

APPENDIX C
Cultural Resources Reports



CULTURAL RESOURCES ASSESSMENT REPORT FOR THE RIALTO METROLINK AFFORDABLE HOUSING PROJECT, CITY OF RIALTO, SAN BERNARDINO COUNTY, CALIFORNIA

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NATIVE AMERICAN CONSULTATION IN PROGRESS

Cogstone Project Number: 3400

Type of Study: Cultural Resources Assessment

Fossil Localities: none

Archaeological Sites: none

USGS Quadrangle: San Bernardino South

Area: 2.5 acres

Key Words: negative survey

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MANAGEMENT SUMMARY

The proposed Rialto Metrolink Affordable Housing Project encompasses approximately 2.5 acres and is located on the north side of West Bonnie View Drive and south of the Rialto Metrolink Station in the City of Rialto, San Bernardino County, California. The proposed project entails the construction of a multi-generation residential project consisting of 64 units in a mix of one, two, and three bedroom units as well as a community center. The City of Rialto is the municipal lead agency and the United States Department of Housing and Urban Development (HUD) is the federal lead agency. The horizontal area of potential effect (APE) is the entire 2.5-acre parcel. The vertical APE is estimated at three feet for general leveling and up to eight feet for utility trenching in selected areas.

A search for archaeological and historical records was completed at the South Central Coastal Archaeological Information Center at California State University, Fullerton. The search included a one mile-radius around the APE. Results of the records search indicated that only one previous cultural resources investigation has been completed within the APE. Additionally, the studies indicate that there are no known archaeological resources within the APE. One resource, P-36-06847, an out-of-service spur of the historic Burlington Northern Santa Fe Railway built between 1880 and 1892, is within 50 feet of the APE and is not considered significant under National Register of Historic Places (NRHP) criteria. Eight other historic archaeological resources and one prehistoric isolate are located within one mile of the APE (Table 3). The historic archaeological resources include one road, three residences, one religious building, one shed, and one additional railway. An additional 115 historic buildings listed on the California Inventory of Historic Resources (HRI) are within 1 mile of the APE.

Native American consultation is in progress.

Cogstone also conducted an intensive pedestrian survey of the APE. The survey was negative for surface cultural resources and showed evidence for extensive ground disturbance due to prior agricultural use.

Based on the cultural records search as well as the intensive pedestrian survey, Cogstone has determined that the proposed project will not cause substantial adverse effect to a historic property or historical resource (including archaeological resources).

If unanticipated historic or prehistoric archaeological discoveries are made during construction activities work should immediately stop within a 50-foot radius of the find until a qualified archaeologist can evaluate it.

INTRODUCTION

PURPOSE OF STUDY

This study analyses potential adverse effects of the proposed construction of the Rialto Metrolink Affordable Housing Project in the City of Rialto, California (Figure 1).

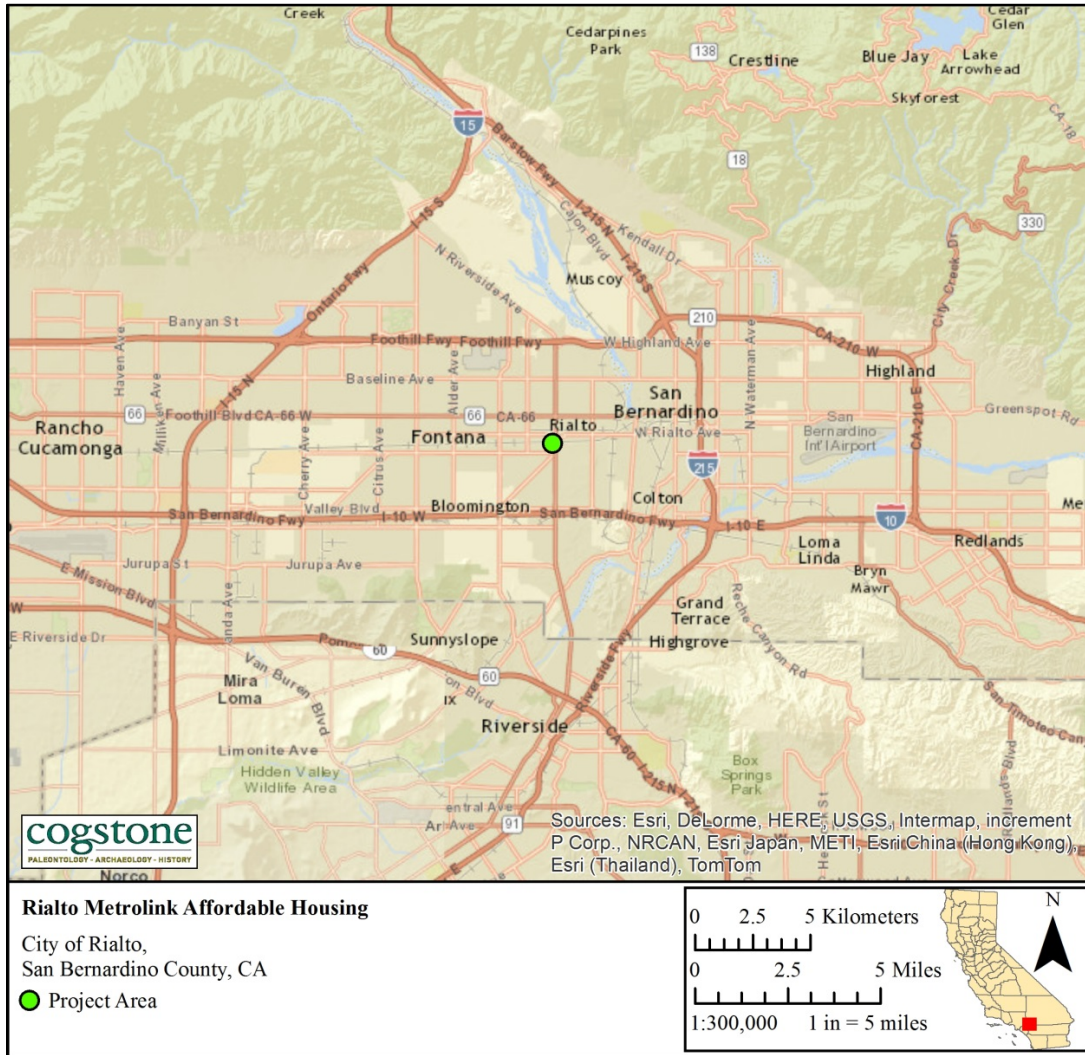


Figure 1. Project Vicinity Map

PROJECT DESCRIPTION

The Rialto Metrolink Affordable Housing Project is a multi-generation residential project consisting of 64 units in a mix of one, two, and three bedroom units. A 2,100 square foot community center and offices is provided for the use of the residents and property management. Four buildings are three stories with flats at ground level and two story townhomes over the flats. The Project is designed in a contemporary Mediterranean architectural style using color and massing to articulate a lively pedestrian friendly streetscape.

The APE is located in the City of Rialto, California, on the south side of the Metrolink line, on West Bonnie View Drive between South Willow Avenue and South Riverside Avenue. The APE is mapped on the San Bernardino South 7.5' United States Geological Survey (USGS) topographic map, in Section 11 of Township 1 South, Range 5 West, in the San Bernardino Base Meridian (Figures 2 and 3).

AREA OF POTENTIAL EFFECT

The horizontal area of potential effect (APE) is the entire 2.5 acre parcel. The vertical APE is estimated at three feet for general leveling and up to eight feet for utility trenching in selected areas.

PROJECT PERSONNEL

Cogstone conducted the cultural resources studies for the proposed development. Justin Lev-Tov served as the Principal Investigator for the project and supervised all work. Dr. Lev Tov is a Registered Professional Archaeologist and has a Ph.D. and M.A. in Anthropology from the University of Tennessee, Knoxville and over seven years of experience in California archaeology.

André Simmons authored the majority of this report and prepared the map figures. Mr. Simmons is a Registered Professional Archaeologist and has an M.A. degree in Anthropology (Anthropological Archaeology), B.A. degrees in History and Anthropology, and a GIS certification from California State University, Fullerton. He has over six years of experience in California Archaeology.

Sherri Gust performed quality control and authored portions of the report. Gust has an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California, Davis, and over thirty-five years of experience in California.

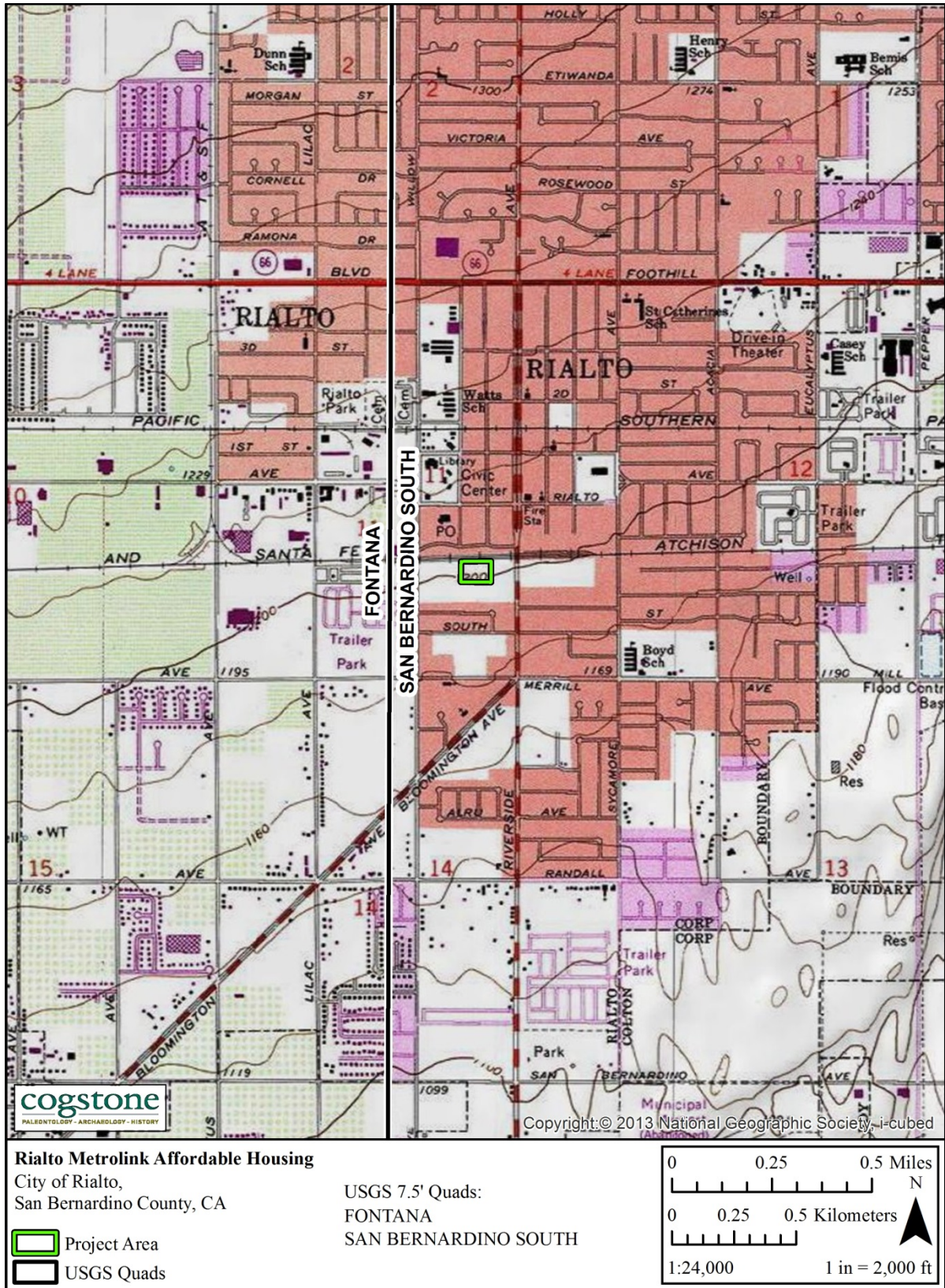
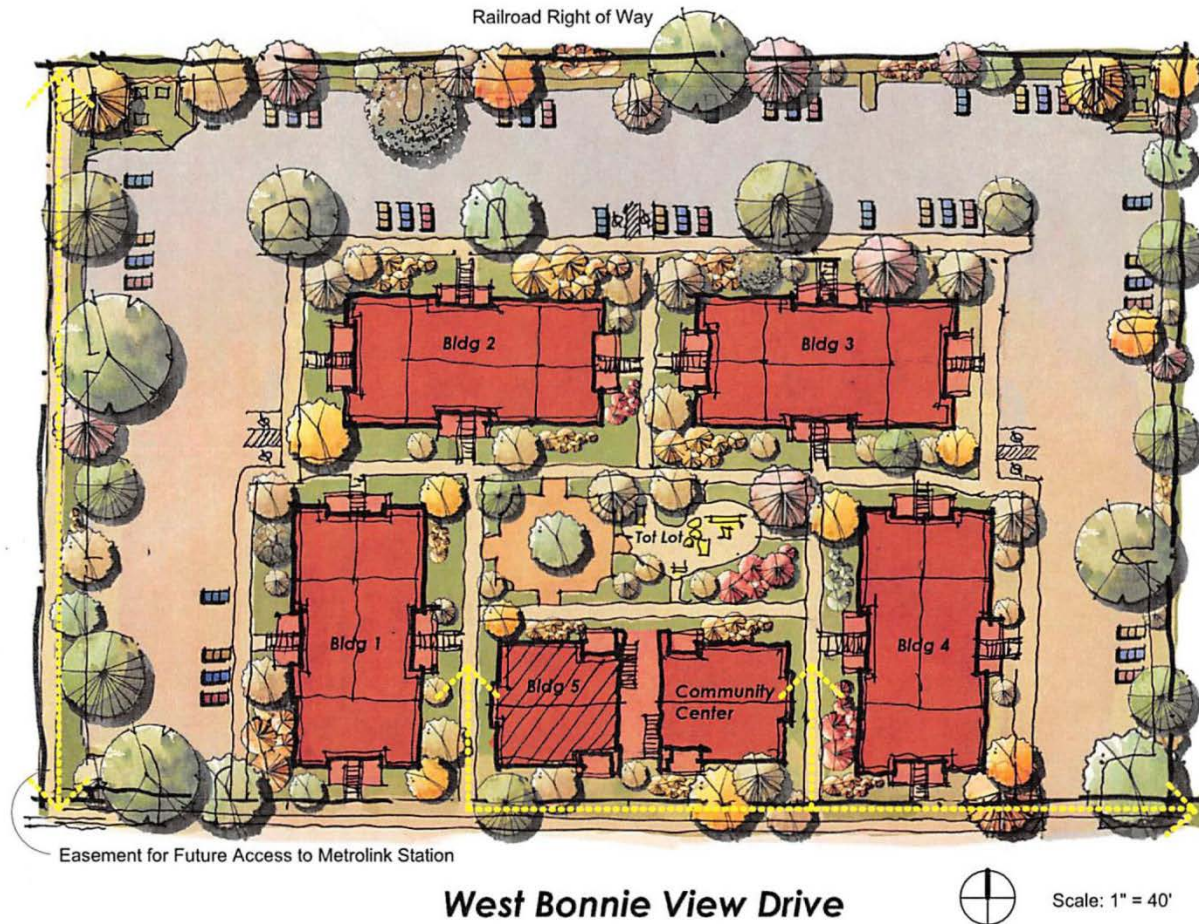


Figure 2. Proposed Rialto Metrolink Affordable Housing APE



Project Statistics

Site Area 113,000 SF 2.6 AC
Residential Density 27 DU/AC

Residential Unit Mix

Bldgs. 1,2,3,4

(10) 3-Bedroom Units
(32) 2-Bedroom Townhouse Units
(12) 1-Bedroom Units
(54) Units Total

Bldg. 5

(10) 3-Bedroom Units
(10) Units Total

Aggregate

(20) 3-Bedroom Units
(32) 2-Bedroom Units
(12) 1-Bedroom Units

(64) Units Total

2,100 SF Community Center

Parking

(20) 3-BR Units @ 2 Spaces/Unit = 40 Spaces
(32) 2-BR Units @ 1.5 Spaces/Unit = 48 Spaces
(12) 1-BR Units @ 1 Space/Unit = 12 Spaces
(100) Spaces Total

Total Parking Provided: 108 Spaces

Figure 3. Project Design

Alyson Caine and Francisco Arellano also contributed to the present study. Caine performed the archaeological records search. She earned her M.Sc. in Paleopathology (Archaeology) from University of Durham, United Kingdom, and has two years of experience in southern California archaeology. Arellano conducted the pedestrian survey of the APE. He has a B.A. in Anthropology from San Francisco State University and more than 15 years of experience in California archaeology. Short resumes of Cogstone staff are provided (Appendix A).

