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April 30, 2021

Nicole Morse, Esq.
T&B Planning, Inc.
3200 El Camino Real, Suite 100
Irvine, CA 92602

Subject: Cultural and Paleontological Resource Letter Report for the 534 Struck Avenue Project, City of Orange, Orange County, California

Dear Ms. Morse:

At the request of T&B Planning, Inc. (CLIENT), Duke Cultural Resources Management, LLC (DUKE CRM) has prepared this Cultural and Paleontological Resources Assessment for the 534 Struck Avenue (Project), located in the City of Orange, Orange County, California. The Project entails a proposed Conditional Use Permit No. 3137-21, Major Site Plan Review No. 1039-21, and Design Review No. 5028-21. The Project Applicant is proposing to redevelop the site with a 57,900 sf Truck Terminal (Project) , that includes 52,900 sf of warehouse space and 5,000 sf of office space (see Attachment 1 for the Truck Terminal Site Plan). The proposed building would be built up to 45 ft. and include 85 dock doors (cross-dock configuration). Ornamental landscaping, lighting, and walls would be installed per compliance with the Orange Municipal Code (OMC). The Project involves the demolition of the existing 40,000 square foot manufacturing facility and redevelopment of the 9.94-acre Project site. Redevelopment of the Project site would include removal of a portion of the existing Burlington Northern & Santa Fe (BNSF) Railroad spur located on the east side of the property.

The Project is located in the southeast ¼ of Section 19, Township 4 South, Range 9 West, San Bernardino Baseline and Meridian as shown on the USGS *Orange, Calif.* 7.5 quadrangle. See Attachment 1 for Project maps. The Project includes assessor's parcel number (APN) 375-331-04.

Our report presents the results of a Sacred Lands File (SLF) search, paleontological records search, cultural resources records search, various background and archival research, and a paleontological and cultural resources pedestrian survey.

SETTING

The Project is located in the northwestern portion of the Peninsular Ranges geomorphic province. The Peninsular Ranges province is distinguished by northwest trending mountain ranges and valleys following faults branching from the San Andreas Fault. Locally, the Project area is located in the Central Block of the Los Angeles Basin, an area characterized by thick alluvial deposits overlying sediments ranging from Cretaceous to Pleistocene in age (Norris and Webb, 1990). The old alluvial fan deposits (*Qof*) underlying the Project area are exclusively alluvial fan sediments sourced from the Santa Ana Mountains to the northeast in the Pleistocene Epoch (2.5 million years ago to 11,700 years ago) (Morton and Miller, 2006). The El Modena and Peralta Hills to the north represent the Peralta Hills Anticline, a surface expression of the underlying, east-west trending, Peralta Hills Fault (Bryant and Fife 1982). The elevation is approximately 260 feet above mean sea level (amsl). Prior to urbanization, native vegetation would have included annual grasslands, California sagebrush and

buckwheat, sage, chamise chaparral, and coast live oak. Climate is Mediterranean-like with mild annual temperatures and annual precipitation typically ranging between 14 to 26 inches. (Griffith et al. 2016).

In explaining the prehistory of southern California William Wallace (1955) defined four cultural horizons, each with characteristic local variations:

I. Early Man (~9000–8500 before present (B.P.))
II. Milling Stone (8500–4000 B.P.)
III. Intermediate (4000–1500 B.P.)
IV. Late Prehistoric (1500~200 B.P.)

The Project is located within the ethnographic territory of the Gabrielino (*Tongva)* and Juaneño (Acjachemen) Indians. The Gabrielino and Juaneño are Takic-speakers and are descended from late prehistoric populations of the region. Important food resources would have been acorns, agave, wild seeds and nuts, hunting game and fishing. Due to Spanish subjugation and absorption into the mission system very little is known concerning the details of the Gabrielino and Juaneño political structures, social behavior, and cultural practices. Their villages were generally self-contained and had an autonomous political structure comprised of non-localized lineages, in which the largest and dominant lineage's leader was usually the village chief. Village houses were domed, circular shaped structures, constructed from tree branches and thatched with tule, fern or carrizo. The villages would have been located near fresh water and raw material resources. Villagers would have utilized temporary camps throughout their localized territories for hunting, gathering, and raw material trips away from the main village (Bean and Shipek 1978).

