



## **Appendix C**

Cultural Resources Assessment

# **CULTURAL RESOURCES ASSESSMENT**

## **Kanan Road/Agoura Road Ultimate Intersection Improvements Project**

**City of Agoura Hills, Los Angeles County, California**

Prepared for:

Rita Garcia  
Kimley-Horn  
1100 West Town & Country Road, Suite 700  
Orange, California 92868

Prepared by:

David Brunzell, M.A., RPA  
Contributions by Nicholas Shepetuk, B.A.  
BCR Consulting LLC  
505 West 8<sup>th</sup> Street  
Claremont, California 91711

**Project No. KIM2109**

### **Data Base Information:**

Type of Study: Intensive Survey  
Resources Recorded: P-19-41, P-19-467  
Keywords: Prehistoric Habitation Site  
USGS Quadrangle: 7.5-minute *Thousand Oaks, California* (1981)



**BCRCONSULTING LLC**

September 28, 2022

## MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to Kimley-Horn to complete a Cultural Resources Assessment of the Kanan Road/Agoura Road Ultimate Intersection Improvements Project (the project) located in the City of Agoura Hills, Los Angeles County, California. A cultural resources records search, intensive pedestrian field survey, paleontological overview, and Sacred Lands File search with the Native American Heritage Commission were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA).

The cultural resources records search revealed that 10 cultural resource studies have taken place resulting in 19 cultural resources recorded within 0.5 mile of the project site. Of the previous studies, eight have assessed the project site for cultural resources, and two prehistoric archaeological habitation sites (P-19-41 and P-19-467) have been recorded within the project site boundaries. The most recent previous study in 2011 attempted to relocate sites P-19-41 and P-19-467 and were not successful (see Harper and Turner 2011). During the current field survey, BCR Consulting archaeologists did not identify any cultural resources (including prehistoric or historic-period archaeological sites or historic-period buildings) within the project site boundaries. Although records search results indicate that two prehistoric habitation sites (designated P-19-41 and P-19-467, respectively) are crossed by portions of the project site, no trace of either resource was identified. Furthermore, project-related impacts within the depicted site locations are proposed in small areas of existing road frontage that have been subject to severe disturbances from road construction and utility installation and maintenance. Based on these results, further systematic evaluation of these two prehistoric sites is not recommended.

The prehistoric resources recorded during this study do indicate sensitivity for buried cultural resources within the project site. Therefore, BCR Consulting recommends that an archaeological monitor be present during all earthmoving activities related to the development of the project site. The monitor would work under the direct supervision of a cultural resources professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology. The monitor would be empowered to temporarily halt or redirect construction work in the vicinity of any find until the project archaeologist can evaluate it. In the event of a new find, salvage excavation and reporting will be required.

Findings were negative during the Sacred Lands File search with the NAHC. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized

representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project would “directly or indirectly destroy a unique paleontological resource”. The Paleontological Overview provided in Appendix D has recommended that:

The geologic units underlying the project area are mapped as Quaternary alluvium dating to the Pliocene-Holocene and Miocene marine rocks, both of which are potentially fossiliferous, as well as Tertiary volcanic flow rocks, which have no fossil potential. Quaternary alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammuthus pacificus*), sabertooth cat (*Smilodon fatalis*), ancient horse (*Equus sp.*), and many other Pleistocene megafauna.

Any fossils recovered from the BCR Kanan Road/Agoura Road Ultimate Intersection Improvements Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Quaternary alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

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## INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to Kimley-Horn to complete a Cultural Resources Assessment of The Kanan Road/Agoura Road Ultimate Intersection Improvements Project (the project) located in the City of Agoura Hills, Los Angeles County, California. A cultural resources records search, intensive pedestrian field survey, paleontological overview, and Sacred Lands File search with the Native American Heritage Commission (NAHC) were conducted for the project in partial fulfillment of the California Environmental Quality Act (CEQA). The project site is located in a non-sectioned portion of Township 1 North, Range 18 West, San Bernardino Baseline and Meridian. It is depicted on the United States Geological Survey (USGS) *Thousand Oaks, California* (1981) 7.5-minute topographic quadrangle (Figure 1).

