Appendix D

Paleontological Resources Assessment Report

PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT

CONNECT COACHELLA PROJECT

City of Coachella
Riverside County, California

For Submittal to:

City of Coachella
53990 Enterprise way
Coachella, CA 92236

Prepared for:

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Submitted by:

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November 27, 2023

Approximately seven linear miles
USGS Indio, Calif., 7.5' Quadrangle
Sections 30-32, T5S R8E, and Sections 5, 7-10, and 15-18, T6S R8E, SBBM
City of Coachella Project No. ST-138; CRM TECH Project No. 4031P

EXECUTIVE SUMMARY

Between July and November 2023, at the request of Terra Nova Planning and Research, Inc., CRM TECH performed a paleontological resource assessment for the proposed Connect Coachella Project in the City of Coachella, which seeks to establish Class I and Class II bicycle lanes along segments of Avenue 48, Grapefruit Boulevard, and Avenue 54. The project alignments lie within the existing right-of-way of Avenue 48 from Dillon Road to Grapefruit Boulevard, the Grapefruit Boulevard right-of-way from Avenue 48 to Leoco Lane and from 9th Street to Avenue 54, and the Avenue 54 right-of-way from Jackson Street to the Coachella Valley Stormwater Channel. Measuring approximately seven linear miles in total length, the project route extends across portions of Sections 30-32 of T5S R8E and Sections 5, 7-10, and 15-18 of T6S R8E, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the project. The City of Coachella, as the project proponent and the lead agency, 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. 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 paleontological records search, conducted a literature review, and carried out a systematic field survey of the project area, in accordance with the guidelines of the Society of Vertebrate Paleontology.

The results of these research procedures indicate that the project's potential to impact significant paleontological resources appears to be low in the extensively disturbed surface and near-surface soils of Holocene age but high in the subsurface Pleistocene alluvial sediments that may be present at unknown depths. Therefore, CRM TECH recommends that a mitigation program be developed and implemented for the proposed project to prevent impact on paleontological resources or reduce such impact to a level less than significant. As the primary component of the mitigation program, all earth-moving operations impacting relatively undisturbed native soils below the depth of three feet should be monitored periodically by a qualified paleontological monitor to ensure the timely identification of potentially fossil-bearing sediments. If such sediments are exposed, continuous monitoring will become necessary. Under this condition, CRM TECH further recommends that the proposed project may be cleared to proceed in compliance with CEQA provisions on paleontological resources.

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INTRODUCTION

Between July and November 2023, at the request of Terra Nova Planning and Research, Inc., CRM TECH performed a paleontological resource assessment for the proposed Connect Coachella Project in the City of Coachella, which seeks to establish Class I and Class II bicycle lanes along segments of Avenue 48, Grapefruit Boulevard, and Avenue 54 (Figs. 1-3). The project alignments lie within the existing right-of-way of Avenue 48 from Dillon Road to Grapefruit Boulevard, the Grapefruit Boulevard right-of-way from Avenue 48 to Leoco Lane and from 9th Street to Avenue 54, and the Avenue 54 right-of-way from Jackson Street to the Coachella Valley Stormwater Channel (Figs. 2a, 2b, 3). Measuring approximately seven linear miles in total length, the project route extends across portions of Sections 30-32 of T5S R8E and Sections 5, 7-10, and 15-18 of T6S R8E, San Bernardino Baseline and Meridian (Figs. 2a, 2b).

The study is part of the environmental review process for the project. The City of Coachella, as the project proponent and the lead agency, 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.

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 paleontological records search, conducted a literature review, and carried out a systematic field survey of the project area, in accordance with the guidelines of the Society of Vertebrate Paleontology. The following report is a complete account of the methods, results, and final