REGULATORY ENVIRONMENT

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED

The National Historic Preservation Act (NHPA) is the primary federal law governing the preservation of cultural and historic resources in the United States. The law establishes a national preservation program and a system of procedural protections which encourage the identification and protection of cultural and historic resources of national, state, tribal and local significance. Primary components of the act include:

- a) Articulation of a national policy governing the protection of historic and cultural resources.
- b) Establishment of a comprehensive program for identifying historic and cultural resources for listing in the National Register of Historic Places.
- c) Creation of a federal-state/tribal-local partnership for implementing programs established by the act.
- d) Requirement that federal agencies take into consideration actions that could adversely affect historic properties listed or eligible for listing on the National Register of Historic Places, known as the Section 106 Review Process.
- e) Establishment of the Advisory Council on Historic Preservation, which oversees federal agency responsibilities governing the Section 106 Review Process.
- f) Placement of specific stewardship responsibilities on federal agencies for historic properties owned or within their control (Section 110 of the NHPA).

Section 106, as noted above (item d), requires the head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford

the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to such undertaking.

NATIONAL REGISTER OF HISTORIC PLACES

The National Register of Historic Places is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archeology, engineering, and culture. The National Register recognizes resources of local, state and national significance which have been documented and evaluated according to uniform standards and criteria.

Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. The National Register is administered by the National Park Service, which is part of the U. S. Department of the Interior.

To be eligible for listing in the National Register, a resource must meet at least one of the following criteria:

- A. Is associated with events that have made a significant contribution to the broad patterns of our history
- B. Is associated with the lives of persons significant in our past
- C. Embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction
- D. Has yielded, or may be likely to yield, information important in history or prehistory

CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970, AS AMENDED

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 effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

CEQA includes historic and archaeological resources as integral features of the environment. If paleontological resources are identified as being within the proposed project area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The State Historical Resources Commission has designed this program for use by state and local agencies, private groups and citizens to identify, evaluate, register and protect California's historical resources. The Register is the authoritative guide to the state's significant historical and archeological resources.

The California Register program encourages public recognition and protection of resources of architectural, historical, archeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under the California Environmental Quality Act.

To be eligible for listing in the California Register, a resource 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 or 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

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. 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.

APE

In addition to having significance, cultural resources must have integrity for the period of significance under consideration. The period of significance is the date or time span within which significant events transpired, or significant individuals made their important contributions. 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 CRHR, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

The term “unique archaeological resource” has the following meaning under CEQA:

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 historical event or person [Public Resources Code §21083.2(g)].

A Project with an effect that may cause a substantial adverse change in the significance of a historical resource or unique archaeological resource is a Project that may have a significant effect on the environment. Effects on cultural properties that qualify as historical resources or unique archaeological resources can be considered adverse if they involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

The State of California Office of Historic Preservation (OHP) administers the California Register program. As a recipient of federal funding, the OHP meets the requirements of the NHPA with a State Historic Preservation Officer (SHPO) who enforces a designation and protection process, has a qualified historic preservation review commission, maintains a system for surveys and inventories, and provides for adequate public participation in its activities. As the recipient of federal funds that require pass-through funding to local governments, the OHP administers the Certified Local Government program for the State of California. The OHP also administers the *California Register of Historical Landmarks* and *California Points of Local Historical Interest* programs.

ASSEMBLY BILL NO. 52

As of July 1, 2014 a new category of environmental resource, “tribal resources,” was added to those that must be considered under the California Environmental Quality Act. A tribal cultural resource must meet the following: 1) Included or determined to be eligible for inclusion in the California Register of Historical Resources. 2) Included in a local register of historical resources. 3) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1. 4) A cultural landscape that meets one of the above criteria and is geographically defined in terms of the size and scope of the landscape. 5) A historical resource described in PRC 21084.1, a unique archaeological resource described in PRC 21083.2 or a non-unique archaeological resource if it conforms to the above criteria.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency’s environmental document must discuss the impact and whether feasible alternatives or mitigation measures could avoid or substantially lessen the impact.

Lead agencies are to provide notice to tribes traditionally or culturally affiliated with the geographic area of the proposed APE that may have expertise with regard to their tribal history and practices. If tribes requests consultation following receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe.

The parties must consult in good faith, and consultation is deemed concluded when either the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached.

NATIVE AMERICAN HUMAN REMAINS

Sites that may contain human remains important to Native Americans must be identified and treated in a sensitive manner, consistent with state law (i.e., Health and Safety Code §7050.5 and Public Resources Code §5097.98), as reviewed below.

In the event that human remains are encountered during Project development and in accordance with the Health and Safety Code Section 7050.5, the County Coroner must be notified if potentially human bone is discovered. The Coroner will then determine within two working days of being notified if the remains are

subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she shall contact the Native American Heritage Commission (NAHC) by phone within 24 hours, in accordance with Public Resources Code Section 5097.98. The NAHC will then designate a Most Likely Descendant (MLD) with respect to the human remains. The MLD then has the opportunity to recommend to the property owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and associated grave goods.

BACKGROUND

PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists defined a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains dating from about 7-3 thousand years before the present as the “Millingstone Horizon” (Wallace 1955). Later, the “Millingstone Horizon” was redefined as a cultural tradition named the Encinitas Tradition (Warren 1968) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use “Millingstone Horizon” and some used Middle Holocene (the time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2).

Recently, the fact that generalized terminology is suppressing the identification of cultural, spatial and temporal variation and the movement of peoples throughout space and time was noted. These factors are critical to understanding adaptation and change (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.). Faunal remains vary by location but include shellfish, land animals, marine mammals and fish. [Sutton and Gardner 2010:7]

The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These are (1) Topanga in coastal Los Angeles and Orange counties, (2) La Jolla in coastal San Diego County, (3) Greven Knoll in inland San Bernardino, Riverside, Orange and Los Angeles counties, and (4) Pauma in inland San Diego County.

About 3,500 years before present the Encinitas Tradition was replaced by a new archaeological entity, the Del Rey Tradition, in the greater Los Angeles Basin. This new entity has been generally assigned to the Intermediate and Late time periods. The changes that initiated the beginning of the Intermediate Period included new settlement patterns, economic foci and artifact types that coincided with the arrival of a new, biologically distinctive population. The Intermediate and Late periods have not been well-defined. However, many have proposed that the beginning of the Intermediate marked the arrival of Takic groups (from the Mojave Desert, southern Sierra Nevada and San Joaquin Valley) and that the Late Period reflected Shoshonean groups (from the Great Basin). Related cultural and biological changes occurred on the southern Channel Islands about 300 years later. [Sutton 2010].

The Del Rey Tradition replaces the Intermediate and Late designations for both the southern California mainland and the southern Channel Islands. Within the Del Rey Tradition are two regional patterns named Angeles and Island. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California. [Sutton 2010]

PREHISTORIC CULTURES

The latest cultural revisions for the APE define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to inland San Bernardino, Riverside, Los Angeles and Orange counties (Sutton and Gardner 2010; Table 1). This pattern is replaced in the APE by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010; Table 1).

Greven Knoll sites tend to be in valleys such as the APE. These inland peoples did not switch from manos/metates to pestles/mortars like coastal peoples (c. 5,000 years before present); this may reflect their closer relationship with desert groups who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its 7,500 year extent. In Phase I other typical characteristics were Pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts and flexed position burials (Table 1). In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering. In Phase III, stone tools including scraper planes, choppers, hammerstones are added to the tool kit, yucca and seeds are staple foods, animals bones are heavily processed (broken and crushed to extract marrow) and burials have cairns above (Table 1). In addition, the Greven Knoll populations are biologically Yuman (based on skeletal remains) while the later Angeles populations are biologically Shoshonean (Sutton and Gardner 2010; Sutton 2010).

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. [Sutton 2010].

The Angeles IV phase is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and Mytilus shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and that there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used. [Sutton 2010]

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not. [Sutton 2010]

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption. Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled Olivella disk beads. The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation. [Sutton 2010]

ETHNOGRAPHY

The APE was within the territory of the Tongva (McCawley 1996) during the prehistoric period (Figure 4). 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 they call themselves “Tongva”, meaning “people of the earth” (Gabrielino/Tongva Tribal Council of San Gabriel n.d.). At the time of European contact, there were an estimated 5,000 Tongva living at 31 known villages (McCawley 1996).

Table 1. Cultural Patterns and Phases

Phase	Dates BP	Material Culture	Other Traits
Greven Knoll I	8,500 to 4,000	Abundant manos and metates, Pinto dart points for atlatls or spears, charmstones, cogged stones and discoidals rare, no mortars or pestles, general absence of shell artifacts	No shellfish, hunting important, flexed inhumations, cremations rare
Greven Knoll II	4,000 to 3,000	Abundant manos and metates, Elko dart points for atlatls or spears, core tools, late discoidals, few mortars and pestles, general absence of shell artifacts	No shellfish, hunting and gathering important, flexed inhumations, cremations rare
Greven Knoll III (formerly Sayles complex)	3,000 to 1,000	Abundant manos and metates, Elko dart points for atlatls or spears, scraper planes, choppers, hammerstones, late discoidals, few mortars and pestles, general absence of shell artifacts	No shellfish, yucca and seeds as staples, hunting important but bones processed, flexed inhumations under cairns, cremations rare
Angeles IV	1,000 to 800	Cottonwood arrow points for arrows appear, <i>Olivella</i> cupped beads and <i>Mytilus</i> shell disks appear, some imported pottery appears, possible appearance of ceramic pipes	Changes in settlement pattern to fewer but larger permanent villages, flexed primary inhumations, cremations uncommon
Angeles V	800 to 450	Artifact abundance and size increases, steatite trade from islands increases, larger and more elaborate effigies	Development of mainland dialect of Gabrielino, settlement in open grasslands, exploitation of marine resources declined and use of small seeds increased, flexed primary inhumations, cremations uncommon
Angeles VI	450 to 150	Addition of locally made pottery, metal needle-drilled <i>Olivella</i> beads, addition of Euroamerican material culture (glass beads and metal tools)	Use of domesticated animals, flexed primary inhumations continue, some cremations

The Tongva speak a language that is part of the Takic language family, related most closely to languages spoken by Native American groups in the Great Basin region. For linguistic and other reasons, archaeological consensus argues for Tongva origins in that region, migrating to the Los Angeles Basin approximately 1,000 years ago possibly due to a drying climate where they had come from. Gabrielino/Tongva tradition maintains, however, that they have always lived in what is now the Los Angeles area. At the time of Spanish contact, their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996). At

European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people.

The Tongva are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed and circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).

The main food zones utilized were marine, woodland, and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems and roots for medicinal cures as well as beverages. (Bean and Smith 1978:538-540)

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turban, mussels, clams, scallops, bubble shells, and others. (Bean and Smith 1978:538-540). The nearest recorded Tongva village is located approximately 4 miles southeast of the project area. This village name was *Homhoa or Homhoanga* (McCawley 1996). The exact location of the village is unknown; however, ethnographic reports place it in the modern city of Colton along a major watercourse (Santa Ana River).

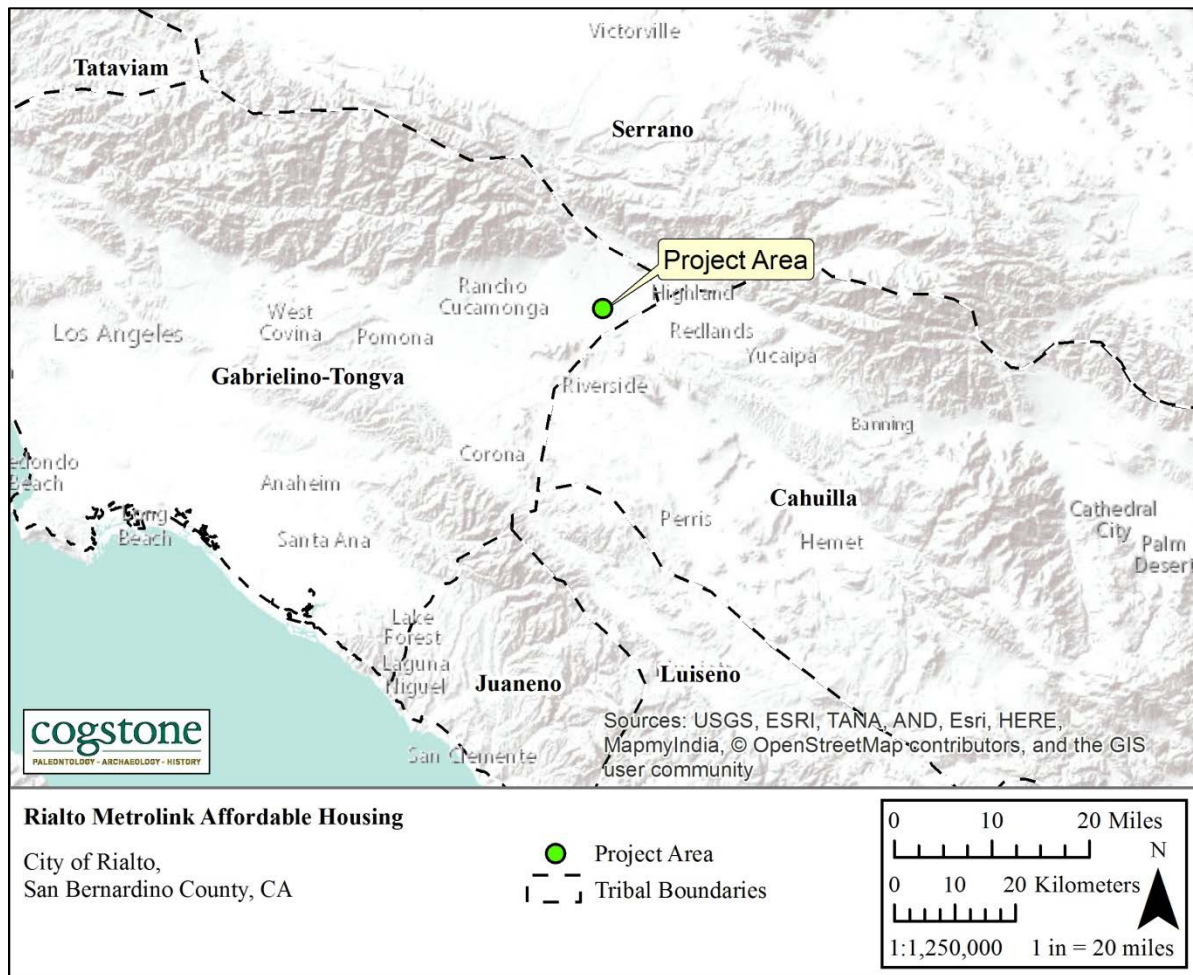


Figure 4. Native American traditional tribal territories

HISTORICAL SETTING

In 1769, Spanish settlers began to enter and colonize Alta California. These initial settlers introduced the missions, presidios, pueblos and ranchos. The project area consisted of lands under the control of the Mission San Gabriel between 1771 and 1933 and were likely used to graze cattle. After the Mexican government took control of California and secularized the missions, many lands were given to Mexican citizens to settle. The portion of the City of Rialto where the APE is located was not part of any known land grant.