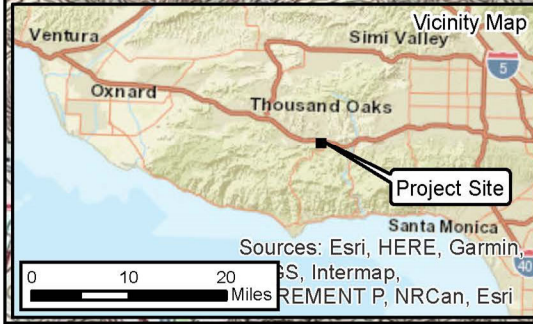
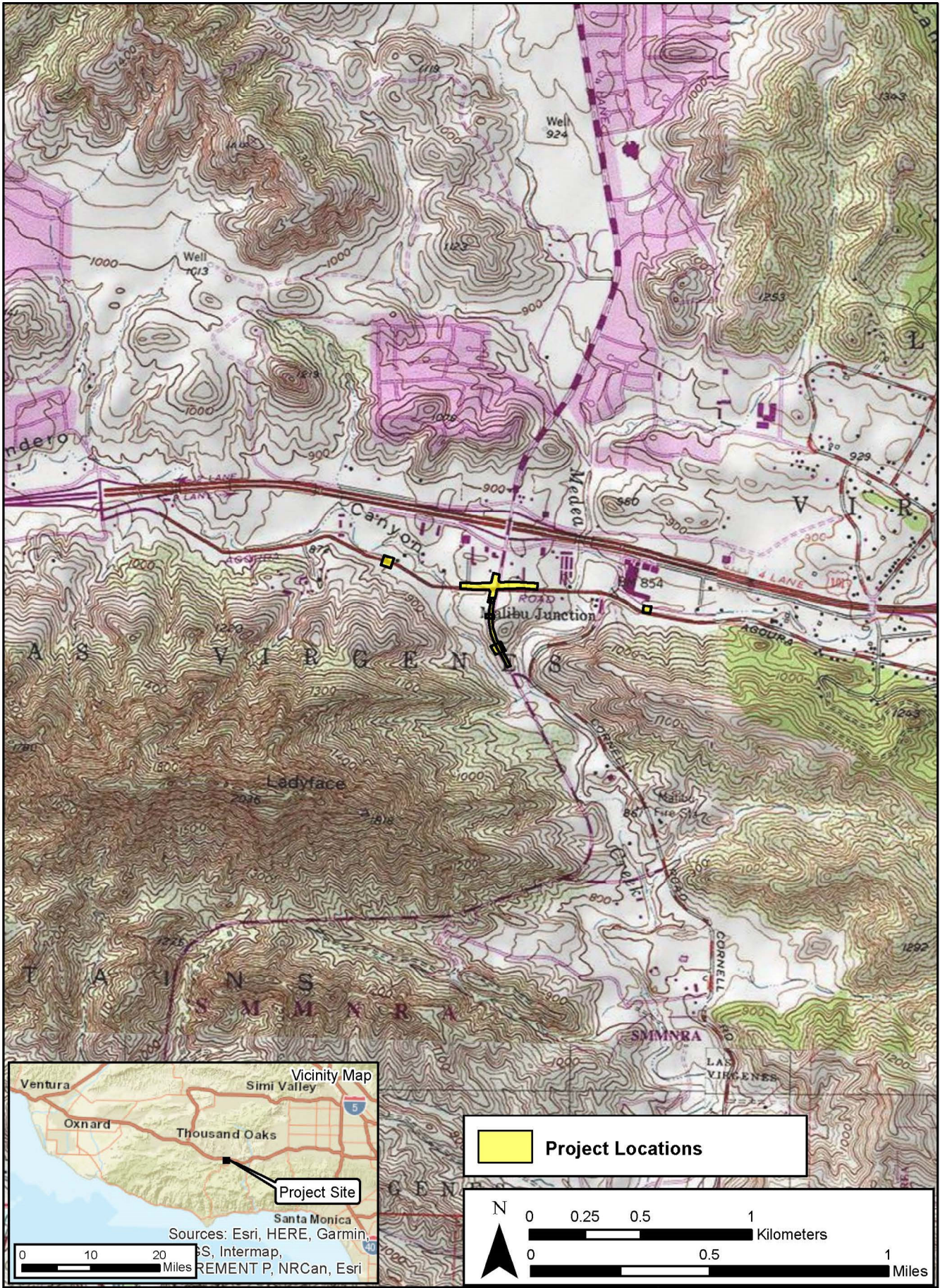
## Regulatory Setting

**The California Environmental Quality Act.** CEQA applies to all discretionary projects undertaken or subject to approval by the State's public agencies (California Code of Regulations 14(3), § 15002(i)). Under CEQA, "A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (Cal. Code Regs. [CCR] tit. 14(3), § 15064.5(b)). State CEQA Guidelines section 15064.5(a) defines a "historical resource" as a resource that meets one or more of the following criteria:

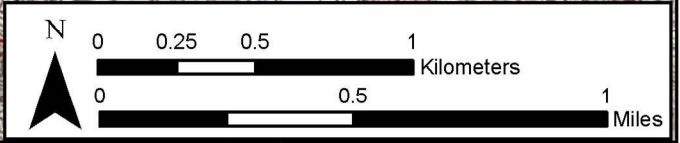
- Listed in, or eligible for listing in, the California Register
- Listed in a local register of historical resources (as defined at Cal. Public Res. Code § 5020.1(k))
- Identified as significant in a historical resource survey meeting the requirements of § 5024.1(g) of the Cal. Public Res. Code
- Determined to be a historical resource by a project's lead agency (Cal. Code Regs. tit. 14(3), § 15064.5(a))

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California...Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)).

The significance of a historical resource is impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the California Register. If an impact on a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (State CEQA Guidelines § 15126.4 (a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the resource.



**Project Locations**



Section 5024.1 of the Cal. Public Res. Code established the California Register. Generally, a resource is considered by the lead agency to be “historically significant” if the resource meets the criteria for listing in the California Register (Cal. Code Regs. tit. 14(3), § 15064.5(a)(3)). The eligibility criteria for the California Register are similar to those of the National Register of Historic Places (National Register), and a resource that meets one of more of the eligibility criteria of the National Register will be eligible for the California Register.