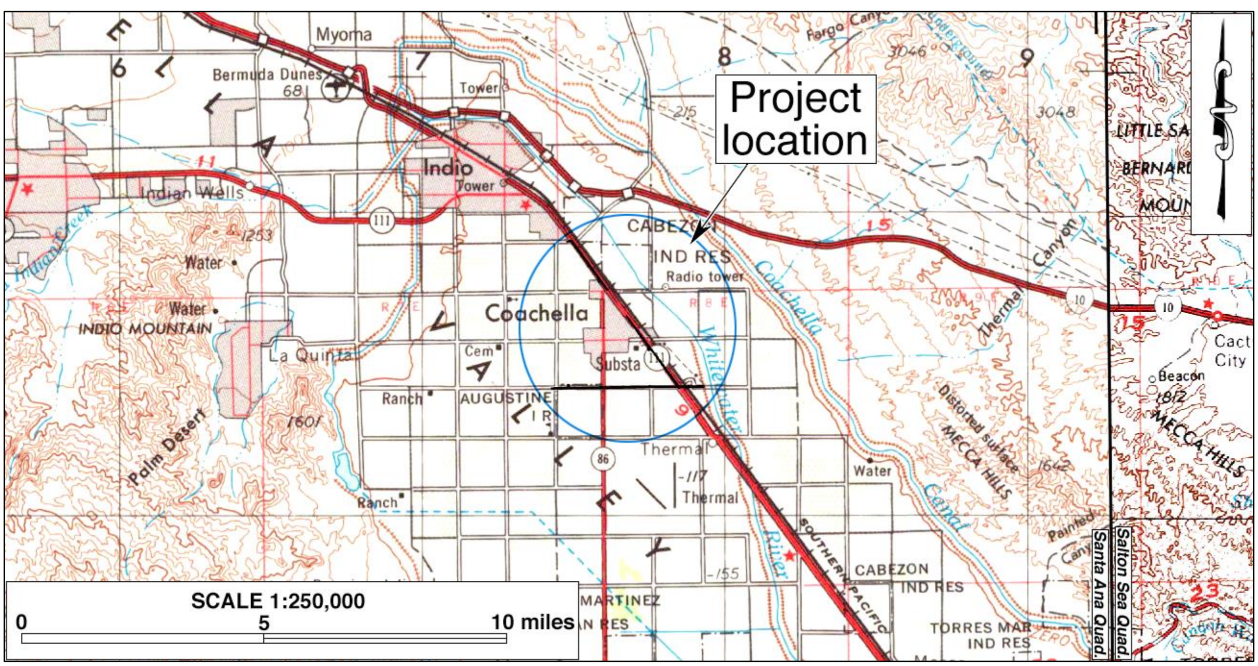

Figure 1. Project vicinity. (Based on USGS Salton Sea, Calif.-Ariz., and Santa Ana, Calif., 120’x60’ quadrangles [USGS 1969; 1979])

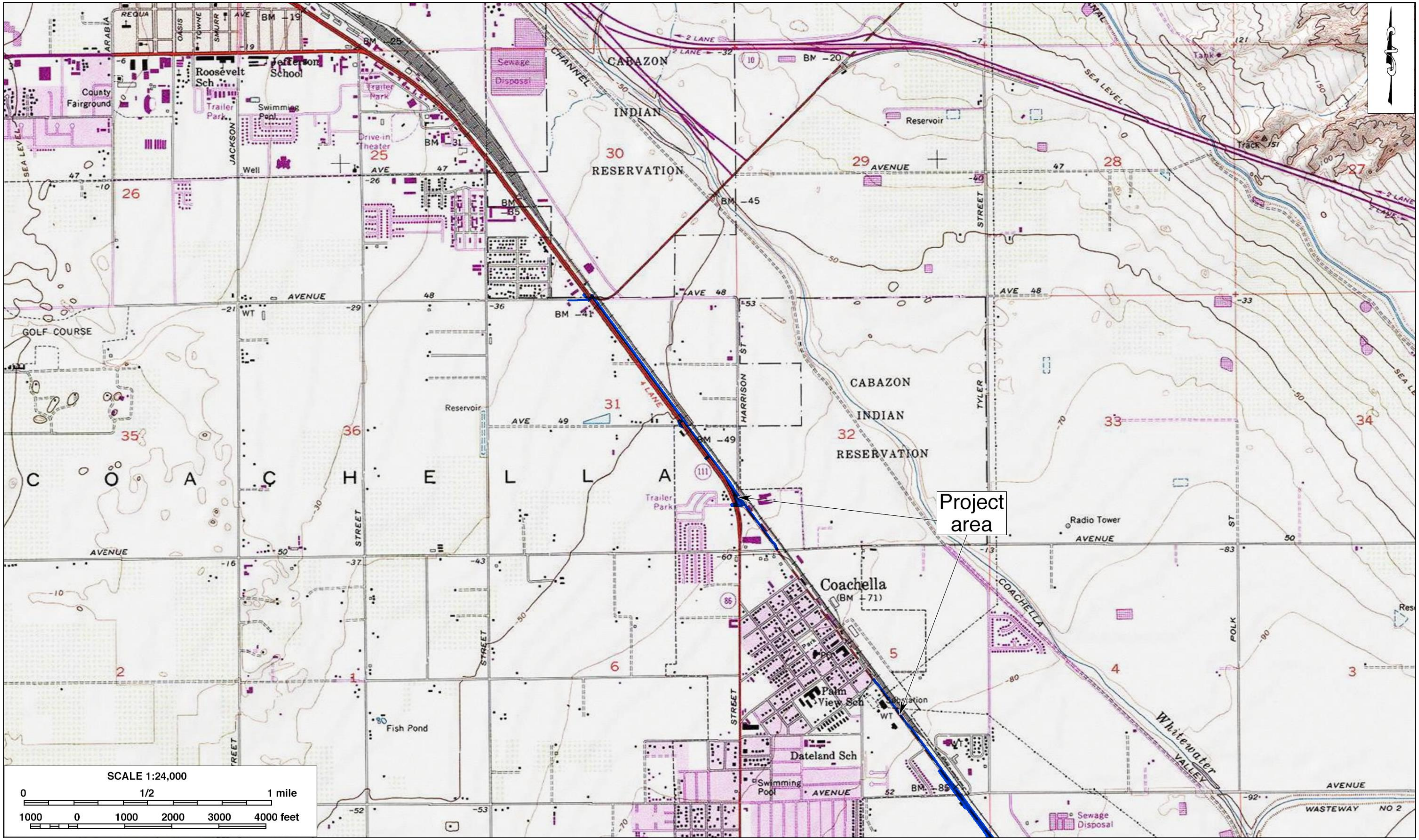

Figure 2a. Northern portion of the project area. (Based on USGS Indio, Calif., 7.5' quadrangle [USGS 1972a])