Major former Gabrielino villages or communities near the Project area include *Hotuukngа* 2.5 miles to the northwest and *Pasbenga* 3.8 miles to the south. *Hotuukngа* was recorded within what is now the City of Anaheim, located along the Santa Ana River within the 79,000-acre San Juan Cajon de Santa Ana Mexican land grant originally granted to Juan Pacífico Ontiveros. The word *Hotuukngа* reportedly means "…night, for at the beginning of the world, they went no more in the night" (McCawley 1996:58 citing Harrington 1986). *Pasbenga* was recorded in the vicinity of the Santa Ana River near present day Santa Ana (McCawley 1996).

METHODS

Research

The cultural resource records search was conducted on February 4, 2020 by Megan Wilson, M.A., RPA, of DUKE C R M . The records search was performed at the South Central Coastal Information Center (SCCIC) located at the California State University, Fullerton. The SCCIC is the state-designated repository for records and reports concerning historic and archaeological resources. In addition, the SCCIC maintains records related to the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). The records search checked for records concerning such resources and reports within one-half mile of the Project.

DUKE CRM contacted the Native American Heritage Commission (NAHC) to request a search of their SLF. Ms. Wilson sent this request on February 6, 2020. The NAHC responded on February 24, 2020 that the Project is negative for previously recorded Sacred Lands.

The paleontological resource records search was submitted on February 6, 2020 by Benjamin Scherzer, M.S, of DUKE C R M to the Department of Vertebrate Paleontology at the Natural History Museum of Los Angeles County (LACNHM) for fossil localities in or near the Project. In addition, Mr. Scherzer also performed searches of the online University of California Museum of Paleontology collections, San Diego Natural History Museum collections (SDNHM), Paleobiology Database, and FAUNMAP, and other published literature for nearby (within 3 miles) fossil localities in similar deposits.

Field Survey

A combined intensive and reconnaissance level pedestrian survey of the Project was conducted on February 21, 2020 by Megan Wilson. Photographs were taken of the Project area, and location information for each photograph was also noted on a printed map of the Project. The Project area is located on the Nursery Supplies Inc. (NSI), an active manufacturer of plastic containers for the nursery industry. Areas of exposed ground surface were subject to 10-15 meter pedestrian transects.

RESULTS

Research

The cultural resource records search results indicate that no previous cultural resources studies have included the Project boundaries. Three reports have been completed within one-half mile of the Project, all of which were small-scale desktop literature searches (OR-02255, OR-03105 and OR-03916). The 2010 Tom Tang letter report (OR-03916) included a literature review of a segment of the Atchison, Topeka, and Sana Fe Railway (ATSF; now Burlington, Northern, and Santa Fe Railroad) located immediately adjacent to and east of the current Project area. However, this segment was not formally recorded on a site record (DPR 523 Series). The record search results also indicated that no cultural resource have been recorded within the current Project area. However, two cultural resources are recorded within one-half mile of the Project: P-30-176663 and P-30-159932.

P-19-176663 is located half-mile from the Project area to the southwest. It is the ATSF Railroad. It was determined ineligible for listing on the NRHP because although much of the rail was originally constructed in 1880s, it has been currently in use for over 100 years. The continual maintenance and upgrades necessary for a modern railroad have diminished its historic integrity. The existing track and other associated railroad features are mostly modern in origin and show no historical characteristics today (Ballester and Tang 2002). In 2010, Tang noted that the ATSF segment located immediately adjacent to, and outside of, the current Project area was a subsidiary of the historic ATSF Railroad originally constructed between 1885-1888. Tang noted that the segment should be considered an extension of P-30-176663; however, this segment has not been formally documented on a site record (DPR 52 Series), nor evaluated for eligibility on the NRHP or CRHR (Tang 2010:3).

P-30-159932 is located one half-mile southeast of the Project area. It is the Old Towne Orange Historic District and is listed on the NRHP (No. 97000617). Old Towne Orange consists of numerous Craftsman Bungalow, Mission/Spanish revival, and Classical Revival style buildings, with 1,237 contributing and 512 non-contributing elements.

A review of aerial photos, site concept plans, and the field survey indicate that a railroad spur is located within the Project boundary to the east. DUKE CRM reviewed maps from www.historicaerials.com, which show that spur is less than 50 years in age, having been built between 1972-1980 (NETR 2020). The results of the SLF search were received from the NAHC on February 24, 2019. This search did not identify any sacred lands within the Project, nor in the vicinity.

