REVISED September 2021
May 2021

MATERIAL CULTURE
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Submitted to:

EPD Solutions
2 Park Plaza, Suite 1120
Irvine, CA 92614

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

Redlands Mall Redevelopment Project

City of Redlands, San Bernardino County, California

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PHASE I CULTURAL AND PALEONTOLOGICAL ASSESSMENT: REDLANDS MALL REDEVELOPMENT PROJECT CITY OF REDLANDS, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:
E|P|D Solutions, Inc.
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Erika McMullin, B.A.

***REVISED September 2021* May 2021**

Type of Study: Phase I Cultural and Paleontological Assessment
Cultural/ Paleontological Resources within Area of Potential Impact: One Cultural Resource
Paleontological Formations: young wash deposits, very old axial-valley deposits, older Quaternary alluvium
USGS 7.5-minute Quadrangle(s): Section 27 of Township 1 S, Range 3 W, Redlands
Survey Area: 12.25acres
APNs: 017105301, 017105302, 017105303, 017105305, 017125106, 017125107, 017125108, 017125109, 017125110
Key Words: Archaeology, Paleontology, CEQA, Positive Report, Young Wash Deposits, Young Axial-Valley Deposits, Quaternary Alluvium, Low Paleontological Sensitivity, Moderate Paleontological Sensitivity, San Bernardino County, City of Redlands, Downtown Redlands

MANAGEMENT SUMMARY

The Redlands Mall Redevelopment Project (hereafter referred to as Project or Project Area) proposes the redevelopment of the Redlands Mall to include commercial and mixed-use buildings, public pedestrian paseos, and underground parking garages. Its goal is to transform the previous mall site into a pedestrian-oriented extension of Downtown Redlands, reminiscent of what the Project Area was prior to the development of the mall in 1977. The Project Area encompasses a total of 12.25 acres of land, which is primarily located at 129 West Redlands Boulevard, in the City of Redlands, San Bernardino County, California. Material Culture Consulting, Inc (MCC) was retained by EPD Solutions to conduct a Phase I assessment of cultural and paleontological resources of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a California Historical Resources Information System (CHRIS) records search at the South Central Coastal Information Center (SCCIC), and background/literature research, a locality search at the Natural History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), outreach efforts with 19 Native American tribal representatives, and an intensive-level pedestrian survey of the Project Area. The CHRIS records search, paleontological locality search from LACM, and SLF search results are based off the results for the Transit Village Specific Plan (TVSP)project conducted by MCC in 2020 to 2021.

On September 22, 2020, staff from the South Central Coastal Information Center (SCCIC), located at California State University, Fullerton, conducted a search of the California Historical Resource Information System (CHRIS). The cultural resource records search identified a total of 28 previously conducted cultural investigations within a ½-mile of the Project Area. Twenty-two of these reports are within ¼-mile of the Project Area. The cultural resources records search identified 408 previously recorded cultural resources within a ½ -mile radius of the Project Area, of which one, the Mill Creek Zanja, is located within the Project Area itself. The Mill Creek Zanja is listed as California Historic Landmark Number 43. Segments of the Zanja are listed on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). Eight of the 408 previously recorded cultural resources are historic archaeological sites, and the rest, 400, are historic properties. None of the resources are of prehistoric-age.

The SLF search was positive for previously known tribal cultural resources or sacred lands within the Project Area or within a mile of the Project Area. On September 14, 2020, the NAHC provided MCC with contact information for the San Manuel Band of Mission Indians, in addition to 18 other tribes/individuals, to reach out to for additional information. MCC sent letters on April 24, 2021 to all 19 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email or phone call were made on May 11, 2021 and May 18, 2021. As a result of the outreach effort, MCC received three responses from tribes/contacts, including Quechan Tribe of the Fort Yuma Reservation, San Manuel Band of Mission Indians, and Cahuilla Band of Indians. Of these responses, one Native American tribe, Cahuilla Band of Indians, stated an interest in the Project and requested a Tribal Monitor to be present during ground disturbance. San Manuel Band of Mission Indians stated that the Project is not near any SLFs and they have responded to the AB52 and SB18 requests by the City. None of the tribes shared specific information regarding tribal cultural resources within the Project Area or immediate vicinity of the Project Area. MCC did not conduct formal consultation with any of the Native American representatives.

The Project Area is comprised of younger Quaternary alluvium, specifically young wash deposits. The Project is near older Quaternary alluvium, old alluvial-fan deposits and very old axial-valley deposits. It is likely that the entire Project Area is underlain by older Quaternary deposits, lying at an unknown depth beneath previously-disturbed sediments. No previously recorded fossil localities are located within one mile of the Project Area.

MCC Archaeologist and cross-trained Paleontologist Erika McMullin conducted the cultural and paleontological survey of the Project Area on May 12, 2021. During fieldwork, survey conditions were poor due to the entire Project Area being in a highly urbanized environment. The Project Area is fully developed with the Redlands Mall building, a freestanding building located at the intersection of Orange Avenue and Redlands Boulevard, and paved parking lots with commercialized landscaping noted. The previously recorded resource, the Mill Creek Zanja, was not relocated during the pedestrian survey. No archaeological or paleontological resources were observed during the survey.

The potential for encountering significant cultural resources within the Project Area is considered low to moderate due to the historic resource, the Mill Creek Zanja, being present subsurface in the northwestern portion of the Project Area. A subsurface segment of the Zanja was discovered directly east of the Project Area at the southeastern intersection of Orange Street and Redlands Boulevard. The portion of the Zanja that runs under Downtown Redlands was enclosed during the 1930s. Currently, the Zanja is used as a flood control channel and may still be in use within the Project Area as a stormwater easement. MCC recommends monitoring for ground disturbing activities, particularly in the northwestern portion of the Project Area. Cahuilla Band of Indians has requested a Tribal Monitor to be present during ground disturbing activities, MCC recommends that the consultation process be initiated as soon as possible, to avoid unnecessary delays to Project development and implementation. In addition, MCC recommends no further mitigation measures prior to implementation of the proposed Project. While we do not recommend additional mitigation, MCC does recommend setting a plan in place to expediently address inadvertent discoveries and/or human remains, should these be encountered during any phase of development associated with the Project.

Excavation has the potential to impact paleontologically sensitive older Quaternary sediments. MCC recommends that a paleontological resource mitigation program (PRMP) be designed and implemented prior to ground disturbance activities occurring past 5 ft. of depth to monitor, salvage, and curate any recovered fossils associated with the Project Area.

A copy of this report will be permanently filed with the SCCIC at California State University, Fullerton. All notes, photographs, correspondence and other materials related to this Project are located at MCC, in Pomona, California.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

The Redlands Mall Redevelopment Project (hereafter referred to as Project or Project Area) proposes the redevelopment of the Redlands Mall to include commercial and mixed-use buildings, a pedestrian paseo, and underground parking garages. Its goal is to transform the mall site into a pedestrian-oriented extension of Downtown Redlands, reminiscent of what the Project Area was prior to the development of the mall in 1977. The Project Area encompasses a total of 12.25 acres of land, which is primarily located at 129 West Redlands Boulevard, in the City of Redlands, San Bernardino County, California. Material Culture Consulting, Inc (MCC) was retained by EPD Solutions to conduct a Phase I assessment of cultural and paleontological resources of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a California Historical Resources Information System (CHRIS) records search at the South Central Coastal Information Center (SCCIC), and background/literature research, a locality search at the Natural History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), outreach efforts with 19 Native American tribal representatives, and an intensive-level pedestrian survey of the Project Area. THE CHRIS records search, paleontological locality search from LACM, and SLF search results are based off the results for the Transit Villages Specific Plan (TVSP) project conducted by MCC in 2020 to 2021.

PROJECT LOCATION AND DESCRIPTION

The proposed Project Area is located in the area known as Downtown Redlands. It is located at 129 West Redlands Boulevard, City of Redlands, San Bernardino County. It is bound by Redlands Boulevard to the north, Orange Street to the east, West Citrus Avenue to the south, and North Eureka Street to the west (Figures 1 through 3). The Project Area is surrounded by existing commercial and residential development in all cardinal directions (Figure 3). The Project Area may be found on the Redlands, California U.S. Geological Survey (USGS) 7.5' Quadrangle of Section 27 in Township 1 South, Range 3 West (Figure 2). Presently, the Project Area exists as a commercial structure, specifically a mall, and parking lots. The Redlands Mall is within the project area for TVSP, a central component of the City of Redlands 2035 General Plan and with a goal of the creation of transit villages around the San Bernardino County Transportation Authority's (SBCTA) Arrow Passenger Rail Line. The Project Area is situated in the Downtown Transit Village of TVSP. The Project proposes the general redevelopment of the Redlands Mall area to include commercial mixed-use buildings, a pedestrian paseo, extension of 3rd and State Streets, and underground and aboveground parking garages. Its goal is to transform the mall site into a pedestrian-oriented extension of Downtown Redlands, reminiscent of what the Project Area was prior to the development of the mall in 1977.

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, President of MCC, served as the Principal Archaeologist for the study. Ms. Belcourt oversaw the project and performed editorial review of this report. Belcourt is a Registered Professional Archaeologist (RPA) with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles, and over 16 years of experience in California archaeology and 12 years of experience overseeing paleontological assessments in California (See Appendix A).

Jennifer Kelly, M.S., served as the Principal Investigator for Paleontology for the study. Ms. Kelly conducted the paleontological resource literature and map reviews and performed editorial review of the paleontological sections of the report. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach, and has over 14 years of experience in environmental and paleontological compliance in California (See Appendix A).

Assistant Project Manager Erika McMullin, B.A., provided co-authorship of this report, GIS support, and conducted the field survey. MCC Project Manager and GIS Specialist Julia Carvajal, M.A., provided GIS support for this study. MCC Archaeologist, Judy Cardoza, B.A. co-authored this report. MCC Project Manager Sonia Sifuentes, M.Sc, provided editorial review of the report.

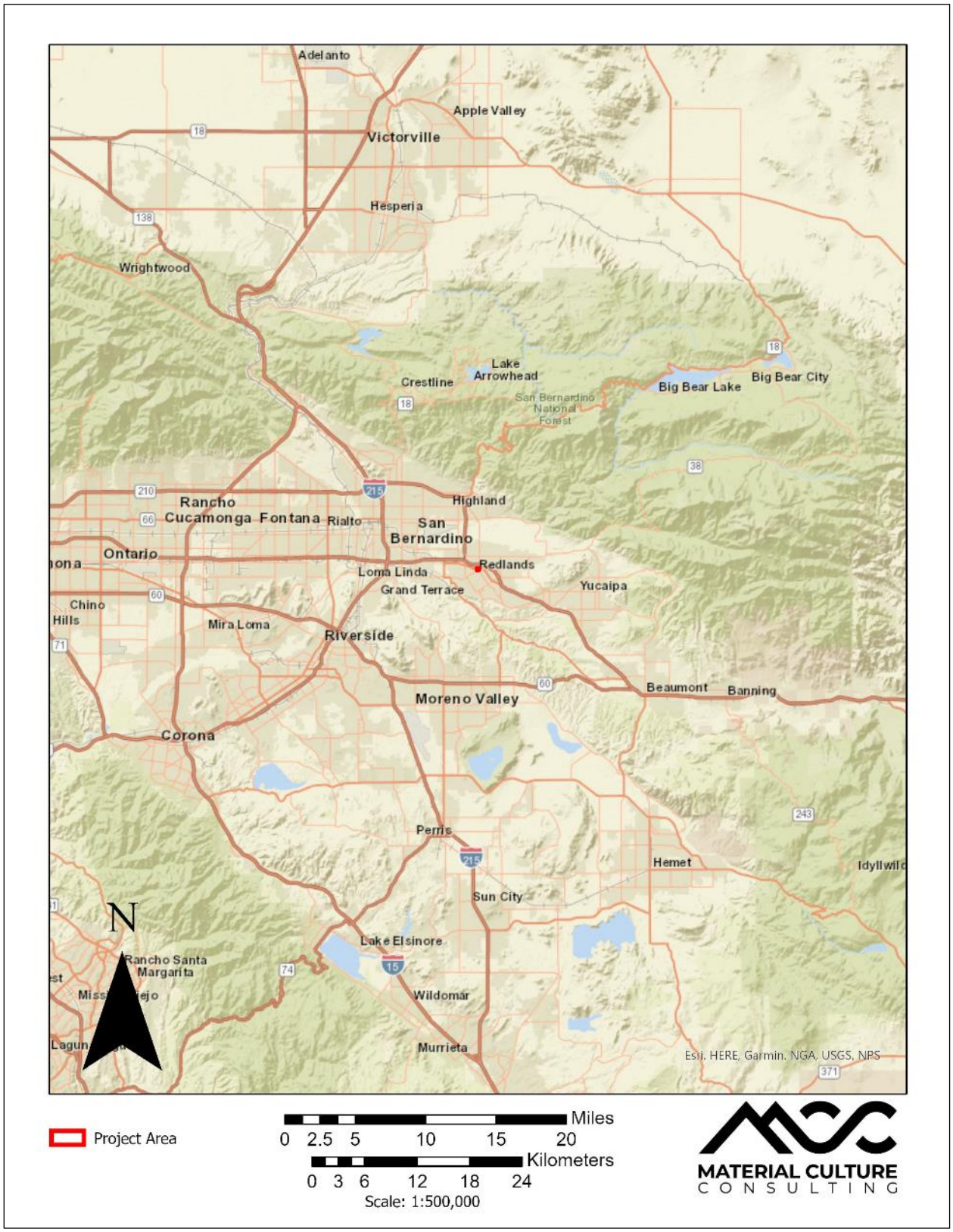

Figure 1. Redlands Mall Redevelopment Project Location (1:500,000)