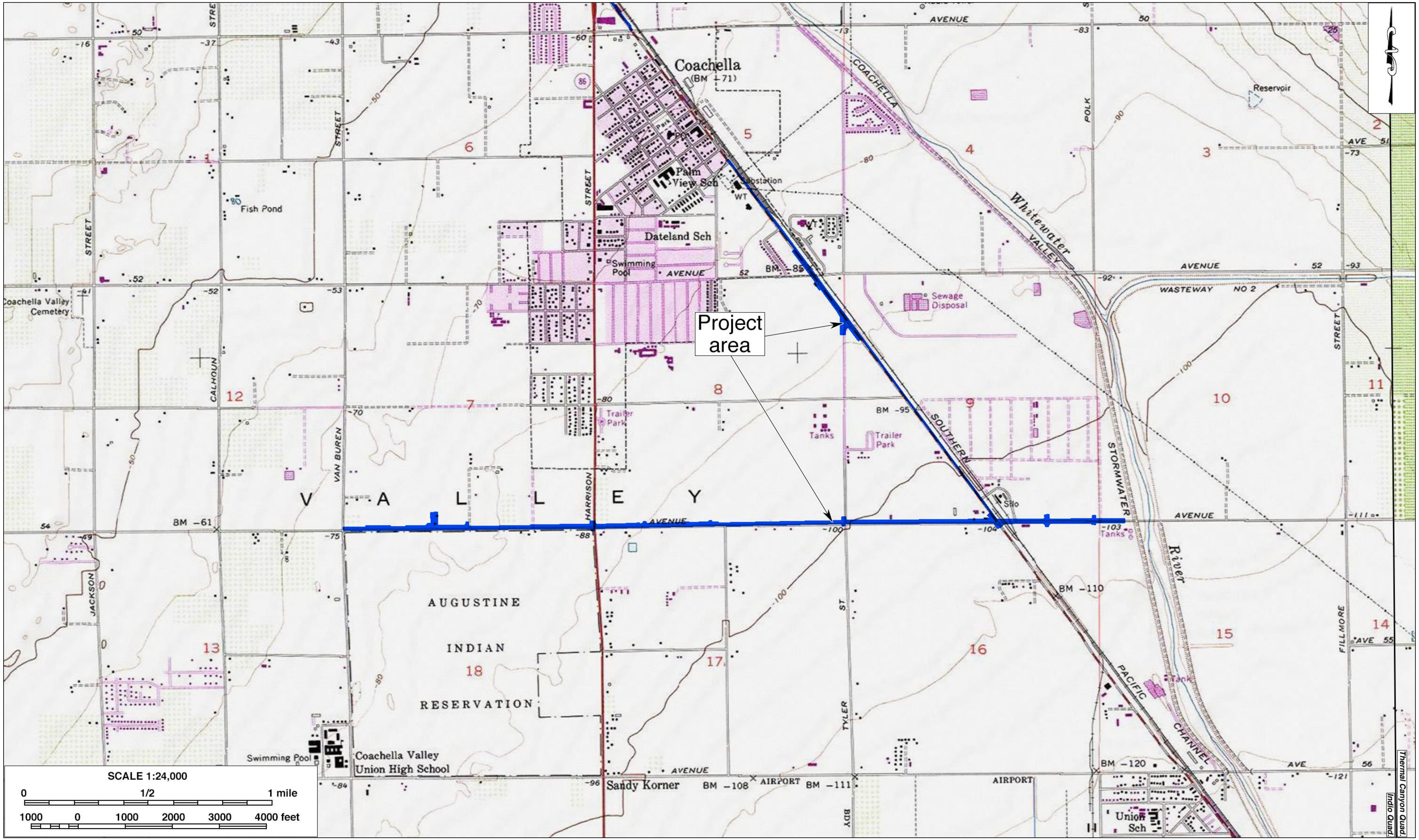

Figure 2b. Southern portion of the project area. (Based on USGS Indio and Thermal Canyon, Calif., 7.5' quadrangles [USGS 1972a; 1972b])