The results of the paleontological records search were received from the LACNHM on February 20, 2020. This records search did not produce any fossil localities within the Project, but did produce two nearby (within 3 miles) fossil localities in similar deposits to those underlying the Project. Additional literature searches produced one additional nearby fossil localities, resulting in three localities:

- LACM 4943 produced remains of horse (*Equus*) at a depth of 8 – 10 ft 2 miles north of the Project (McLeod 2020);
- LACM 1652 produced remains of sheep (*Ovis*) at an unknown depth 3 miles north of the Project (McLeod 2020);

- Gardenview, Phase I produced remains of rodents, mammals, and invertebrates at an unknown depth 3 miles west of the Project (SDNHM).

The presence of multiple nearby fossil localities in deposits similar to those underlying the Project indicates a high sensitivity for paleontological resources within the Project.

Field Survey

A combined intensive and reconnaissance level pedestrian survey of the Project was conducted on February 21, 2020, by Megan Wilson, M.A., RPA, of DUKE CRM. Photographs were taken of the Project area, and location information for each photograph was also noted on a printed map of the Project. The Project area is primarily hardscaped and ground surface visibility was limited to the perimeter (Figure 3) with less than five percent visibility. Areas of exposed soils and sediments were subject to 10-15 meter pedestrian transects. All observed soils and sediments were fill, and no archeological or paleontological resources were observed during the survey. Photographs were taken, see figures 1-5.

FINDINGS

The results of the cultural resources records search, negative pedestrian survey, and pattern of agricultural and industrial development within the Project area indicate a low level of sensitivity for cultural resources within the Project area. Due to the highly disturbed nature of the Project area and surrounding area, DUKE CRM does not recommend any additional archaeological work, unless archaeological resources are discovered during construction.

The presence of multiple nearby fossil localities in deposits similar to those underlying the Project indicates a high sensitivity for paleontological resources within the Project. Based on the results of this records search, DUKE CRM recommends paleontological monitoring be required during ground-disturbing activities related to the Project that are below five feet in depth.

Figure 1. View of north side of existing warehouse building, to be demolished. View south.

Figure 2. Northeast corner of existing building. View south-southwest.

Figure 3. View of BNSF Railroad spur, warehouse building, and silos from within Project near northeast corner of Project. View to southwest.

Figure 4. Southwest corner of existing building. View northeast.

Figure 5. View of Project showing on-site storage. View west.

Thank you for contacting DUKEC R M regarding this request. If you have any questions or comments, you can contact me at (949) 356-6660 or by e-mail at curt@dukecrm.com.

Sincerely,

DUKE CULTURAL RESOURCES MANAGEMENT, LLC

Curt Duke, M.A., RPA
President/Principal Archaeologist

Attachments:

1: Project Maps
2: NAHC Results

REFERENCES CITED

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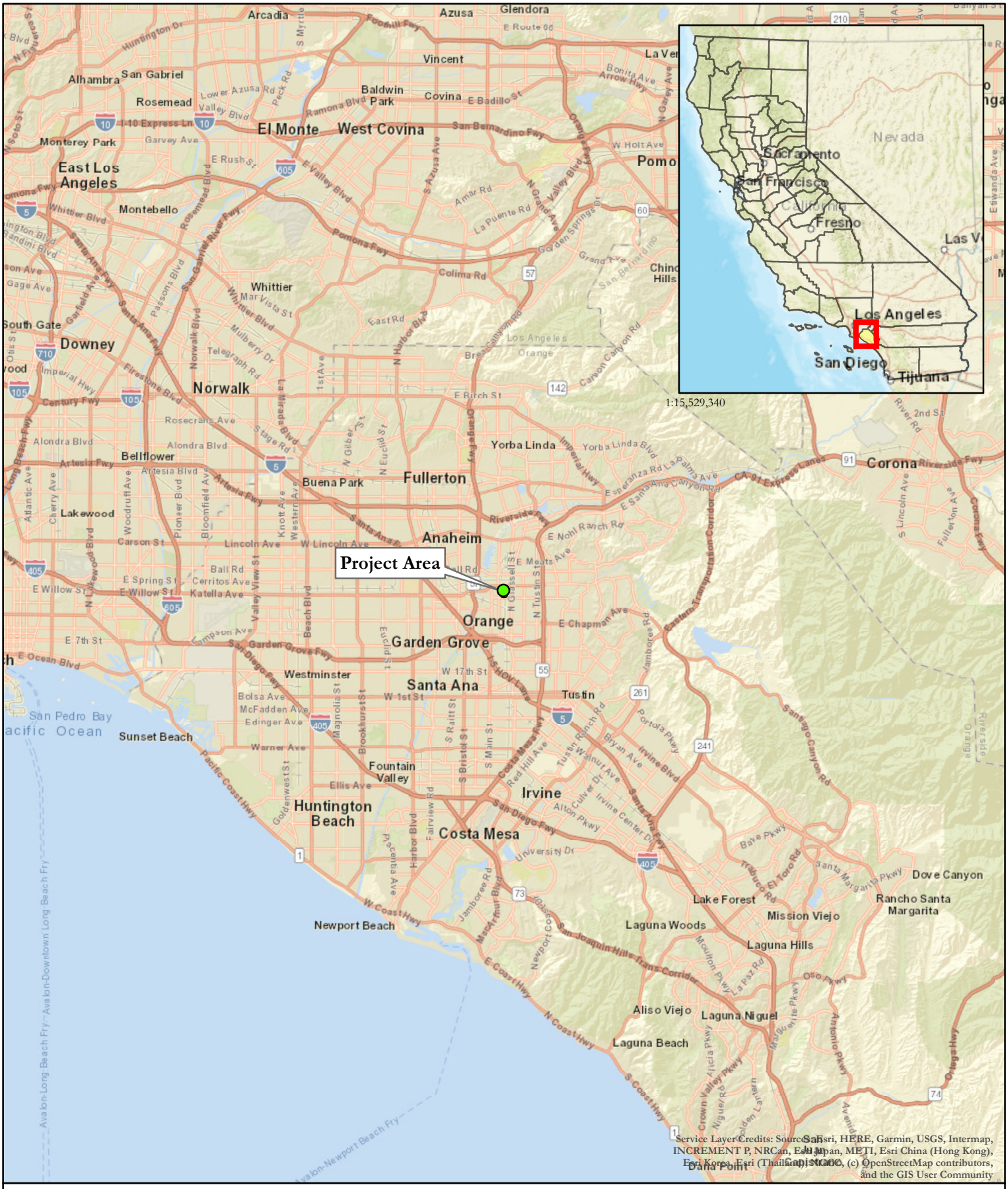
ATTACHMENT 1