Soon after American control was established (1848), gold was discovered in California. There was a tremendous influx of Americans and Europeans. The Homestead Act opened many areas, including the project area, to settlement.

Prior to the American period, the Mexican government granted portions Rialto to the Lugo Family as part of the land grant known as Rancho San Bernardino (Robinson 1957). The APE however, was not part of the land grant. Rialto, including the APE, remained sparsely inhabited until 1851 when Mormon settlers arrived. In 1887 the Semi-Tropic Land and Water Company was formed and purchased 25,000 acres of land that includes what is now Rialto and parts of Fontana and Bloomington (City of Rialto 2011). The company developed the town as a stop along the Santa Fe Railway line. The town continued to grow as an agricultural and semi-industrial community and in 1911, the town's population voted to incorporate.

The project area was utilized for agriculture in the 1980s. By 1994, a shopping complex and public storage facility were constructed on the west and east sides of the project area; however, the APE itself was never developed. Presently, large parts of the community are still rural and many residents continue to keep and raise animals.

RECORD SEARCHES

ARCHAEOLOGICAL AND HISTORICAL RECORDS SEARCH

A search for archaeological and historical records was completed by Alyson Cain at the South Central Coastal Information Center located on the campus of California State University, Fullerton, on 12 November 2015. The search included a one mile-radius around the 2.5 acre APE.

RECORDS SEARCH RESULTS

Results of the records search indicated that 13 cultural resources investigations have been completed previously within a one-mile radius of the APE (Appendix B). Of these, only one has included any portion of the APE (Tang 2010).

Results of these cultural resources studies indicate that there are no known archaeological cultural resources recorded within the APE. One resource, P-36-06847, is within 50 feet of the APE. P-36-06847 is an out-of-service spur of the historic Burlington Northern Santa Fe Railway built between 1880 and 1892. ASM Affiliates evaluated the resource in 2014 and found that it was not eligible for listing on the NRHP. Metrolink currently utilizes the spur and the Rialto Metrolink station is currently approximately 75 feet north of the APE.

Eight other historic archaeological resources and one prehistoric isolate are located within one mile of the APE (Table 2). The historic archaeological resources include one road, three residences, one religious building, one shed, and one additional railway. The historic religious building, the First Christian Church of Rialto (P-36-017601), is located approximately 0.5 miles from the APE and is listed on the NRHP. An additional 115 addresses listed on the California Inventory of Historic Resources (HRI) are within 1 mile of the APE have been evaluated for inclusion in the NRHP (Appendix C). Of these, 31 have been identified as eligible for the NRHP through survey evaluation, 13 have been recognized as significant by the local government, 44 have been identified as ineligible for inclusion on the NRHP, and 26 require further evaluation.

The first record of ownership of the project area was found in the Bureau of Land Management General Land Office Records (BLM GLO 2015). In 1869, the General Land Office (modern Bureau of Land Management) granted the quarter section in which the APE is located to the State of New York as part of the Morrill Land Grant College Act of 1862 (accession number AGS-0297-013). New York assigned the 160-acre section to William Pierce who managed and later sold the land at an unknown date.

Table 2. Previously Recorded Resources within One-Mile Radius of the APE

Primary Number (P-36-)	Site Type	Address	Year Recorded	Distance from the APE (miles)
006847	Historic Railway	Old Kite Route W. Lugonia Ave	2014	> 0.25
019823	Historic structure: shed	241 S. Palm Ave Rialto 92376	2008	> 0.25
017601	Historic structure: religious building	201 N. Riverside Ave. Rialto	2003	0.25 - 0.5
017644	Historic residence: Van Frank House	311 S. Sycamore Ave. Rialto	1971	0.25 - 0.5
020137	Historic Railway	Pacific Electric Railway San Bernardino Line	2014	0.25 - 0.5
002910	Historic road	Route 66 West of Needles	2013	0.5 - 1
012983	Historic residence: Modern	219 W. Grove St. Rialto 92376	2004	0.5 - 1
012984	Historic residence: Modern	225 W. Grove St. Rialto 92376	2004	0.5 - 1
012985	Historic residence: Modern	231 W. Grove St. Rialto 92376	2004	0.5 - 1
060254	Prehistoric isolate	134 S. Tamarisk Ave. Rialto	1977	0.5 - 1

ADDITIONAL SOURCES

A variety of additional sources were consulted to obtain data regarding the study area; these are listed below in Table 3.

Table 3. Additional Sources Consulted

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Positive for 1 resource within 1 mile
Historical United States Geological Survey topographic maps (USGS 2012)	Negative
Historical United States Department of Agriculture aerial photos	Negative
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Positive for 115 evaluated address within 1 mile
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Positive for 1 land patent

REVIEW OF HISTORIC-ERA AERIAL PHOTOGRAPHY AND MAPS

Historic aerial photographs of the APE from 1938 and 1948 show that it was used as a citrus grove at that time (NETR Online 2015; Figure 5). These photographs also show that the alignment of the former Burlington Northern Santa Fe Railway (modern Metrolink railway) is located approximately 50 feet north of the APE. A railway station is also depicted within close proximity of the APE. Later aerial photographs show that the APE was utilized for agriculture as late as 1980. By 1994, a shopping complex and public storage facility were constructed on the west and east sides of the project area; however, the APE itself was never developed. All USGS topographic maps, with the earliest available dating to 1896, show no structures depicted within the APE.

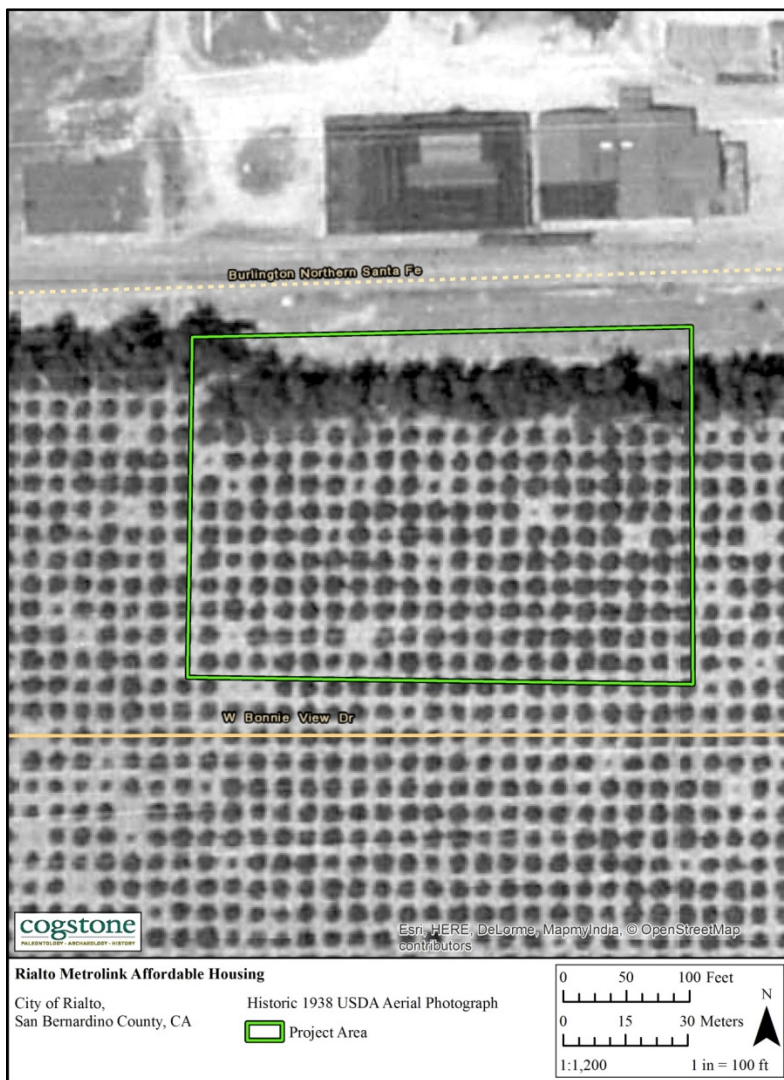


Figure 5. 1938 Historic Aerial of the Rialto Metrolink Affordable Housing APE

NATIVE AMERICAN CONSULTATION - IN PROGRESS

Assembly Bill 52 Native American consultation is currently ongoing. Cogstone will append the results of consultation efforts to this report upon conclusion.

FIELD SURVEY METHODS AND RESULTS

The cultural resources survey stage is important in a project's environmental assessment phase to verify the exact location of each identified cultural resource, the condition or integrity of the resource, and the proximity of the resource to other areas of cultural resources sensitivity. Francisco Arellano, Cogstone Staff Archaeologist, conducted an intensive-level pedestrian survey of the APE on 19 November 2015. The survey consisted of walking parallel transects, spaced at approximately 10-meter intervals within the APE while closely inspecting the ground surface.

Ground surface visibility was excellent (95%) for the majority of the APE. Some areas along the APE's boundary showed poor visibility (20%) due to heavy vegetation; however, the majority of the APE contains little vegetation. Evidence for ground disturbance caused by agricultural activities is present throughout the site in the form of parallel tillage marks (Figure 6). Arellano did not identify any cultural resources within or immediately adjacent to the APE.



Figure 6. Project Survey Area (view North)

IMPACT ANALYSIS

Based on the information in this report and previous reports for the project area, the updated CEQA checklist is evaluated below:

Will the proposed project cause a substantial adverse change in the significance of a historical resource? No historic resources are located within the APE.

Will the proposed project cause a substantial adverse change in the significance of an archaeological resource? No; There is no current evidence of any cultural resources within or adjacent to the APE.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074? No tribal cultural resources are known within the APE.

Will the proposed project disturb any human remains, including those interred outside of formal cemeteries? There is no indication of human remains within or adjacent to the APE.

CONCLUSIONS

The results reported here indicate that there are no historic properties or historical resources (including archaeological) within the APE.

RECOMMENDATIONS

If unanticipated archaeological discoveries are made during construction, all work must halt until the find can be evaluated by a qualified Archaeologist. The City shall notify the tribes of any features or sites discovered and afford them the opportunity to consult. If human remains are unearthed during excavation, state law requires that all work stop pending notification and evaluation by the County Coroner.

REFERENCES CITED

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APPENDIX A: QUALIFICATIONS

ANDRE-JUSTIN C. SIMMONS

Archaeologist and Cross-trained Paleontologist/GIS Supervisor

EDUCATION

- 2014 M.A., Anthropology: Specializing in Anthropological Archaeology, California State University, Fullerton
- 2010 B.A., Anthropology and History, California State University, Fullerton, graduated *cum laude*
- 2007 A.A., Liberal Arts: Emphasis in Social and Behavioral Sciences, Citrus College, Glendora, CA
- 2012 Certificate in Geographic Information Systems, California State University, Fullerton

SUMMARY QUALIFICATIONS

Mr. Simmons is a Registered Professional Archaeologist (RPA) and cross-trained paleontologist with extensive field experience in survey, monitoring, faunal analysis, and excavation. He exceeds the qualifications required by the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation*. Further, he is certified in Geographic Information Systems (GIS) and specializes in ESRI's ArcGIS software. Mr. Simmons is responsible for supervising GIS data collection and management, geospatial analysis, and the production of GIS maps and databases for large and small-scale projects. Mr. Simmons is well versed in CEQA and NHPA Section 106 compliance procedures and reporting. He has expertise in laboratory preparation and analysis gathered from internships at CSUF, volunteer experience at the Page Museum at the La Brea Tar Pits, and several projects conducted by Cogstone. His key research interests include settlement patterns and use of space among Paleoindians, the American Southwest, early historic and prehistoric California, and historical Mexico. He has over six years of experience in California Archaeology and paleontological monitoring along with more than 24 hours of paleontology training and over four years of GIS experience.

SELECTED PROJECTS

FBI Sonnet Ring, MCB Quantico, Prince William County, VA. Joint project with Louis Berger Group. Prepared GIS maps documenting Phase I and Phase II Archaeological Survey and National Register eligibility evaluations of land areas that could be adversely affected by projects proposed in the Marine Corps Base Quantico (MCBQ) Master Plan. Specifically, evaluating impact of construction activities associated with installation of a fiber optic line. GIS Technician. 2014

Bodie Hills FY14-15 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Mono County, CA. Class III Cultural Resources Inventory survey of 2,721 acres of BLM land identified for vegetation management. Work includes records search, intensive pedestrian survey, archaeological resource inventory and NRHP site evaluations, and a technical report. The survey area is located between the Town of Bridgeport and Lee Vining. Field Director. 2014-2015

Paradise Valley Specific Plan, Glorious Land Company, unincorporated Riverside County, CA. Prepared GIS maps for an assessment encompassing approximately 5,411 acres to determine the potential effects on paleontological, archaeological, and historical resources by the development of a resort community in an unincorporated area of Riverside County near Indio (2011). Prepared BLM permit request, BLM map revisions to support cultural and paleontological assessments. (2014). GIS Technician.