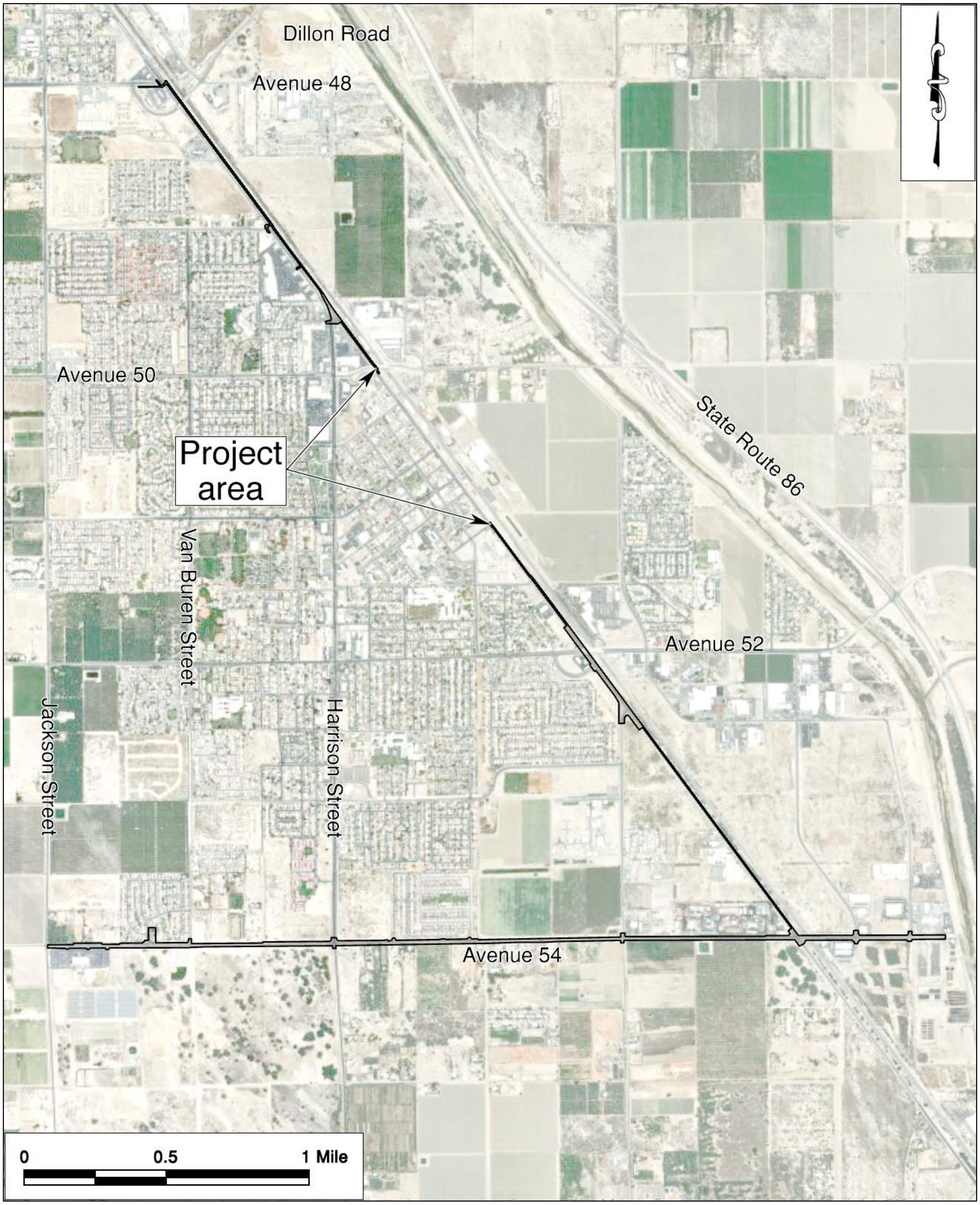

Figure 3. Recent satellite image of the project area.

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.

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, typically older than recorded human history and/or older than the middle Holocene Epoch, which dates to circa 5,000 radiocarbon years (Society of Vertebrate Paleontology 2010:11).

Common fossil remains include marine and freshwater mollusk shells; the bones and teeth of fish, amphibians, reptiles, and mammals; leaf imprint 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 (2003:6) 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 biotas;
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 to yield a large collection of fossil remains but also the potential to yield a few fossils that can 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

REGIONAL GEOLOGY

The City of Coachella lies in the heart of the Coachella Valley, which occupies the northwestern portion of the Colorado Desert geomorphic province (Jenkins 1980:40-41; Harms 1996:iii; Harden 2004:63-64). The Colorado Desert province, one of 11 in the state of California, is bounded by the Peninsular Ranges province on the southwest, the eastern portion of the Transverse Ranges province on the north, and the southern portion of the Mojave Desert province on the northeast (*ibid*.). The province widens to the southeast as it extends through the Imperial Valley and into Mexico.

One of the major features within the Colorado Desert province is the Salton Trough, a 290-kilometer-long (approximately 180 miles) structural depression containing the present-day Salton Sea. Historically, the Salton Trough was the site of Holocene Lake Cahuilla, which was in fact a series of lakes that once filled portions of the depression, including much of the Coachella Valley. Some 4.5 million years ago, the Salton Trough was a northward extension of the Gulf of California (Powell 1995). At that time the gulf extended as far north as the Painted Hills area, just northeast of where the Whitewater River intersects the Interstate 10 today. Rocks containing marine fossils that were deposited during this period can be found outcropping at Painted Hill, Garnet Hill, and at least two places in the Indio Hills (Proctor 1968:Plate 1).