PROJECT MAPS



Map 1- Project Vicinity

534 Struck Avenue Project, C-0319

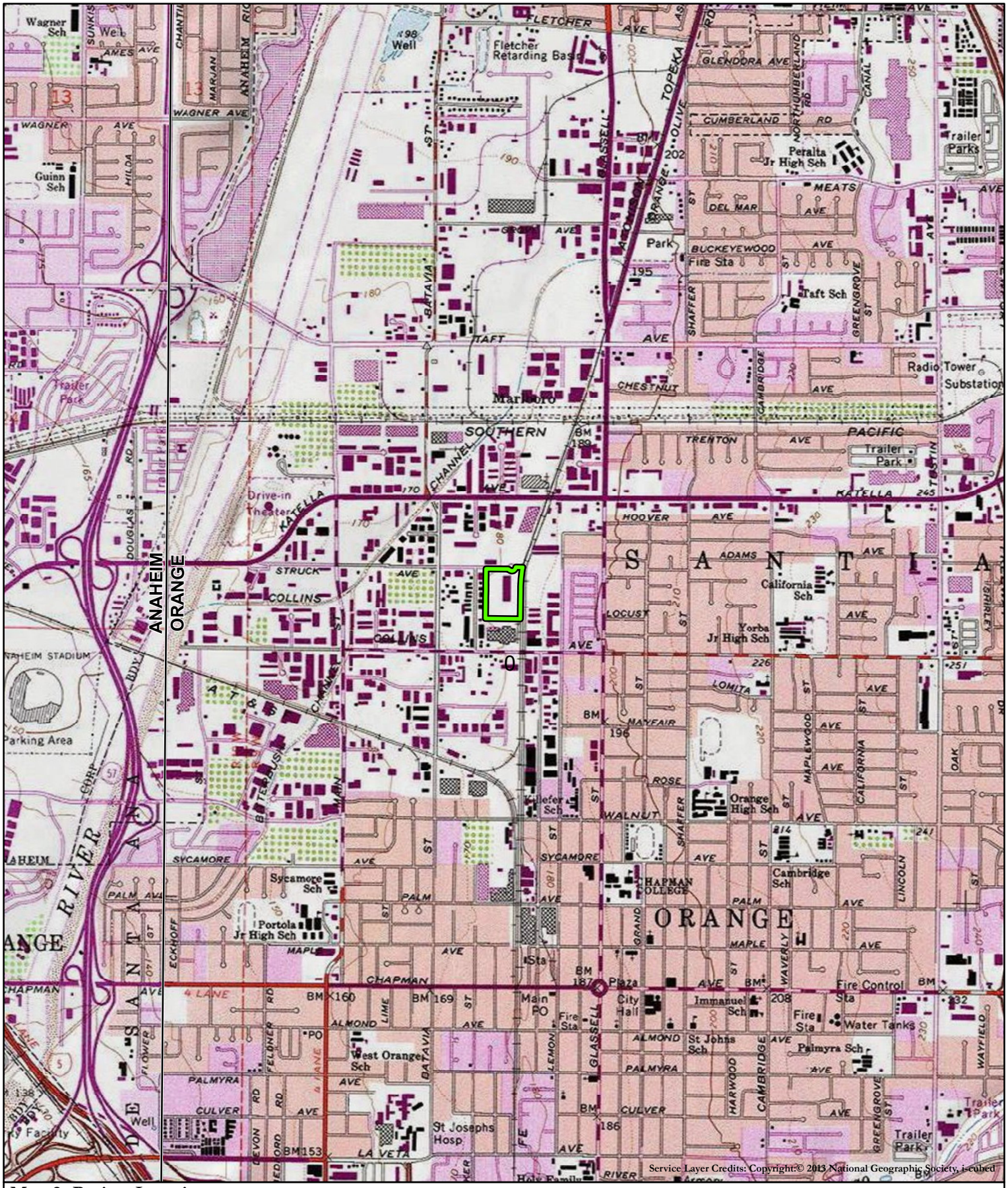
DUKE CRM

Project Area

0 5 10 Miles

1 inch = 5 miles 1:316,800

N



Map 2- Project Location

534 Struck Ave. Project, C-0319

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Project Area

USGS 7.5' Quads

0 0.25 0.5 Miles

0 0.25 0.5 Kilometers

1 inch = 2,000 feet

1:24,000

N

Map 3- Project Aerial

534 Struck Ave., C-0319

DUKE CRM

