AGOURA HILLS RECREATION CENTER TRAIL

INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Lead Agency:

CITY OF AGOURA HILLS
Planning Department
30001 Ladyface Court
Agoura Hills, California 91301-2583

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February 2025

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1.0 INTRODUCTION

This document is a Draft Initial Study and Mitigated Negative Declaration (IS/MND) that addresses potential environmental effects resulting from the construction of the proposed Agoura Hills Recreation Center Trail (project) in the City of Agoura Hills (City). The proposed project comprises the creation of a loop trail and two overlook trails, on vacant, undeveloped land south and west of the existing Agoura Hills Recreation and Event Center, located at 29900 Ladyface Court, which lies south of the U.S. 101 Freeway (101 Freeway) between Reyes Adobe Road to the west and Kanan Road to the east (refer to **Figure 1-1, Regional Map**). The loop trail would be constructed first, the overlook trails would be constructed at a later date.

LEGAL AUTHORITY

As the lead agency, the City has prepared this IS/MND in accordance with the California Environmental Quality Act (CEQA) of 1970 (Public Resources Code 21000–21189) and relevant provisions of the *CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387), as amended, in order to determine the potential environmental impacts of approval of the proposed project.

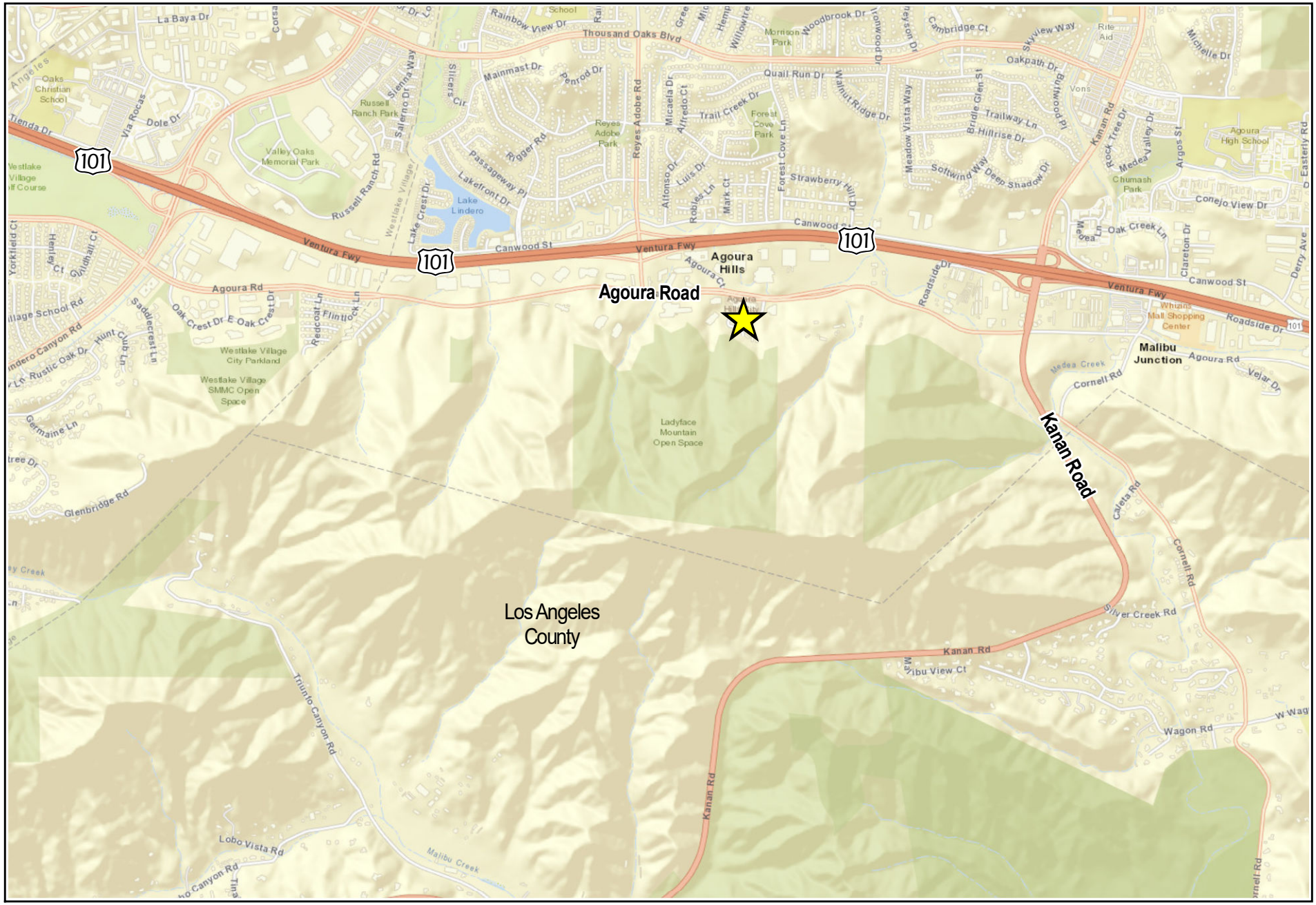
Initial Study. Section 15063(c) of the CEQA Guidelines defines an IS as the proper preliminary method of analyzing the potential environmental consequences of a project. The purposes of an IS are:

(1) To provide the Lead Agency with the necessary information to decide whether to prepare an Environmental Impact Report (EIR) or a MND;
(2) To enable the Lead Agency to modify a project, mitigating adverse impacts, thus avoiding the need to prepare an EIR; and
(3) To provide sufficient technical analysis of the environmental effects of a project to permit a judgment based on the record as a whole, that the environmental effects of a project have been adequately mitigated.

Negative Declaration or Mitigated Negative Declaration. Section 15070 of the CEQA Guidelines states that a public agency shall prepare a negative declaration (ND) or MND for a project subject to CEQA when:

(a) The IS shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment; or
(b) The IS identifies potentially significant effects but:
    1. Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed MND and IS are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and
    2. There is no substantial evidence, in light of the whole record before the agency, that the project as revised many have a significant effect on the environment.

An IS/MND may be used to satisfy the requirements of CEQA when a proposed project would have no significant unmitigable effects on the environment. As discussed further in subsequent sections of this document, implementation of the proposed project would not result in significant effects on the environment that cannot be reduced to below a level of significance with the mitigation measures included herein.



Sources: ESRI Streetmap, 2019

AGOURA HILLS RECREATION CENTER TRAIL - INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

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Regional Map

0 0.15 0.3 Miles

FIGURE 1-1

IMPACT ANALYSIS AND SIGNIFICANCE CLASSIFICATION

The following sections of this IS/MND provide discussions of the possible environmental effects of the proposed project for specific issue areas that are identified in Appendix G, Environmental Checklist of the CEQA Guidelines. For each issue area, potential effects are discussed and evaluated. A "significant effect" is defined by Section 15382 of the CEQA Guidelines as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by a project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." According to the CEQA Statute and Guidelines "an economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant." After the evaluation of each environmental effect determined to be potentially significant, mitigation measures are provided to reduce the impact to a level that is less than significant.

2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND AND PURPOSE

In October 2008, the City released the Agoura Hills Citywide Trails & Pathways Master Plan (CTPMP), to provide a pedestrian, bicycle, and equestrian system that links homes, schools, businesses, parks, and natural resources to each other. The CTPMP includes general trail locations but acknowledges that precise alignments would be developed on a case-by-case basis. The three types of trails considered for the City in the CTPMP include neighborhood trails and pathways, open space trails, and equestrian bridle paths. As described in the CTPMP and shown in Exhibit A, Trails Map, of the CTPMP, ultimately, a trail is planned that would traverse the length of Ladyface Mountain, having connections with Agoura Road to the north, Kanan Road to the east, and with the Santa Monica Mountains National Recreation Area trail network to the west and south, as also envisioned by the City's General Plan (**Figure 2-1, City Trail Network**).[1] The City's goal is to provide numerous short loop trails that can be accessed from Agoura Road and provide opportunities for either short hikes that could be taken during a lunch hour, or longer weekend hikes. The project would provide for the construction of three open space trails beginning at the Agoura Hills Recreation and Event Center (Event Center): a loop trail, a connected overlook trail, and a stand-alone overlook trail.