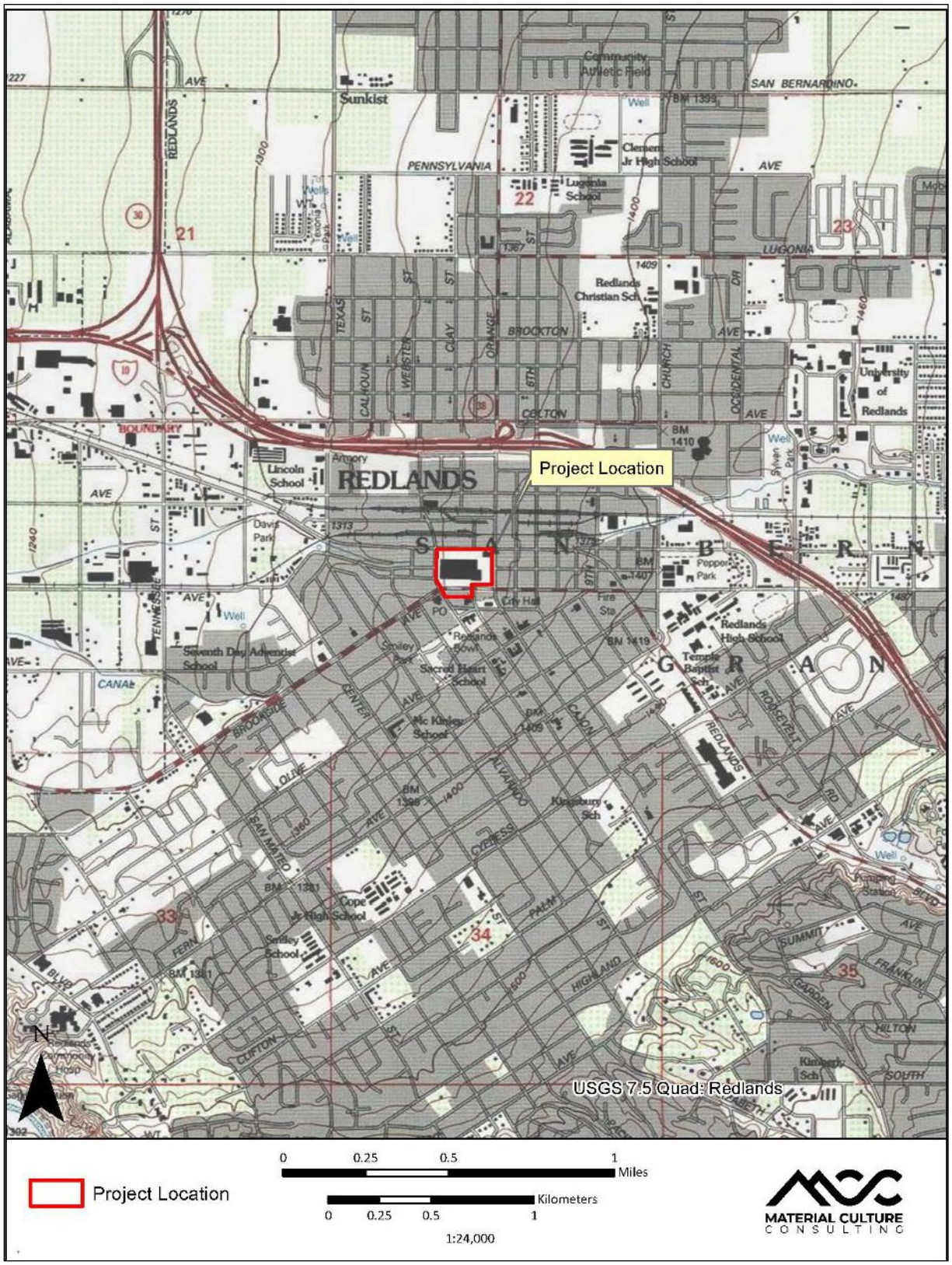

Figure 2. Redlands Mall Redevelopment Project Area (1:24,000, as depicted on Redlands USGS 7.5-Minute Quadrangle)

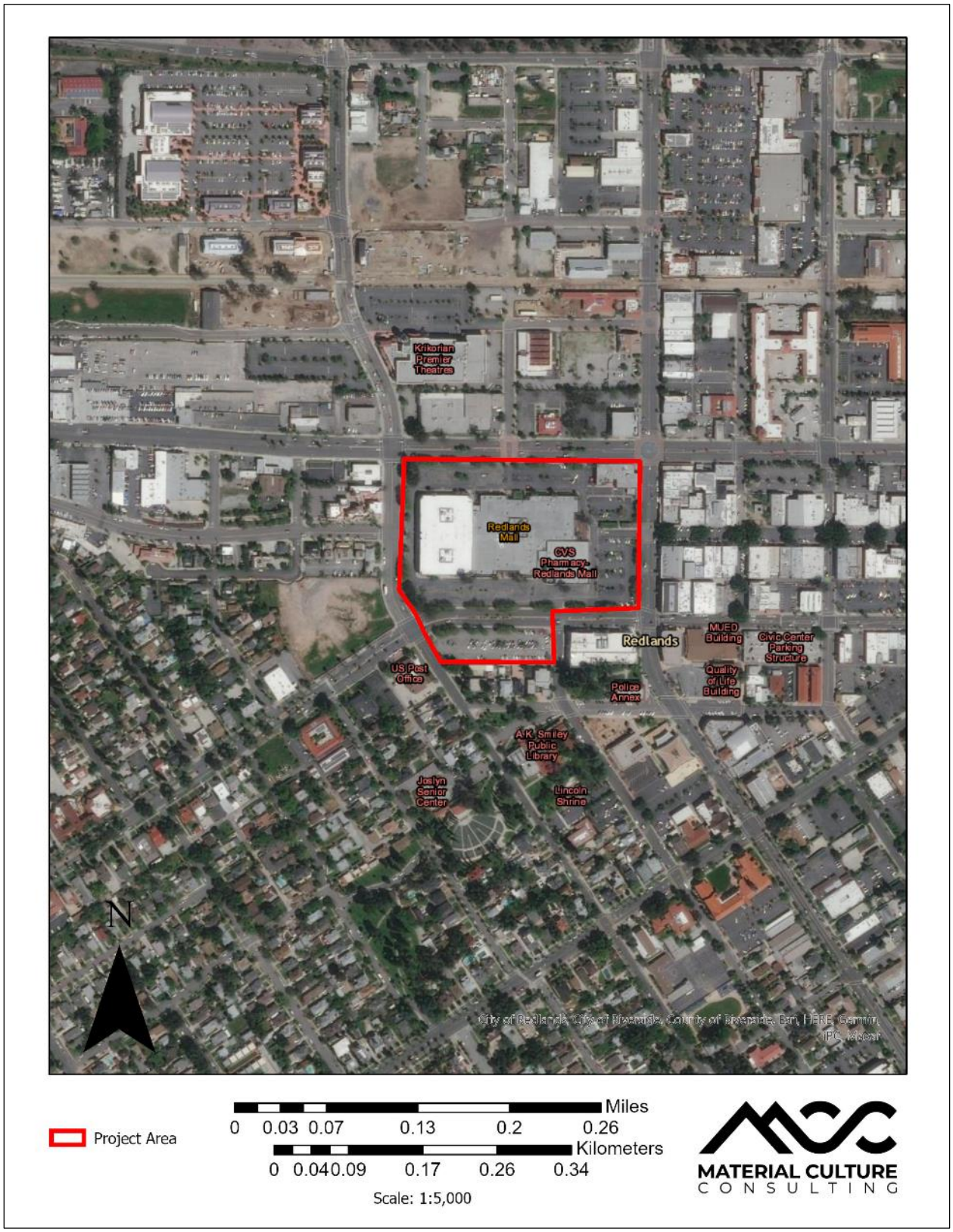

Figure 3. Redlands Mall Redevelopment Project Area (1:5,000, as depicted aerial photograph)

REGULATORY ENVIRONMENT

The Project is subject to local and state laws and regulations regarding cultural and paleontological resources. These regulations require the identification of cultural and paleontological resources within the Project Area which should be considered during the planning stage of new Projects; include application review for Projects that would potentially involve land disturbance; provide Project-level standard conditions of approval that address unanticipated discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity. Specific governing legislation and regulations include the following:

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities". It further states that public or private Projects financed or approved by the state are subject to environmental review by the state. All such Projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental impacts of a proposed Project. If a Project is determined to have a potential significant environmental impact, CEQA requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment.

CEQA requires a designated lead agency to determine whether a Project may have a significant impact on historical resources. A historical resource is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as one of the basic guidelines for the current cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR.

The purpose of the register is to maintain listings of the state's historical resources. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP), enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California or national history;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to having significance, resources must retain integrity. Integrity is the authenticity of a historical resource’s physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource’s period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if,

under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" [PRC Section 21083.2(h)].

Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered a significant impact. Impacts to a historical resource are considered significant if the Project activities physically destroy or damage all or part of a resource; change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance; or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

TRIBAL CULTURAL RESOURCES

Assembly Bill (AB) 52 (Gatto; Stats. 2014, ch. 532), enacted in September 2014, sets forth both procedural and substantive requirements for analysis of tribal cultural resources as defined in Public Resources Code (PRC) Section 21074, and consultation with California Native American tribes. Tribal cultural resources include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe. A tribal cultural resource is one that is either: (1) listed on, or eligible for listing on the CRHR or local register of historical resources (see section below); or (2) a resource that the CEQA lead agency, at its discretion and supported by substantial evidence, determines is significant pursuant to the criteria in PRC Section 5024.1, subdivision (c) (see PRC Section 21074). Further, because tribes traditionally and culturally affiliated with a geographic area may have specific expertise concerning their tribal cultural resources, AB 52 sets forth requirements for notification and invitation to government to government consultation between the CEQA lead agency and geographically affiliated tribes (PRC Section 21080.3.1[a]). Under AB 52, lead agencies must avoid damaging effects to tribal cultural resources, when feasible, regardless of whether consultation occurred or is required.

Tribal cultural resources per PRC 21074 (a)(1)(A)–(B) are defined as either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

a) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

CALIFORNIA HISTORICAL LANDMARKS AND POINTS OF HISTORICAL INTEREST

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2) Associated with the lives of persons important to local, California, or national history;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values;
4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type in the local geographic region (city or county);
2. Associated with an individual or group having a profound influence on the history of the local area;
3. A prototype of, or an outstanding example of, a period, style, architectural movement or construction; or
4. One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

PALEONTOLOGY

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological "sites" or "features" from state lands as a misdemeanor, and prohibit the removal of any paleontological "site" or "feature" from State land without permission of the jurisdictional agency. These protections apply only to State of California land, and thus apply only to portions of the Project, if any, which occur on State land.

As defined by Society for Vertebrate Paleontology (SVP), paleontological resources means any fossilized remains, traces, or imprints of prehistoric plants and/or animals which are preserved in or on the earth's crust that can provide information about the history of past life on the planet (2009). Generally, any resource greater than 5,000 years old is considered to be a fossil and are considered a nonrenewable resource that are subject to impacts from land development (SVP 2010). Paleontological resources are important scientific and educational resources because they are used to:

1) Document the evolutionary history of now extinct organisms to study any associated evolution patterns and/or speciation;
2) Reconstruct the environments, climate change, and/or paleoecological relationships these organisms lived in; and
3) Determine the relative geologic age of the strata in which the resources occur and any geological events that resulted in the deposition of the sediments that formed the strata.

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or track ways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. Assessment of significance is also subject to the California Environmental Quality Act (CEQA) criterion that the resource constitutes a "unique paleontological resource or site." A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2007). The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material.

Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions. A separate issue is the potential of a given geographic area or geologic unit to preserve fossils. Information that can contribute to assessment of this potential includes:

1) The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
2) Observation of fossils within the Project vicinity;

3) The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conducive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
4) Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

CITY OF REDLANDS GENERAL PLAN

Under the City of Redlands General Plan Chapter 2 Distinctive City, states the overall goal is to "enhance Redlands as a distinctive community, unique in the Inland Empire, combining a "small town feeling" with historic architecture and a rich cultural heritage while welcoming innovation and adapting to the needs of future generations. Its policies for cultural resources are outlined under section 2.2. The City has two cultural resource conservation programs, Mills Act, and Certified Local Government Program.

Native American Consultation

The conservation of culturally significant sites and objects relies heavily on collaboration between the City and local Native American tribes. The State of California has adopted regulations that establish guidance and clear procedures for contacting and consulting with local tribes regarding proposed land use decisions for the purpose of protecting tribal cultural resources. Senate Bill 18 (SB 18) requires local governments to notify and consult with Native American tribes regarding tribal cultural places (otherwise known as sacred sites) prior to adopting or amending a General Plan or designating land as open space. Assembly Bill 52 (AB 52) requires that Native American tribes be offered the opportunity to consult on CEQA documents and take an active role in the CEQA process in order to protect tribal cultural resources (including sites, features, places, cultural landscapes, sacred places, or objects with cultural value to the tribes that is on or eligible for inclusion in the California Register of Historic Resources or a local historic register) (City of Redlands 2017).

Policies from City of Redlands 2035 General Plan
Chapter 2.2- Distinctive City: Cultural Resources
Principles

- 2-P.8 Identify, maintain, protect, and enhance Redlands' cultural, historic, social, economic, architectural, agricultural, archaeological, and scenic heritage. In so doing, Redlands will preserve its unique character and beauty, foster community pride, conserve the character and architecture of its neighborhoods and commercial and rural areas, enable citizens and visitors to enjoy and learn about local history, and provide a framework for making appropriate physical changes.
- 2-P.10 Foster an understanding and appreciation of history and architecture.
- 2-P.11 Encourage retention of the character of existing historic structures and urban design elements that define the built environment of the city's older neighborhoods.
- 2-P.13 Encourage preservation of and public access to defined and established significant scenic vistas, viewpoints, and view corridors
- 2-P.14 Coordinate preservation of historic resources with policies designed to preserve neighborhoods and support the affordability of housing in historical structures.

- 2-P.16 Work with local paleontologists to identify significant non-renewable paleontological resources.
- 2-P.17 Protect archaeological and paleontological resources for their aesthetic, scientific, educational, and cultural values

Actions Historic and Scenic Conservation

- 2-A.29 Retain existing easements and rights of way for use as viewpoints, turnouts, and scenic walkways where feasible.
- 2-A.30 Identify historic design features characteristic of the city and its individual neighborhoods that can be used to establish themes and design guidelines.
- 2-A.31 Develop ordinance language and procedures to allow designation of thematic resources. Thematic resources can include historical resources such as the street grid and streetscapes established by Judson and Brown, architectural resources such as the vernacular packinghouse style, or environmental resources such as the Zanja.
- 2-A.32 Support a strong and effective Historic and Scenic Preservation Commission as a key element in decisions affecting historic and scenic resources.
- 2-A.33 Ensure that public funds for rehabilitation are not used to the detriment of private or public historic resources.
- 2-A.34 Uphold the designation of the following streets within the city as scenic highways, drives, and historic streets. Special development standards have been adopted by Resolution for these streets. The streets are:
    - ❖ Brookside Avenue, from Lakeside Avenue to Eureka Street;
    - ❖ Olive Avenue, from Lakeside Avenue to Cajon Street;
    - ❖ Center Street, from Brookside Avenue to Crescent Avenue;
    - ❖ Highland Avenue, from Serpentine Drive to Cajon Street;
    - ❖ Sunset Drive, from Serpentine Drive to Edgemont Drive;
    - ❖ Cajon Street;
    - ❖ Mariposa Drive, between Halsey and Sunset Drive; and
    - ❖ Dwight Street, between Pepper Street and Mariposa Drive.

    In addition, consider designating the following roads as scenic drives within the community as neighborhood connectors and recreational routes for drivers and bike riders.
    - ❖ Riverview Drive along the Santa Ana River Wash;
    - ❖ Live Oak Canyon Road;
    - ❖ San Timoteo Canyon Road; • Sylvan Boulevard;
    - ❖ Nevada Street, from the Orange Blossom Trail to Barton Road;
    - ❖ Pioneer Avenue, from River Bend Drive to Judson Street; and
    - ❖ Rural roads in Crafton.