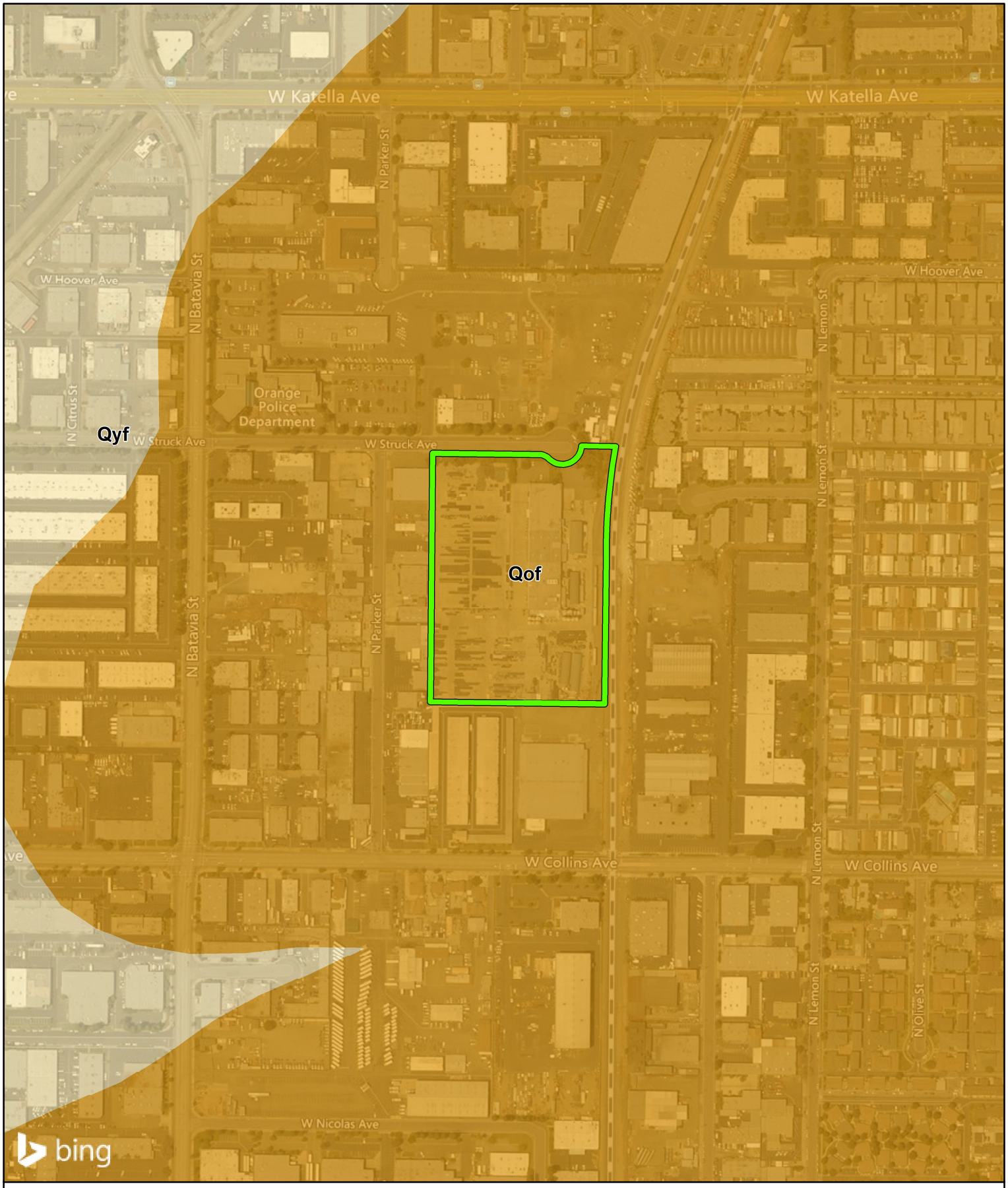
Project Area

0 200 400 Feet

1 inch =400 feet

1:4,800

N



Map 4- Project Geology

534 Struck Ave, C-0319

DUKE CRM

Project Area

Geology from Morton and Miller 2006

Qyf: young alluvial-fan deposits

Qof: old alluvial-fan deposits

0 200 400 Feet

N

1 inch =400 feet 1:4,800

Map 5- Project Soil

534 Struck Ave., C-0319

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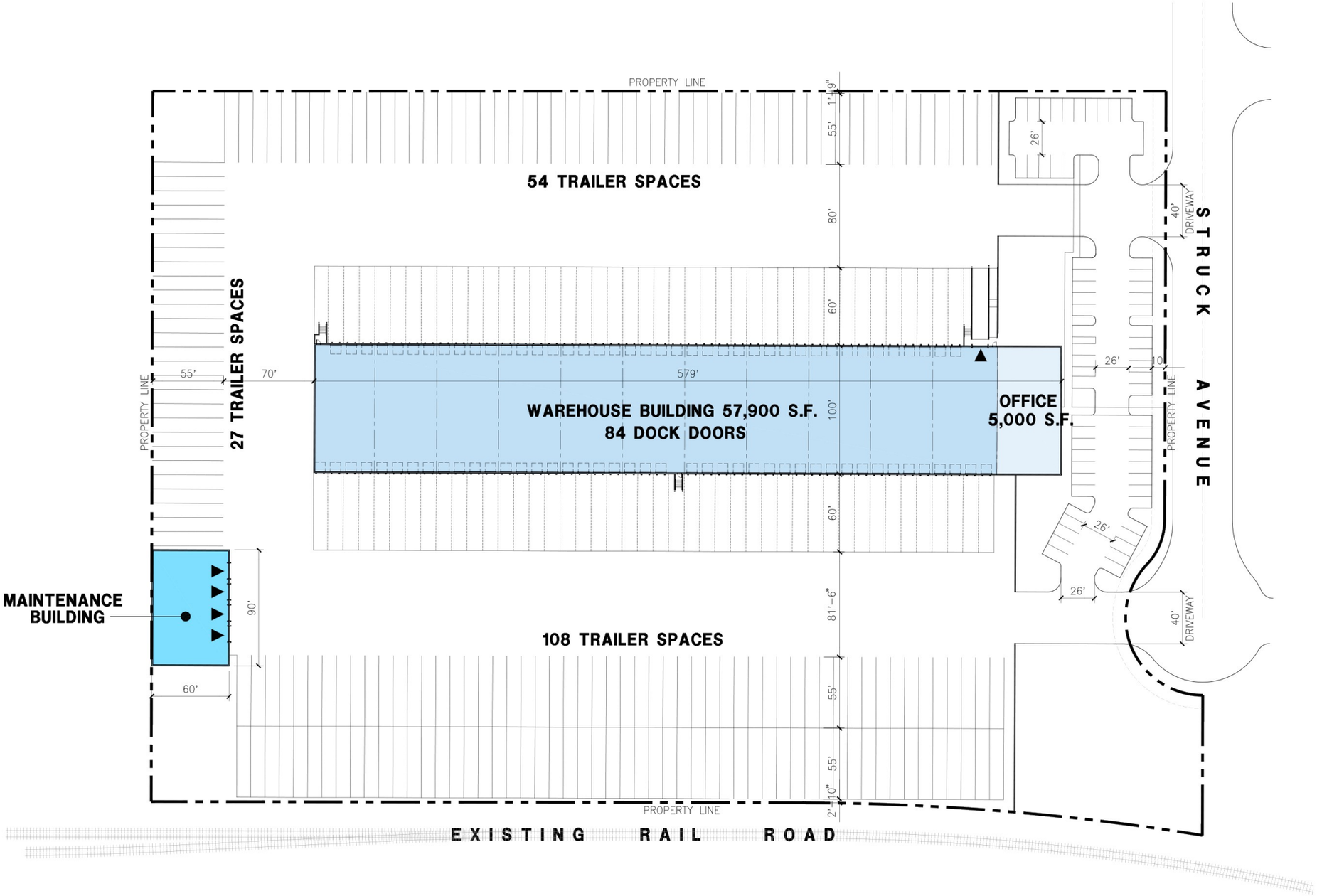
NRCS Map Unit Name