In May 2015, on behalf of the City, Questa Engineering Corp. in association with Rincon Consultants, Inc. prepared the Trail Study for the Agoura Hills Recreation Center Trailhead (Trail Study), provided in **Appendix A**.[2] The Trail Study documented the existing conditions at the time; analyzed site opportunities and constraints; provided preliminary design recommendations for width, tread, and slope; and provided input on potential trail alignments for a trail that would extend into the open space located south of the Event Center. The Trail Study includes information regarding hydrological, topographical, and geological features that may affect the proposed project, as well as biological and cultural resources that are or may potentially be located in the vicinity of the trail.

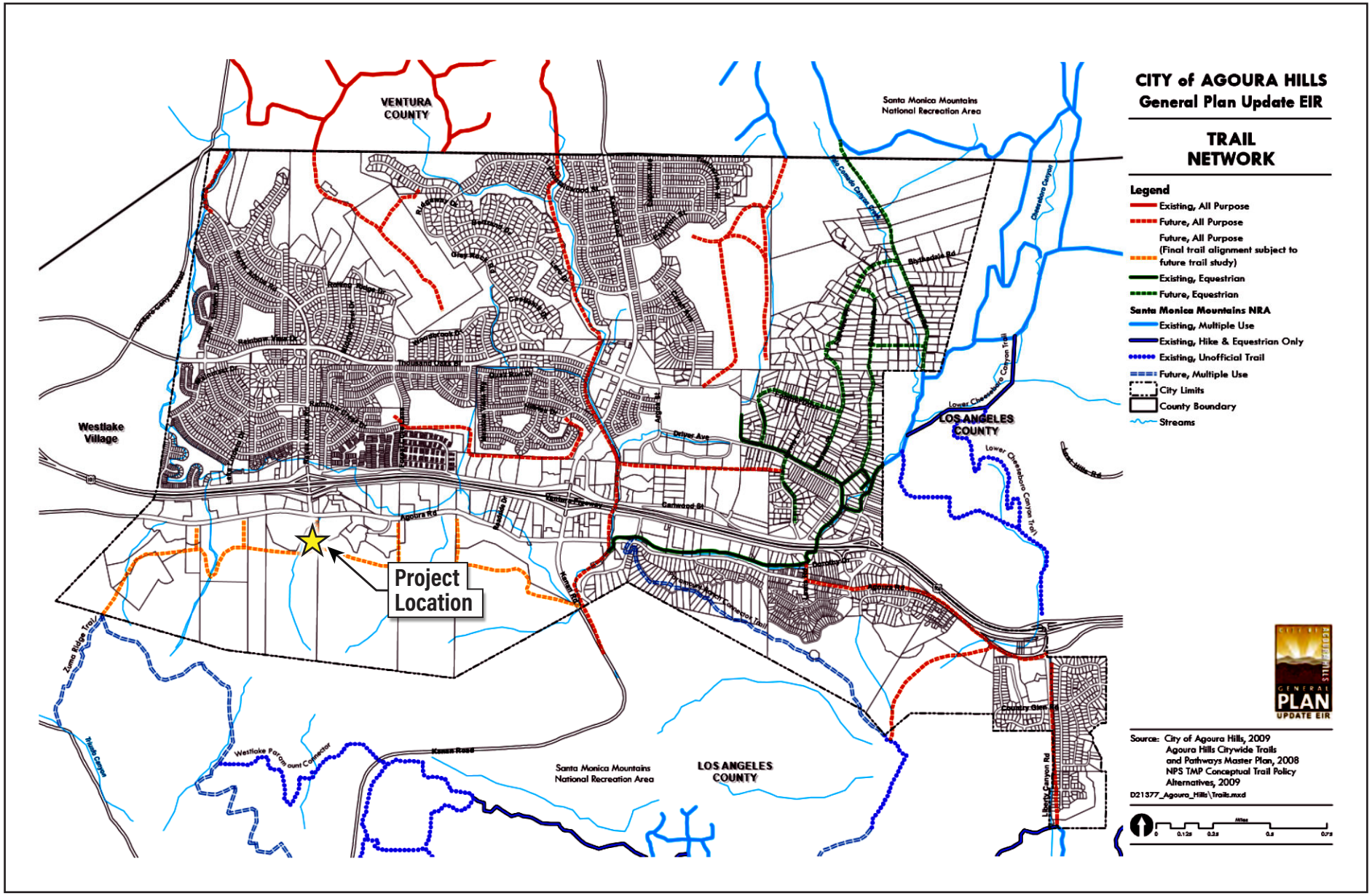
Where applicable, the Trail Study is utilized in the forthcoming analysis; however, the trail alignment first proposed in the Study has since changed. In October 2015, the City requested that Envicom Corporation, (Envicom) update and provide supplemental analyses to the Trail Study. The new analysis changed the trail alignment, and the trail construction method was revised such that the ground disturbance necessary to create the two-foot-wide trail would be minimal. Access to one of these proposed trails was not granted by the property owner so the trail alignment was revised an additional time to provide a loop within an area that had already been surveyed and assessed. The loop trail would be constructed over a period of approximately 16 days by a crew of 12 utilizing hand tools, which avoids the need for retaining walls originally proposed in the Trail Study. The two overlook trails would be projected to take a similar amount of time to be constructed using the same methods and a similarly-sized crew.