Historic City Properties

- 2-A.36 Maintain and improve City-owned historic buildings and houses in an architecturally and environmentally sensitive manner.
- 2-A.37 Maintain and improve Redlands' streets, trees, streetlights, parkways, parks, stone curbs, ditches, walls, and citrus groves in a manner that enhances the city's beauty and historic fabric.
- 2-A.38 Use exemplary design quality and sensitivity to surrounding historic structures in new City construction, public works, entry ways, and City signs.

Historic Considerations for New Development

- 2-A.48 Establish design review guidelines for historic areas to ensure that new architecture will relate to and respect the historical and environmental context.

- 2-A.49 Encourage compatibility of new land uses and new construction adjacent to historical buildings. Encourage construction that is physically and aesthetically complementary to the historic buildings in architectural features and relationship to adjoining structures.
- 2-A.50 Encourage historical depictions commemorating historic sites or events in Redlands' history. Such depictions could be incorporated into new commercial or rehab development projects. Historical depictions may be monuments, plaques, archaeological viewing sites, exhibits, or illustrative art works, such as sculpture, mosaics, murals, tile-work, etc.
- 2-A.51 Encourage new construction that ties the new with the old in a harmonious fashion, enhancing the historic patter

Citizen Participation and Cooperation with Preservation Groups

- 2-A.52 Encourage public participation in the process for evaluating and preserving historic and scenic resources.
- 2-A.53 Encourage citizens to participate in public hearings on designation, Certificates of Appropriateness, and Certificates of Hardship.
- 2-A.54 Encourage citizens to become involved in historic preservation by training them in survey techniques and involving them in the ongoing surveys of historic resources.
- 2-A.55 Cooperate with public and private organizations doing preservation work and serve as liaison for such group

Education and Public Relations on Redlands Heritage

- 2-A.56 Seek to educate the general public about Redlands' heritage and to educate owners of historic properties about how to rehabilitate and maintain their property.
- 2-A.57 Where inappropriate alterations have been made, endeavor to explain how such alterations detract from the property, how they may be removed, and the economic and cultural benefits of proper restoration.
- 2-A.58 Encourage involvement of Redlands' schools, adult education classes, and the University of Redlands, as well as civic organizations and service clubs, in preservation programs and activities.
- 2-A.59 Continue to work with local newspapers to inform the community of the Historic and Scenic Preservation Commission and other preservation activities.
- 2-A.60 Print informational brochures and develop electronic media explaining the preservation process and preservation techniques to the public.
- 2-A.61 Issue awards and commendations as appropriate to owners of historic and scenic resources who have done particularly admirable rehabilitation and to others who have made special contributions to the preservation effort.
- 2-A.62 Make special efforts to reach out to the business community and to inform its members about Redlands' heritage and the opportunities it presents.
- 2-A.63 Promote Redlands' image, its cultural life, and its outstanding architectural, historic, and scenic resources to attract new business and tourism to the city.
- 2-A.64 Work with civic groups who wish to hold meetings to educate their members about preservation.
- 2-A.65 Support the development of organizations such as the Redlands Historical Museum, the Redlands Area Historical Society, the Redlands Conservancy, and other historical organizations to educate the public and visitors alike about Redlands' history.

Preservation of Older Neighborhoods

- 2-A.66 Promote neighborhood preservation and stabilization.
- 2-A.67 Permit densities, design, and uses that will help preserve the character and amenities of existing

older neighborhoods.

- 2-A.68 Discourage changes in residential areas that would disturb the character or clearly have a destabilizing effect on the neighborhood.
- 2-A.69 Encourage shared parking or in-lieu parking in older neighborhoods.
- 2-A.70 Encourage preservation of historic public and private improvements, such as street curbs, street trees, specimen trees, street lights, hitching posts, masonry walls, and early paved sidewalks.

Archaeological and Paleontological Resources

- 2-A.71 Using an annually updated Archaeological Resource Sensitivity Map, review proposed development projects to determine whether a site contains known prehistoric or historic cultural resources and/or to determine the potential for discovery of additional cultural resources.
- 2-A.72 Require that applicants for projects identified by the South Coastal Information Center as potentially affecting sensitive resource sites hire a consulting archaeologist to develop an archaeological resource mitigation plan and to monitor the project to ensure that mitigation measures are implemented.
- 2-A.73 Require that areas found during construction to contain significant historic or prehistoric archaeological artifacts be examined by a qualified consulting archaeologist (RPA certified) or historian for appropriate protection and preservation.
- 2-A.74 Proactively coordinate with the area's native tribes in the review and protection of any tribal cultural resources discovered at development sites.
- 2-A.75 Require, as a standard condition of approval, that project applicants provide an assessment as to whether grading for the proposed project would impact underlying soil units or geologic formations that have a moderate to high potential to yield fossiliferous materials, prior to issuance of a grading permit. If the potential for fossil discovery is moderate to high, require applicants to provide a paleontological monitor during rough grading of the project.
- 2-A.76 Establish a procedure for the management of paleontological materials found on-site during a development, including the following provisions:
    - ❖ If materials are found on-site during grading, require that work be halted until a qualified professional evaluates the find to determine if it represents a significant paleontological resource.
    - ❖ If the resource is determined to be significant, the paleontologist shall supervise removal of the material and determine the most appropriate archival storage of the material.
    - ❖ Appropriate materials shall be prepared, catalogued, and archived at the applicant's expense and shall be retained within San Bernardino County if feasible.

BACKGROUND

ENVIRONMENTAL SETTING

The City of Redlands is situated at the base of the San Bernardino Mountains, located in southwest San Bernardino County in Southern California. The city is situated between the northern margin of the Peninsular Range Geomorphic Province and the Transverse Ranges Geomorphic Province. The Project Area lies between two active faults, San Jacinto Fault and San Andreas Fault. San Timoteo Canyon is south of the Project Area. San Timoteo Canyon, a broad corridor bounded by steep ridges, is in the southwestern portion of Calimesa bordering San Timoteo Creek. The City of Redlands lies within the broad alluvial flood plain derived from Santa Ana River deposits and eroding mountain hillsides. The Project Area is mostly flat with a slope of less than five degrees and elevations averaging approximately 427-meters (m) (1,400 ft.) above mean sea level (AMSL). The Project Area is currently developed as a commercial area on highly developed parcels.

PALEONTOLOGICAL SETTING

The Project Area is situated at the foot of the San Bernardino Mountains, a part of the Transverse Ranges Geomorphic Province. This province is comprised of a series of mountain ranges that run transverse to most mountain ranges in southern California – roughly east/west trending. The mountains within the province, including the San Gabriel and San Bernardino mountains to the north and northeast, were uplifted by tectonic activity, and provide a major sedimentary source for the alluvium basins of the adjacent areas (Critelli et al. 1995). The geologic units underlying the Project Area are mapped as younger and older surficial deposits, more specifically very young wash deposits, active (Qvyw), old alluvial-fan deposits, Unit 3 (Qof_3), and very old axial-valley deposits, Unit 3 ($Qvoa_3$) (See Figure 4; Matti et al. 2003). Very young surficial deposits are the result of recently transported and deposited sediment into channels and washes on surfaces of alluvial fans, alluvial plains, and on hill slopes. Older surficial deposits contain sedimentary units that are moderately consolidated and slightly to moderately dissected. Alluvial-fan deposits (Qof series) are gravelly sand and silt sediments. Very old surficial deposits are sedimentary units that are moderately to well consolidated to lithified, and moderately to well dissected. Valley-filling deposits (Qvoa series) are dominated by sand with minor gravel alluvial deposits and includes residuum or pedogenic-soil profile developed on the San Timoteo Formation beds (Frick 1921, Matti et al. 2003). The Plio-Pleistocene San Timoteo Formation is located south of the Project Area in more elevated terrain, which most may underly older Quaternary deposits in the Project Area. The San Timoteo Formation and overlying sediments are known to have produced abundant and diverse floral and faunal remains (Frick 1921; City of Calimesa 2014). Therefore, the San Timoteo Badlands area and the western portion of the City of Redlands have a high potential to produce significant paleontological resources (City of Calimesa 2014).

Very young wash deposits, active (Qvyw): The geological unit is a very slightly consolidated sand and gravel deposit from active washes of axial-valley streams and alluvial fans dating to the Holocene epoch at the very latest. It has fresh flood scours and channel-and-bar morphology (Matti et al. 2003). This unit is too young to produce significant paleontological resources and has a low sensitivity.

Old alluvial-fan deposits, Unit 3 (Qof_3): Units are composed of moderately consolidated silt, sand, and gravel with moderate to well-developed soil. Specifically, Unit 3 contains moderately dissected alluvial fan deposits. Soil consists of brown to reddish-brown and tan-brown clayey and silty, fine to very coarse sand with some pebbles and cobbles. The unit dates to the late to middle Pleistocene epoch (Matti et al. 2003). This unit, or units temporally and sedimentologically similar have produced specimens of mammoth, horse, camel, and other Pleistocene megafauna throughout the southern California area, as well as significant plants and smaller vertebrate and invertebrate fauna. This unit is considered to be of high paleontological sensitivity.

Very old axial-valley deposits, Unit 3 (Qvoa$_3$): Unit contains alluvial deposits that are deeply dissected and capped by mature soils. It is unconformable and irregular. The soil consists of interlayered brown sandy and gravelly sediments ranging from slightly to moderately consolidated in addition to lighter colored, more consolidated sediments. The unit dates middle to early Pleistocene (Matti et al. 2003). This unit, or units temporally and sedimentologically similar have produced specimens of mammoth, horse, camel, and other Pleistocene megafauna throughout the southern California area, as well as significant plants and smaller vertebrate and invertebrate fauna. This unit is considered to be of high paleontological sensitivity.

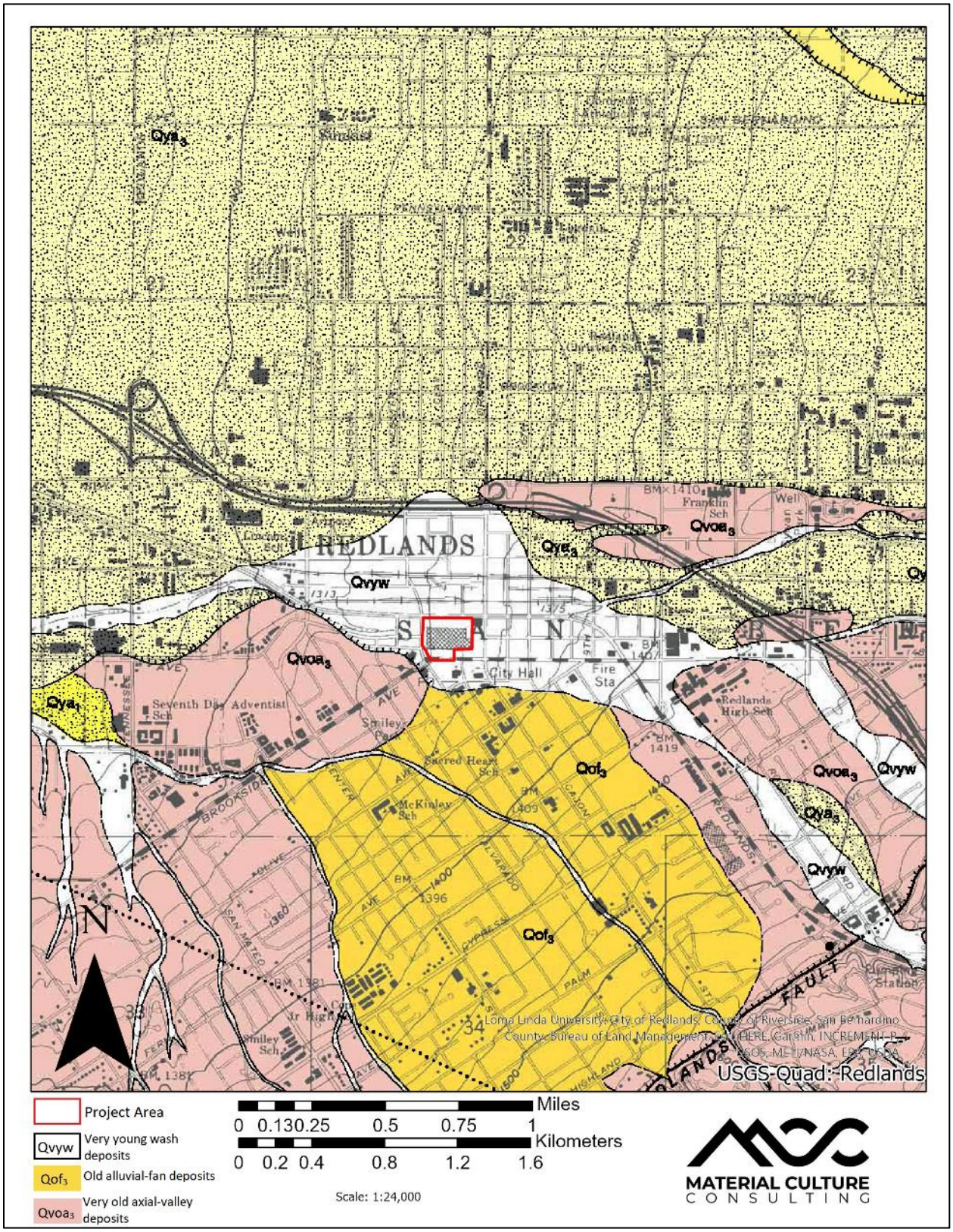

Figure 4. Geological map of Project Area (1:24,000; based on Matti et al. 2003).

PREHISTORIC CONTEXT

Most researchers agree that the earliest occupation for the City of Redlands area dates to the early Holocene (11,000 to 8,000 years ago). The following discussion of the cultural history of San Bernardino County references the San Dieguito Complex, the Milling Stone Horizon, the Encinitas Tradition, the La Jolla Complex, the Pauma Complex, and the San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component around the City of Redlands was represented by the Gabrielino/Tongva, Cahuilla, and Serrano Indians. Absolute chronological information, where possible, will be incorporated into this discussion to examine the effectiveness of continuing to use these terms interchangeably.

The Paleo Indian Period

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Martin 1967, 1973; Moratto 1984; Fagan 1991). Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals (Moratto 1984; Erlandson and Colten 1991; Moss and Erlandson 1995). The earliest sites known in the area are attributed to the San Dieguito culture, which consists of a hunting culture with flaked stone tool industry (Warren 1967). The material culture related to this time included scrapers, hammer stones, large flaked cores, drills, and choppers, which were used to process food and raw material.