Washington Place Project, Los Angeles County. Conducted an archaeological survey and prepared GIS report maps as part of a cultural resources technical study for a proposed commercial space development project at 11281 Washington Place in Culver City. Archaeological/GIS Technician. 2012

Pasadena General Plan Update Program EIR, Pasadena, Los Angeles County, CA. Conducted record searches, Sacred Lands search, Native American consultation, GIS mapping and historic maps review to support brief contexts for paleontological, archaeological, and historical resources. Sub to PlaceWorks. Archaeologist/GIS Technician. 2014



SHERRI GUST
Project Manager & Principal Investigator

EDUCATION

1979 1994 M. S., Anatomy (Evolutionary Morphology), University of Southern California, Los Angeles
1980 B. S., Anthropology (Physical), University of California, Davis

SUMMARY QUALIFICATIONS

Gust has more than 30 years of experience in California, acknowledged credentials for meeting national standards, and is a certified/qualified principal archaeologist and paleontologist in all California cities and counties that maintain lists. Gust is an Associate of the Natural History Museum of Los Angeles County in the Vertebrate Paleontology and Rancho La Brea Sections. She is a Member of the Society of Vertebrate Paleontology, Society for Archaeological Sciences, Society for Historical Archaeology, the Society for California Archaeology and others. She has special expertise in the identification and analysis of human, animal and fossil bone.

SELECTED PROJECTS

Ft. Irwin east of Goldstone, Fort Irwin. Cultural resources inventory of 58 sq. km in four survey blocks. Co-authored overview of literature, research design and field evaluation guidelines. Principal Investigator/Project manager. 2012-2013

Agua Caliente Tribal Monitor Training, Palm Springs. Cogstone's team prepared and presented 40 hours of tribal monitor training which included a full day of shadowing an archaeologist monitoring a working project and a full day of survey. Project manager. 2012

Exposition Light Rail Phase 2, Culver City to Santa Monica. Prepared Cultural Resources Management Plan, Santa Monica Air Line Railroad Data Recovery Plan and Paleontological Resources Management Plan for 7 linear miles of new rail facilities including stations. Supervised monitoring and data recovery programs. Principal Archaeologist and Paleontologist and Project Manager. 2012-2014 (est.)

Camrosa Water District Master Plan Update, Ventura County. Supervised archaeological and paleontological record searches, background research, Native American consultation, evaluation of potential impact, sensitivity mapping and mitigation measures for 19,300 acre district for Impact Sciences. Principal Archaeologist and Paleontologist and Project Manager. 2011-2012

WECC Path 42 Transmission Line Upgrades, Palm Springs area. Supervised cultural and paleontological resources Phase I studies for 14.5 mile segment on BLM and private lands on behalf of SCE. Project Manager and Principal Archaeologist and Paleontologist. 2011-2012

San Juan Capistrano Town Center Master Plan Update, San Juan Capistrano. Supervised archaeological and paleontological record searches, research, and survey plus Native American consultation for 31 acre town center. Also evaluation of resources including updated site records and impact assessment. Principal Archaeologist and Paleontologist and Project Manager. 2011

Mojave Water Agency Ground Water Replenishment Project. Cultural and Paleontological Resources Management Plan was prepared, including an updated assessment, and submitted to SHPO. Cultural resources sensitivity training provided to all construction personnel and both archaeological and paleontological monitoring performed. Principal Archaeologist and Paleontologist and Project Manager. 2010-2012

Falcon Ridge Substation and Transmission Lines. Archaeological survey, assessment and recording of historical archaeological features on 287 acres in Fontana and Rialto, San Bernardino County, A. Principal Archaeologist and Paleontologist and Project Manager. 2010



JUSTIN LEV-TOV
Project Manager and Principal Investigator

EDUCATION

2000	Ph.D., Anthropology, University of Tennessee, Knoxville
1994	M.A., Anthropology, University of Tennessee, Knoxville
1990	B.A., Anthropology, University of Maryland, College Park

SUMMARY QUALIFICATIONS

Dr. Lev-Tov is a Qualified Principal Investigator and Registered Professional Archaeologist with over 7 years of experience in California and neighboring states. In addition, he has over 10 years of experience in the eastern and southeastern U.S., and has participated in archaeological projects in Greece, Israel, and Jordan. He is accepted as a principal investigator for prehistoric and historical archaeology by the California Historic Resources Information System (chris.org). He has conducted technical studies and prepared cultural resources chapters for CEQA/EIR compliance documents for public and commercial developments. He has expertise in the archaeology of the western and southeastern United States including research, survey, assessment of impacts/effects, and significance criteria and determinations. He also possesses 30 years of experience in faunal analysis and is widely published.

CALIFORNIA AND SOUTHWEST PROJECTS

High Desert Corridor/ SR-138 Widening Project, Caltrans District 7 On-Call (07A3145)/LA Metro, Los Angeles and San Bernardino Counties, CA. This project proposed by Caltrans and Metro involves construction of a new, approximately 63-mile long, east-west freeway/expressway and rail line between SR-14 in Los Angeles County and SR-18 in San Bernardino County. Phase II/III testing and data recovery at the three sites that will be directly impacted by the project. Analyzed lithic material. Compliance with Section 106 of the NHPA and CEQA are required. Sub to Parsons Transportation Group. Principal Archaeologist. 2015-ongoing

Property One, LLC, Demolition, Redlands. Monitored the demolition of three non-historic buildings and several pavements/foundations of previously demolished buildings located within Redlands' Santa Fe Depot/Chinatown National Register Historic District. Directed mechanical trenching on several of the parcels to check for buried remnants of historic buildings. Analyzed recovered artifacts and applied both the National Register of Historic Places and California Register of Historical Resources criteria of significance to resources discovered within the project area. Authored the letter report of findings sent to the client. Project Director. 2015

U.S. Navy Southwest Facilities and Engineering. Contract to conduct cultural resources investigations on all U.S. Navy Southwest region bases, for a period of five years beginning in Fiscal Year 2015. Participated in the project as author of background chapters on historic and prehistoric contexts of various naval and marine bases, drafted field safety plans for each military base, and analyzed faunal remains, including shell beads, from Naval Weapons Station Seal Beach and Naval Weapons Station Seal Beach Detachment Fallbrook. Senior Faunal Analyst/Project Director. 2015

Blythe Solar, Blythe. An approximately 5,000-acre survey for a solar photovoltaic electrical array on BLM and private lands. Participated briefly as a crew member on the Phase I cultural resources survey. Project Director. 2014

Line 235, Sempra Energy, Inc., Barstow. Survey for a natural gas pipeline replacement route between Daggett and Barstow. Participated in the Phase I cultural resources survey on BLM lands as a crew member, then led a crew recording newly discovered or previously recorded sites in the right of way. Researched historical background for historic period sites and authored DPR forms for all sites. Project Director. 2014



ALYSON CAINE
Osteologist and Archeologist

EDUCATION

2013 M.Sc., Palaeopathology, Archaeology, Durham University, Durham, United Kingdom
2012 B.A., Anthropology (Human Biology Track), Sociology Minor, Temple University, Philadelphia, Pennsylvania

SUMMARY QUALIFICATIONS

Ms. Caine is a qualified osteologist and archaeologist, with five years of professional and academic training in prehistoric bioarchaeology and osteology. She has experience with analysis, identification of human skeletal remains, survey, and monitoring. She has excavated and analyzed prehistoric human remains on Bronze Age sites in Oman and the UAE as well as experience working on projects in California. Ms. Caine belongs to professional societies including Society for American Archaeologists, American Association of Physical Anthropologists, and Paleopathology Association. Her research interests focus on Bioarchaeology, Forensic Anthropology, Skeletal and Dental Biology, Near East Studies (Bronze and Iron Age), Paleopathology, Isotopic Analysis, and Migration Studies.

SELECTED PROJECTS

Metropole Vault Replacements, Southern California Edison, Avalon, Catalina Island, Los Angeles County, CA. Archaeological monitoring during ground disturbing activities of a 30,000 s.f. APE for replacement of two underground electrical vaults. The site is located in proximity to the original Tongva tribal village on the island. Coordinated with the Most-Likely Descendant (MLD) and Native American monitor during the excavation of unanticipated discovery of human remains. Cogstone was responsible for the collections management of all artifacts and human remains during excavation. Wrote the report summarizing the osteological analysis and cataloguing. Osteologist and Report Author. 2015

Bodie Hills FY14-15 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Mono County, CA. Class III Cultural Resources Inventory survey of 2,721 acres of BLM land identified for vegetation management. Work includes records search, intensive pedestrian survey, archaeological resource inventory and NRHP site evaluations, and a technical report. Prepared site records and revisions and lab work for final report. The survey area is located between the Town of Bridgeport and Lee Vining. Archaeology Technician. 2015

Fort Irwin, U.S. Army National Training Center/GSA Region 9, San Bernardino County, CA. Class III Cultural Resources Inventory Survey of 9,309 acres and National Register Evaluation of Archaeology Sites. Conducted cultural and paleontological survey, site recording and site evaluation to Section 106 standards. The contract also involves biological surveys of the area which will be conducted by Louis Berger Group in Spring 2015. Archaeology Technician. 2014-ongoing

FBI Sonnet Ring, MCB Quantico, Prince William County, VA. Joint project with Louis Berger Group. Phase I and Phase II Archaeological Survey of land areas that could be adversely affected by projects proposed in the Marine Corps Base Quantico (MCBQ) Master Plan. Specifically, evaluated impact of construction activities associated with installation of a fiber optic line including surveys and National Register eligibility evaluations. Organized lab material and created illustrations for report. Archaeology Technician. 2015

High Desert Corridor/ SR 138 Widening Project, FHWA/Caltrans District 7, Los Angeles and San Bernardino Counties, CA. The project involves construction of a new, approximately 63-mile long, east-west freeway/expressway between SR 14 in Los Angeles County and SR 18 in San Bernardino County. Cogstone conducted a field pedestrian survey for Extended Phase I (XPI) Testing, subsurface testing of four archaeological sites in the Area of Potential Effects (APE), and lab work. Conducted archaeological excavation to identify cultural materials. Caltrans is the lead federal and state agency; compliance with Section 106 and CEQA required. Sub to Parsons Transportation Group. Archaeology Technician. 2015



FRANCISCO ARELLANO
Cross-Trained Paleontologist and Archaeologist

EDUCATION

2003 B.A. in Anthropology, San Francisco State University

SUMMARY QUALIFICATIONS

Mr. Arellano is a qualified archaeologist with more than 15 years of experience in California, Nevada, Oregon, Utah, Arizona and Texas. He has served as an assistant lead monitor, assistant field director, cultural monitor, field technician, laboratory technician and mentor in historic and prehistoric burial recovery techniques. His experience includes leading pedestrian survey and recordation crews for large-scale linear projects; monitoring heavy equipment during ground disturbing activities; recording and recovering prehistoric artifacts in an expedited/salvage environment; and determining NRHP eligibility. Mr. Arellano has contributed to archaeological field reports and compliance documents. He has worked on numerous federal, state and local agency projects; including, three California Energy Commission permitted projects, two FERC relicensing projects and two FERC permitted projects. Mr. Arellano is permitted as a crew chief in the Great Basin.

SELECTED PROJECTS

Bodie Hills FY14-15 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Mono County, CA. Class III Cultural Resources Inventory survey of 2,721 acres of BLM land identified for vegetation management. Work includes records search, intensive pedestrian survey, archaeological resource inventory and NRHP site evaluations, and a technical report. The survey area is located between the Town of Bridgeport and Lee Vining. Field Technician. 2014-2015

Bodie Hills FY13-14 Cultural Resources Survey, Desert Restoration Project, Bureau of Land Management, Bishop Field Office, Inyo County, CA. Directed intensive field survey of approximately 3,500 acres of BLM lands in the Bodie Hills region, near Bridgeport, California. Supervised a field crew of eight personnel, oversaw recordation of over 40 new archaeological sites, updated conditions assessment of 17 previously recorded sites and provided initial NRHP eligibility recommendations to Principal Investigator. Co-author of technical report. Field Director. 2013–2014

Fort Irwin, U.S. Army National Training Center/GSA Region 9, San Bernardino County, CA. Class III Cultural Resources Inventory Survey and National Register Evaluation of Archaeology Sites. Supervising cultural resources inventory of 6,571 acres. Directing survey, site recording and site evaluation to Section 106 standards. Archaeologist. 2015

Ft. Irwin, U.S. National Training Center/GSA Region 9, San Bernardino County, CA. Participated in an intensive 14,367 acre archaeological field survey on the Fort Irwin Training Center in the Mojave Desert in northwestern San Bernardino County. Recorded archaeological sites and isolates using a Trimble GeoXH unit, prepared DPR forms. Field Technician. 2012-2013

Metropole Vault Replacements, Southern California Edison, Avalon, Catalina Island, Los Angeles County, CA. Archaeological monitoring and coordinating with Native American monitors during ground disturbing activities of a 30,000 s.f. APE for replacement of two underground electrical vaults. The site is located in proximity to the original Tongva tribal village on the island. Archaeological Monitor. 2014

Tehachapi Renewable Transmission Project, Southern California Edison, Kern and Los Angeles Counties. Led survey and recordation crews across 150+ miles of proposed electrical transmission corridors. Crew Leader. 2009

APPENDIX B: CULTURAL STUDIES WITHIN ONE-MILE OF THE APE

Report Number	Author	Title	Year	Quad	Distance From Project
Sb-01683	Hatheway, Roger Et Al.	National Register Evaluation Of The Rialto Heights Association Packing House, Rialto, San Bernardino County, California	1987	San Bernardino South	.25 Mile
Sb-01734	Shackley, M Et Al.	Cultural And Paleontological Dames & Moore Optic Cable Project, Rialto, And California To Las Vegas, Nevada	1987	San Bernardino South	.5 Mile
Sb-02853	Foster, John M Et Al.	Cultural Resource Investigation: Inland Feeder Project, Mad Of Southern Ca	1991	San Bernardino South	1 Mile
Sb-03880	Duke, Curt	Cultural Resource Assessment For Pbms Facility Cm 363-09, County Of San Bernardino, Ca. 5pp	1999	San Bernardino South	.25 Mile
Sb-03919	William Self Associates	Report On Cultural Resources Mitigation And Monitoring Activities: Fluor Global Services Level (3) Fiber Optic Installation. 11pp	2001	San Bernardino South	1 Mile
Sb-04251	White, Laurie S.	Cultural Resources Assessment Archaeological For At&T Wireless Site #C957 Associates (Foothill & Riverside) City Of Rialto, San Bernardino County, Ca. 7pp	2000	Fontana	.5 Mile
Sb-04354	Wlodarski, Robert	A Phase I Archaeological Study For Telecu Housing-Rialto, Inc, 200 Merrill Ave, City Of Rialto, County Of San Bernardino. Ca. 13pp	2004	Fontana	.25 Mile
Sb-04362	Hatheway, Roger G. And Fred E. Budinger	Architectural & Archaeological Evaluation Of 14 Structures In The City Of Rialto, Ca In Support Of Proposed Seismic Retrofitting 185pp	2001	Fontana	.25 Mile
Sb-04640	Taniguchi, Christeen	Records Search, Site Visit And Indirect Ape Historic Architectural Assessment Results For Cingular Telecommunications Facility Candidate Sb-291-01 (Cardenas Mall), 250 West Foothill Boulevard, Rialto, San Bernardino County, California	2004	Fontana	1 Mile
Sb-05766	Love, Bruce	Cultural Resources Report: Bakersfield-Rialto Fiberoptic Line Project, Kern, Los Angeles And San Bernardino Counties, California.	1997	San Bernardino South	.5 Mile
Sb-06085	Katherine I. Ward	Cultural Resources Assessment For 2.42 Acres For The John Longville Metrolink Depot Parking Lot Expansion Project In The City Of Rialto, San Bernardino County, California.	2006	San Bernardino South	.5 Mile
Sb-07084	Tang, Bai "Tom"	Preliminary Historical Archaeological Resources Study, San Bernardino Line Positive Train Control Project, Southern California Regional Rail Authority, Counties Of Los Angeles And San Bernardino.	2010	San Bernardino South	Adjacent