The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, 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 CEQA. Criteria for Designation:

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 meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource’s period of significance to “obtain a scholarly perspective on the events or individuals associated with the resources.” (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after the date of this report, all resources older than 45 years (i.e. resources from the “historic-period”) will be evaluated for California Register listing eligibility, or CEQA significance. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

**Senate Bill 18.** California Senate Bill 18 states that prior to a local (city or county) government’s adoption of any general plan or specific plan, or amendment to general and specific plans, or a designation of open space land proposed on or after March 1, 2005, the city or county shall conduct consultations with California Native American tribes for the purpose of preserving or mitigating impacts to Cultural Places.

A Cultural Place is defined in the PRC sections 5097.9 and 5097.995 as:

1. Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine (PRC Section 5097.9), or;
2. Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources pursuant to Section 5024.1,



including any historic or prehistoric ruins, any burial ground, or any archaeological or historic site (PRC Section 5097.995).

The intent of SB-18 is to establish meaningful consultation between tribal governments and local governments (“government-to-government”) at the earliest possible point in the planning process so that cultural places can be identified and preserved and to determine necessary levels of confidentiality regarding Cultural Place locations and uses. According to the Government Code (GC) Section 65352.4, “consultation” is defined as:

The meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties’ cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American Tribes shall be conducted in a way that is mutually respectful of each party’s sovereignty. Consultation shall also recognize the tribes’ potential needs for confidentiality with respect to places that have traditional tribal cultural significance.

**Assembly Bill 52.** California Assembly Bill (AB) 52 was approved on September 25, 2014. As stated in Section 11 of AB 52, the act applies only to projects that have a notice of preparation or a notice of negative declaration or mitigated negative declaration filed on or after July 1, 2015.

AB 52 establishes “tribal cultural resources” (TCRs) as a new category of resources under CEQA. As defined under Public Resources Code Section 21074, TCRs are “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either: (1) included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register); included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or (2) determined by the lead agency to be significant pursuant to the criteria for inclusion in the CRHR set forth in Public Resources Code Section 5024.1(c), if supported by substantial evidence and taking into account the significance of the resource to a California Native American tribe. A “historical resource” as defined in Public Resources Code Section 21084.1, a “unique archaeological resource” as defined in Public Resources Code Section 21083.2(g), or a “nonunique archaeological resource” as defined in Public Resources Code Section 21083.2(h) may also be TCRs.

AB 52 further establishes a new consultation process with California Native American tribes for proposed projects in geographic areas that are traditionally and culturally affiliated with that tribe. Per Public Resources Code Section 21073, “California Native American tribe” includes federally and non-federally recognized tribes on the NAHC contact list. Subject to certain prerequisites, AB 52 requires, among other things, that a lead agency consult with the geographically affiliated tribe before the release of an environmental review document for a proposed project regarding project alternatives, recommended mitigation measures, or potential significant effects, if the tribe so requests in writing. If the tribe and the lead agency agree upon mitigation measures during their consultation, these mitigation measures must be recommended for inclusion in the environmental document (Public Resources Code Sections 21080.3.1, 21080.3.2, 21082.3, 21084.2, and 21084.3). Since the City will initiate and carry out the required AB52 Native American Consultation, the results of the consultation are not

provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff are available to answer questions and address comments as necessary.

**Paleontological Resources.** CEQA provides guidance relative to significant impacts on paleontological resources, indicating that a project would have a significant impact on paleontological resources if it disturbs or destroys a unique paleontological resource or site, or unique geologic feature. Section 5097.5 of the California Public Resources Code specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources. CEQA documentation prepared for projects would be required to analyze paleontological resources as a condition of the CEQA process to disclose potential impacts. Please note that as of January 2018 paleontological resources are considered in the geological rather than cultural category. Therefore, paleontological resources are not summarized in the body of this report. A paleontological overview completed by professional paleontologists from the Western Science Center is provided as Appendix D.

## NATURAL SETTING

The elevation of the project site ranges from 865 to 890 feet above mean sea level (AMSL). A steep knoll on the east side of Kanan Road but outside the project site boundaries rises above the southern portion of the project site to approximately 920 feet AMSL. Terrain within the project site features a variable aspect. Artificial disturbances include road construction, the construction and subsequent demolition of a modern structure, the grading and use of a network of dirt roads, discing, and use of the land as an oat farm at one time.

## Biology

Although recent and historic-period impacts have decimated local vegetation, remnants of a formerly dominant coastal sage scrub vegetation community have been sporadically observed in the area. Signature plant species include black sage (*Salvia mellifera*), California brittlebush (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), golden yarrow (*Eriophyllum confertiflorum*), laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), poison oak (*Toxicodendron diversilobum*), purple sage (*Salvia leucophylla*), sticky monkeyflower (*Mimulus aurantiacus*), sugar bush (*Rhus ovata*), toyon (*Heteromeles arbutifolia*), white sage (*Salvia apiana*), coastal century plant (*Agave shawii*), coastal cholla (*Opuntia prolifera*), Laguna Beach liveforever (*Dudleya stolonifera*), many-stemmed liveforever (*Dudleya multicaulis*), our Lord's candle (*Yucca whipplei*), prickly pear cactus (*Opuntia sp.*) (Williams et al. 2008:118-119). Signature animal species within Coastal Sage Scrub habitat include the kangaroo rat (*Dipodomys sp.*), California horned lizard (*Phrynosoma coronatum frontale*), orange throated whiptail (*Cnemidophorus hyperthrus*), San Diego horned lizard (*Phrynosoma coronatum blainvillii*), brown-headed cowbird (*Molothrus ater*), California gnatcatcher (*Polioptila californica californica*), California quail (*Callipepla californica*), and San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) (Williams et al. 2008:118-120). Local native groups made use of many of these species (see Lightfoot and Parrish 2009).