Milling Stone Period

Around 8,000 years ago, subsistence patterns changed, resulting in a material complex consisting of an abundance of milling stones (for grinding food items) with a decrease in the number of chipped stone tools. The material culture from this time period includes large, bifacially worked dart points and grinding stones, handstones and metates. Archaeologists initially designated this period as the “Millingstone Horizon” (Wallace 1955). Later, the Millingstone Horizon was redefined as a cultural tradition named the Encinitas Tradition (Warren 1967) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, while others continued to use Millingstone Horizon, and still others used Middle Holocene (the geologic time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2). Recently, this generalized terminology was criticized by Sutton and Gardner (2010) as suppressing the identification of cultural, spatial, and temporal variation, as well as the movement of peoples throughout space and time. It is these factors that are believed to be critical to an understanding of prehistoric cultural adaptation and change in this portion of southern California (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics include abundant metates and manos, crudely-made core and flake tools, bone tools, shell ornaments, very few projectile points, indicating a subsistence pattern focused on hunting and gathering a variety of floral resources. Faunal remains vary by location but include marine mammals, fish, and shellfish, as well as terrestrial animals, reptiles, and birds (Sutton and Gardner 2010:7). The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These include the Topanga Pattern in coastal Los Angeles and Orange counties, the La Jolla Pattern in coastal San Diego County, and the Sayles or Pauma cultures in inland San Diego County extending into western San Bernardino County, where the project is located. At approximately 3,500 years ago, Pauma groups in the general Project vicinity adopted new cultural traits which

transformed the archaeological site characteristics - including mortar and pestle technology. This indicated the development of food storage, largely acorns, which could be processed and saved for the leaner, cooler months of the year.

Late Prehistoric Period

At approximately 1,500 years before present, bow and arrow technology started to emerge in the archaeological record, which also indicates new settlement patterns and subsistence systems. The local population retained the subsistence methods of the past but incorporated new materials into their day-to-day existence, as evidenced by the archaeological record. The Palomar Tradition is attributed to this time and is comprised of larger two patterns: the Peninsular Pattern in the inland areas of the northern Peninsular Ranges (e.g., San Jacinto and Santa Rosa mountains) and the northern Coachella Valley (Sutton 2010), and the San Luis Rey pattern of the project area Archaeological sites from this time period are characterized by soapstone bowls, arrowhead projectile points, pottery vessels, rock paintings, and evidence of cremation sites. The shift in material culture assemblages is largely attributed to the emergence of Shoshonean (Takic-speaking) people who entered California from the east.

ETHNOGRAPHY

The Project Area was considered traditional use areas for multiple Native American populations, including the Gabrielino/Tongva, Cahuilla, and Serrano Indians (Figure 5). Below are brief ethnographic descriptions of these tribes.

Figure 5. Traditional Tribal Areas in Southern California with Project Area demarcated (Los Angeles Almanac 2019)

Gabrielino

The territory of the Gabrielino (Tongva) at the time of Spanish contact covered much of current-day Los Angeles and Orange Counties and extended into the western part of San Bernardino County. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains (Bean and Smith 1978; McCawley 1996). The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California (Kroeber 1976). Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Johnson 1962; Kroeber 1976; Bean and Smith 1978). The name “Gabrielino” is Spanish in origin and was used in reference to the Native Americans associated with the

Mission San Gabriel. It is unknown what these people called themselves before the Spanish arrived, but today some Gabrielino call themselves "Tongva," meaning "people of the earth."

The Gabrielino lived in permanent villages and smaller, resource-gathering camps occupied at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams, as well as in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Kroeber 1976; Bean and Smith 1978).

The Gabrielino tribe carried out food exploitation strategies that utilized local resources ranging from plants to animals; coastal resources were also exploited. Rabbit and deer were hunted and acorns, buckwheat, chia, berries, fruits and many other plants were collected. Artifacts associated with their occupations include a wide array of chipped stone tools including knives and projectile points, wooden tools like digging sticks and bows, and ground stone tools like bedrock and portable mortars, metates and pestles. Local vegetation was used to construct shelters as well as for medicinal purposes. Cooked foods were prepared on hearths (Kroeber 1976; Bean and Smith 1978; McCawley 1996). Acorns were one of the most important food resources utilized by the Gabrielino and other Native American groups across California. The acorns were ground into a fine powder in order to make an acorn mush or gruel. A dietary staple, acorns provided a large number of calories and nutrients. The ability to store and create stockpiles in case of lean times also contributed to the importance of acorns as a vital natural resource. Much of the material evidence available to archaeologists concerning the Gabrielino is a result of tools and technologies related to their subsistence activities.

The social structure of the Gabrielino is little known; however, there appears to have been at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long-established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Kroeber 1976; Bean and Smith 1978). Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Kroeber 1976; Bean and Smith 1978). Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding of the sacred bundle, locating lost items, identifying and collecting poisons for arrows, and making rain (Kroeber 1976; Bean and Smith 1978). Marriages were made between individuals of equal social status and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Kroeber 1976; Bean and Smith 1978). Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Kroeber 1976; Bean and Smith 1978).

Cahuilla

The Cahuilla territory was bounded by the San Bernardino Mountains to the north, the Orocopia Mountains to the east, the Santa Ana River/the San Jacinto Plain and the eastern portion of Palomar Mountains to the west, and Borrego Springs and the Chocolate Mountains to the south (Bean 1978). The Project Area falls within the western region of the tribe's traditional territory, denoted by the San Gorgonio Pass. The Cahuilla existed within the most

geographically diverse region, having exploited more than 500 native and non-native plants (Bean and Saubel 1972). The Cahuilla spoke a language that belongs to the Cupan group of the Takic subfamily of the Uto-Aztecan language family, a language family that includes the Shoshonean groups of the Great Basin (Bean and Shipek 1978).

The prehistoric Cahuilla occupation is characterized by structures within permanent villages that ranged from small brush shelters to dome-shaped or rectangular dwellings. Villages were situated near water sources, in the canyons near springs, or on alluvial fans at man-made walk-in wells (Bean 1972). There appears to be slight difference in subsistence tools between the Desert, Pass, or Mountain Cahuilla groups. The Desert Cahuilla used deep, wooden mortars with a long pestle whereas San Gorgonio Pass Cahuilla utilized shallower mortars with basketry rims (Kroeber 1908). Cahuilla granaries were usually raised on pole platforms two to four feet high, which resembled birds' nests, and were used to store mesquite (Kroeber 1908).

In comparison with other Southern California tribes, the Cahuilla appear to have had a lower population density and a less rigid social structure. The Cahuilla are patrilineal, with closely related patrilineages that share an assumed common ancestor which is important socially and ceremonially (Hudlow 2007). The office of lineage leader, also known as a *nét*, directed subsistence activities, settled conflicts, represented the clan regionally and was responsible for correct performances of ceremonies, with the official role of the chief passed from father to eldest son (Bean 1978; Hudlow 2007).

Initial contact with European explorers with the Cahuilla most likely occurred during the expedition of Juan Bautista de Anza in 1777 (Napton and Greathouse 1982). The presence of the San Gabriel Mission in the early 1800s led to more contact via baptisms (Napton and Greathouse 1982). It also led to the Native Americans moving away from traditional habitation sites to separate themselves from the influence of the Mission (Brumgardt 1977). The Cahuilla traditions may have been relatively stable until mission secularization in 1834, due to the policy of the Catholic Mission fathers, or padres, to maintain imported European traditional style settlement and economic patterns (Bean and Shipek 1978). After 1877, when the United States government established Indian reservations in the region and religious missionaries began conversion of the Native American populations in the region, traditional cultural practices were prohibited. Presently, the Cahuilla reside in nine separate reservations in Southern California, located in Imperial, Riverside and San Diego counties (Bean 1978).

Serrano

The Serrano has been defined as a Northern Uto-Aztecan language sub-family which resided in the mountains and deserts of interior southern California, known as the Mountain Serrano and the Desert Serrano (Sutton and Earle 2017). The Serrano's traditional use area is believed to located from the Cajon Pass of the San Gabriel/San Bernardino Mountains, as far east as Twentynine Palms, as far south as to Yucaipa, and as far north as Barstow (Bean and Smith 1978). Gifford (1918) categorizes the Serrano as a clan and moiety-oriented, or local lineage-oriented, group tied to traditional territories or use areas. Typically, a "village" consisted of a collection of families centered about a ceremonial house, with individual families inhabiting willow-framed huts with tule thatching. Considered hunter-gatherers, the Serrano exhibited sophisticated technologies devoted to hunting small animals and gathering roots, tubers and seeds of various kinds. Principal game animals included were deer, mountain sheep, antelope, rabbits, small rodents, and various birds (Bean and Smith 1978). The Serrano spoke a language that belongs to the Takic subfamily of the Uto-Aztecan language family, with some evidence of similarity with the Gabrielino (of the Los Angeles Basin) (Miller 1984).

European influence on the Serrano was limited until 1819, with the establishment of an asistencia near present-day Redlands (Bean and Smith 1978). By 1834, most of the western Serrano population had been displaced, with those located northeast of San Gorgonio Pass continued to thrive. Today, Serrano descendants are found mostly on the Morongo and San Manuel reservations, which are a modern-day culmination of Serrano, Cahuilla, and

Cupeño lineages.

HISTORICAL SETTING

The process of exploration and colonization of Alta California began in 1769, led by Spaniard Gaspar de Portola and Franciscan Fray (or Father) Junipero Serra. Once the first European exploration of California occurred, the region underwent immense change. As early as 1827, Anglo-Americans were migrating into Southern California. In the decades to come, California would be taken by the United States with the close of the Mexican-American War and subsequent events such as the Civil War and California Gold Rush would continue to shape the history of California.

Spanish Period (1769 to 1821) to Mexican Period (1821 to 1848)

The Spanish period began in 1769 with Captain Gaspar de Portolá's land expedition and ended in 1821 with Mexican Independence. During the Spanish Period, the establishment of the Mission San Gabriel Arcángel (1771) was influential throughout the surrounding regions, using the area for cattle grazing Rancheria (San Bernardino History and Railroad Museum 2010). An asistencia was established nearby in Redlands in 1819 and helped facilitate the Mission's control and colonization of the surrounding area Rancheria (San Bernardino History and Railroad Museum 2010). Missionaries instructed Serrano, Gabrielino, and Cahuilla workers to build the Mill Creek Zanja, a 12-mile-long irrigation ditch routing water from Mill Creek to Guachama Rancheria (San Bernardino History and Railroad Museum 2010; Figure 6). The Zanja was completed by 1820 and served as the area's first stable water resource that supplied water to the ranch, asistencia, and local farms, including those owned by Native Americans (Cunningham 2018).

Figure 6. Two women cool off in the Mill Creek Zanja in c. 1897 (Redlands Daily Facts 2019)

After control of the area shifted to Mexico in 1821, secularization began throughout the area and the missions and their associated ranches began to decline. The Mexican government proceeded to push settlements of Mexican populations from the south by deeding large grants to individuals who promised to employ settlers. In 1842, the Lugo family, including José del Carmen Lugo, José María Lugo, Vicente Lugo, and Diego Sepulveda, received a land grant, Rancho San Bernardino, which encompassed the San Bernardino and Yucaipa valleys (The Sun 2009; Figure 7).

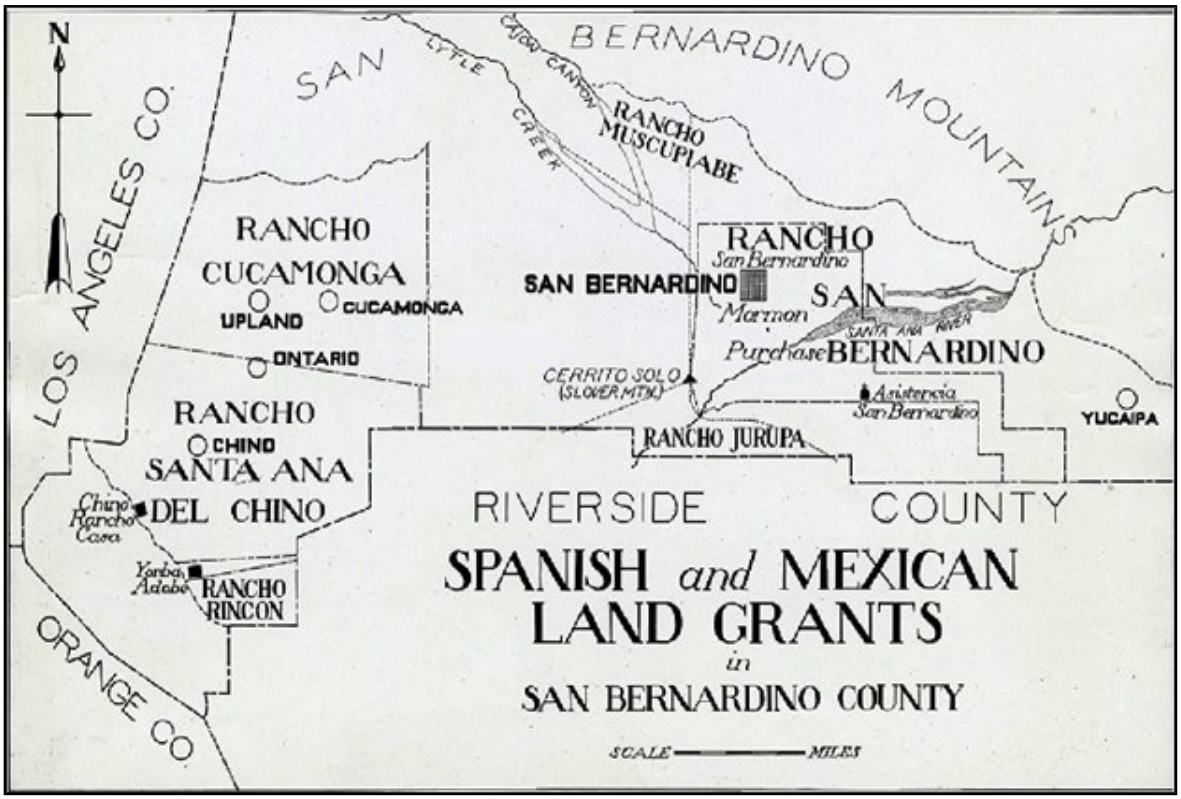

Figure 7. Map of regional Spanish and Mexican grants (San Bernardino County 2016).

American Period (1848 to present)

The Treat of Guadalupe-Hidalgo was signed 1848, ending the war between Mexico and the United States. Mexico ceded over half of its territory, including present-day California. By 1850, California was admitted to the Union. The Gold Rush of 1849 saw a tremendous influx of Americans and Europeans flooding into Southern California. The passing of the Homestead Act of 1862 continued this increase of settlers within the region. In 1851, a group of 500 Mormon settlers from Salt Lake City traveled to the Rancho San Bernardino area and purchased the land grant for the area from the Lugo family. The group stayed in the area until 1857 when they were summoned back to their hometown. The land was divided and sold. Completion of both the Southern Pacific Railroad in the mid-1870s and the competing Atchison, Topeka and Santa Fe Railway in the 1880s, ushered in a land boom which swept through much of southern California, especially within the San Bernardino Valley (Encarnación et al. 2008). By 1887, the first spur to Redlands was built.