**APPENDIX C: NRHP EVALUATED HISTORIC ADDRESSES WITHIN
ONE MILE OF THE APE**

Address	HRI Number	Primary Number (P-)	Status Code	Distance
201 N Riverside Ave, Rialto, California, 92376	107505	36-017599	1S -3S	0.25 - 0.5
238 N Olive Ave, Rialto, California, 92376	107454	36-017581	3B	0.5 - 1
144 N Olive Ave, Rialto, California, 92376	107416	36-017560	3D	0.25 - 0.5
200 N Olive Ave, Rialto, California, 92376	107417	36-017565	3D	0.25 - 0.5
204 N Olive Ave, Rialto, California, 92376	107418	36-017566	3D	0.25 - 0.5
208 N Olive Ave, Rialto, California, 92376	107419	36-017567	3D	0.25 - 0.5
216 N Olive Ave, Rialto, California, 92376	107420	36-017569	3D	0.25 - 0.5
217 N Olive Ave, Rialto, California, 92376	107421	36-017570	3D	0.25 - 0.5
220 N Olive Ave, Rialto, California, 92376	107423	36-017572	3D	0.25 - 0.5
221 N Olive Ave, Rialto, California, 92376	107424	36-017573	3D	0.25 - 0.5
224 N Olive Ave, Rialto, California, 92376	107425	36-017574	3D	0.25 - 0.5
225 N Olive Ave, Rialto, California, 92376	107426	36-017575	3D	0.25 - 0.5
229 N Olive Ave, Rialto, California, 92376	107450	36-017571	3D	0.25 - 0.5
230 N Olive Ave, Rialto, California, 92376	107451	36-017576	3D	0.25 - 0.5
112 E 3rd St, Rialto, California, 92376	107469	36-017541	3D	0.5 - 1
128 E 3rd St, Rialto, California, 92376	107470	36-017542	3D	0.5 - 1
232 N Date Ave, Rialto, California, 92376	107461	36-017550	3D	0.5 - 1
235 N Date Ave, Rialto, California, 92376	107463	36-017552	3D	0.5 - 1
240 N Date Ave, Rialto, California, 92376	107464	36-017553	3D	0.5 - 1
242 N Date Ave, Rialto, California, 92376	107466	36-017554	3D	0.5 - 1
300 N Date Ave, Rialto, California, 92376	107468	36-017555	3D	0.5 - 1
340 N Date Ave, Rialto, California, 92376	107311	36-017556	3D	0.5 - 1
348 N Date Ave, Rialto, California, 92376	107313	36-017557	3D	0.5 - 1
358 N Date Ave, Rialto, California, 92376	107314	36-017558	3D	0.5 - 1
237 N Olive Ave, Rialto, California, 92376	107452	36-017580	3D	0.5 - 1
208 N Date Ave, Rialto, California, 92376	87780		3D - 7R	0.25 - 0.5
311 S Sycamore Ave, Rialto, California, 92376	107542	36-017643	3S	0.25 - 0.5
119 N Riverside Ave, Rialto, California, 92376	107497	36-017591	3S	0.25 - 0.5
215 N Riverside Ave, Rialto, California, 92376	107509	36-017601	3S	0.25 - 0.5
219 N Riverside Ave, Rialto, California, 92376	107510	36-017602	3S	0.25 - 0.5
320 N Riverside Ave, Rialto, California, 92376	107514	36-017607	3S	0.5 - 1
340 N Riverside Ave, Rialto, California, 92376	107518	36-017610	3S	0.5 - 1

108 N Olive Ave, Rialto, California, 92376	107356	36-017547	552 - 7N1	0.25 - 0.5
120 S Orange Ave, Rialto, California, 92376	107491	36-017636	5S2	<0.25
144 N Orange Ave, Rialto, California, 92376	107487	36-017588	5S2	0.25 - 0.5
208 N Riverside Ave, Rialto, California, 92376	107507	36-017600	5S2	0.25 - 0.5
229 N Riverside Ave, Rialto, California, 92376	107511	36-017603	5S2	0.25 - 0.5
336 N Olive Ave, Rialto, California, 92376	107318	36-017584	5S2	0.5 - 1
325 N Riverside Ave, Rialto, California, 92376	107515	36-017608	5S2	0.5 - 1
432 N Riverside Ave, Rialto, California, 92376	107521	36-017612	5S2	0.5 - 1
218 N Date Ave, Rialto, California, 92376	107458		5S3	0.25 - 0.5
184 W 2nd St, Rialto, California, 92376	107539	36-017653	5S4	0.25 - 0.5
520 W Randall Ave, Rialto, California, 92376	107496	36-017651	5S5	0.5 - 1
123 S Riverside Ave, Rialto, California, 92376	107530	36-017638	5S6	<0.25
132 S Riverside Ave, Rialto, California, 92376	107531	36-017639	5S7	<0.25
108 S Orange Ave, Rialto, California, 92376	107488	36-017635	6L	<0.25
134 S Riverside Ave, Rialto, California, 92376	107533	36-017640	6L	<0.25
142 S Riverside Ave, Rialto, California, 92376	107536	36-017642	6L	<0.25
100 N Lilac Ave, Rialto, California, 92376	107341		6L	0.25 - 0.5
101 N Olive Ave, Rialto, California, 92376	107352	36-017545	6L	0.25 - 0.5
210 N OLIVE AVE	107422	36-017568	6L	0.25 - 0.5
106 N Orange Ave, Rialto, California, 92376	107483	36-017577	6L	0.25 - 0.5
112 N Orange Ave, Rialto, California, 92376	107484	36-017578	6L	0.25 - 0.5
133 N Orange Ave, Rialto, California, 92376	107485	36-017579	6L	0.25 - 0.5
101 N Palm Ave, Rialto, California, 92376	107493	36-017590	6L	0.25 - 0.5
136 N Riverside Ave, Rialto, California, 92376	107503	36-017596	6L	0.25 - 0.5
138 N Riverside Ave, Rialto, California, 92376	107504	36-017597	6L	0.25 - 0.5
140 N Riverside Ave, Rialto, California, 92376	107498	36-017598	6L	0.25 - 0.5
134 S Date Ave, Rialto, California, 92376	107327	36-017622	6L	0.25 - 0.5
114 S Olive Ave, Rialto, California, 92376	107472	36-017628	6L	0.25 - 0.5

323 N Millard Ave, Rialto, California, 92376	177643	36-017563	6L	0.5 - 1
320 N Olive Ave, Rialto, California, 92376	107316	36-017582	6L	0.5 - 1
331 N Olive Ave, Rialto, California, 92376	107317	36-017583	6L	0.5 - 1
344 N Olive Ave, Rialto, California, 92376	107319	36-017585	6L	0.5 - 1
350 N Olive Ave, Rialto, California, 92376	107320	36-017586	6L	0.5 - 1
440 N Riverside Ave, Rialto, California, 92376	107522	36-017613	6L	0.5 - 1
842 S Lilac Ave, Rialto, California, 92376	107345	36-017626	6L	0.5 - 1
462 W Foothill Blvd, Rialto, California, 92376	107334	36-017645	6L	0.5 - 1
219 S Olive Ave, Rialto, California, 92376	172981	36-017634	6Y	<0.25
117 Evan Koeving St, Rialto, California, 92376	176750		6Y	0.25 - 0.5
104 N Olive Ave, Rialto, California, 92376	107354	36-017546	6Y	0.25 - 0.5
Rialto, California	188886	36-017589	6Y	0.25 - 0.5
135 N Sycamore Ave, Rialto, California, 92376	182331	36-017604	6Y	0.25 - 0.5
621 S Willow Ave, Rialto, California, 92376	183210	36-017644	6Y	0.25 - 0.5
436 E 3rd St, Rialto, California, 92376	182960		6Y	0.5 - 1
234 E Grove St, Rialto, California, 92376	181964		6Y	0.5 - 1
362 E King St, Rialto, California, 92376	177644		6Y	0.5 - 1
608 E Wilson St, Rialto, California, 92376	181990		6Y	0.5 - 1
985 S Riverside Ave, Rialto, California, 92376	184655		6Y	0.5 - 1
765 S Willow Ave, Rialto, California, 92376	177646		6Y	0.5 - 1
590 W McKinley St, Rialto, California, 92376	181514		6Y	0.5 - 1
524 W Ramona Dr, Rialto, California, 92376	181513		6Y	0.5 - 1
542 W Ramona Dr, Rialto, California, 92376	181592		6Y	0.5 - 1
601 W Ramona Dr, Rialto, California, 92376	182582		6Y	0.5 - 1
230 W Rosewood St, Rialto, California, 92376	179000		6Y	0.5 - 1
408 E Merrill Ave, Rialto, California, 92376	107347	36-017540	6Y	0.5 - 1
350 N Magnolia Ave, Rialto, California, 92376	107346	36-017562	6Y	0.5 - 1
N Olive Ave, Rialto, California, 92376	107409	36-017564	6Y	0.5 - 1
146 S Date Ave, Rialto, California, 92376	107329	36-017624	6Y - 6L	0.25 - 0.5
207 S Olive Ave, Rialto, California, 92376	107479		7N	<0.25
211 S Olive Ave, Rialto, California, 92376	107480	36-017632	7N	<0.25
219 S Olive Ave, Rialto, California, 92376	107481	36-017633	7N	<0.25
100 N Date Ave, Rialto, California, 92376	87778		7N	0.25 - 0.5
125 N Riverside Ave, Rialto, California, 92376	107499	36-017592	7N	0.25 - 0.5

127 N Riverside Ave, Rialto, California, 92376	107500	36-017593	7N	0.25 - 0.5
129 N Riverside Ave, Rialto, California, 92376	107501	36-017594	7N	0.25 - 0.5
131 N Riverside Ave, Rialto, California, 92376	107502	36-017595	7N	0.25 - 0.5
231 N Date Ave, Rialto, California, 92376	107460	36-017549	7N	0.5 - 1
124 S Orange Ave, Rialto, California, 92376	107492	36-017637	7N1	<0.25
138 S Riverside Ave, Rialto, California, 92376	107534	36-017641	7N1	<0.25
228 S Riverside Ave, Rialto, California, 92376	107537	36-017643	7N1	<0.25
136 N Orange Ave, Rialto, California, 92376	107486	36-017587	7N1	0.25 - 0.5
103 S Date Ave, Rialto, California, 92376	107326	36-017605	7N1	0.25 - 0.5
138 S Date Ave, Rialto, California, 92376	107328	36-017623	7N1	0.25 - 0.5
104 S Olive Ave, Rialto, California, 92376	107482	36-017625	7N1	0.25 - 0.5
109 S Olive Ave, Rialto, California, 92376	107471	36-017627	7N1	0.25 - 0.5
228 S Riverside Ave, Rialto, California, 92376	107537	36-017629	7N1	0.25 - 0.5
136 E Foothill Blvd, Rialto, California, 92376	107332	36-017539	7N1	0.5 - 1
219 N Date Ave, Rialto, California, 92376	107459	36-017548	7N1	0.5 - 1
302 N Riverside Ave, Rialto, California, 92376	107513	36-017606	7N1	0.5 - 1
326 N Riverside Ave, Rialto, California, 92376	107516	36-017609	7N1	0.5 - 1
350 N Riverside Ave, Rialto, California, 92376	107519	36-017611	7N1	0.5 - 1
758 S Cactus Ave, Rialto, California, 92376	87777	36-017621	7N1	0.5 - 1
654 S Cactus Ave, Rialto, California, 92376	80747	36-017619	7N1	0.5 - 1
234 N Date Ave, Rialto, California, 92376	107462	36-017551	7R	0.5 - 1

California Historical Resource Status Codes

1 Properties listed in the National Register (NR) or the California Register (CR)	
1D	Contributor to a district or multiple resource property listed in NR by the Keeper. Listed in the CR.
1S	Individual property listed in NR by the Keeper. Listed in the CR.
1CD	Listed in the CR as a contributor to a district or multiple resource property by the SHRC
1CS	Listed in the CR as individual property by the SHRC.
1CL	Automatically listed in the California Register – Includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the SHRC.
2 Properties determined eligible for listing in the National Register (NR) or the California Register (CR)	
2B	Determined eligible for NR as an individual property and as a contributor to an eligible district in a federal regulatory process. Listed in the CR.
2D	Contributor to a district determined eligible for NR by the Keeper. Listed in the CR.
2D2	Contributor to a district determined eligible for NR by consensus through Section 106 process. Listed in the CR.
2D3	Contributor to a district determined eligible for NR by Part I Tax Certification. Listed in the CR.
2D4	Contributor to a district determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2S	Individual property determined eligible for NR by the Keeper. Listed in the CR.
2S2	Individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR.
2S3	Individual property determined eligible for NR by Part I Tax Certification. Listed in the CR.
2S4	Individual property determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2CB	Determined eligible for CR as an individual property and as a contributor to an eligible district by the SHRC.
2CD	Contributor to a district determined eligible for listing in the CR by the SHRC.
2CS	Individual property determined eligible for listing in the CR by the SHRC.
3 Appears eligible for National Register (NR) or California Register (CR) through Survey Evaluation	
3B	Appears eligible for NR both individually and as a contributor to a NR eligible district through survey evaluation.
3D	Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
3S	Appears eligible for NR as an individual property through survey evaluation.
3CB	Appears eligible for CR both individually and as a contributor to a CR eligible district through a survey evaluation.
3CD	Appears eligible for CR as a contributor to a CR eligible district through a survey evaluation.
3CS	Appears eligible for CR as an individual property through survey evaluation.
4 Appears eligible for National Register (NR) or California Register (CR) through other evaluation	
4CM	Master List - State Owned Properties – PRC §5024.
5 Properties Recognized as Historically Significant by Local Government	
5D1	Contributor to a district that is listed or designated locally.
5D2	Contributor to a district that is eligible for local listing or designation.
5D3	Appears to be a contributor to a district that appears eligible for local listing or designation through survey evaluation.
5S1	Individual property that is listed or designated locally.
5S2	Individual property that is eligible for local listing or designation.
5S3	Appears to be individually eligible for local listing or designation through survey evaluation.
5B	Locally significant both individually (listed, eligible, or appears eligible) and as a contributor to a district that is locally listed, designated, determined eligible or appears eligible through survey evaluation.
6 Not Eligible for Listing or Designation as specified	
6C	Determined ineligible for or removed from California Register by SHRC.
6J	Landmarks or Points of Interest found ineligible for designation by SHRC.
6L	Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.
6T	Determined ineligible for NR through Part I Tax Certification process.
6U	Determined ineligible for NR pursuant to Section 106 without review by SHPO.
6W	Removed from NR by the Keeper.
6X	Determined ineligible for the NR by SHRC or Keeper.
6Y	Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or Local Listing.
6Z	Found ineligible for NR, CR or Local designation through survey evaluation.
7 Not Evaluated for National Register (NR) or California Register (CR) or Needs Reevaluation	
7J	Received by OHP for evaluation or action but not yet evaluated.
7K	Resubmitted to OHP for action but not reevaluated.
7L	State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 – Needs to be reevaluated using current standards.
7M	Submitted to OHP but not evaluated - referred to NPS.
7N	Needs to be reevaluated (Formerly NR Status Code 4)
7N1	Needs to be reevaluated (Formerly NR SC4) – may become eligible for NR w/restoration or when meets other specific conditions.
7R	Identified in Reconnaissance Level Survey: Not evaluated.
7W	Submitted to OHP for action – withdrawn.