The Salton Trough was eventually cut off from the Gulf of California by the delta built up at the mouth of the Colorado River. Containing materials eroded from the Grand Canyon, this delta extended across the gulf from one end to the other, creating a barrier between the gulf and the trough. While much of the Salton Trough is below sea level, the delta prevents any gulf waters from reaching the trough. Conversely, the delta prevents any water in the trough from flowing to the gulf except when the trough is full and the water level rises over the delta.

The delta determined the direction of flow for the Colorado River. When the flow was to the north, it went into the Salton Basin and over time filled it to the spill point of the delta. Once the spill point was reached, the water forming a Holocene Lake Cahuilla would flow over the western portion of the delta and south through Baja California to the Gulf of California. When the flow of the river switched to the south, the Colorado River would flow directly to the gulf and the waters filling the Salton Basin would evaporate, leaving behind a salt-encrusted basin at the lowest point. As floods occurred on the Colorado River, the flow of water switched directions many times, resulting in the development of a series of lakes filling the Salton Basin, and probably many more that partially filled the basin.

Along the western shoreline of the lake, tufa was deposited on some of the rocks. At Travertine Point, the tufa is in some places over a foot thick and has been deposited in layers, forming bands somewhat like the rings in a tree. The rings in these tufa bands developed from weathering of the tufa when the lake was absent and the tufa deposits between the rings represent times when the lake waters were present. Based on one tufa coated boulder near the northeast portion of Travertine Point, there have been at least five lake fillings, and the changes in tufa thickness between the erosion rings indicate that these different fillings had varied duration.

Another localized feature to be found within the Coachella Valley is the Whitewater River Delta/Dune Complex, an area along the Whitewater River drainage from near Point Happy eastward to just past Jefferson Street (Quinn 1999). When Holocene Lake Cahuilla was present and the Whitewater River had flowing water, the river developed a delta in this area that prograded into the lake. This same area is the terminus of a large sand dune high, or ridge, that extends east-southeast from the San Gorgonio Pass area. This sand dune ridge can still be seen today as a high area separating the low regions along the north and south sides of the valley.

During its last high stand, Holocene Lake Cahuilla reached the present-day 42-foot contour line before desiccating around 1730 A.D. (Rockwell et al. 2022). An earlier high stand of ancient Lake Cahuilla, however, reached the elevation of approximately 160 feet above mean sea level during the Pleistocene Epoch (Stokes et al. 1997). The current elevations in the project area range approximately from 110 feet and 40 feet below mean sea level. These elevations place the location inside the lakebed of Holocene Lake Cahuilla, within that of its Pleistocene predecessor, within the Whitewater Delta/Dune Complex (Quinn 1999), and a short distance to the east of the former delta itself (Rogers 1965).

CURRENT NATURAL SETTING

Dictated by its geographic setting in the vast Colorado Desert, the climate and environment of the Coachella Valley region are typical of southern California's desert country, marked by extremes in temperature and aridity. Temperatures in the region reach over 120 degrees in summer, and dip to freezing in winter. Average annual precipitation is less than five inches, and the average annual evaporation rate exceeds three feet.

The project alignments extend across relatively level terrain on the valley floor, with a slight incline in elevation towards the north. Confined within the rights-of-way of three major public roadways in in the City of Coachella, the surface soils in the project area have been extensively disturbed in the past by road construction and maintenance as well as underground utility work. The project route along Grapefruit Boulevard is flanked by the Union Pacific Railroad on the east and mostly by commercial properties on the west. Elsewhere along the project route, the surrounding land features mainly residential properties and agricultural fields, along with some parcels of vacant desert land.

In its native state, vegetation common to the vicinity would be consistent with the Creosote Bush Scrub Plant Community, featuring creosote bush, prickly pear cactus, cholla, brittlebush, and globemallow. At the present time, however, very little vegetation remains within the project boundaries, while the surrounding land hosts various growths of agricultural crops, landscaping plants, rabbitbrush, tumbleweed, and other small desert shrubs and grasses (Fig. 4). The surface soils are composed mainly of pale brown loam, light brownish gray very fine sandy loam, and light olive gray fine sand.

Figure 4. Typical landscape in the project area, view to the northwest along Grapefruit Boulevard. (Photograph taken on August 25, 2023)

METHODS AND PROCEDURES

RECORDS SEARCHES

The paleontological records search service for this study was provided by the Western Science Center (WSC) in Hemet, which maintains files of regional paleontological localities as well as supporting maps and documents. The records search results were used to identify known previously performed paleontological resource assessments as well as known paleontological localities within a one-mile radius of the project area. A copy of the records search results is attached to this report in Appendix 2.

LITERATURE REVIEW

In conjunction with the records search, CRM TECH report writer Breidy Q. Vilcahuaman reviewed geological literature pertaining to the project vicinity under the direction of principal paleontologist Ron C. Schmidtling. Sources consulted during the review include primarily topographic, geologic, and soil maps of the Coachella Valley region, published geologic literature pertaining to the project location, 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

CRM TECH field director Daniel Ballester carried out the field survey of the project area on August 25, 2023. Most of the survey was conducted at an intensive level by walking along the side of the roadway where the proposed bicycle lane will be placed and closely inspecting the ground surface for any indication of potential cultural resources. In the portion of the project area along Avenue 54 and to the west of Grapefruit Boulevard, it was unclear at the time of the survey which side of the roadway the bicycle lane will be placed. Parts of that area were surveyed at a reconnaissance level from a slow-moving vehicle to facilitate efficient inspection of both sides of the street, while the other parts were surveyed on foot.