2.2 PROPOSED PROJECT

Project Site and Surrounding Area

The City is located in the eastern Conejo Valley, between the Simi Hills and the Santa Monica Mountains. The City encompasses just under seven square miles (approximately 4,366 acres) and is characterized by rolling hills and a blend of semi-rural and suburban development. The project, shown in **Figure 2-2, Proposed Trails,** is composed of a loop trail and two overlook trails. One overlook trail extends from the loop trail, the other is a stand-alone trail that begins south of the Event Center. The trails are also depicted

[1] City of Agoura Hills, General Plan Update, Figure CS-3 Trail Network, March 2010.
[2] Questa Engineering Corp, Trail Study for the Agoura Hills Recreation Center Trailhead, May 2015.



Data Source: City of Agoura Hills General Plan Update EIR, Figure 4.12-1 (PBSJ)

City Trail Network

FIGURE 2-1

Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2020.

envicom

Proposed Trails

FEET 0 87.5 175

FIGURE 2-2

in more detail in the plan set attached as **Appendix B.** The trails will be constructed in phases with the loop trail constructed in the first phase, and the overlook trails constructed later in one or two additional phases. The trails pass through land mainly located on County of Los Angeles Assessor's Parcel Numbers (APNs) 2061-002-905, which is under the ownership of the Mountains Recreation Conservation Authority (MRCA). The trails would also travel through a small portion of APN 2061-002-908, which is also owned by the MRCA, and a small portion of land at the trail terminus (APN 2061-005-915), which is owned by the City (the site of the Agoura Hills Recreation and Event Center). The project site is located in western Los Angeles County, within Township 1 North, Range 18 West of the U.S. Geographical Survey (USGS) Thousand Oaks 7.5-minute topographic quadrangle. To the north of the project site lies the Agoura Hills Recreation and Event Center, City Hall, and Agoura Hills Library, Joni and Friends International Disability Center, Interthinx, and Sheraton Hotel, in addition to Agoura Road, a business park, and the 101 Freeway. Undeveloped open space lies to the south, east, and west.

The City straddles the 101 Freeway approximately 36 miles west of downtown Los Angeles. The nearest main road in the project vicinity is Agoura Road, which runs parallel to the 101 Freeway at an elevation of approximately 885 feet. The project site lies south of Agoura Road near the intersection with Reyes Adobe Road. Access to the loop trail will be available from the western end of the Recreation and Event Center parking lot; access to the stand-alone overlook trail will be available from the eastern end of the lot.

Project Components

The project proposes to create one loop trail and two overlook trails. The loop trail and the overlook trail attached to it will be accessed from the southern end of the Event Center parking lot on a paved access road under the jurisdiction of the Los Angeles County Flood Control District (LACFCD) which extends into the open space south of the Event Center. The easternmost overlook trail will be accessed from the eastern end of the Event Center parking lot from another LACFCD access point. Ladyface Mountain is adjacent to the Event Center and the trails all travel up the southern slope of the lowest ridgeline of the mountain.