In 1881, E.G. Judson and Frank E. Brown formed the Redlands Water Company and began construction of a water canal to supply future citrus groves planted by Wisconsin native E.J. Waite. During the development, the pair noticed the red-colored adobe soil and gave the new town its name, Redlands. Three years later, Brown built the Bear Valley Dam and reservoir, securing a steady supply of water for the blossoming town and plentiful citrus groves. With a stable water source and booming railways, the City of Redlands experienced a development boom with the creation of paved streets, sidewalks, sewage, and electricity systems. The city was officially incorporated in 1888 (Redlands Area Historical Society 2015).

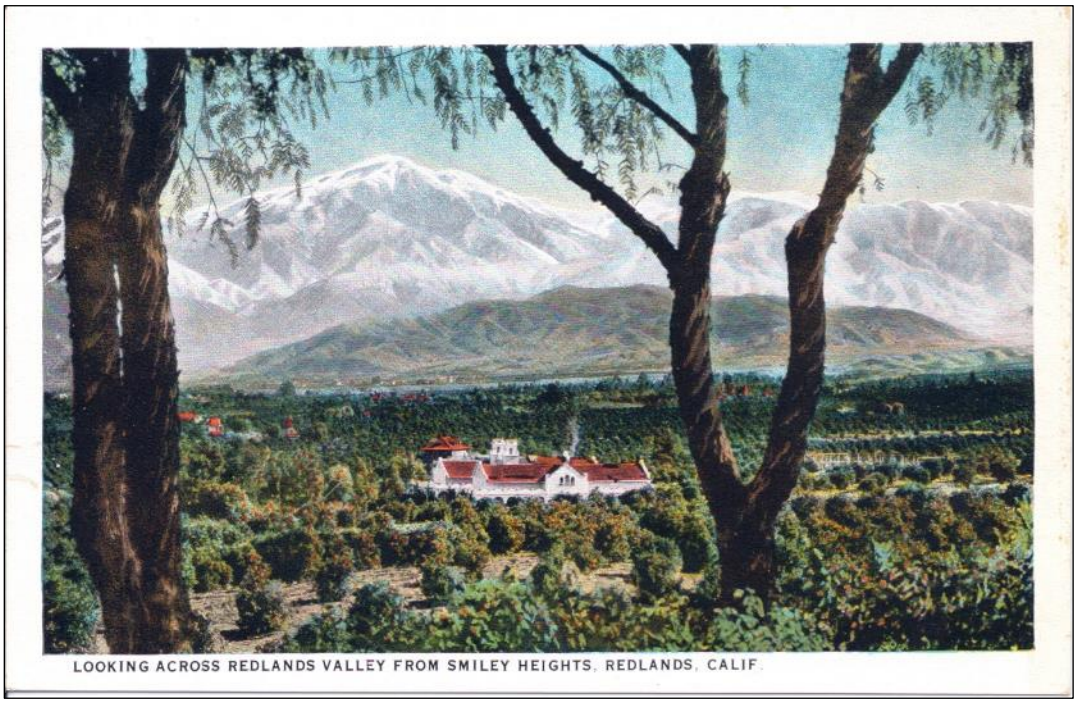

Figure 8. Vintage postcard displaying illustration of Redlands including the orange groves (Masters 2016)

For 75 years, citrus growing continued to prosper in the area and was the main economic source (Figure 8). In the 1937-28 growing season, the city produced over 4,200 railcars of navel oranges and 1,300 railcars of Valencia oranges, lending to the city's title as "Washington Navel Orange Growing Capital of the World", in addition to the general nickname for the surrounding area, "Orange Empire", and eventually "Jewel of the Inland Empire (City of Redlands 2017; 5-Minute History 2016; Masters 2016). The citrus industry eventually declined as agricultural areas were replaced with subdivisions. The once 15,000 acres of citrus spanning all across the city with multiple packinghouse companies, has been reduce to only one left today, Redlands Foothill Groves (Purper 2019; Figure 9).

Figure 9. Orange crate label from Redlands Foothill Groves (Purper 2019)

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

Since the current project is encompassed within the footprint of proposed TVSP, the CHRIS results from TVSP were utilized for this Project. The original CHRIS records search was conducted in September 2020 by staff at SCCIC, located at California State University, Fullerton, Orange County. The search covered any previously recorded cultural resources and investigations within a ½ -mile radius of the TVSP Project. The CHRIS search also included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources. MCC also reviewed the California State Historic Resources Inventory (HRI) and Built Environment Resources Directory (BERD) for San Bernardino County to determine if any local historical properties which have been previously evaluated for historic significance were located in the records search buffer. In addition, archival maps were inspected for indications of historical structures in the area.

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

Since the current project is encompassed within the footprint of TVSP, the SLF results from TVSP were utilized for this Project. MCC requested a search of the Sacred Lands File (SLF) from the Native American Heritage Commission (NAHC) on September 11, 2020 for the TVSP project. The NAHC responded on September 14, 2020 that the SLF search yielded positive results for known tribal cultural resources or sacred lands within a 1- mile radius of the Project Area. In addition, the NAHC provided MCC with contact information for San Manuel Band of Mission Indians and 18 other tribes/individuals to reach out to for additional information. San Manuel Band of Mission Indians informed MCC there were no SLFs in proximity to the current Project. MCC sent letters on April 24, 2021 to all 19 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email or phone call were made on May 11, 2021 and May 18, 2021. MCC did not conduct formal consultation with the Native American representatives.

PALEONTOLOGICAL RECORDS SEARCH

The literature review included an examination of geologic maps of the Project Area and a review of relevant geological and paleontological literature to determine which geologic units are present within the project area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project Area. The results of this literature review include an overview of the geology of the project areas and a discussion of the paleontological sensitivity (or potential) of the geologic units within the Project Area. The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. Since the current project is encompassed within the footprint of TVSP, the Natural History Museum of Los Angeles County (LACM) results were utilized for this Project. On September 26, 2020, a locality search was conducted through the LACM. This search identified any vertebrate localities in the LACM records that exist near the Project Area in the same or similar deposits.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. In addition, the field survey provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological sensitivity.

MCC Archaeologist and cross-trained Paleontologist, Erika McMullin, B.A., conducted a site visit of the proposed Project Area on May 12, 2021. The survey consisted of walking in parallel transects spaced at approximately 10-meter intervals over the Project Area, while closely inspecting the ground surface. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g., cutbanks, ditches, animal burrows, etc.) were visually inspected. Representative photographs were taken of the entire Project Area and are included in the Results section below.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

Based on the CHRIS records search for the TVSP Redlands Project, MCC identified a total of 28 cultural resources investigations that have been previously conducted within a ½ -mile radius of the Project Area (see Table 1). Of these, 22 of the previously conducted cultural studies are within ¼-mile of the Project Area (Appendix B). No previously conducted investigations took place directly within the Project Area. The 28 studies conducted within the ½ -mile buffer search area date between 1987 and 2016 and include 17 residential/commercial development projects, three transit projects, two telecommunication projects, two unknown projects, one linear road project, and one utility projects.

Table 1. Previous Conducted Investigations within ½ mile Radius of Project Area

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Relation to Project Area
SB-01668	1987	Brock, James And John F. Elliott	*Preliminary Archaeological Monitoring Report for The Lafarge Project, Redlands, California*	Archaeological Advisory Group	Within ¼-mile
SB-01810	1988	Ross, Lester A.	*Archaeological Monitoring of The Glaze Auto Center Project Site at The Southeast Corner of Oriental And Texas Streets, Redlands, San Bernardino County, California*	San Bernardino County Museum	Within ½-mile
SB-01838	1988	Brock, James, William A. Sawyer, And Paul W. Wormser	*Artifacts from Lafarge Site, Redlands, California*	Archaeological Advisory Group	Within ¼-mile
SB-02258	1991	Swanson, Mark T.	*Cultural Resources Survey of Proposed Playground/Parking Lot for Sacred Heart Church, A 1-Acre Tract Containing 241/243, 245, 247/249/251, And 253 Eureka Street, And 242, 246, And 248 Fourth Street, Redlands, San Bernardino County, Calif.*	Research Associates	Within ½-mile
SB-02634	1992	Swope, Karen K.	*Archaeological Monitoring at The Site of Seven Historical Structures, (A 1-Acre Tract Containing 241/243, 245, 247/249/251, & 253 Eureka St., & 242, 246 & 248 Fourth St.) Sacred Heart Church, Redlands, San Bernardino County, California*	Research Associates	Within ½-mile
SB-02938	1994	Alexandrowicz, J. Stephen, Susan R. Alexandrowicz, And Ayse Taskiran	*Historic Preservation Investigations for The Redlands Theatre Project, City of Redlands, County Of San Bernardino, California: The Archival Research Program*	Archaeological Consulting Service	Within ¼-mile
SB-03137	1996	Grenda, Donn R. And Deborah W. Gray	*Historic Resources Field Survey of A Parcel On The Southwest Corner Of Orange & Pearl Streets In Redlands, Ca. 3pp*	Statistical Research	Within ½-mile
SB-03675	1997	Padon, Beth And Karen K. Swope	*Redlands Chinatown Archaeological Investigations for Krikorian Premier Theater Project, Redlands, San Bernardino County, Ca. 207pp*	Petra Resources, Inc	Within ¼-mile

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Relation to Project Area
SB-03734	2001	Duke, Curt	*Cultural Resources Assessment for A&T Fixed Wireless Services Facility #Bc_458a, County Of San Bernardino, Ca. 4pp*	LSA	Within ¼-mile
SB-03748	1998	Waugh, Rebecca And S. Greg Johnson	*Archaeological Monitoring & Testing: The Boston Market Parcel, Redlands, Ca. 62pp*	Statistical Research	Within ½-mile
SB-04053	2002	Mclean, Deborah K.B.	*Archaeological Assessment: Redland I & II, Former Manufactured Gas Plant Sites, City of Redlands, San Bernardino County, Ca. 11pp*	LSA	Within ¼-mile
SB-04061	2003	Grenda, Donn R.	*612 Lawton, Redlands, Ca, Archaeological Monitoring Results. 4pp*	Statistical Research	Within ½-mile
SB-04593	2005	Tang, Bai "Tom", Michael Hogan, Casey Tibbett, And John J. Eddy	*Historical/Archaeological Resources Survey Report: Assessor's Parcel Number 0169-271- 44, City of Redlands, San Bernardino County, California.*	Unknown	Within ¼-mile
SB-04652	2001	Budinger, Fred	*An Archaeological Assessment of The Proposed Verizon Wireless Wildwash Unmanned Cellular Telecommunications Site to Be Located South Of Old National Trails Highway (Old Route 66) Near Palameno Road, Barstow, San Bernardino County, Ca 92311*	Unknown	Within ½-mile
SB-04822	2006	Hansen, Janet And Sorrell, Tanya	*Cultural Resources Assessment Redlands Y Alliance City of Redlands San Bernardino County, California*	Unknown	Within ¼-mile
SB-04823	2006	Sander, Jay K.	*Cultural Resources Survey Of An 8.90-Acre Parcel At Park Avenue And Alabama Street Redlands, San Bernardino County, California*	Unknown	Within ¼-mile
SB-05163	2005	Tang, Bai, Hogan, Michael, Wetherbee, Matthew, And Jacqueman, Daniel	*Historical/ Archaeological Resources Survey Report Krikorian Theatre Expansion And Retail Addition Project Eureka Street And Stuart Avenue, City Of Redlands, San Bernardino County, California*	Unknown	Within ¼-mile
SB-05807	2007	Tang, Bai "Tom", Terri Jacquemain, And Josh Smallwood	*Historic Building Evaluation: Former Redlands Mutual Orange Company Packinghouse, 330 North Third Street, City Of Redlands, San Bernardino County, California.*	CRM Tech	Within ¼-mile
SB-06024	2008	Sander, Jay K.	*Cultural Resources Inventory Of 200 West Redlands Boulevard, Redlands, San Bernardino County, California.*	Chambers Group	Within ¼-mile
SB-06026	Unknown	Unknown	Unknown	Unknown	Within ¼-mile
SB-06193	2012	Perez, Don	*Tigertail/Ensite #11748 (255651).*	EBI Consulting	Within ¼-mile

CHRIS Report Number	Year	Author	Title of Study	Affiliation	Relation to Project Area
SB-06435	2009	Tang, Bai "Tom", Terri Jacquemain, and Josh Smallwood	*Historic Building Adaptive Use Study: The Historic Redlands AT&SF Railway Station, 351 Orange Street, City of Redlands, San Bernardino County, California.*	CRM Tech	Within ¼-mile
SB-07454	2012	Glover, Amy and Sherri Gust	*Cultural Resources Phase I Study Redlands Park Once Transit Center Project, City of Redlands, San Bernardino County, California.*	Cogstone	Within ¼-mile
SB-07455	2012	Mason, Roger D.	*Extended Phase I Report for P-36-023343, CA-SBR-14744H, Redlands Park Once Transit Center Project, Redlands, San Bernardino County, California.*	Ecorp Consulting	Within ¼-mile
SB-07658	2013	Lev-Tov, Justin E.	*Archaeological Monitoring at the 424 West Stuart Ave., Redlands, California.*	Unknown	Within ¼-mile
SB-07659	2014	Stanton, Patrick B.	*Archaeological Monitoring at the 6007 West Stuart Ave., Redlands, California.*	Unknown	Within ¼-mile
SB-07929	2016	McKenna, Jeanette A.	*A Preliminary Assessment of the Existing Improvements at 219 Cajon Street, Redlands, San Bernardino County, California*	McKenna et al.	Within ¼-mile
N/A-not part of CHRIS results	2014	ICF International	*Redlands Passenger Rail Project: Cultural Resources Technical Memorandum. Cities of San Bernardino, Loma Linda, Redlands, San Bernardino County, California*	ICF International	Within ¼-mile

The records search identified 408 previously recorded resources within ½ -mile buffer of the Project Area (see Appendix B). Of these previously recorded cultural resources, only one resource is located within the Project Area, the Mill Creek Zanja (P-36-008092). A thorough description of the Zanja is explained later in this report. The majority of resources are historic properties; eight of the cultural resources are archaeological historic sites (Table 2). No cultural resources are of prehistoric age.

Table 2. Previously Recorded Cultural Resources within Project Area

Primary Number	Trinomial	Other IDs	Type	Age	Attributes	NR/CR Eligibility	Location
P-36-008092	CA-SBR-008092H	Mill Creek Zanja	Other	Historic	AH06	1	Within Project Area

* Due to the COVID-19 pandemic, the SCCIC was not able to provide digitized copies of all reports and site records. Therefore, some of the information regarding the reports and resources is unknown at this time.

The complete results of the CHRIS resources records searches are included as Confidential Appendix B of this report. Due to the COVID-19 pandemic, the SCCIC was not able to provide digitized copies of all reports and site records. Therefore, some of the information regarding the reports and resources is unknown at this time.

Several additional sources were consulted for this project as well (Table 3). The Bureau of Land Management General Land Office Records (BLM GLO) research was positive for a Spanish-Mexican Land Grant for José del Carmen Lugo, José María Lugo, Vicente Lugo, and Diego Sepulveda for 35,509.42-acres of land, dated 1865. Additional sources identified numerous historical structures listed for NRHP, CRHR, and the Local Register (Table 3 and 4).