**Geology**

The project site is located in Lindero Canyon to the east of the Conejo Valley, north of the Santa Monica Mountains and south of the Simi Hills. Sediment here is dominated by older surficial sediments of unconsolidated to weakly consolidated alluvial gravel of the late Pleistocene. The central portion of the project site features Conejo volcanics extrusive rocks which are characterized by submarine and subaerial volcanic extrusive and related intrusive rocks of middle Miocene age (Dibblee, Jr. 1993).

**CURRENT SETTING**

The project site has been subject to severe disturbances associated with the construction and subsequent demolition of a building that once stood on the southeast corner of Kanan Road and Agoura Road. A concrete footing and asphalt parking lot were noted in this area but were not old enough to warrant consideration as potential historical resources. Undeveloped portions of the project site have been subject to discing for weed abatement. Mechanical grading has recently occurred on the west side of Kanan Road, severely disturbing surficial sediments.

**CULTURAL SETTING**

**Prehistoric Context**

Evidence for human occupation of the Central Coast first appears during the early Holocene. Humans proliferated globally during this era due to gradual environmental warming that marked the close of the last ice age. Changes in settlement patterns and subsistence focus are widely cited as adaptations to the new conditions and have been organized into a number of chronological frameworks for the region (see Moratto 1984, Warren and Crabtree 1986, and others). Although a matter of some dispute among archaeologists, the most widely accepted prehistoric cultural setting for California’s Central Coast utilizes six sequentially organized periods. These periods have been based upon archaeological evidence for cultural hallmarks indicated by the presence of particular diagnostic artifact assemblages, and the results of related settlement and subsistence pattern and site interaction studies. Such studies have indicated human habitation of the region as far back as 9,000 years before present (see Greenwood 1972 and others). A summary of the chronological periods is summarized in Table A.

**Table A. Prehistoric Periods of California’s Central Coast**

<b>Period</b>	<b>Cultural Hallmarks</b>	<b>Notable Artifacts</b>	<b>Citations</b>
Early Holocene (Pre-6500 BC)	Low population densities; reliance on plants, shellfish, and some vertebrates.	Flaked stone tools.	Moratto 1984; Erlandson 1994
Millingstone (6500-3500 BC)	Populations expand due to new reliance on seeds for dietary supplements evidenced by milling stones.	Flaked stone tools accompany hand stones and milling-slab style grinding implements.	Erlandson 1994, 1988, 1991; Glassow 1992; Jones et al. 1989; Wallace 1978
Early Period (3500-600 BC)	Larger, relatively mobile populations exhibit more regular and continuous use of habitation sites. Seed	Flaked stone tools, grinding implements include hand stones and milling-slabs; mortars and pestles appear.	Glassow and Wilcoxon 1988; Jones et al. 1994

	grinding is more heavily emphasized.		
Middle Period (600 B.C.-A.D. 1000)	More systematic hunting, fishing, plant processing; trading relationships established; fish and acorns highly exploited; development of food storage.	Earlier artifacts continue along with increased use of body ornaments, higher diversity of obsidian and beads than previously, shell fishhooks; flaked stone tool kit is diversified to include stemmed projectile points.	Glassow and Wilcoxon 1988; King 1990
Middle-Late Transitional (AD 1000-1250)	Continued systematic resource exploitation; social complexity including political complexity, and social ranking. Settlement shifts to the interior.	Grinding implements unchanged; flaked stone tool kit adds smaller leaf-shaped projectile points that indicates introduction of the bow and arrow.	Arnold 1992; Jones et al. 1994; Jones et al. 2007
Late Period (A.D. 1300-1769)	Social and political complexity and population continues to increase; economies introduced; Settlement shifts back to coast.	Projectile points and other highly specialized flaked stone tools, bedrock mortars, hopper mortars, and beads.	Jones et al. 2007

**Ethnography**

**Chumash.** The project site is located within the traditional territory of the Chumash. Tribal geographic boundaries were often permeable and fluid to some degree, even during the modern era. Archaeological evidence, historical references, and tribal accounts of these boundaries commonly disagree. Therefore, the following lays out the Cahuilla’s tribal boundaries based on the available data and explains any glaring inconsistencies between these different sources. Most sources agree that the Chumash occupied the Channel Islands (Santa Cruz, San Miguel, Santa Rosa, and Anacapa). Their territory extended from the Pacific Coast to the western edge of the southwestern San Joaquin Valley. However, while most sources agree that Chumash territory extended from Malibu Canyon and Point Conception in the south to approximately Morro Strand State Beach in the North (Grant 1978; Kroeber 1925; Applegate 1974), tribal sources (Santa Ynez Band of Chumash Indians 2020) and some academic sources disagree (Gamble 2008). Santa Ynez claims that the territory is marked by “the beaches of Malibu to Paso Robles,” and Gamble suggests that it is marked by Topanga Canyon in the South to the southern extent of Monterey County in the north.

