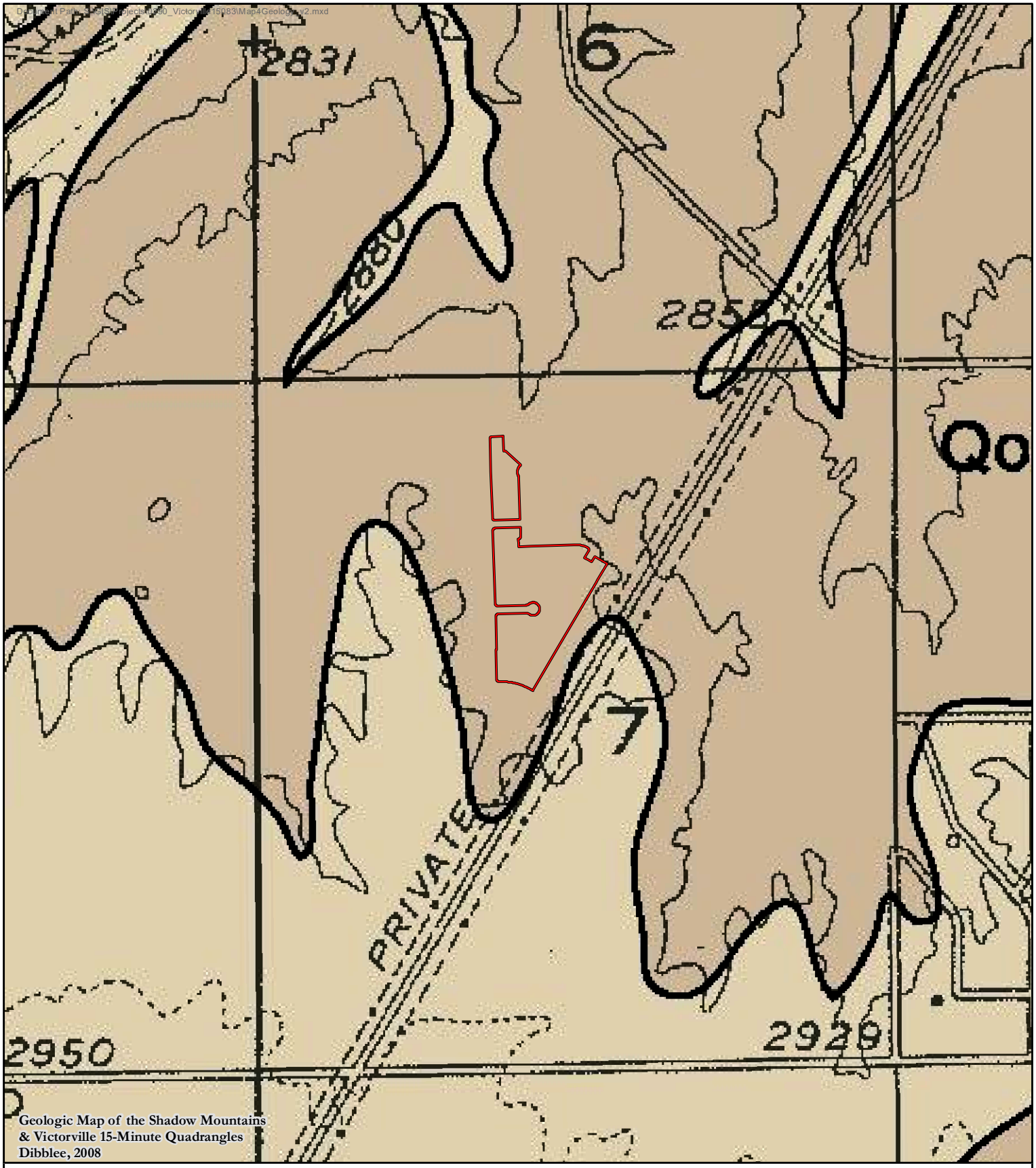
0 125 250 Feet

1 inch = 250 feet

1:3,000

N

DUKE CRM



Map 4- Geology

TTM 20280 Project
City of Victorville,
San Bernardino County, CA

Project Location
Qoa- Older alluvial sediments
Qa- Surficial sediments

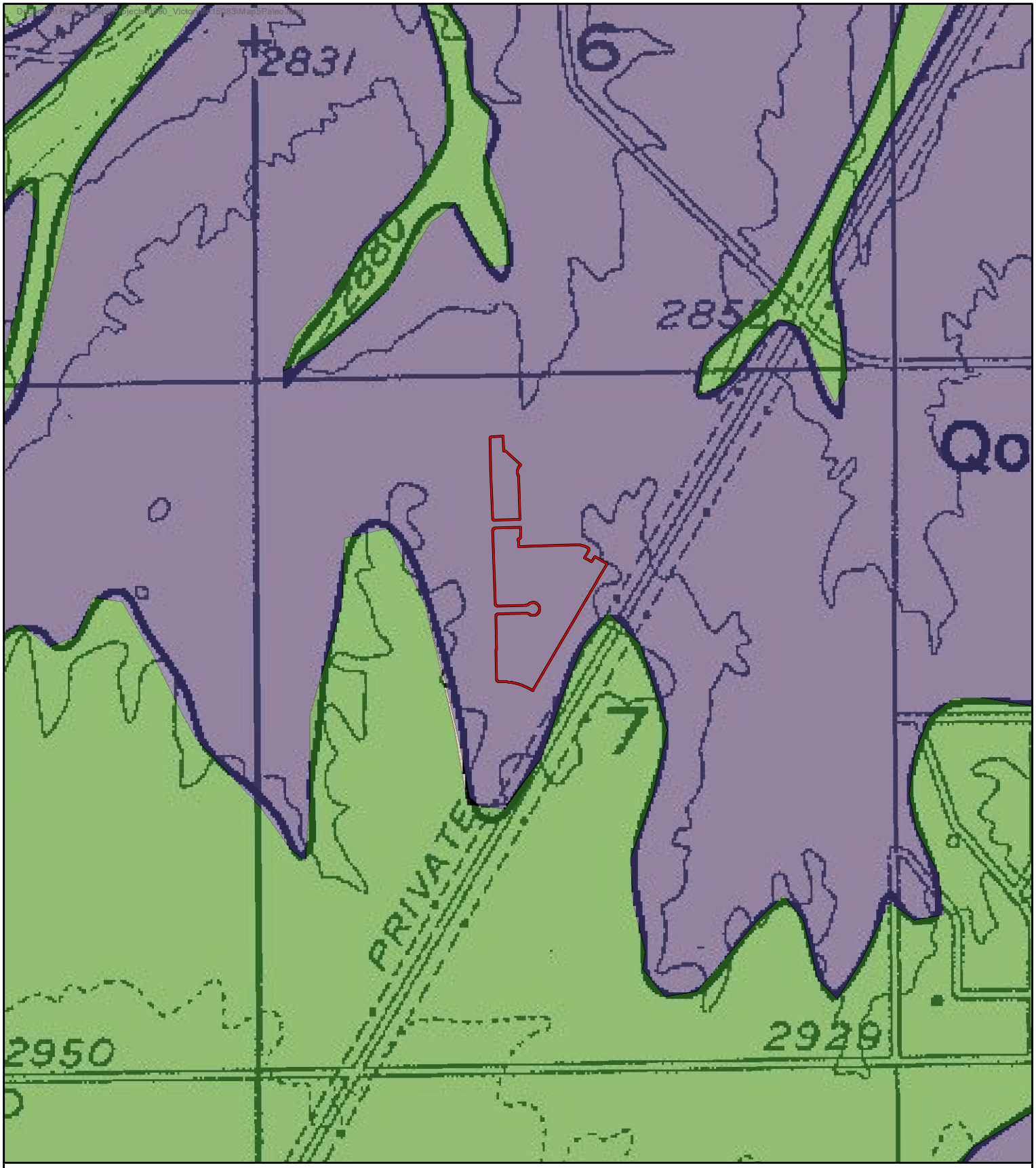
0 500 1,000 Feet

1 inch = 1,000 feet

1:12,000

N

DUKE CRM



Map 5- Paleontological Sensitivity
TTM 20280 Project
City of Victorville,
San Bernardino County, CA

Project Location

Sensitivity

High Sensitivity at Surface

High Sensitivity with Depth

0 500 1,000 Feet

1 inch = 1,000 feet

1:12,000

N

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Attachment B

Paleontological Records Search Results

WESTERN SCIENCE CENTER

April 23, 2019

Environmental Planning Group, LLC
Michael Pasenko
2020 West Sunset Road, Suite 100
Henderson, NV 89014

Dear Mr. Scherzer,

This letter presents the results of a record search conducted for the TTM 15083 Project in the city of Victorville, San Bernardino County, California. The project site is located east of Cahuenga Road, south of Hopland Street, and west of LA Bureau of Power and Light Road in Section 7, Township 5 North, Range 4 West on the Victorville USGS 7.5 minute quadrangle.

The geologic units underlying this project are mapped primary as alluvium of the ancestral Mojave River deposits dating from the Pleistocene and Pliocene period, with small segments along the northern border of the project mapped as modern alluvial fan units (Hernandez, Brown, & Cox, 2008). Alluvial units dating to the Pleistocene and Pliocene are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area or within a 1 mile radius, but does have fossil localities in similarly mapped units associated with numerous projects in Riverside County that resulted in Pleistocene fossil specimens.

Any fossils recovered from the TTM 15083 Project area would be scientifically significant. Excavation activity associated with development of the project area would impact the paleontologically sensitive early 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.

If you have any questions, or would like further information about similar Pleistocene alluvial deposit projects, please feel free to contact me at dradford@westerncentermuseum.org

Sincerely,

Darla Radford
Collections Manager

Attachment C

Field Survey Photographs

Figure 1: Native soil horizons in cutwall along eastern border of Project.