Table 3. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Positive; The Mill Creek Zanja is within the Project Area. The Smiley Park Historical District is south of the Project Area. See review below. The Redlands Main Post Office is directly south of the Project Area.
Historical United States Geological Survey topographic maps (USGS 2012)	Negative; No historic-age structures are directly within the Project Area.
Historical United States Department of Agriculture aerial photos	Negative; No historic-age structures are directly within the Project Area.
California Register of Historical Resources (1992-2010)	Positive; Segments of the Mill Creek Zanja are recommended as eligible for the CRHR.
California Inventory of Historic Resources (1976-2010)	Positive; Numerous historic properties from the State Street area are listed. See Table 4.
California Historical Landmarks (1995 & supplements to 2010)	Positive; The Fox Theater is listed as Historical Landmark No. 35. The A.K. Smiley Public Library is listed as No. 994.
California Points of Historical Interest (1992 to 2010)	Positive; The Redlands Santa Fe Depot is listed. See below.
Local Historical Register Listings	Positive; The Mill Creek Zanja and numerous historic properties are listed in the Local Register.
Bureau of Land Management General Land Office Records (BLM GO 2008)	Positive; T01S R03W, Sect. 26,27, and 28: Patent CACAAA 072999 (Spanish-Mexican Land Grant) for José del Carmen Lugo, José María Lugo, Vicente Lugo, and Diego Sepulveda, date 1865

Partial Review of National Register Listed Sites Located within ¼-mile Radius of Project Area

Mill Creek Zanja (CA-SBR-8092H)

The Mill Creek Zanja is a historic water conveyance ditch and is the earliest remaining civil engineering project in southern California (Cunningham 2018). The ditch was engineered by Padre Alvarez of Mission San Gabriel Arcangel in 1819 (Cunningham 2018). Missionaries instructed Serrano, Gabrielino, and Cahuilla workers to build the Mill Creek Zanja, a 12-mile-long irrigation ditch routing water from Mill Creek to Guachama Rancheria. The Zanja was completed in 1820. Early Sanborn maps show the Zanja running almost parallel and through Water Street (presently Central Avenue and East Redlands Boulevard) until the 1930s (Gormon 2017; Sanborn 1900). During this time period, portions of the Zanja were partially enclosed along the southwest and southeast blocks of Orange Street and Water Street. In the 1930s, the Redlands Council decided to expand Central Avenue and in turn the Zanja segment that ran through Downtown Redlands was diverted under Central Avenue (Gormon 2017). Today, it carries drainage water and storm runoff.

The Mill Creek Zanja was designated California Historic Landmark Number 43 in 1965. In 1977, a 6-mile-long segment of the Zanja was listed in the NRHP. The segment begins in the east end where water from Mill Creek is diverted in the City of Mentone to just west of Sylvan Park in Redlands. Only this portion was listed in the NRHP because it was argued that the portions west of Division Street near Sylvan Park, the Zanja diverts underground and no longer acts as a natural stream course (Van Bocan 1976). Additional sections of the Zanja west of the NRHP listed segment, have been evaluated and found eligible for the CRHR. A subsurface segment of the Zanja was relocated directly east of the Project Area and was recommended eligible for the CRHR and the Local Register in 2017. The segment is located in Downtown Redlands, beneath 120 Orange Street and was recommended eligible for the CRHR under Criterion 1 at the local, state, and regional levels, as well as eligible under Criterion 3 (Gorman 2017). The segment was also recommended eligible for the Local Register under local Criteria A and F. The

segment was accessed through the interior of 120 Orange Street and observed within the basement. One of the walls retains its original rock wall lining while another wall has modern concrete lining which likely occurred when the Zanja was relocated in the 1930s (Gormon 2017). Another segment of the Zanja near Downtown Redlands was recommended as eligible for inclusion on the CRHR under Criterion 1, for its impact on settlement of the area, and Criterion 2, for its association with Guachama Chief Solano (Cunningham 2018). The segment extends from Church Street to 7th Street and is west of the NRHP listed segment (Cunningham 2018).

The portion of the Zanja that runs through the northwestern portion of the project area is currently a paved parking lot. No evidence of the Zanja was present on the surface of the parking lot during the pedestrian survey. However, there is a stormwater easement located on the southeast corner of Eureka Street and Redlands Boulevard which may be a part of the Zanja, as portions of it are currently used as a flood control channel. The Zanja's location was confirmed via the Project's conceptual grading and drainage plan (Gilbert 2021; Figure 10; Appendix E).

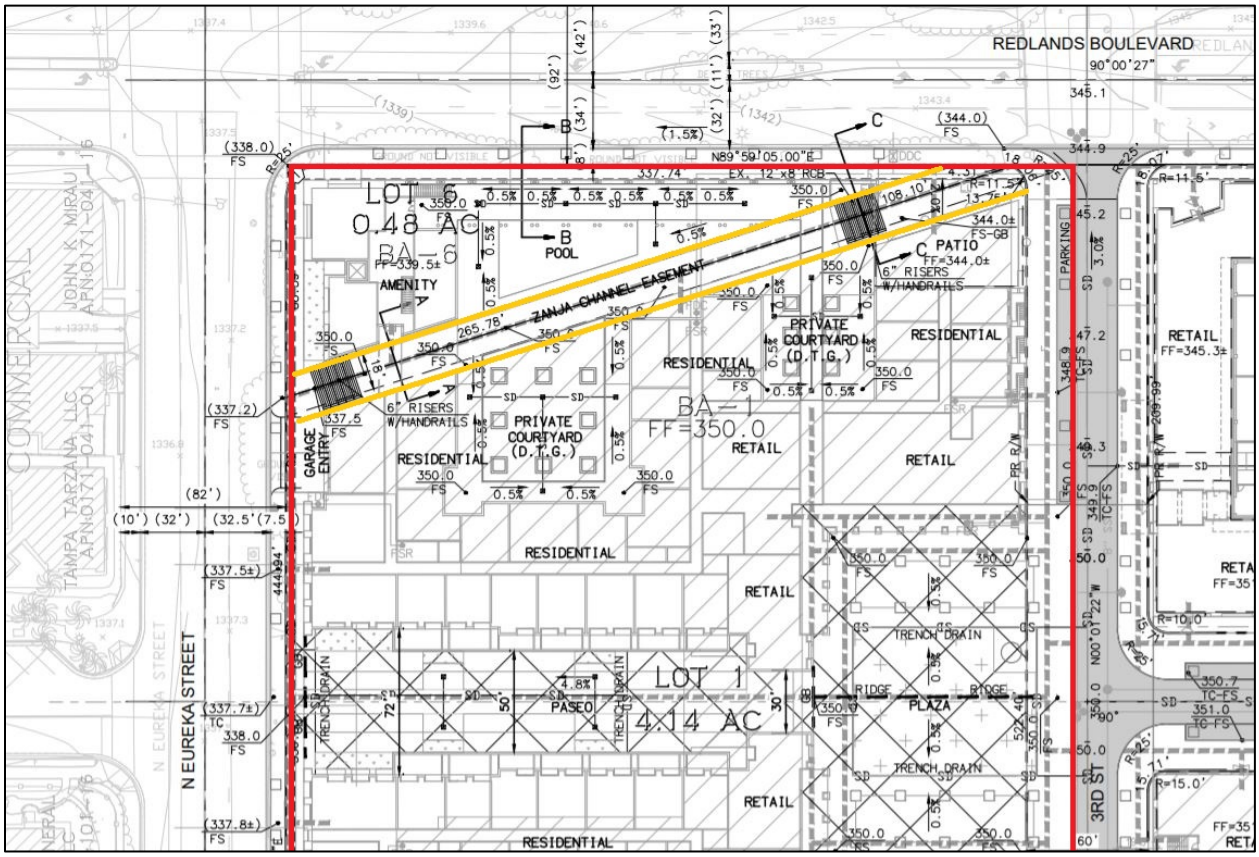

Figure 10. Conceptual Grading and Drainage Plan with Mill Creek Zanja Outlined in Orange and the Project Area in Red (Gilbert 2021)

Smiley Park Historic District (36-016503)

The Smiley Park Historic District is a residential neighborhood adjacent to Downtown Redlands and consists of 345 contributing buildings and 45 noncontributing buildings/structures. The Smiley Park Historic District includes the most intact collection of Late Victorian, Late 19th and 20th Century Revivals, and Craftsman-influenced architecture (Mcleod 1993). The neighborhood is centered around a park, named Smiley Park, and includes the A.K. Smiley Public Library. The neighborhood is named after the benefactors Alfred and Albert Smiley (Mcleod 1993). The period of significance associated with this historic district is from 1887 to 1913. The Smiley Park Historic District was evaluated and listed in the National Register in 1994 with 1S status code. It is located approximately ¼-mile south of the Project Area.

Redlands Main Post Office (36-016648)
The historic property was designed by architect G. Stanley Wilson. Construction was completed in 1935. The building is locally significant as it serves as an extant example of Wilson's architectural work and has state significance when considered with the economic context of the early 1930s. The Redlands Main Post Office was evaluated and listed in the National Register in 1984 with 1S status code. It is located adjacent to the Project Area.

Redlands Santa Fe Depot District (36-017088)
The historic district dates from 1888 through 1946. The general boundaries are Eureka Street, Stuart Avenue, and Redlands Boulevard. The district consists of 29 buildings, 26 of which are contributing or significant properties pertaining to the railroad, commercial structures, industrial packing houses, and other citrus related structures. The district was evaluated and listed in the National Register in 1991 with 1S status code and it is listed a California Point of Historical Interest. The District is approximately 0.15 miles north-northeast of the Project Area.

The State Street Area
The State Street Area comprises the City of Redlands' Downtown. It is located adjacent to the Project Area. The area is bounded by Orange Street, Cajon Street, Olive Street, Ninth Street, and Redlands Boulevard, in addition to Orange Street between the railroad right-of-way and Redlands Boulevard. The area has numerous, historically significant structures (Table 4). The portion located west of Orange Street was demolished for the construction of the Redlands Mall in 1977. The following properties were identified from the City of Redlands' Historic Features ArcGIS interactive map (City of Redlands 2020)

Table 4. Historic Properties in State Street Area from City of Redlands' Historic Features Map

Address	Building Type and Name	Year Built	Primary No. and Information	Relation to Project Area
123 Cajon Street	Commercial; Fox Theater	1928	P-36-016660. In 1986, it was evaluated and listed in the National Registry (status code 3S). Presently, it is listed as Historical Landmark No.35 (HL35).	It is located 0.14 miles southeast of Project Area.
131 Cajon Street	Masonic Temple	1909	P-36-016661. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed in the Historic Inventory.	It is located 0.15 miles southeast of Project Area.
(moved)	Wade House		Presently, it is listed in the Historic Inventory.	n/a
NE corner of Orange Street and Citrus Avenue	Commercial; Academy of Music Building	1890	P-36-016732. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed as Historical Landmark No.57 (HL57).	It is located adjacent to Project Area.

Address	Building Type and Name	Year Built	Primary No. and Information	Relation to Project Area
NE corner of Orange Street and Citrus Avenue	Commercial; A.G. Hubbard Building	1890	P-36-016732. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed as Historical Landmark No.39 (HL39).	It is located adjacent to Project Area.
24 E State Street	Commercial; Buster Building	1887	P-36-016829. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed as Historic Register No.33 (HR33).	It is located one block east of the Project Area.
204 E State Street	Commercial; Harry Gregory Carriage & Harness Building	1905	P-36-016845. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed as Historical Register No.91 (HR91).	It is located 0.14 mile east of Project Area
108-116 Orange Street	Commercial; Meserve Sanborn	1891	P-36-017089. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed in the Historic Inventory.	It is located adjacent to the Project Area.
118 Orange Street	Commercial; McLean Wagon Shop	1891	P-36-017090. In 1986, it was evaluated and listed in the National Registry (status code 5S). Presently, it is listed as in the Historic Inventory.	It is located adjacent to the Project Area.
120 Orange Street	Commercial; Walter C. Hargrave	1894	P-36-017091. In 2017, it was evaluated and listed in the National Register (status code 5S2). Presently, it is listed as in the Historic Inventory.	It is located adjacent to the Project Area.
.	Commercial; A.C. Chittenden Building	1935	P-36-017092. In 2017, it was evaluated and listed in the National Register (status code 5S2). Presently, it is listed as in the Historic Inventory.	It is located adjacent to the Project Area.

Key: 3S-Appears eligible for NR as an individual property through survey evaluation; 5S2-Individual property that is eligible for local listing or designation

Review of Historic Aerials and Literature

A review of historical aerial photographs shows a progression of development within and surrounding the Project Area since the 1900s (Figures 10 through 15). A topographic map from 1901 shows the Project Area and Downtown Redlands as a highly developed area (Figure 10). A photograph from 1938 (Figure 11) shows the Project

Area has being developed with buildings and the surrounding area having commercial and residential development with some citrus groves still present in. By the late 1960s, increased residential and commercial development surrounding the Project Area is observed (Figure 12). The Project Area consisted of six Downtown blocks that housed commercial and mix-use buildings before they were demolished in 1977 (Figure 13). The buildings demolished included the First National Bank building, the La Posada Hotel, and the Redlands Elk Club, including numerous stores and businesses (City of Redlands 2020). The Mall site was built in 1977 and contained over 173,000 square feet of enclosed leasable space and a 12,586 square-foot freestanding retail building at the corner of Orange Street and Redlands Boulevard (City of Redlands 2020). The construction of the Redlands Mall resulted in the demolition of six blocks of the Downtown's tradition urban fabric, including the removal of the State Street between Orange Street and Eureka Street. The result of the destruction was the loss of Downtown's "100% corner." The mall and its surrounding parking lots degraded the pedestrian and urban character of the street. Since the mall's development, the Project Area and the surrounding area has stayed relatively unchanged (Figure 14 and 15). The mall has been closed since 2010. The only remaining businesses include a CVS Pharmacy at the southeast corner of the Redlands Mall and the standalone building.