The Chumash language family consisted of six to seven languages at least. Kroeber (1915) suggested that the Chumash may be appropriately grouped into the Hokan language stock, however the modern consensus tends to treat the Chumash as a separate group (Grant 1978; Klar 1977; Kroeber 1925). The languages spoken by the Chumash include Ventureño, Barbareño, Ynezeño, Purisimeño, Obispeño, and the Island dialect also known as Cruzeño. There is some evidence that suggests there may have been at least one more language that was spoken by interior Chumash west of the convergence of the Tehachapi Mountains and the Transverse Ranges, but this is not certain (Grant 1978; Kroeber 1925). There is significant variance in Chumash culture based mainly on the geographic and ecological setting in which the different subgroups of the tribe dwelled.

**Gabrielino.** The Gabrielino probably first encountered Europeans when Spanish explorers reached California's southern coast during the 15th and 16th centuries (Bean and Smith 1978; Kroeber 1925). The first documented encounter, however, occurred in 1769 when Gaspar de Portola's expedition crossed Gabrielino territory (Bean and Smith 1978). Other brief encounters took place over the years, and are documented in McCawley 1996 (citing numerous sources). The Gabrielino name has been attributed by association with the Spanish mission of San Gabriel, and refers to a subset of people sharing speech and customs with other Cupan speakers (such as the Juaneño/Luiseño/Ajachemem) from the greater Takic branch of the Uto-Aztecan language family (Bean and Smith 1978). Gabrielino villages occupied the watersheds of various rivers (locally including the Santa Ana) and intermittent streams. Chiefs were usually descended through the male line and often administered several villages. Gabrielino society was somewhat stratified and is thought to have contained three hierarchically ordered social classes which dictated ownership rights and social status and obligations (Bean and Smith 1978:540-546). Plants utilized for food were heavily relied upon and included acorn-producing oaks, as well as seed-producing grasses and sage. Animal protein was commonly derived from rabbits and deer in inland regions, while coastal populations supplemented their diets with fish, shellfish, and marine mammals (Boscana 1933, Heizer 1968, Johnston 1962, McCawley 1996). Dog, coyote, bear, tree squirrel, pigeon, dove, mud hen, eagle, buzzard, raven, lizards, frogs, and turtles were specifically not utilized as a food source (Kroeber 1925:652).

## History

Historic-era California is generally divided into three periods: the Spanish Period (1769-1821), the Mexican Period (1821-1848), and the American Period (1848- present).

**Spanish Period.** The first European to pass through the vicinity is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

**Mexican Period.** In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

**American Period.** The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers

lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19<sup>th</sup> century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Beattie and Beattie 1974; Cleland 1941).

## **PERSONNEL**

David Brunzell, M.A., RPA acted as the Project Manager/Principal Investigator for the study. Mr. Brunzell compiled the technical report, with contributions from BCR Consulting Archaeological Crew Chief Nicholas Shepetuk, B.A. The South Central Coastal Information Center (SCCIC) completed the cultural resources records search at California State University, Fullerton. Mr. Shepetuk and BCR Consulting Archaeological Field Technicians Fabian Martinez, B.A., and Johnny DeFachelle, B.A., completed the field survey.

## **METHODS**

### **Research**

The cultural resources records search completed by the SCCIC reviewed the status of all recorded historic and prehistoric cultural resources, and survey and excavation reports completed within one mile of the project site. Additional resources reviewed included the National Register, the California Register, and documents and inventories published by the California Office of Historic Preservation. These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

### **Field Survey**

An archaeological field survey of the project site was conducted on September 9 and December 17, 2021. The survey was performed by walking parallel transects spaced 15 meters apart across 100 percent of the project site. Transects were narrowed to five-meter intervals where cultural resources had been previously identified. All soil exposures were carefully inspected for evidence of cultural resources. Hand-held global positioning units were available to help relocate previously recorded resources.

## **RESULTS**

### **Research**

Research completed by the SCCIC revealed that 10 cultural resource studies have taken place resulting in 19 cultural resources recorded within 0.5 mile of the project site. Of the previous studies, eight have assessed the project site for cultural resources, and two prehistoric archaeological habitation sites (P-19-41 and P-19-467) have been recorded within the project site boundaries. The most recent previous study in 2011 attempted to relocate sites P-19-41 and P-19-467 and were not successful (see Harper and Turner 2011). Records search results are summarized in Table B and the records search map, bibliography, and Department of Park and Recreation (DPR) 523 forms for sites within the project site are provided in confidential Appendix A.

**Table B. Cultural Resources and Studies within 0.5 Mile of the Project Site**

USGS Quad	Cultural Resources Within 0.5 Mile of the Project Site	Reports Within 0.5 Mile of Project Site
<i>Thousand Oaks, California</i> (1981)	P-19-41: prehistoric habitation site (partially within project) P-19-314: prehistoric habitation site (0.3 miles S) P-19-467: prehistoric habitation site (partially within project) P-19-1027: prehistoric habitation/burial/quarry (0.4 miles W) P-19-1059: prehistoric rock shelter (0.5 miles SW) P-19-1352: prehistoric habitation site (0.25 miles E) P-19-1436: prehistoric lithic scatter (0.2 miles SW) P-19-2078: prehistoric habitation site (0.3 miles S) P-19-2483: prehistoric quarry (0.3 miles S) P-19-4711: prehistoric habitation site (0.5 miles N) P-19-4819: prehistoric lithic scatter (0.4 miles NW) P-19-4820: historic structures and orchard (0.4 miles NW) P-19-4861: prehistoric lithic scatter (0.4 miles NW) P-19-100207: prehistoric lithic scatter (0.1 miles N) P-19-100208: prehistoric lithic scatter (0.1 miles N) P-19-100209: prehistoric lithic scatter (0.4 miles WNW) P-19-100210: prehistoric lithic scatter (0.4 miles WNW) P-19-101202: prehistoric lithic scatter (0.5 miles N) P-19-101203: prehistoric lithic scatter (0.5 miles N)	LA-81*, 531*, 1768*, 1916*, 3546*, 7675, 10092*, 10778, 11835*, 11836*