12/8/2003

APPENDIX D: NATIVE AMERICAN HERITAGE COMMISSION



**PALEONTOLOGICAL RESOURCES ASSESSMENT FOR
THE RIALTO AFFORDABLE HOUSING PROJECT,
CITY OF RIALTO, SAN BERNARDINO COUNTY,
CALIFORNIA**

Prepared for:

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Irvine, CA 92618

Authors:

Kim Scott and John Harris

Principal Investigator:

John Harris,
Principal Paleontologist

December 2015

Cogstone Project Number: 3400

Type of Study: Paleontological Assessment Report

Paleontological Sites: none

USGS Quadrangle: San Bernardino South 7.5' quadrangle

Area: 2.5 acres

Key Words: early Holocene to late Pleistocene eolian deposits, low potential for fossils

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LIST OF ACRONYMS AND ABBREVIATIONS

B.A.	Bachelor of Arts
B.S.	Bachelor of Science
BLM	Bureau of Land Management
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
Cogstone	Cogstone Resource Management Inc.
GIS	geographic information system
LACM	Natural History Museum of Los Angeles County
M.A.	Master of Arts
M.S.	Master of Science
NEPA	National Environmental Policy Act
PBDB	Paleobiological Database
PFYC	Potential Fossil Yield Classification
Ph.D.	Doctor of Philosophy
project	Rialto Affordable Housing Project
RAM	Raymond M. Alf Museum
SBCM	San Bernardino County Museum
UCMP	University of California Museum of Paleontology
U.K.	United Kingdom
USGS	United States Geological Survey

EXECUTIVE SUMMARY

The proposed Rialto Affordable Housing Project Area encompasses approximately 2.5 acres and is located on the north side of West Bonnie View Drive and south of the Rialto Metrolink Station in the City of Rialto, San Bernardino County, California. The proposed project entails the construction of a multi-generation residential project consisting of 64 units in a mix of one, two, and three bedroom units as well as a community center. The City of Rialto is the municipal lead agency and the United States Department of Housing and Urban Development (HUD) is the federal lead agency.

The horizontal Project Area is the entire 2.5 acre parcel and the vertical Project Area is estimated at 8 feet only for utility trenching in selected areas with general leveling to about three feet below the surface. .

This project is mapped at the surface entirely as early Holocene to late Pleistocene (126,000 to 7,000 years old) young eolian (wind-blown dune) deposits adjacent to the Santa Ana River. At depth is the Fontana-Rialto-Bloomington alluvial fan with late Holocene to late Pleistocene young alluvial fan deposits (126,000 years old to less than 5,000 years old) and middle to late Pleistocene old dune deposits (126,000 to 11,000 years old) mapped at the surface.

A search for paleontological records at the Natural History Museum of Los Angeles County Museum along with published and unpublished materials. No fossil localities have been previously collected from within a 1½ -mile radius of the project area but are known in similarly aged sediments nearby. Extinct animals recovered from the localities in the Quaternary older alluvial deposits near the project include ground sloth, mammoth, mastodon, sabre-toothed cat, dire wolf, horse, tapir, bison, llama camel, and dwarf pronghorn. Excavations deeper than 5 feet below the original ground surface have the potential to impact fossils in Pleistocene deposits because extinct Ice Aged animal fossils have been recovered at shallow depth in the project vicinity.

A combined archaeological-paleontological paleontological survey was performed by Francisco Arellano of Cogstone on November 19, 2015. The intensive-level pedestrian survey consisted of walking parallel transects, spaced at approximately 10-meter intervals within the project area while closely inspecting the ground surface. No fossils were observed during the survey but sediments potentially conducive to the preservation of fossils were observed.

Eolian deposits typically do not contain fossils. As such the young eolian deposits are assigned a low sensitivity (PFYC 2), however the sediments overlie older deposits that do contain fossils locally. Most of the impacts are to be approximately 3 feet below current ground surface however utilities excavations will be to approximately 8 feet deep. Due to the project surface

geology and the small scale of the project, it is unlikely that significant fossils will be impacted by this project.

If unanticipated paleontological resources are encountered during ground disturbing activities, all work must halt within 50 ft. until the discovery can be evaluated by a qualified paleontologist.

INTRODUCTION

PURPOSE OF STUDY

Cogstone Resource Management, Inc. (Cogstone) conducted this study to assess and plan for the potential for impacting fossil resources present in the Rialto Affordable Housing Project (project; Figure 1).

PROJECT DESCRIPTION

The City of Rialto proposes to build a multi-generation residential project consisting of 64 units in a mix of one, two, and three bedroom units. A community center and offices would also be built in this 2,100 square foot project area. A Metrolink station south site will be adjacent to the residential project as well. This project will comply with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) standards.

PROJECT STUDY AREA

The project is located west of Riverside Avenue between Bonnie View Drive on the south and the Metrolink line on the north. South Willow Avenue is located to the west of the property (Figure 2). This project is mapped on the San Bernardino South 7.5' United States Geological Survey (USGS) topographic map, in section 11 of Township 1 South, Range 5 West, in the San Bernardino Base Meridian (Figure 3). The project includes approximately 2.5 acres of potential alterations to a previously undeveloped lot. Most of the impacts are to be approximately 3 feet below current ground surface however utilities excavations will be to approximately 8 feet deep.

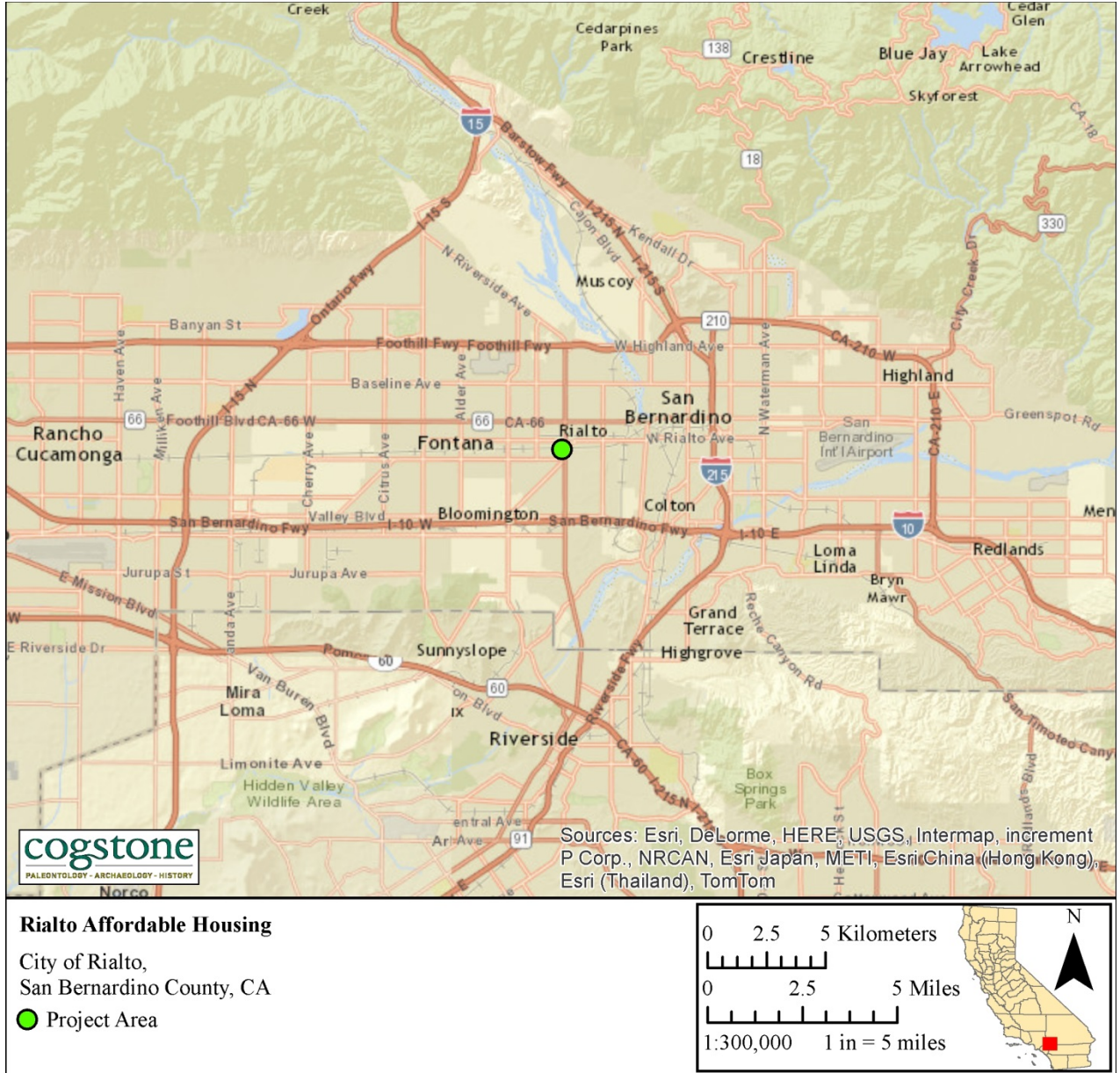


Figure 1. Project Vicinity



Figure 2. Project Aerial

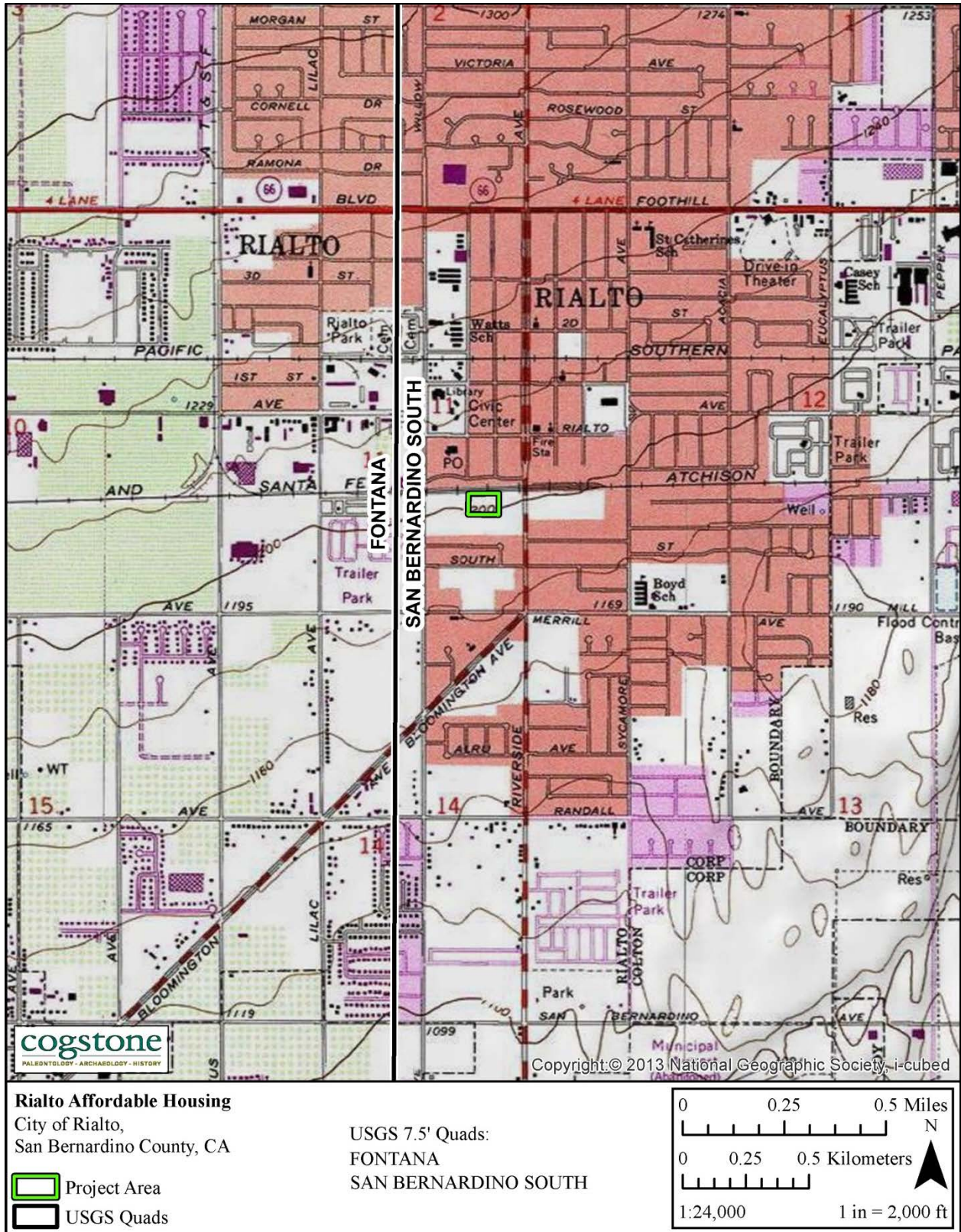


Figure 3. Project Location

PROJECT PERSONNEL

Cogstone prepared this document.

- Sherri Gust was the Project Manager and supervised all work. She has an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California, Davis and over thirty five years of experience in California.
- John Harris, Paleontology Practice Leader and Principal Investigator prepared this report. He has a Ph.D. in Geology from the University of Bristol (U.K.), an M.A. in Geology from the University of Texas, Austin, a B.S. (Hons) in Geology from the University of Leicester (U.K.). Dr. Harris has over 40 years of field and research experience in North America and Africa.
- Kim Scott conducted the survey and edited this report. Scott has a M. S. in Biology with an emphasis in paleontology from California State University, San Bernardino and over 20 years of experience in California paleontology and geology.
- André Simmons prepared the geographic information system (GIS) maps throughout this report. Simmons has a M.A. in Anthropology from California State University Fullerton, a GIS certification, and over six years of experience in California archaeology and paleontology.

Short resumes are provided (Appendix A) and additional qualifications of key Cogstone staff are available at www.cogstone.com/Staff.

REGULATORY ENVIRONMENT

This project is subject to federal, state and local legislation regarding paleontological resources.