Using these methods, the entire project area was systematically examined to determine soil types, verify the geological formations, and search for indications of paleontological remains. Other than the portions under road pavement, visibility of the native ground surface was excellent throughout the project area due to the sparsity of vegetation growth. In light of the extent of past ground disturbances along these major public roadways, the survey methods and ground visibility were deemed sufficient for the purpose of this study.

RESULTS AND FINDINGS

RECORDS SEARCHES

The records search by the WSC identified no known paleontological localities within or adjacent to the project area (Stoneburn 2023; see App. 2). In the surrounding area, a paleontological locality has been reported roughly 1.5 miles west of the northern portion of the project area, where fossil remains such as bivalves and gastropods were collected during the Imagine Coachella Project (*ibid.*). According to the WSC, the geological formation in the project area consists of Holocene-age deposits of alluvial sand, clay, and silt. These younger Quaternary deposits typically do not contain fossilized materials due to their relatively recent age. However, deeper excavations could potentially reach paleontologically sensitive Pleistocene alluvial deposits (*ibid.*). Based on this assessment, the WSC recommends that a paleontological resource mitigation program be implemented.

LITERATURE REVIEW

The surface geology in the project area was mapped by Rogers (1965) as *Qal-Ql*, or Quaternary lake deposits and alluvium of recent age. Dibblee and Minch (2008) mapped the surface geology in the project area as *Qa/Qc* (Figure 5). *Qa* was described as “alluvial sand and clay of valley areas” and *Qc* as “clay of playa lakes, light gray, generally alkaline, with some micaceous silt,” both of them Holocene in age (*ibid*.). Lancaster et al. (2012) mapped the surface sediments in this area as *Qw and Qya*. *Qw*, or alluvial wash deposits of Holocene age, was described as “unconsolidated sandy and gravelly sediment deposited in recently active channels of streams and rivers,” while *Qya*, or young alluvial valley deposits, was described as “unconsolidated to slightly consolidated, undissected to slightly dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers” (*ibid*.). None of these geologic maps shows older sediments on the surface in the immediate vicinity of the project area.

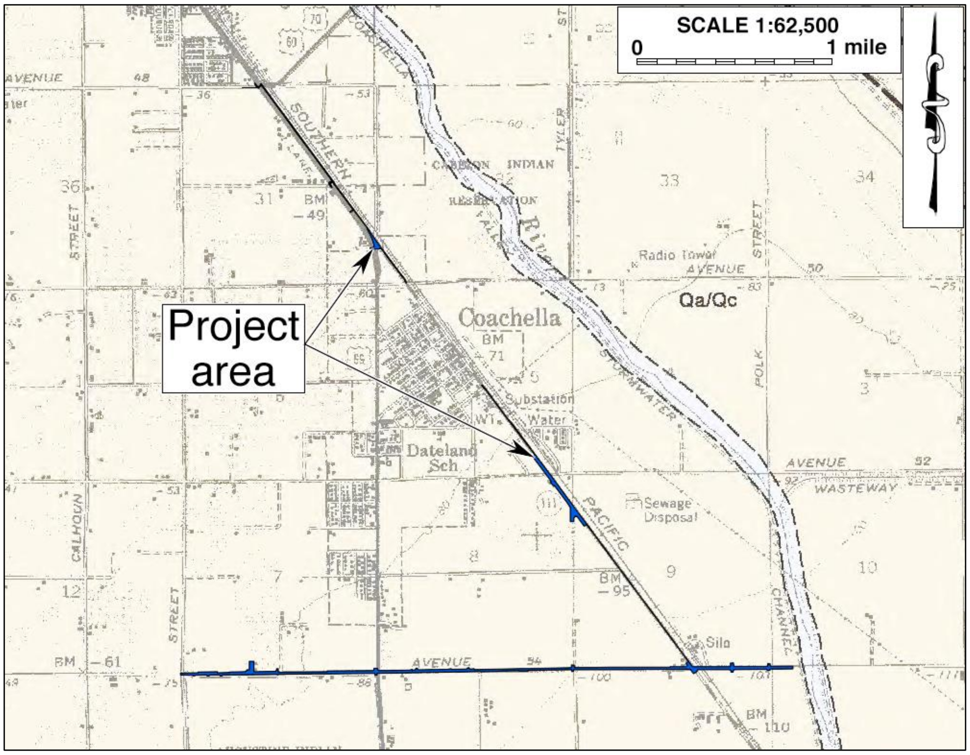

Figure 5. Geologic map of the project area. (Based on Dibblee and Minch 2008)