**Field Survey**

During the field survey, BCR Consulting archaeologists did not identify any cultural resources (including prehistoric or historic-period archaeological sites or historic-period buildings) within the project site boundaries. Although records search results indicate that two prehistoric habitation sites (designated P-19-41 and P-19-467, respectively) are crossed by portions of the project alignment, no trace of either site was identified. Disturbances related to adjacent road construction and utility installation and maintenance have resulted in severe disturbances in both locations. Descriptions of each resource is provided below, and comprehensive Department of Park and Recreation (DPR) 523 forms are provided in Appendix A. In general, the entire project site has been subject to disturbances associated with road construction, and with the construction and subsequent demolition of a building that once stood on the southeast corner of Kanan Road and Agoura Road. A concrete footing and asphalt parking lot were noted in this area but were not old enough to warrant consideration as potential historical resources. Undeveloped portions of the project site have been subject to discing for weed abatement. Mechanical grading has recently occurred on the west side of Kanan Road, severely disturbing surficial sediments. Surface visibility was about 50 percent and the sediment was consistent with descriptions in the Natural Setting section, above. Vegetation was dominated by seasonal grasses and there were numerous non-native oak trees located along the project alignment.

**P-19-41.** This site was originally documented by S.L. Peak as a “Village site: workshop” in 1951. A revisit in 1965 by Michael Glassow and James Hill indicated that the project site was still present, but had been highly disturbed by mechanical excavation equipment. During a site visit in 2000, Clay Singer noted that the site retained artifacts but was highly disturbed. In 2010 Chester King and Jeff Parsons revisited the site and recorded surface artifacts and completed excavation but indicated that the site was highly disturbed and in poor condition. Caprice Harper revisited the site along the Kanan Road frontage and did not identify any

artifacts. BCR Consulting revisited the site along the proposed impacts within the Kanan Road frontage and did not identify any evidence of cultural activity.

**P-19-467.** This site was originally documented by R.G. Coleman in 1972 on the south side of Agoura Road as a lithic scatter and midden. Clay Singer and J.E. Atwood revisited the site in 1988 and noted the presence of andesite core tools in disturbed context. L. Carbone, D. McDowell, K. Lotah updated the site record in 1996 and after completing subsurface testing indicated that the site had been destroyed. BCR Consulting revisited the site along the proposed impacts within the Agoura Road frontage and did not identify any indications of cultural activity.

## RECOMMENDATIONS

The records search revealed that two prehistoric archaeological habitation sites (P-19-41 and P-19-467) have been recorded within its boundaries. The most recent previous study attempted to relocate sites P-19-41 and P-19-467 in 2011 and were not successful (see Harper and Turner 2011). During the current field survey, BCR Consulting archaeologists did not identify any cultural resources (including prehistoric or historic-period archaeological sites or historic-period buildings) within the project site boundaries. No trace of P-19-41 or P-19-467 were identified. Furthermore, project-related impacts within the depicted site locations are proposed in small areas of existing road frontage that have been subject to severe disturbances from road construction and utility installation and maintenance. Based on these results, further evaluation of these two prehistoric sites is not recommended.

The prehistoric resources recorded during this study do indicate sensitivity for buried cultural resources within the project site. Therefore, BCR Consulting recommends that an archaeological monitor be present during all earthmoving activities related to the development of the project site. The monitor would work under the direct supervision of a cultural resources professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology. The monitor would be empowered to temporarily halt or redirect construction work in the vicinity of any find until the project archaeologist can evaluate it. In the event of a new find, salvage excavation and reporting will be required.

Findings were negative during the Sacred Lands File search with the NAHC. Since the City will initiate and carry out the required Native American Consultation, the results of the consultation are not provided in this report. However, this report may be used during the consultation process, and BCR Consulting staff is available to answer questions and address concerns as necessary.

If human remains are encountered during the undertaking, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

According to CEQA Guidelines, projects subject to CEQA must determine whether the project



would “directly or indirectly destroy a unique paleontological resource”. The Paleontological Overview provided in Appendix D has recommended that:

The geologic units underlying the project area are mapped as Quaternary alluvium dating to the Pliocene-Holocene and Miocene marine rocks, both of which are potentially fossiliferous, as well as Tertiary volcanic flow rocks, which have no fossil potential. Quaternary alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), sabertooth cat (*Smilodon fatalis*), ancient horse (*Equus* sp.), and many other Pleistocene megafauna.