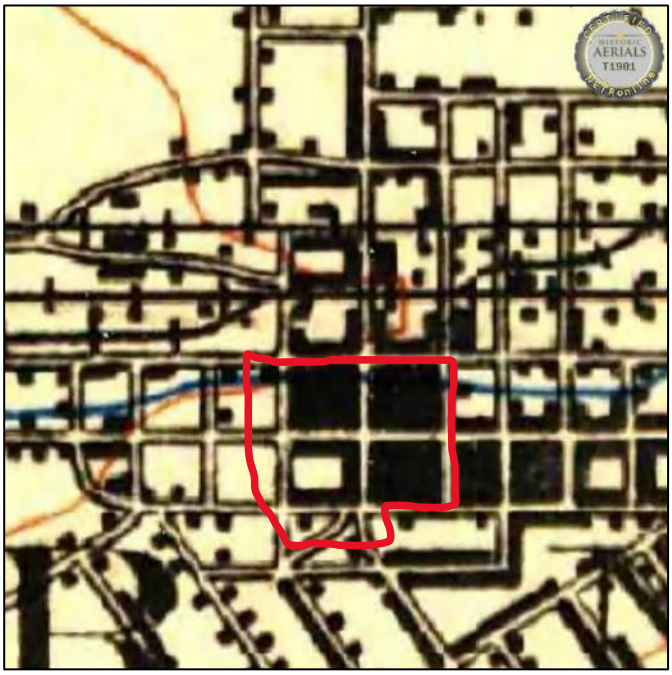

Figure 11. Project Area and surrounding area with housing and commercial development, roads, and railroads. The Mill Creek Zanja runs through the Project Area (as depicted on 1900 topographic map)

Figure 12. Project Area and surrounding area with housing and commercial development, roads, and railroads (as depicted on 1938 aerial photograph)

Figure 13. Project Area and surrounding area with increased commercial and residential development (as depicted on 1968 aerial photograph)

Figure 14. Project Area with demolished original buildings and surrounding area with increased residential and commercial development (as depicted on 1977 aerial photograph)

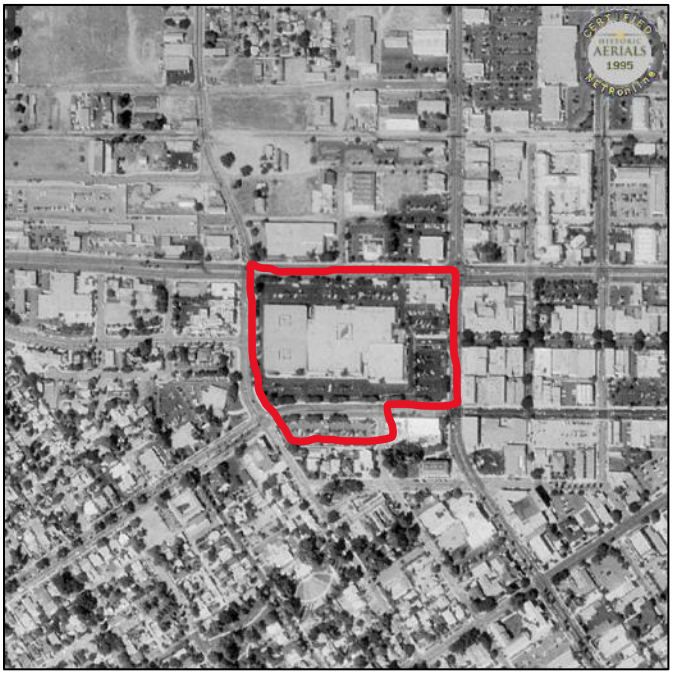

Figure 15. Project Area with Redlands Mall developed (as depicted on 1995 aerial photograph)

Figure 16. Project Area as it exists today (as depicted on 2016 aerial photograph)

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

As a result of the effort to contact the 19 Native American Tribes or individuals identified by the NAHC, MCC received three responses. These responses came in the form of letters, emails and phone calls. Below is a summary of the responses provided by Native American Tribes. These efforts were not part of AB52 and SB18 consultations, which were conducted separately by the City of Redlands.

On April 29,2021 MCC received an email from Jill McCormick, Historic Preservation Officer from Quechan Tribe of the Fort Yuma Reservation. Ms. McCormick stated the tribe has no comments on this project and defers to more local Tribes and supports their decisions on the project.

On May 11, 2021 MCC received an email from Ryan Nordness, Cultural Resources Analyst for San Manuel Band of Mission Indians (SMBMI). Mr. Nordness informed MCC that the proposed project is not located near any known SLFs or areas of immediate concern. The Tribe has also responded to the AB52 and SB18 notices requested by the City of Redlands.

On May 11, 2021, MCC received an email from BobbyRay Esparza, Cultural Coordinator with Cahuilla Band of Indians (CBI). Mr. Esparza stated the Project is located within the CBI Traditional Land Use area and believe that cultural resources may be unearthed during construction. CBI requested that a tribal monitor be present during all ground disturbing activities and to be notified of all changes and updates with the Project moving forward.

As of May 18, 2021, MCC has not received any additional responses from the remaining NAHC-listed groups or individuals we contacted for information. Should MCC receive additional responses once the final report is submitted, the information will be passed on to EPD Solutions to be added to the report as an addendum. NAHC and Native American correspondence materials, including our communication attempts, are provided as Appendix C.

PALEONTOLOGICAL RECORDS SEARCH

The locality search at LACM did not yield any fossil localities within the Project Area and no fossil localities within one mile of the Project Area (see Appendix D) (Bell 2020). However, 11 fossil localities from similar sedimentary deposits have been recorded within a 70-mile radius of the Project Area (Bell 2020; Table 5). The closest fossil locality from the LACM Records Search is LACM VP 7618 and -7622, located approximately 8 to 10 miles south of the Project Area. The locality came from the San Timoteo Formation and consisted of vertebrates belonging to the horse and camel family at an unknown depth. Additional literature was consulted, including The University of California Museum of Paleontology (UCMP)'s Miocene Mammal Mapping Project (MioMap), resulting in eight fossil localities from the San Timoteo Formation located approximately five miles south-southeast of the Project (Carrasco et al. 2005). These eight localities are the closest fossils to the Project Area. Furthermore, an additional 11 localities from the San Timoteo Formation and 13 localities from the Mount Eden Formation are located approximately 13 to 18 miles southeast of the Project, near the city of Beaumont (Carrasco et al. 2005). Overall, the paleontological fossil locality review identified 10 fossils from the San Timoteo formation within 10 miles of the Project.

Table 5. Previously Recorded Fossil Localities Within 10 miles of Project Area

Locality Number	Location	Formation	Taxa	Depth
n/a	North Side of San Timoteo Canyon;	San Timoteo	Mammoth	Unknown

Locality Number	Location	Formation	Taxa	Depth
	approximately 5 miles south of Project Area			
n/a	El Casco; approximately 5 miles south of Project Area	Upper San Timoteo	Mammoth	Unknown
n/a	Riverside County Landfill (5 fossil localities); approximately 5 miles south-southeast of Project Area	San Timoteo	Unknown	Unknown
n/a	Shutt Ranch Locality; approximately 5 miles southeast of Project Area	San Timoteo	Unknown	Unknown
LACM VP 7618 - 7622,	San Timoteo Badlands; E of Moreno & NW of Eden Hot Springs; approximately 8-10 miles south of Project Area	San Timoteo	Horse family (Equidae); Camel family (Camelidae)	Unknown

VP, Vertebrate Paleontology

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY RESULTS

During the course of fieldwork, survey conditions were poor due to the urban environment of the Project Area (Figures 17 to 32). The area exists as a commercial space with a mall, a freestanding building, paved parking lots, underground parking garage, and commercialized landscaped vegetation. Due to the urbanization of the area, ground visibility was poor (<10%), with the only ground surface visible was in commercial landscaped areas located along the borders of the buildings and the Project Area. The commercialized landscape included palm trees, eucalyptus trees, jacaranda trees, roses, ivy, and other shrubs. Soil observed was brown silty sand with imported inclusions of granite and river rock of pebble- to cobble-sized rounded material. It is highly probable that the soil noted is fill or imported from previous development and construction activities. The existing structures in the Project area include three adjoining buildings: CVS Pharmacy, Redlands Mall, and Gottschalks, in addition to a standalone building located at the southwest corner of the intersection of Redlands Boulevard and Orange Street. The unconnected building houses a Denny's, Mattress Showroom, and a defunct Union Bank. All buildings are rectangular in shape with a brown cement brick exterior and flat roof. The segment of the Mill Creek Zanja, P-36-008092, that runs through the northwestern portion of the Project Area was not relocated during the surface-level survey (Figure 21). No cultural or paleontological resources were during the field survey.

Figure 17. Representative photograph of sediment in landscaped portion of Project Area outside of mall, plan view

Figure 18. Overview of CVS pharmacy, facing southwest

Figure 19. Overview of CVS Pharmacy, facing northwest

Figure 20. Overview of parking area on southern side of Project Area, facing west

Figure 21. Overview of vine-covered arcades from the mall leading to Orange Street, facing south

Figure 22. Overview of standalone building at intersection of Orange Street and Redlands Boulevard, facing north

Figure 23. Overview of ivy-covered Gottschalks north entrance and where Mill Creek Zanja is mapped, facing south-southeast

Figure 24. Overview of Gottschalks south entrance, facing north-northeast

Figure 25. Overview of south entrance to mall, facing northeast

Figure 26. Overview of underground parking garage, facing east

Figure 27. Representative photograph of landscaped vegetation, facing northeast

Figure 28. Representative photograph of ground covering in some landscaped planters, plan view

Figure 29. Overview of mall from across N. Citrus Avenue, facing north

Figure 30. Overview of parking area south of N. Citrus Avenue, facing west

Figure 31. Overview of parking area south of N. Citrus Avenue, facing east

Figure 32**.** Representative photograph of soil near parking lot south of N. Citrus Avenue, plan view

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES CONCLUSIONS

The Phase I cultural resource assessment of the Project Area included a CHRIS records search, NAHC outreach, background research, and a field survey. The records search results indicated 28 previously conducted investigations and 408 previously recorded resources are located within a ½-mile radius of the Project Area. One previously recorded cultural resource, the Mill Creek Zanja, is located directly within the Project Area. The resource is listed on the NRHP and CRHR. A review of historical literature, maps, and site records indicate the Zanja once flowed through Downtown Redlands until the 1930s when it was enclosed and diverted under Central Avenue. A stormwater easement, located at the southeastern intersection of Redlands Boulevard and Eureka Street, may be part of the Zanja as it currently exists as a drainage system and flood control channel. Additionally, a segment of the Zanja was discovered directly east of the Project Area at the southeastern intersection of Orange Street and Redlands Boulevard. The segment was observed subsurface, below the ground floor of the building at 120 Orange Street. During the intensive pedestrian survey, the Mill Creek Zanja was not relocated and no other cultural

resources were observed. During NAHC outreach efforts, the Cahuilla Band of Indians requested monitoring for cultural resources during ground disturbance activities associated with the Project.

CULTURAL RESOURCES RECOMMENDATIONS

The potential for encountering significant cultural resources within the Project Area is considered low to moderate due to the subsurface presence of the Mill Creek Zanja in the northwestern portion of the Project Area. Additionally, the Cahuilla Band of Indians has requested a Tribal Monitor to be present during ground disturbing activities. MCC recommends full time archaeological monitoring during initial ground-disturbance to determine where the Zanja is within the Project Area, the northwestern portion. Prior to the start of construction, a cultural resources management plan (CRMP) should be prepared and implemented. It is recommended the Project's CRMP implement the following procedures:

- Archaeological monitoring during initial ground-disturbance activities, such as site preparation, demolition of historic structures, and grading up to ten feet below surface, in order to quickly assess any discoveries of cultural resources during project implementation.
- Development of an inadvertent discovery plan in place to expediently address archaeological and / or tribal cultural resource discoveries should these be encountered during any phase of development associated with the Project. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).
- Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The San Bernardino County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The Phase I paleontological resource assessment of the Project Area included a locality records search and literature review. No significant paleontological resources were identified directly within the Project Area during the locality search. However, ten fossil localities from the San Timoteo Formation were identified approximately within 10 miles of the Project Area; eight of which are located within 5 miles of the Project. An additional 11 fossils from the same geological formation were identified 13 miles south-southeast of the Project Area. The geologic units mapped within the Project Area are comprised of young wash deposits, young axial-valley deposits, and older Quaternary alluvium. The older Quaternary alluvium is derived from the intrusive igneous rocks from the Jurupa Mountains and the San Timoteo Formation to the south. While the younger deposits typically do not contain significant vertebrate fossils within the uppermost layers, it is likely there are underlaying sediments of older Quaternary deposits. There are nearby localities from similar sedimentary deposits, the San Timoteo

Formation, which are found within portions of the proposed Project Area. Therefore, excavations have the potential to impact the paleontologically sensitive older Quaternary sediments.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

Based on the findings, the Project Area is considered low to moderate sensitivity to have the potential for construction activities of the proposed project to impact underlying paleontological resources. MCC recommends that a paleontological resource mitigation program (PRMP) be designed and implemented prior to any ground disturbance activities to monitor, salvage, and curate any recovered fossils associated with the Project Area, should these be unearthed. It is recommended the Project's PRMP implement the following procedures:

- A trained and qualified paleontological monitor should perform monitoring of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 5 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.

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Appendix A:
Qualifications

Tria Belcourt, M.A., RPA
President and Principal Environmental Specialist

Tria Belcourt oversees and is responsible for the entire work process at Material Culture Consulting. She is responsible for planning, supervising, and overseeing field projects, including responsibility for the professional quality of evaluations and recommendations. Tria has primary accountability for the technical completeness and competence of work conducted by her staff. She is responsible for development of work plans and/or research designs, for performance of crew chiefs, for selection standards and limitations on work assignments of crew members, for analysis and interpretation of field data, for integration of fieldwork results into comparative regional perspectives, and for preparation of reports. Tria's advanced academic training and more than sixteen years of professional archaeological experience has included rigorous training and application of anthropological and archaeological theory and methods, and in recording, collecting, handling, analyzing, evaluating, and reporting cultural property data, relative to the type and scope of work proposed.

Tria has been an archaeological project manager and principal investigator for over nine years, leading and managing several complex compliance projects throughout the State of California and in Southern Nevada, which have involved each step of cultural resource compliance and management. Prior to this, she spent six years as a field technician and crew chief on projects throughout California and the Southeastern United States. Her experience includes conducting background research, field survey, resource testing and formal NRHP/CRHR evaluation, data recovery plan development and implementation. She has prepared hundreds of technical reports for all of the above to state and federal standards, including following BLM standards for GIS spatial data management and technical reporting – ranging from simple clearance forms, to letter reports, to extensive data recovery reports. She was the lead preparer of the Fort Irwin Integrated Cultural Resource Management Plan (2009-2013) and has also prepared several cultural resource management plans for state regulated projects. She has overseen and conducted archaeological monitoring and management of unanticipated discovery of resources, including Native American human remains on federal lands (and repatriation of the remains), and reported the results and outcomes of cultural resource monitoring efforts in lengthy technical reports. Finally, Tria regularly provides third party and QA/QC review of cultural resource technical documents, due to her keen understanding of state and federal regulations and laws governing the management of cultural resources throughout the state of California.

EDUCATION

2014 Graduate Certificate in Environmental Management of Military Lands, Colorado State University
2010 Professional Certification in CEQA/NEPA, ICF International Corporation
2009 M.A. in Anthropology, University of Florida Gainesville, Florida
Professional Certification in GIS
2006 B.A. in Anthropology, Magna Cum Laude, University of California, Los Angeles, California

AFFILIATIONS/CERTIFICATIONS/TRAINING

- Society for Historical Archaeology (SHA)
- Society for California Archaeology (SCA)

UTILITY SECTOR EXPERIENCE

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Silver Peak 66kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and Environmental Intelligence (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) - Kern River 66kV, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Eldorado Pisgah Lugo 220kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Haiwee 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Ivanpah Coolwater Kramer Inyokern 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

Pacific Gas and Electric Company (PG&E), NERC Alert Program – Archaeological Principal Investigator; throughout California; 2015 – Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program: tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Arcadis).