The surface soils in the northern portion of the project area were mapped by Knecht (1980:Map Sheet 12) as *Is* (Indio very fine sandy loam), *GeA* (Gilman silt loam, 0 to 2 percent slope), and *CrA* (Coachella Fine Sand, west, 0 to 2 percent slopes), while the southern portion was mapped as *GcA* (Gilman fine sandy loam, wet, 0 to 2 percent slope), *GfA* (Gilman silt loam, wet, 0 to 2 percent slope), *Ir* (Indio fine sandy loam, wet), and *It* (Indio very fine sandy loam, wet). The *GcA*-, *GfA*-, and *GeA*-type soils belong to the Gilman series and consist of well drained soils that formed in stratified stream alluvium (*ibid.*:17). The *It*-, *Ir*-, and *Is*-type soils belong to the Indio series and consist of well- or moderately well-drained soils formed in alluvium (*ibid.*:20). The *CrA*-type soils, wet, 0 to 2 percent slopes, belong to the Coachella series, a well-drained soil formed in alluvium (*ibid.*:15).

FIELD SURVEY

No notable surface manifestation of any paleontological remains was found within the project area during the field survey. Although some freshwater gastropod (snail) and pelycopod (bivalve) shells were observed on the surface, these are relatively recent in age. The field inspection confirmed that the ground surface in essentially the entire project area has been extensively disturbed in the past by construction, maintenance, and landscaping activities associated with the existing roadways and underground utility lines.

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 study results presented above, the proposed project's potential to impact significant paleontological resources appears to be low in the extensively disturbed surface and near-surface soils of Holocene age but high in the subsurface Pleistocene alluvial sediments that may be present at unknown depths. Because of the extensive past disturbances, no paleontological monitoring will be necessary for earth-moving operations within the surface and near surface soils, generally around 3-5 feet in depth. Once the earth-moving operations reach beyond that depth, however, it is recommended that a mitigation program be developed and implemented to prevent potential impact on paleontological resources or reduce such impact 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:

- Ground disturbances reaching more than three feet in depth should be monitored periodically by a qualified paleontological monitor to ensure the timely identification of potentially fossil-bearing sediments. Monitoring should be restricted to undisturbed Lake Cahuilla beds and any older, undisturbed subsurface alluvium that may be present below the surface.
- If potentially fossil-bearing sediments are exposed, continuous monitoring will become necessary. The monitor should be prepared to quickly salvage fossils, if they are unearthed, to avoid construction delays, but must have the power to temporarily halt or divert construction equipment to allow for removal of abundant or large specimens.
- Samples of sediments should be collected and processed to recover small fossil remains.
- Recovered specimens should be identified and curated at a repository with permanent retrievable storage that would allow for further research in the future.
- A report of findings, including an itemized inventory of recovered specimens and a discussion of their significance when appropriate, should be prepared upon completion of the research procedures outlined above. The approval of the report and the inventory by the City of Coachella would signify completion of the mitigation program.

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

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1972a Map: Indio, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1972.
1972b Map: Thermal Canyon, Calif. (7.5', 1:24,000); 1956 edition photorevised in 1972.
1979 Map: Santa Ana, Calif. (120'x60', 1:250,000); 1959 edition revised.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PROJECT PALEONTOLOGIST
Ron Schmidtling, M.S.

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.

REPORT WRITER
Breidy Q. Vilcahuaman, M.A., RPA (Registered Professional Archaeologist)

Education

2018	M.A., Anthropology, Georgia State University, Atlanta, Georgia.
2005	B.A., Anthropology, University Nacional del Centro del Peru.

Professional Experience

2022-	Project Archaeologist, CRM TECH, Colton, California.
2021-2022	Archaeological Technician, Applied Earthwork, Inc., Hemet, California.
2021	Archaeologist/Crew Chief, Historical Research Associates, Inc., Portland, Oregon.
2020-2021	Archaeological/Paleontological Technician, Cogstone Resource Management, Orange, California.
2020	Archaeological Technician, McKenna et al., Whittier, California.

FIELD DIRECTOR/PALENTOLOGICAL SURVEYOR
Daniel Ballester, M.S.

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.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
1999-2002	Project Paleontologist/Archaeologist, 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.

APPENDIX 2

RECORDS SEARCH RESULTS

WESTERN SCIENCE CENTER

August 9th, 20223

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

Dear Ms. Gallardo,

This letter presents the results of a record search conducted for the Proposed Connect Coachella City Project in the community of Coachella, Riverside County, CA. The project area is along Grapefruit Blvd between Avenue 48 and Avenue 54, and along Avenue 54 between Van Buren Blvd and Polk Street, on Township 5 South, Range 8 East, Sections 30-32, and on Township 6 South, Range 8 East, Sections 5, 7-10 on the *Palm Desert* and *Coachella, CA* USGS 15 minute quadrangles.