The loop trail begins at the end of the western LACFCD access road and travels about halfway up the slope where it splits into two, heading east and west with both trails forming a loop by joining again further up the slope. The length of the trail from the trailhead to where the trail splits is approximately 1,040 feet, the loop portion is approximately 1,339 feet long, making the entire loop trail approximately 2,379 feet or 0.45 mile. The complete loop trail hike therefore would be approximately 3,419 feet or 0.65 mile. The western end of the loop trail crosses over an ephemeral stream bed that does not host riparian vegetation. The overlook trail that extends from the loop trail is approximately 718 feet long, or 0.14 mile. The eastern overlook trail begins from the eastern end of the Event Center parking lot where another LACFCD paved access road extends into the open space. At the end of the access road the dirt trail begins and travels up the mountain, with a total length, including the access road, of approximately 1,214 feet (0.23 mi). In total, the three trails would amount to approximately 0.82 mile of trails.

Construction of the trails will be phased. The loop trail will be constructed immediately after entitlement. The overlook extension trail and the stand-alone overlook trail will be constructed later. These trails may be constructed at the same time or in two different phases depending on project funding. In each case the precise trail alignments, though they are expected to be essentially the same as depicted on the graphic, will be determined prior to and during the construction process to avoid any potential impacts, as detailed further in Sections IV and V of this IS/MND.

The Agoura Hills Recreation Center and Event Center parking lot is comprised of 114 parking spaces. Although the land use is not covered by the Agoura Hills Municipal Code, the Institute of Traffic Engineers' (ITE) *Parking Generation Manual* estimates that suburban community centers generate a parking demand

of 3.83 spaces per 1,000 square feet. The Agoura Hills Recreation Center and Event Center is 25,330 square feet and would generate a parking demand of 97 spaces. Therefore, there is a parking surplus of 17 spaces. The parking demand for the Agoura Hills Recreation Trail is expected to be less than 17 spaces and therefore could be accommodated by the existing parking surplus.[3] The trail would be open to the general public but would primarily provide a nearby recreational opportunity for residents of the City. The project aligns with one of the goals of the City's General Plan in that it would create an opportunity for its citizens to engage in their community through recreation.[4]

Adhering to signage criteria in the CTPMP, the City would install clear and informative signage regarding the trail, including a map of the trail, potential hazards (such as fire danger and wildlife), emergency information, trail conditions and difficulty, and hours of use. Trash receptacles would also be placed at the trail entry and exit points. There will be no new structures built at any point along the trail.

Applicable Land Use and Zoning Designations

The current General Plan land use designation for the project site is Planned Development District (PD). The City's Zoning Ordinance classifies the project site as within a PD. The PD category applies to areas in which a specific plan or other regulatory document is required to guide development of the area. In the case of the project the site is located within the Ladyface Mountain Specific Plan (Specific Plan) zone. The General Plan generally defers development standards and regulations to the applicable specific plan. Thus, the proposed project is subject to the provisions of the Specific Plan.

The Ladyface Mountain Specific Plan area contains approximately 747 acres south of Agoura Road and west of Kanan Road, whereby roughly 225 acres are considered to be developable, and the remaining area is mountainous hillside to be maintained as open space. The land use plan for the developable area consists of a mix of retail commercial, and business park uses fronting on Agoura Road.[5] City Planning staff prepared an addendum to the 1991 Final EIR for the Ladyface Specific Plan and submitted a request for a recommendation of approval to the City Council to amend the Ladyface Specific Plan to incorporate a new hiking trail plan, and to add supplemental land use requirements, including standards for landscaping and fuel modification, oak tree preservation, development regulations, and development application submittals in 2010.