Southern California Edison (SCE), On-Call and Emergency Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2013 – Present. Belcourt has provided oversight of over 200 task orders for on-call and emergency projects to date, involving cultural resource desktop reviews, records searches and field reviews for deteriorated poles, system upgrades, initial studies to support capital projects, and monitoring support to replace facilities due to natural disasters. This high-volume program includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedules, and preparing technical reports and GIS datasets for submittal to prime contractor (SWCA).

Southern California Edison (SCE), Large Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt has provided oversight of over 20 task orders for major projects to date, involving cultural resources for this contract with SWCA, Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Small Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt provides oversight of all task orders and project management of task orders involving cultural resources for this contract with Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Coolwater Lugo Transmission Project —- Environmental Project Manager; San Bernardino County, California; 2014 – 2015. Belcourt provided oversight of all project management on CWLTP: tracking and reporting efforts of subconsultants (Pacific Legacy, Paleo Solutions and Urbana Preservation and Planning), maintaining project schedule and timely submittal of project deliverables to agency reviewers. Served as communication facilitator between SCE and BLM/CPUC agency reviewers. Provided final review of the Cultural Resources Technical Report (which included over 1,000 cultural resources) and the Historic Built Environment Report - prior to draft submittal to BLM.

SCE, Eldorado Ivanpah Transmission Project – In-house Consultant for Archaeology; San Bernardino County, California and Clark County, Nevada; 2010-2012. Belcourt provided complex regulatory oversight and project management regarding cultural and paleontological resource management. She developed compliance training to inform and guide construction activities and major capital project teams. She also developed and implemented internal cultural resource management programs based on project migitation measures. Tria coordinated with BLM archaeologists on discovery and management of previously unknown cultural resources identified during construction. She provided environmental analyses, technical reports, and clearance documentation for over 20 project modifications during construction without delay to project. Developed the cultural resources geodatabase for EITP and coordinated regularly with the project GIS team.

Silver State South Substation, In-house Consultant for Archaeology; Southern California Edison, Clark County, NV; 2010-2012. Provided regulatory oversight and project management regarding cultural and paleontological resource management during project licensing and scoping. Identified potential impacts to cultural and paleontological resources, developing appropriate mitigation measures in preparation for and projecting alternative conclusions.

Tehachapi Renewable Transmission Project, Multiple Roles; Southern California Edison, Segments 1-3 and Segments 6-11, Kern, Los Angeles and Orange County, CA; 2009 - Present. Tria provided service to this project over seven years in multiple roles – archaeological field monitor, project coordinator, in-house consultant at SCE, and principal investigator. She provided regulatory oversight and project management regarding cultural and paleontological resource management for all segments of TRTP. Developed and implemented internal cultural resource management programs based on the mitigation measures in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for TRTP, and for the existing Special Use Permits and Record of Decision for TRTP, issued by the Angeles National Forest (ANF). Oversaw preparation of the Historic Properties Treatment Plans, fieldwork and technical report preparation for two large-scale Phase III Data Recovery excavations on Angeles National Forest. Coordinated with ANF archaeologists on discovery and management of previously unknown cultural resources identified during construction. Provided cultural resources analyses and clearance documentation, including technical reports, for over 100 project modifications during construction without delay to project. Finally, Tria was responsible for maintaining the geospatial data for the project within the SCE cultural resources geodatabase TRTP and coordinated with the project GIS team.

Desert Tortoise Habitat Conservation Plan Area, Principal Investigator; Cadiz Inc., San Bernardino County, CA; 2013. Oversaw records search to identify the extent of previous cultural resources surveys and all previously recorded prehistoric and historic resources within the 7,500-acre Desert Tortoise Habitat Conservation Plan (HCP) area (Project Area) located on lands administered by the BLM Needles Field Office in unincorporated San Bernardino County, California.

SOLAR SECTOR EXPERIENCE

Ecoplexus California Correctional Institution Solar Project, Tehachapi, Kern County, California. Cultural and Paleontological Assessments (April 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Ironwood State Prison and Chuckawalla Valley State Prison Solar Project, City of Blythe, Riverside County. Cultural and Paleontological Assessments (June 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus California State Prison Centinela Solar Project, City of Imperial, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Calipatiria State Prison Solar Project, City of Calipatria, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus RJ Donovan State Prison Solar Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Salinas Valley State Prison Solar Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Correctional Training Facility Soledad Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

SDG&E Cameron Substation Photovoltaic Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (September 2017 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, facilitated Native American consultation between County of San Diego and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Beard Solar Project, Dustin Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018- April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Broadman Solar Project, Livermore, Alameda County, California. Cultural and Paleontological Assessments (February 2018- March 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Nachtigall Solar Project, Wasco, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Rocha Solar Project, Fuller Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Shafter Solar Project, City of Shafter, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Anderson Twisselman Solar Project, Lost Hills, Kern County, California. California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Weedpatch Solar Project, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Jennifer Kelly, M.Sc.
Paleontological Principal Investigator and Project Manager

Jennifer Kelly has experience in all aspects of paleontology. She has extensive experience with monitoring, salvage, fieldwork, project management, and report writing, as well as volunteer experience from the La Brea Tar Pits/Page Museum and the Cooper Center of Orange County (Paleontology department) and field experience as a Staff Geologist for Leighton Geotechnical. Her expertise is Geology, and she has her M.S. in Geological Sciences, emphasis in Geochemistry.

Jennifer has taught lab courses in paleontology and general geology, and also assisted with field mapping classes. Jennifer is HAZWOPER 40-hour certified and a registered Orange County paleontologist. She has authored and co-authored more than 100 paleontological compliance documents, including PRMPs, EIR, EIS, PEA, treatment plans, final monitoring reports, survey reports, and other compliance documents, in compliance with NEPA, CEQA, Caltrans and city and county laws, ordinances, regulations, and statutes.

Education

2012 M.Sc. in Geology, California State University, Long Beach, California
2005 B.S., Geology (preliminary work for entry to M.S. Geology Program), California State University, Long Beach
2004 B.A., Theater Arts, California State University, Long Beach

Certifications and Training

- 40 Hour Certification for HAZWOPER training under 29 CFR 1910. 120, CA (2013 – 2014)
- Orange County Certified Paleontologist
- San Diego County Certified Paleontologist

Recent Professional Experience in California

Paleontological Principal Investigator and Project Manager, Harvill Industrial Project, City of Jurupa Valley, Riverside County, California (2017-present). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

Paleontological Principal Investigator and Project Manager, Rider Commerce Center Project, Unincorporated Riverside County, California (2018-present). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

Paleontological Principal Investigator and Project Manager, Ontario Ranch Logistic Center, City of Ontario, County of San Bernardino, California (2018-present) Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and authored the PRIMP for this project. Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2021.

Paleontological Principal Investigator and Project Manager, Saddleback College, City of Mission Viejo, Orange County (2018-present) Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, prepared the Paleontological Resources Impact Mitigation Plan (PRIMP), and

oversaw the paleontological monitoring program detailed in the PRIMP. Kelly is currently co-authoring the final paleontological mitigation report This project is in the final stages and is scheduled to be completed 2020.

Private Development Sector Experience

Paleontological Principal Investigator and Project Manager, Proposed Alta Vista Specific Plan Project, SC Development, City of Placentia, Orange County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Magnolia Tank Farm Project, SLF-HB Magnolia, LLC, City of Huntington Beach, Orange County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Santa Fe Springs Apartment Project, Clearwater Communities, City of Whittier, Los Angeles County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Rider Business Center Project, Capstone Advisor, Unincorporated Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Los Olivos French Valley Project, Newland Homes LLC, Unincorporated Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Veteran's Village Community Development Project, UHC LLC, Cathedral City, Riverside County (2017). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Paleontological Principal Investigator and Project Manager, Colony Commerce East Project, CapRock Partners, City of Ontario, San Bernardino County (2016). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

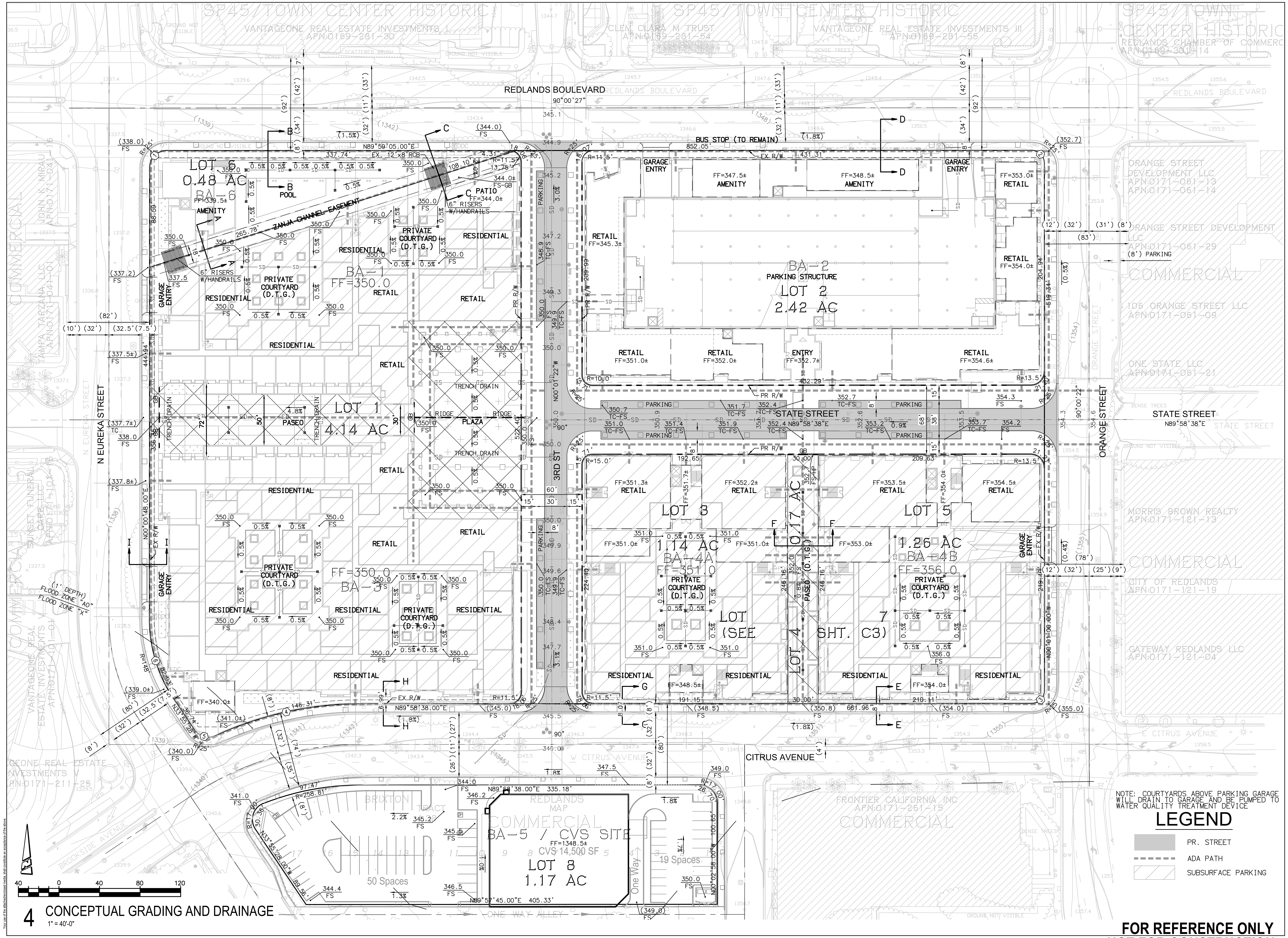
Paleontological Principal Investigator and Project Manager, Jurupa Valley Medical Clinic Project, Boureston Company, City of Jurupa Valley, Riverside County (2016). Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project**.**

Renewable Energy Sector Experience

Paleontological Project Manager, Tehachapi Renewable Transmission Project (TRTP), Southern California Edison (SCE), Kern County, Los Angeles County, San Bernardino County (2009-2015). Ms. Kelly conducted and led surveys along this project's right of way. She was also in charge of scheduling monitoring crews during grading in areas of paleontological sensitivity, managing and reviewing log sheets, and tracking data that is incorporated to final reports. Ms. Kelly played a valuable role with scheduling for the project's needs. She monitored, surveyed, and reported on all paleontological facets of this project as the Lead Paleontological Monitor for segment 3B, which was located near Rosamond, and for segments 4-11 which extended into Los Angeles and San Bernardino Counties. She authored more than 10 of the compliance reports for this project. She also performed monitoring on every segment of this Project.

Paleontological Project Manager, West of Devers Transmission Line Project, SCE, Riverside County, California (2009-2016). Ms. Kelly provided all project management and paleontological related services. This included proper BLM authorization and permitting to conduct surveying and a research design for field reconnaissance related to PEA, EIS/EIR documentation for the proposed transmission line. She assisted with managing documentation with laws relating to paleontological resources, among which are CEQA and NEPA compliance.

APPENDIX E:
Conceptual Grading and Drainage Plan



4 CONCEPTUAL GRADING AND DRAINAGE
1" = 40'-0"

5/7/2021 11:54:29 AM

MITHŪN

SEATTLE / Pier 56, 1201 Alaskan Way, #200 Seattle, WA 98101 / 206.623.3344
SAN FRANCISCO / 660 Market Street, #300 San Francisco, CA 94104 / 415.956.0688
LOS ANGELES / 5837 Adams Blvd Culver City, CA 90232 / 323.937.2150
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PROACTIVE ENGINEERING CONSULTANTS
200 South Main Street, Suite 300
Corona, CA 92882 (951) 280-3300

PROJECT
STATE STREET VILLAGE VTTM 20425

LOCATION
REDLANDS, CA

PREPARED FOR
Village Partners
4340 Von Karmen Avenue Suite 110
Newport Beach, CA 92660

NO. DATE REVISION

DESIGN PARTNER: DS
PROJECT MANAGER: DV
PROJECT ARCHITECT: MM
PROJECT DESIGNER: JE
PROJECT TEAM MEMBERS: YB, GY, CH, MF
CHECK

REGISTERED PROFESSIONAL ENGINEER SCOTT P. GILBERT NO. 65194 CIVIL STATE OF CALIFORNIA

PLANS PREPARED UNDER THE SUPERVISION OF:

SCOTT P. GILBERT R.C.E. #65194 DATE

TITLE
CONCEPTUAL GRADING AND DRAINAGE PLAN

PROJECT NO. 10.068.000
DATE 5/26/2021

SHEET NUMBER
C.04
C.U.P. APPLICATION

FOR REFERENCE ONLY
NOT FOR CONSTRUCTION