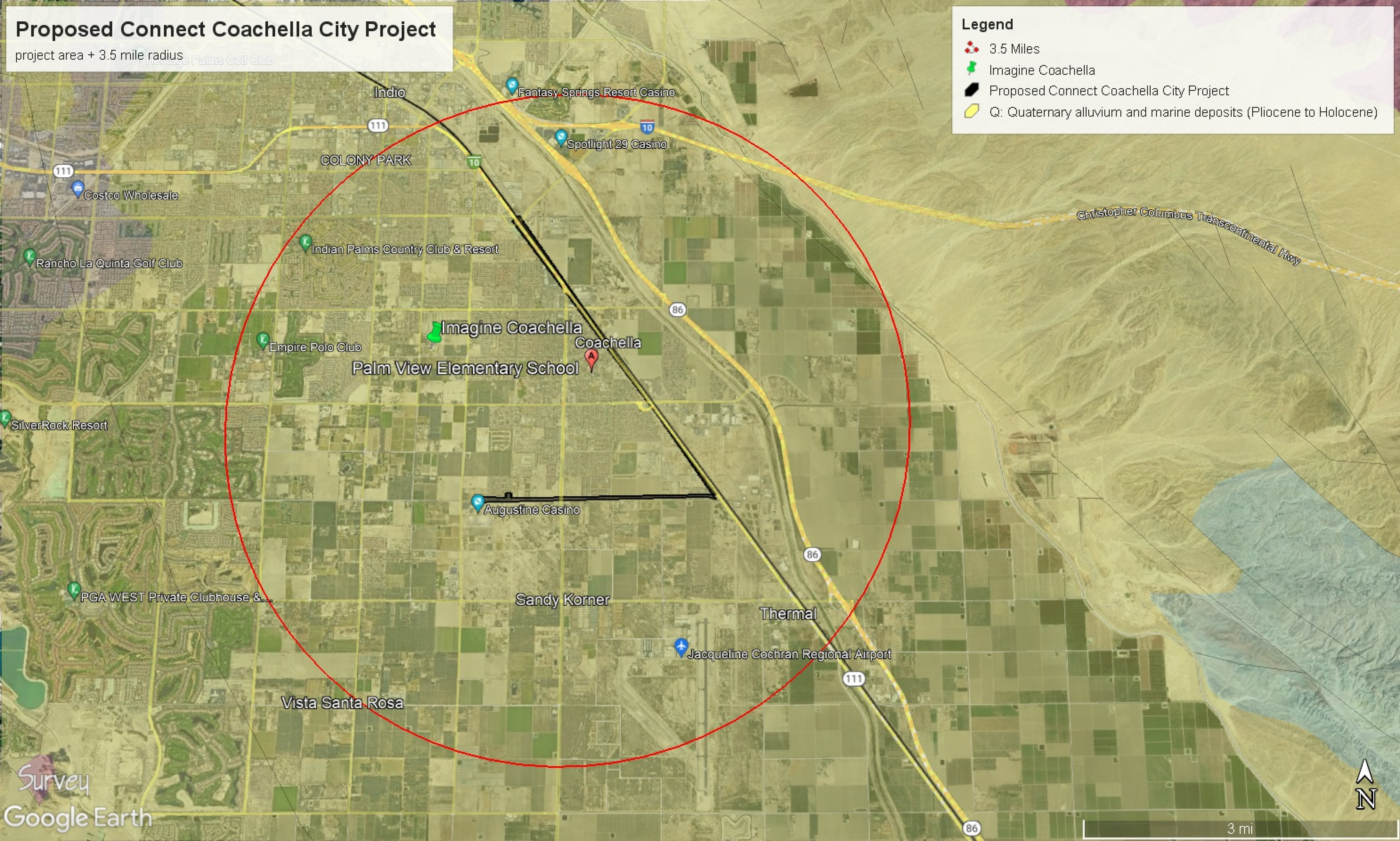
The geologic units underlying this project are mapped primarily as Holocene aged deposits of alluvial sand, clay, and silt (Dibblee and Minch 2008). Holocene alluvial units are considered to be of high preservation value, but material found is unlikely to be fossil material due to the relatively modern associated dates of the deposits. However, if development requires any substantial depth of disturbance, the likelihood of reaching Pleistocene alluvial sediments would increase. The Western Science Center does have a locality within a 3.5 mile radius of the project area (which was chosen to accommodate the size of the project): the Imagine Coachella Project, which lies just over 1.5 miles from the project area. The Imagine Coachella Project resulted in a collection of bivalves, gastropods, and more.

Any fossils recovered from the Proposed Connect Coachella City Project area would be scientifically significant. Despite the report of Holocene deposits, due to the proximity of the Imagine Coachella Project, 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, please feel free to contact me at bstoneburg@westerncentermuseum.org.

Sincerely,

Brittney Elizabeth Stoneburg, MSc
Collections Manager



Proposed Connect Coachella City Project
project area + 3.5 mile radius
Legend
3.5 Miles
Imagine Coachella
Proposed Connect Coachella City Project
Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)
Indio
Fantasy Springs Resort Casino
Spotlight 29 Casino
COLONY PARK
Costco Wholesale
Indian Palms Country Club & Resort
Rancho La Quinta Golf Club
Christopher Columbus Transcontinental Hwy
Imagine Coachella
Coachella
Empire Polo Club
Palm View Elementary School
SilverRock Resort
Augustine Casino
PGA WEST Private Clubhouse &...
Sandy Korner
Thermal
Jacqueline Cochran Regional Airport
Vista Santa Rosa
Google Earth
3 mi
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