FEDERAL LAWS AND REGULATIONS

National Environmental Policy Act (NEPA) directs federal agencies to use all practicable means to "Preserve important historic, cultural, and natural aspects of our national heritage...". If the presence of a significant environmental resource is identified during the scoping process, federal agencies and their agents must take the resource into consideration when evaluating project effects. Consideration of paleontological resources may be required under NEPA when a project is proposed for development on federal land, or land under federal jurisdiction. The level of consideration depends upon the federal agency involved.

STATE LAWS AND REGULATIONS

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA (Chapter 1, Section 21002) states that: “It is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.”

“If paleontological resources are identified during the initial Project scoping studies as being within the proposed Project Area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.”

PUBLIC RESOURCES CODE (PRC)

Section 50987.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any ... vertebrate paleontological site, including fossilized footprints, ..., or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

BACKGROUND

REGIONAL GEOLOGY

The project is located in the Transverse Range Geomorphic Province which is one of the most tectonically active regions of North America. To the north of the project, the San Andreas Fault Zone travels up Cajon Pass where it is the boundary between the Pacific Plate and the North American Plate. The Transverse Range Province is an east-west trending series of steep mountain ranges and valleys, oblique to the normal northwest trend of California mountains and valleys, hence the name “Transverse.” The province extends offshore to include the Channel Islands and eastward to include the Little San Bernardino Mountains.

The Transverse Ranges are a result of these two plates grinding past each other and “catching” along the bend in the San Andreas. The Pacific Plate is composed of numerous tectonic blocks that can move independently and rotate in response to the plates moving past each other. Intense

north-south compression is squeezing the Transverse Ranges as the Pacific Plate moves north relative to the North American Plate, and as a result this is one of the most rapidly rising regions of the earth (Wagner, 2002).

STRATIGRAPHY

The project is located in the southwestern portion of San Bernardino County on the San Gabriel alluvial fan. Sediments from the San Gabriel Mountains have washed into the valleys below over thousands of years forming this fan. This project is mapped at the surface entirely as early Holocene to late Pleistocene (126,000 to 7,000 years old) young eolian (wind-blown dune) deposits adjacent to the Santa Ana River (Figure 4; Morton and Miller, 2006). At depth is the Fontana-Rialto-Bloomington alluvial fan with late Holocene to late Pleistocene young alluvial fan deposits (126,000 years old to less than 5,000 years old) and middle to late Pleistocene old dune deposits (126,000 to 11,000 years old) mapped at the surface.

SURFACE MAPPING

Young eolian deposit, unit 1

Early Holocene to late Pleistocene (126,000 to 7,000 years old), slightly to moderately consolidated eolian deposits of fine to medium grained sands are occasionally interfingered with fluvial beds ranging from sand to pebble size (Figure 4; Morton and Miller, 2006).

UNITS AT DEPTH

Old eolian deposit, unit 3

These middle to late Pleistocene (126,000 to 11,000 years old) sands are slightly to moderately consolidated, yellow-brown silts and sands. The sands form north trending longitudinal dunes with massive to laminated structures (Figure 4; Morton and Miller 2006).

Young alluvial fan deposit, unit 1

These late Pleistocene to early Holocene (between 126,000 and 5,000 years old), slightly to moderately consolidated alluvial fan deposits consist of silts, sands, and conglomerates off the San Bernardino and San Gabriel mountains. These sediments form a major portion of the alluvium in the San Bernardino Valley area (Figure 4; Morton and Miller 2006).

Young alluvial fan deposit, unit 5

These late Holocene (less than 5,000 years old), unconsolidated alluvial fan deposits consist of silts, sands, and conglomerates off the San Bernardino and San Gabriel mountains. Forming a major portion of the alluvium in the San Bernardino Valley area, these sediments are mapped to the west of the project (Figure 4; Morton and Miller 2006).

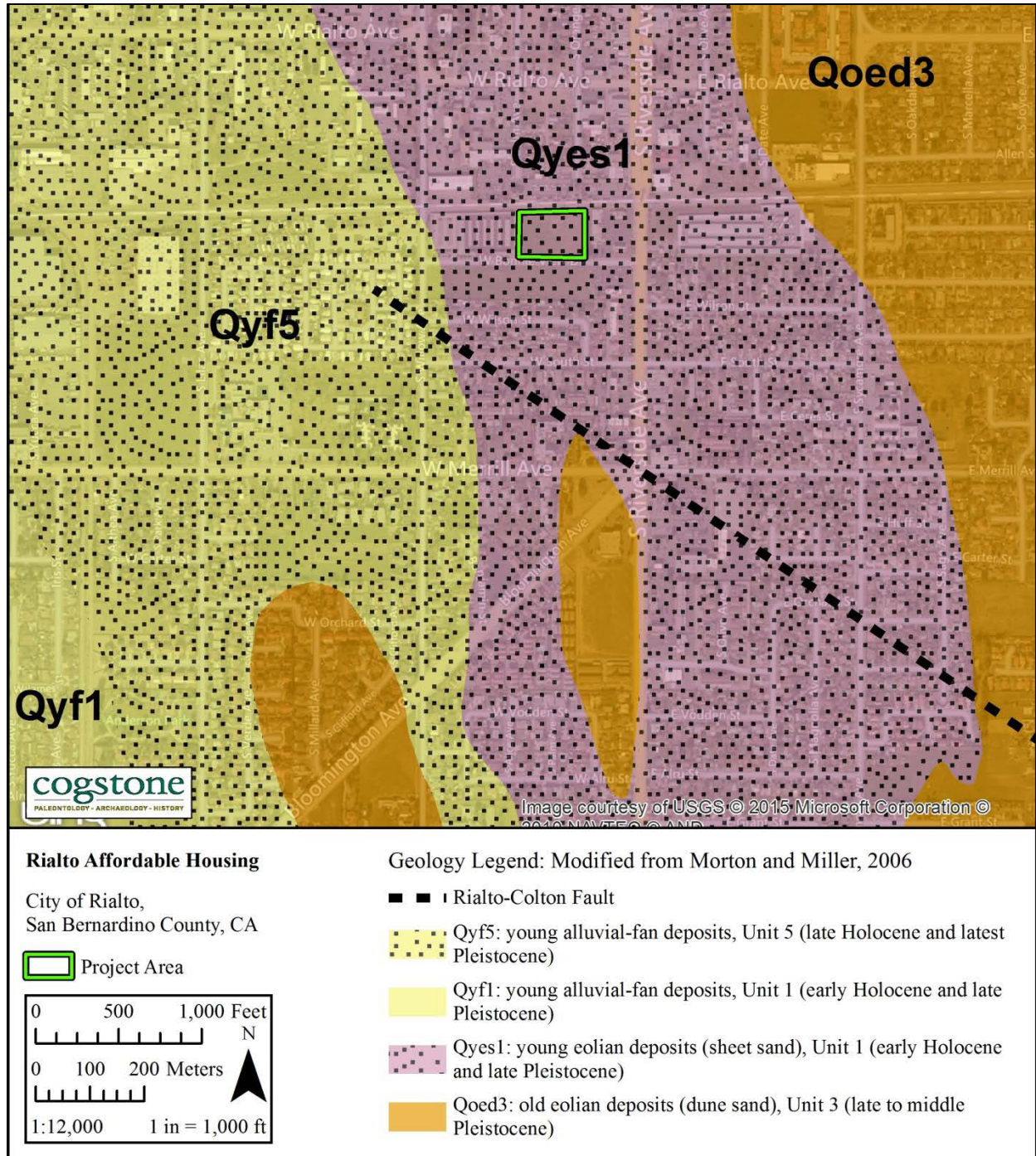


Figure 4. Geology of Project Area

KNOWN PALEONTOLOGICAL RESOURCES

Although the San Bernardino County Museum (SBCM) was originally slated to provide a records search, recent staff changes at the museum mean that there currently is no staff to provide this service. Instead the Natural History Museum of Los Angeles County Museum (LACM) was contacted for a records search (McLeod, 2015; Appendix B).

Additionally the online paleontological databases maintained by the Paleobiological Database (PBDB, 2015) and the University of California Museum of Paleontology (UCMP, 2015) were searched along with published and unpublished materials (Hay, 1927; Jefferson, 1991a, 1991b; Lofgren, 2011; Deméré and Siren, 2013; McLeod, 2013; Scott, 2013, 2015).

The project and a ten-mile radius were searched for resources. No fossil localities have been previously collected from within a 1½ -mile radius of the project area. The lack of records of Pleistocene fossils from the valley areas of California is unsurprising. Fossils are typically found more than 10 feet deep in our valleys since sediment accumulating processes are still active. This limits the potential records for these areas so a larger area is reviewed to compensate. The nearest locality is in Fontana where the remains of a saber-toothed cat (*Smilodon* sp.) were recovered from an unknown depth (SBCM 5.1.11; Scott, 2013a). Extinct animals recovered from localities in the Pleistocene alluvial deposits near the project include ground sloth, mammoth, mastodon, sabre-toothed cat, dire wolf, horse, tapir, bison, llama camel, and dwarf pronghorn (Table 1).

Table 1. Fossils recovered from Pleistocene alluvial deposits near the project

Common Name	Taxon	Locality	Depth below surface; Reference
sabre-toothed cat	† <i>Smilodon</i> sp.	Fontana, SBCM 5.1.11	unknown; Scott, 2013a
mastodon	† <i>Mammut</i> sp.	SBCM 5.1.14 – SBCM 5.1.21; near intersection of Valley and I-10	as little as 5 feet; Scott, 2015
bison	† <i>Bison</i> sp.		
camel family	† <i>Camelidae</i>		
mammoth	† <i>Mammuthus</i> sp.	Lewis Resort Project, RAM; north of Belgrave, between Hamner and I-15; Pleistocene axial channel deposits	fossils started at 4-5 feet deep; Deméré and Siren, 2013
horse	† <i>Equus</i> sp.		
camel	† <i>Camelops</i> sp.		
bison	† <i>Bison</i> sp.		
small vertebrates	miscellaneous		
ground sloth	† <i>Megalonyx</i> sp.	Ontario, SBCM 5.5.48-5.5.54; Pleistocene axial channel deposits	unknown; Scott, 2013b
horse	† <i>Equus</i> sp.		
bison	† <i>Bison</i> sp.		

Common Name	Taxon	Locality	Depth below surface; Reference
small vertebrates	miscellaneous		
whipsnake	<i>Masticophis sp.</i>	Ontario, Sumner Ave., LACM 7811; Pleistocene aeolian deposits or Pleistocene axial channel	9-11 feet deep; McLeod, 2013
mammoth	† <i>Mammuthus sp.</i>	Pomona Valley “Champagne”, SBCM 5.1.8	20 feet; Scott, 2015; Jefferson (1991b) records this as 5 ft deep
deer	<i>Odocoileus sp.</i>	Corona-Norco, LACM 1207; Pleistocene older alluvium	unknown; McLeod, 2013
Shasta’s ground sloth	† <i>Nothrotheriops shastensis</i>	Chino, LACM 1728; Pleistocene axial channel deposits	unknown; Jefferson, 1991b
horse	† cf. <i>Equus sp.</i>		
camel	†cf. <i>Camelops sp.</i>		
horse	†cf. <i>Equus sp.</i>	Chino Los Serranos Creek, Aspen Lane, SBCM 1.116.1	6 feet; Jefferson, 1991b
deer	<i>Odocoileus sp.</i>		
bison	† <i>Bison sp. cf. B. antiquus</i>		
Harlan’s ground sloth	† <i>Paramylodon harlani</i>	Chino Carbon Canyon wastewater, SBCM 5.1.9-5.1.10	11-15 feet; Jefferson, 1991b
horse	† <i>Equus sp.</i>		
camel	†cf. <i>Camelops sp.</i>		
ground sloth	† <i>Megalonyx sp.</i>	Chino, Inland Empire Utilities Agency, no repository as yet NOTE: Large fauna, only extinct animals listed	5-25 feet; unpublished
ground sloth	† <i>Paramylodon sp.</i>		
dire wolf	† <i>Canis dirus</i>		
?sabre-toothed cat	†? <i>Smilodon sp.</i>		
Columbian mammoth	† <i>Mammuthus columbi</i>		
horse	† <i>Equus sp.</i>		
tapir	† <i>Tapirus sp.</i>		
llama	† <i>Hemiauchenia sp.</i>		
camel	† <i>Camelops sp.</i>		
dwarf pronghorn	† <i>Capromeryx sp.</i>		
ancient bison	† <i>Bison antiquus</i>		

† indicates that the species is extinct

LACM – Natural History Museum of Los Angeles County

RAM – Raymond M. Alf Museum

SBCM – San Bernardino County Museum

PALEONTOLOGICAL FIELD RECONNAISSANCE

The paleontological resources survey stage is important in a project's environmental assessment phase to verify the exact location of each identified paleontological resource and the potential for the sediments to contain fossil resources. A paleontological survey was performed by Francisco Arellano of Cogstone on November 19, 2015. The intensive-level pedestrian survey consisted of walking parallel transects, spaced at approximately 10-meter intervals within the project area while closely inspecting the ground surface.

Ground surface visibility was excellent (95%) for the majority of the Project Area. Some areas along the Project Area's boundary showed poor visibility (20%) due to heavy vegetation; however, the majority of the Project Area contains little vegetation. Evidence for ground disturbance caused by agricultural activities is present throughout the site in the form of parallel tillage marks (Figure 5).

No fossils were observed during the survey but sediments potentially conducive to the preservation of fossils were observed.



Figure 5. Project Survey Area (view North)

PALEONTOLOGICAL SENSITIVITY

Occurrences of fossil resources are closely tied to their geologic source (e.g., formations or members that contain them). The probability for finding significant fossils in a project area can be broadly predicted from previous records of fossils recovered from the geologic units present in and/or adjacent to the study area.

A multilevel ranking system was developed by Bureau of Land Management (BLM) resource managers as a more practical tool, the Potential Fossil Yield Classification (PFYC) system (BLM, 2007; Appendix C) which has a multi-level scale based on demonstrated yield of fossils.

Using the PFYC system, geologic units are classified as to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts. This ranking is not intended to be applied to specific paleontological localities or small areas within units. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment. Geological setting and fossil localities were considered in determining paleontological sensitivity according to PFYC criteria.

Eolian deposits typically do not contain fossils. As such the young eolian deposits are assigned a low sensitivity (PFYC 2), however the sediments overlie older deposits that do contain fossils locally (Table 2).

Table 2. Paleontological Sensitivity Rankings

PFYC ranking	5: very high	4: high	3a: moderate-patchy	3b: moderate-undemonstrated	2: low	1: very low
Rock Units						
Young eolian deposits (Qye)					X ¹	
Young alluvial fan deposits (Qyf ₅)					X ¹	
Young alluvial fan deposits (Qyf ₁)				X		
Old eolian deposits (Qoed ₃)					X ¹	

¹ May become 3b (moderate-undemonstrated) if the cut exceeds 5 feet below the surface.

DEFINITION OF SIGNIFICANCE FOR PALEONTOLOGICAL RESOURCES

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.
6. All identifiable vertebrate fossils are considered significant due to the rarity of their preservation.

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).