Any fossils recovered from the BCR Kanan Road/Agoura Road Ultimate Intersection Improvements Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Quaternary alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

## REFERENCES

- Applegate, Richard B.  
1974 Chumash Placenames. *The Journal of California Anthropology*. Vol. 1, Iss. 2.:187-205.
- Arnold, Jeane E.  
2007 Credit Where Credit is Due: The History of the Chumash Oceangoing Plank Canoe. *American Antiquity*, 72(2):196-209.
- Bean, Lowell John  
1978 *California* pp. 505-534; 538-549, edited by R.F. Heizer. Handbook of North American Indians, Vol. 8, W.C. Sturtevant, general editor, Smithsonian, Washington, D.C.
- Beattie, George W., and Helen P. Beattie  
1974 *Heritage of the Valley: San Bernardino's First Century*. Biobooks: Oakland.
- Beck, Warren A., and Ynez D. Haase  
1974 *Historical Atlas of California*. Oklahoma City: University of Oklahoma Press.
- Cleland, Robert Glass  
1941 *The Cattle on a Thousand Hills—Southern California, 1850-80*. San Marino, California: Huntington Library.
- Dibblee, Jr., Thomas W.  
1993 Geologic Map of the Thousand Oaks Quadrangle, Ventura and Los Angeles Counties, California. Santa Barbara Museum of Natural History.
- Gamble, Lynn H.  
2008 *The Chumash World at European Contact: Power, Trade, and Feasting Among Complex Hunter-Gatherers*. University of California Press, Berkeley and Los Angeles.
- Grant, Campbell  
1978 Chapters on the Chumash. In *Handbook of North American Indians*, vol. 8:505-534. Smithsonian Institution, Washington, D.C.
- Harper, Caprice D. and Robin D. Turner  
2011 *Cultural Resources and Paleontological Resources Assessment for the Agoura Road Widening Project, Agoura Hills, Los Angeles County, California*. On File at BCR Consulting LLC.
- Heizer, Robert F.  
1940 Aboriginal Use of Bitumen by the California Indians. *Geologic Formations and Economic Development of the Oil and Gas Fields of California*, Bulletin 118:73-75.
- Klar, Kathryn A.  
1977 Topics in Historical Chumash Grammar. PhD dissertation, Department of Anthropology, University of California, Berkeley.

Kroeber, Alfred L.

1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington D.C.: Smithsonian Institution. Reprinted in 1976, New York: Dover Publications.

1915 *Serian, Tequistlatecan, and Hokan*. University of California Press, Berkeley, California.

Lightfoot, Kent G., Otis Parrish

2009 *California Indians and Their Environment, an Introduction*. University of California Press, Berkeley.

Moratto, Michael J.

1984 *California Archaeology*. Academic Press, Orlando, Florida.

Santa Ynez Band of Chumash Indians

2021 Our History. Online resource. Accessed on 10/19/2021. <https://www.santaynezchumash.org/chumash-history>.

United States Geological Survey

1981 *Thousand Oaks, California* 7.5-minute topographic quadrangle map.

Warren, Claude N., and R.H. Crabtree

1986 The Prehistory of the Southwestern Great Basin. In *Handbook of the North American Indians, Vol. 11, Great Basin*, edited by W.L. d'Azevedo, pp.183-193. W.C. Sturtevant, General Editor. Smithsonian Institution, Washington D.C.

Williams, Patricia, Leah Messinger, Sarah Johnson

2008 *Habitats Alive! An Ecological Guide to California's Diverse Habitats*. California Institute for Biodiversity, Claremont, California.

**APPENDIX A**

**CONFIDENTIAL RECORDS SEARCH RESULTS AND DEPARTMENT OF PARK  
AND RECREATION 523 FORMS**

**APPENDIX B**  
**PROJECT PHOTOGRAPHS**

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**Photo 1:** Project Site Overview at P-16-41, Kanan Road, East of Agoura Rd (View E)



**Photo 2:** Graded Lot at P-16-467, West Side of Project Area (View S)



**Photo 3:** Central Project, East Side of Kanan Road (View N)



**Photo 4:** Modern Building Footings (View SW)

**APPENDIX C**

**NATIVE AMERICAN HERITAGE COMMISSION  
SACRED LANDS FILE SEARCH**



## NATIVE AMERICAN HERITAGE COMMISSION

July 29, 2021

David Brunzell  
BCR Consulting LLC

Via Email to: [david.brunzell@yahoo.com](mailto:david.brunzell@yahoo.com)

**Re: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Kanan Road/Agoura Road Ultimate Intersection Improvements Project, Los Angeles County**

Dear Mr. Brunzell:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

*Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.*

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:



CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

SECRETARY  
**Merri Lopez-Keifer**  
Luiseño

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Julie Tumamait-Stenslie**  
Chumash

COMMISSIONER  
[Vacant]

COMMISSIONER  
[Vacant]

COMMISSIONER  
[Vacant]

EXECUTIVE SECRETARY  
**Christina Snider**  
Pomo

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;
- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and
- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

- Any report that may contain site forms, site significance, and suggested mitigation measures.

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: [Andrew.Green@nahc.ca.gov](mailto:Andrew.Green@nahc.ca.gov).