- Modjeska gravelly loam
- Myford sandy loam
- Project Area

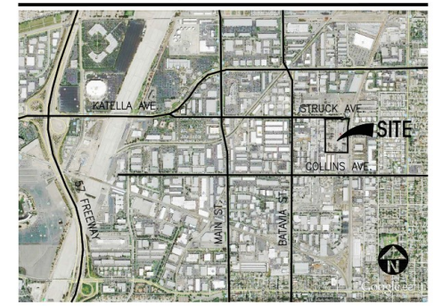
0 50 100 Feet

1 inch =140 feet 1:1,686

N



Aerial Map



Tabulation

SITE AREA	
In s.f.	432,780 s.f.
In acres	9.94 ac
BUILDING AREA	
Office - 1st Floor	5000 s.f.
Warehouse	52,900 s.f.
TOTAL	57,900 s.f.
COVERAGE	13.4%
AUTO PARKING REQUIRED	
Office: 1/250 s.f.	20 stalls
Whse: 1/2,000 s.f.	27 stalls
TOTAL	47 stalls
AUTO PARKING PROVIDED	
Standard (9' x 18')	57 stalls
Accessible (9' x 18')	2 stalls
Accessible Van (12' x 18')	1 stalls
TOTAL	60 stalls
TRAILER PARKING PROVIDED	
Trailer (10' x 55')	189 stalls
ZONING ORDINANCE FOR CITY	
Zoning Designation - Industrial (M-2)	
MAXIMUM BUILDING HEIGHT ALLOWED	
Height - 45'	
MAXIMUM FLOOR AREA RATIO	
FAR - .75	
SETBACKS	
Struct Ave.. - 10'	
Interior side & Rear - 0'	

Legend

POTENTIAL OFFICE

MAINTENANCE

WAREHOUSE

▼ DRIVE THRU DOOR

Note: This is a conceptual plan. It is based on preliminary information which is not fully verified and may be incomplete. It is meant as a comparative aid in examining alternate development strategies and any quantities indicated are subject to revision as more reliable information becomes available.

ATTACHMENT 2

NAHC RESULTS

NATIVE AMERICAN HERITAGE COMMISSION

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Luiseño

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Chumash

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February 24, 2020

Megan Wilson
Duke CRM

Via Email to: meganwilson@dukecrm.com

Re: 534 Struck Avenue Project, Orange County

Dear Ms. Wilson:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Cultural Resources Analyst

Attachment