ADVERSE EFFECTS ANALYSIS

Most of the impacts are to be approximately 3 feet below current ground surface however utilities excavations will be to approximately 8 feet deep. Due to the project surface geology and the small scale of the project, it is unlikely that significant fossils will be adversely affected by this project.

RECOMMENDATIONS

If unanticipated paleontological resources are encountered during ground disturbing activities, all work must halt within 50 ft. until the discovery can be evaluated by a qualified paleontologist.

REFERENCES CITED

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1991b A Catalogue of late Quaternary Vertebrates from California: Part two, Mammals. *Natural History Museum of Los Angeles, Technical Report #7*.

McLeod, S. A.

- 2013 Paleontological resources for the proposed Ontario Freeway (I-15) and Limonite Avenue interchange Project, Riverside County, project area. On file with Caltrans District 8
2015 Paleontological resources for the proposed Ontario Freeway (I-15) and Limonite Avenue interchange Project, Riverside County, project area. Appendix B

Morton, D. M., and Miller F. K

- 2006 Preliminary digital geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, Southern California, version 1.0: *U.S. Geological Survey Open-File Report 06-1217*; scale 1:100,000.

PBDB – Paleobiological Database

- 2015 Online records search of the Paleobiological Database.

Scott, E.

- 2013a Paleontology literature and records review, Bloomington affordable housing project, Community of Bloomington, San Bernardino County, California. Submitted to Cogstone, May 2013.
- 2013b Paleontological literature and records review, Interstate 15 and Limonite Avenue, Mira Loma Region, Riverside County, California. On file with Caltrans District 8.
- 2015 Paleontology literature and records review, Interstate 10 Grove Interchange Project, City of Ontario, San Bernardino County, California. On file with Caltrans District 8.

Scott, E. and K. Springer

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- 2004 Vertebrate paleontology in the Mojave Desert: the continuing importance of 'follow through' in preserving paleontologic resources, p. 65-70, in M. W. Allen and J. Reed (eds.), *The human journey and ancient life in California's Deserts: Proceedings from the 2001 Millennium Conference*. Maturango Museum Publication No. 15, Ridgecrest, California, USA.

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APPENDIX A: TECHNICAL RESUMES

JOHN HARRIS

Paleontology Practice Leader and Qualified Principal Paleontologist

EDUCATION

1970 Ph.D. Geology with paleontology emphasis, University of Bristol (U.K.)
 1967 M.A. Geology with paleontology emphasis, University of Texas, Austin
 1964 B.S., Geology, University of Leicester (U.K.)

SUMMARY QUALIFICATIONS

Dr. Harris has more than 40 years of experience in Cenozoic paleontology and specializes in vertebrate species from Rancho La Brea, California, and Africa. He is Chief Curator Emeritus at the Natural History Museum of Los Angeles County, an adjunct professor, Department of Geology and Geophysics, University of Utah, (1996-present), a Visiting Associate in Geology, Division of Geological and Planetary Sciences, Caltech, and an Honorary Member of the Society of Vertebrate Paleontology. Dr. Harris is well-known for his research on the Plio-Pleistocene ungulates associated with early humans and for his contributions to our understanding of the biota from the La Brea tar pits. He has more than 90 scientific publications including four edited books.

SELECTED PROJECTS

Grove Avenue Corridor, Caltrans District 8, Los Angeles San Bernardino County, CA. Paleontology Practice Leader. Interchange Improvement Project in Ontario. Quality Control and Revisions for the Combined Paleontological Identification and Evaluation Report with Paleontological Mitigation Plan. 2015

Interstate 10 Grove Avenue Interchange, Caltrans District 8, Los Angeles San Bernardino County, CA. Paleontology Practice Leader. Corridor Specific Plan in Ontario. Quality Control and Revisions for the Combined Paleontological Identification and Evaluation Report with Paleontological Mitigation Plan. 2015

SR99 at Avenue 12 Interchange, Caltrans District 6, Madera County, CA. Paleontology Practice Leader. Project was monitoring of excavations; fossils recovered. Quality Control and Revisions for the Paleontological Monitoring Report. 2015

SR178 at Morning Drive Interchange Improvements, Thomas Roads Improvement Program/ Caltrans District 6, Bakersfield, CA. Monitoring for six mile roadway improvements project. Paleontology Practice Leader. Quality Control and Revisions for the Paleontological Monitoring Report. 2015

SR99 at Olive Avenue Traffic Signals and Ramp Metering, Caltrans District 6, Fresno County, CA. Paleontology Practice Leader. Project was monitoring of excavations. Quality Control and Revisions for the Paleontological Monitoring Report. 2015

I-680 North Segment Express Lane Conversion, Contra Costa Transportation Authority/ Caltrans District 4, Walnut Creek, CA. Paleontology Practice Leader. Project to expand lanes including underground utilities. Quality Control and Revisions for the Combined Paleontological Identification and Evaluation Report with Paleontological Mitigation Plan. 2015

1200 S. Figueroa Mixed-Use, Jamison Development, Los Angeles, CA. Paleontology Practice Leader. Project was monitoring of large scale excavations up to 30 ft. deep. Quality Control and Revisions for the Paleontological Monitoring Memo. 2015

North-South Pipeline, CPUC, San Bernardino and Riverside Counties, CA. Paleontology Practice Leader. Proposed project will install large diameter natural gas pipeline through Cajon Pass. Review and Data Gap Analysis. 2015

KIM SCOTT

Field and Lab Director for Paleontology and Qualified Principal Paleontologist

EDUCATION

2000 B.S., Geology with paleontology emphasis, University of California, Los Angeles
2013 M.S., Biology with a paleontology emphasis, California State University, San Bernardino

SUMMARY QUALIFICATIONS

Scott has more than 20 years of experience in California paleontology and geology. She is a qualified geologist and field paleontologist with extensive survey, monitoring and fossil salvage experience. In addition, she has special skills in fossil preparation (cleaning and stabilization) and preparation of stratigraphic sections and other documentation for fossil localities. Scott serves as company safety officer and is the author of the company safety and paleontology manuals.

SELECTED PROJECTS

Palm Avenue Grade Separation, Caltrans District 8, San Bernardino County. Directed the assessment of paleontological resources for proposed grade separation of the Burlington Northern Santa Fe (BNSF) Railroad tracks at Palm Avenue and Route 66. Co-authored a combined Paleontological Identification/Evaluation Report. Field Director. 2013

State Route 91 HOV Project, Caltrans District 8, Riverside. Co-authored a combined Paleontological Identification/Evaluation Report and Paleontological Mitigation Plan for the SR 91 High Occupancy Vehicle Lane Addition between Adams St. and the 60/91/215 Interchange in Riverside. Managed monitoring during construction. Co-author of Paleontological Monitoring Report (PMR). Paleontology Field and Lab Director. 2011-2014

Ranchero Road-BNSF Grade Separation, City of Hesperia, Hesperia. Directed paleontological resources monitoring for the duration of all ground disturbing activities in native sediments greater than five feet deep. Field Director and Report Co-author. 2011-2013

Avenue 52 Grade Separation, Caltrans District 8, Coachella, Riverside County. Performed paleontological record searches, background research, reconnaissance survey, and co-authored PIR/PER. Paleontology Field and Lab Director. 2012

Merced Freeway Project, Caltrans District 10, Merced. Alternated 2 week rotations performing direction of fossil recovery and field preparation of fossils for 5 mile segment of State Route 99 south of Merced. Some 128 localities and 1667 fossils recovered in five months of excavation for detention basins. Contributed to final report. Field / Lab Director and Report Contributor. 2012

Geospatial Paleontology Database, Caltrans District 6, 9, and 10. Conducted paleontological research for 15 counties in central and eastern California for paleontological screening tool. Paleontology Researcher. 2011-2012

Tehachapi Renewable Transmission Project, Segments 1-3, Southern California Edison, Los Angeles and Kern counties. Co-authored paleontological resources management plans and directed paleontological monitoring for construction of new electrical transmission facilities. Paleontology Field and Lab Director and Report Co-author. 2007-2009

El Casco Substation Project, Southern California Edison, Riverside County. Performed preconstruction mitigation measures and prepared portions of Paleontological Resources Treatment Plan. Field and Lab Director and Report co-author. 2009

ANDRÉ-JUSTIN C. SIMMONS
Archaeologist/Cross-trained Paleontologist & GIS Supervisor

EDUCATION

- 2014 M.A., Anthropology: Specializing in Anthropological Archaeology, California State University, Fullerton
- 2010 B.A., Anthropology and History, California State University, Fullerton, graduated *cum laude*
- 2012 Certificate in Geographic Information Systems, California State University, Fullerton

SUMMARY QUALIFICATIONS

Mr. Simmons is a qualified archaeologist and cross-trained paleontologist with field experience in survey, monitoring, faunal analysis, and excavation. Simmons also has expertise in laboratory preparation and analysis gathered from internships at CSUF and volunteer experience at the Page Museum at the La Brea Tar Pits. His key research interests include architecture and use of space among Paleoindians, the American Southwest, early historic and prehistoric California, and historical Mexico. He has over six years of experience in California Archaeology and paleontological monitoring along with more than 24 hours of paleontology training and over four years of GIS experience.

SELECTED PROJECTS

WECC Path 42, Southern California Edison, Riverside County, CA. Conducted a cultural resources records search and field survey for a 14.5 mile transmission line segment near Thousand Palms. Archaeological/Paleontological Technician. 2011-2012

Eldorado-Ivanpah Transmission Project, Southern California Edison, Eldorado, NV to Ivanpah, CA. Performed paleontological monitoring for project that involves construction of 195 miles of new transmission lines and associated fiber optic lines across BLM and private lands. Paleontological Monitor. 2012-2013

Devers-Mirage 115 KV System Split Project, Southern California Edison, Riverside County, CA. Performed archaeological and paleontological monitoring during construction activities associated with maintaining and upgrading the electrical systems of Cathedral City, Indian Wells, Palm Desert, Palm Springs, Rancho Mirage, Thousand Palms and unincorporated Riverside County. Archaeological/Paleontological Monitor. 2011-2012

Leatherneck Substation Project, Southern California Edison, San Bernardino County, CA. Prepared GIS maps for a cultural resources survey and subsequent survey report for ten pulling stations near Twenty-Nine Palms. GIS Technician. 2012

Fogarty Substation, Southern California Edison, Riverside County, CA. Performed archaeological and paleontological monitoring during ground disturbing activities in Lake Elsinore. A historic glass fragment and prehistoric shells were recovered. Archaeological/Paleontological Monitor. 2010-2011

Daggett II, Southern California Edison, San Bernardino County, CA. Conducted archaeological and paleontological monitoring of construction activities of transmission towers and associated access roads for the 225-acre Human External Cargo Helicopter Training Facilities Project in Daggett. Archaeological/Paleontological Monitor. 2011

SR 99 Arboleda Drive Freeway Project, Caltrans District 10, Merced County, CA. Conducted paleontological resources monitoring, fossil recovery, and fossil preparation for a 5-mile segment. Prepared GIS report maps. Some 128 localities and 1,667 fossils recovered in five months of excavation for detention basins. Paleontology & GIS Technician. 2012

APPENDIX B: PALEONTOLOGY RECORDS SEARCH



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

tel 213.763.DINO
www.nhm.org

Vertebrate Paleontology Section
Telephone: (213) 763-3325
Fax: (213) 746-7431
e-mail: smcleod@nhm.org

3 December 2015

Cogstone Resource Management, Inc.
1518 West Taft Avenue
Orange, CA 92865-4157

Attn: André Simmons, Archaeologist and GIS Supervisor

re: Vertebrate Paleontology Records Check for paleontological resources for the proposed
Rialto Affordable Housing Project, Cogstone Project # 3400, in the City of Rialto,
San Bernardino County, project area

Dear André:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for the proposed Rialto Affordable Housing Project, Cogstone Project # 3400, in the City of Rialto, San Bernardino County, project area as outlined on the portion of the San Bernardino South USGS topographic quadrangle map that you sent to me via e-mail on 17 November 2015. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities farther afield from sedimentary deposits similar to those that may occur subsurface in the proposed project area.

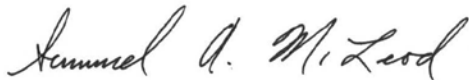
Surface deposits in the entire proposed project area are composed of younger Quaternary Alluvium, derived as alluvial fan deposits from the San Gabriel Mountains to the northwest, with fluvial contributions from Lytle Creek Wash that currently flows to the northeast. These deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, but they may be underlain at relatively shallow depth by older sedimentary deposits that do contain significant fossil vertebrate remains. Our closest fossil vertebrate locality from similar older Quaternary deposits is LACM 7811, west-southwest of the proposed project area west of Mira Loma along Sumner Avenue, that produced a fossil specimen of whipsnake, *Masticophis*, at a depth of 9 to 11 feet below the surface. Further to the southwest between Corona and Norco our vertebrate fossil locality LACM 1207 produced a fossil specimen of deer, *Odocoileus*.

Inspiring wonder, discovery and responsibility for our natural and cultural worlds.

Shallow excavations in the younger Quaternary alluvial fan deposits exposed in the proposed project area probably will not uncover any significant vertebrate fossils. Deeper excavations throughout the proposed project area that extend down into older Quaternary deposits, however, may well encounter significant remains of fossil vertebrates. Any substantial and deep excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

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

Sincerely,



Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

APPENDIX C: SENSITIVITY RANKING CRITERIA

Caltrans Rank	PFYC Description	PFYC Rank
No Potential	Very Low. The occurrence of significant fossils is non-existent or extremely rare. Includes igneous or metamorphic and Precambrian or older rocks. Assessment or mitigation of paleontological resources is usually unnecessary.	1
Low Potential	Low. Sedimentary geologic units that are not likely to contain vertebrate fossils or scientifically significant nonvertebrate fossils. Includes rock units too young to produce fossils, sediments with significant physical and chemical changes (e.g., diagenetic alteration) and having few to no fossils known. Assessment or mitigation of paleontological resources is not likely to be necessary.	2
	Potentially Moderate but Undemonstrated Potential. Units exhibit geologic features and preservational conditions that suggest fossils could be present, but no vertebrate fossils or only common types of plant and invertebrate fossils are known. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3b
High Potential	Moderate Potential. Units are known to contain vertebrate fossils or scientifically significant nonvertebrate fossils, but these occurrences are widely scattered and of low abundance. Common invertebrate or plant fossils may be found. Surface-disturbing activities may require field assessment to determine appropriate course of action.	3a
	High. Geologic units containing a high occurrence of significant fossils. Fossils must be abundant per locality. Vertebrate fossils or scientifically significant invertebrate or plant fossils are known to occur and have been documented, but may vary in occurrence and predictability. If impacts to significant fossils can be anticipated, on-the-ground surveys prior to authorizing the surface disturbing action will usually be necessary. On-site monitoring or spot-checking may be necessary during construction activities.	4
	Very High. Highly fossiliferous geologic units that consistently and predictably produce vertebrate fossils or scientifically significant invertebrate or plant fossils. Vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the impacted area. On-the-ground surveys prior to authorizing any surface disturbing activities will usually be necessary. On-site monitoring may be necessary during construction activities.	5