Sincerely,



Andrew Green  
Cultural Resources Analyst

Attachment

**Native American Heritage Commission  
Tribal Consultation List  
Los Angeles County  
7/29/2021**

**Barbareno/Ventureno Band of Mission Indians**

Julie Tumamait-Stenslie,  
Chairperson  
365 North Poli Ave  
Ojai, CA, 93023  
Phone: (805) 646 - 6214  
jtumamait@hotmail.com  
Chumash

**Chumash Council of Bakersfield**

Julio Quair, Chairperson  
729 Texas Street  
Bakersfield, CA, 93307  
Phone: (661) 322 - 0121  
chumashtribe@sbcglobal.net  
Chumash

**Coastal Band of the Chumash Nation**

Mariza Sullivan, Chairperson  
P. O. Box 4464  
Santa Barbara, CA, 93140  
Phone: (805) 665 - 0486  
cbcntribalchair@gmail.com  
Chumash

**Gabrieleno Band of Mission Indians - Kizh Nation**

Andrew Salas, Chairperson  
P.O. Box 393  
Covina, CA, 91723  
Phone: (626) 926 - 4131  
admin@gabrielenoindians.org  
Gabrieleno

**Gabrieleno/Tongva San Gabriel Band of Mission Indians**

Anthony Morales, Chairperson  
P.O. Box 693  
San Gabriel, CA, 91778  
Phone: (626) 483 - 3564  
Fax: (626) 286-1262  
GTTribalcouncil@aol.com  
Gabrieleno

**Gabrielino /Tongva Nation**

Sandone Goad, Chairperson  
106 1/2 Judge John Aiso St.,  
#231  
Los Angeles, CA, 90012  
Phone: (951) 807 - 0479  
sgoad@gabrielino-tongva.com  
Gabrielino

**Gabrielino Tongva Indians of California Tribal Council**

Robert Dorame, Chairperson  
P.O. Box 490  
Bellflower, CA, 90707  
Phone: (562) 761 - 6417  
Fax: (562) 761-6417  
gtongva@gmail.com  
Gabrielino

**Gabrielino Tongva Indians of California Tribal Council**

Christina Conley, Tribal  
Consultant and Administrator  
P.O. Box 941078  
Simi Valley, CA, 93094  
Phone: (626) 407 - 8761  
christina.marsden@alumni.usc.edu  
Gabrielino

**Gabrielino-Tongva Tribe**

Charles Alvarez,  
23454 Vanowen Street  
West Hills, CA, 91307  
Phone: (310) 403 - 6048  
roadkingcharles@aol.com  
Gabrielino

**Northern Chumash Tribal Council**

Fred Collins, Spokesperson  
P.O. Box 6533  
Los Osos, CA, 93412  
Phone: (805) 801 - 0347  
fcollins@northernchumash.org  
Chumash

**San Luis Obispo County Chumash Council**

Mark Vigil, Chief  
1030 Ritchie Road  
Grover Beach, CA, 93433  
Phone: (805) 481 - 2461  
Fax: (805) 474-4729  
Chumash

**Santa Ynez Band of Chumash Indians**

Kenneth Kahn, Chairperson  
P.O. Box 517  
Santa Ynez, CA, 93460  
Phone: (805) 688 - 7997  
Fax: (805) 686-9578  
kkahn@santaynezchumash.org  
Chumash

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Kanan Road/Agoura Road Ultimate Intersection Improvements Project, Los Angeles County.

**APPENDIX D**  
**PALEONTOLOGICAL OVERVIEW**

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BCR Consulting LLC  
Nicholas Shepetuk  
505 West 8<sup>th</sup> Street  
Claremont, CA 91711

July 13, 2021

Dear Mr. Shepetuk,

This letter presents the results of a record search conducted for BCR Kanan Road/Agoura Road Ultimate Intersection Improvements Project in the City of Agoura Hills, Ventura County, California. The project site is located in a non-sectioned area of Township 1 North and Range 18 West on the Thousand Oaks, California (1981) USGS 7.5 minute topographic quadrangle.

The geologic units underlying the project area are mapped as Quaternary alluvium dating to the Pliocene-Holocene and Miocene marine rocks, both of which are potentially fossiliferous, as well as Tertiary volcanic flow rocks, which have no fossil potential. Quaternary alluvial units are considered to be of high paleontological sensitivity. The Western Science Center does not have localities within the project area, but does have numerous localities within similarly mapped alluvial sediments throughout the region. Pleistocene alluvial deposits in southern California are well documented and known to contain abundant fossil resources including those associated with Columbian mammoth (*Mammuthus columbi*), Pacific mastodon (*Mammut pacificus*), sabertooth cat (*Smilodon fatalis*), ancient horse (*Equus* sp.), and many other Pleistocene megafauna.

Any fossils recovered from the BCR Kanan Road/Agoura Road Ultimate Intersection Improvements Project area would be scientifically significant. Excavation activity associated with development of the area has the potential to impact the paleontologically sensitive Quaternary alluvial units and it is the recommendation of the Western Science Center that a paleontological resource mitigation plan be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area.

If you have any questions, or would like further information, please feel free to contact me at [amcdonald@westerncentermuseum.org](mailto:amcdonald@westerncentermuseum.org)

Sincerely,



A handwritten signature in blue ink that reads 'Andrew McDonald'.

Andrew McDonald  
Curator

# Kanan Road/Agoura Road Ultimate Intersection Improvements Project

Project location, one mile radius, any known fossil localities, and geologic mapping

**Legend**

-  Q: Quaternary alluvium and marine deposits (Pliocene to Holocene)
-  Tv: Tertiary volcanic flow rocks, unit 18 (San Joaquin-Kings Canyon) (Tertiary (3-4 Ma))