Within the Ladyface Mountain Specific Plan, areas which are located at or above the 1,100-foot elevation, or areas that contain major rock outcroppings and natural canyons, are designated Open Space. These areas are subject to the provisions of the Open Space (OS) District, Chapter 4, and Part 8 of the City Zoning Code. According to the Specific Plan, the purpose of this subarea is to designate areas that, because of natural habitat, aesthetic value, or other reasons, should be preserved as natural open space. No uses are permitted by right in this district; however, subject to a Conditional Use Permit, certain uses that are sensitive to open space may be permitted, such as one single family dwelling per lot, at a maximum density of one dwelling unit per 5-acre lot; light agricultural uses; parks and trails; wildlife preserves; and public or private recreational uses that have a reasonable relationship to open space. The project would therefore be consistent with this standard.

[3] City of Agoura Hills, City Recreation Center Project Final IS/MND, May 2013.
[4] City of Agoura Hills, City of Agoura Hills General Plan 2035 EIR, Page 1-4, May 2015.
[5] City of Agoura Hills. Agoura Hills, Final Ladyface Mountain Specific Plan, September 1991.

2.3 REQUIRED APPROVALS

Discretionary approvals and permits that the City may need to acquire for the project include:

- A Conditional Use Permit (CUP) for work within the Open Space area of the Ladyface Mountain Specific Plan;
- Site Plan Review;
- An Oak Tree Permit;
- California Department of Fish and Game (CDFW) Section 2081 Consultation for impacts to species protected under the California Endangered Species Act, if applicable;
- U.S. Fish and Wildlife Service (USFWS) Section 10 Consultation, for impacts to federally protected species, if applicable.

A Building/Grading Permit would also be obtained for trail construction. Right of Way (ROW) agreements for the project have been received from the MRCA and the LACFCD.

3.0 ENVIRONMENTAL CHECKLIST FORM AND EVALUATION

1. **Project title:**
   Agoura Hills Recreation Center Trail

2. **Lead agency name and address:**

   City of Agoura Hills
   Planning Department
   30001 Ladyface Court
   Agoura Hills, California 91301-2583

3. **Lead agency contact person and phone number:**
   Areli Perez, Associate Planner, (818) 597-7328

4. **Project location:**
   South and west of 29900 Ladyface Court, which lies south of Agoura Road between Reyes Adobe Road to the west and Kanan Road to the east.

5. **Project sponsor's name and address:**

   City of Agoura Hills
   30001 Ladyface Court
   Agoura Hills, California 91301-2583

6. **General Plan designation:**
   Planned Development (Ladyface Mountain Specific Plan)

7. **Zoning:**
   Planned Development District (Ladyface Mountain Specific Plan)

8. **Description of project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   The project is the development of approximately 0.82 mile of trails, consisting of a 0.45-mile loop trail, a 0.14-mile attached overlook trail, and a separate 0.23-mile overlook trail, all extending into the open space located west and south of the Agoura Hills Recreation and Event Center. The loop trail begins at the west end of the Event Center parking lot on a LACFCD access road and travels into the open space forming a loop on the lowest slope of Ladyface Mountain. An attached overlook trail extends 0.14 mile from the east end of the loop. The eastern overlook trail begins from the eastern end of the Event Center parking lot at another LACFCD paved access road and extends west into the open space and south up the mountain. The project will be constructed in phases with the loop trail comprising the first phase and the overlook trails to be constructed after in one or two additional phases. The loop trail would be constructed by hand by a crew of 12 over a period of approximately 16 days and the overlook trails would be constructed within similar parameters in the future as funding allows.

9. Surrounding land uses and setting (briefly describe the project's surroundings):

To the north and west of the project site lies the Agoura Hills Recreation and Event Center, City Hall, and Library, Joni and Friends International Disability Center, Interthinx, and Sheraton Hotel, in addition to Agoura Road, a business park, and the 101 Freeway. Undeveloped open space lies to the south, east, and west.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

- A Conditional Use Permit (CUP) for trail development in the Open Space area of the Ladyface Mountain Specific Plan;
- An Oak Tree Permit (OTP);
- California Department of Fish and Game (CDFW) Section 2081 Consultation for impacts to species protected under the California Endangered Species Act, if applicable;
- U.S. Fish and Wildlife Service (USFWS) Section 10 Consultation, for impacts to Federally protected species, if applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics (I)	☐ Air Quality (II)	☒ Biological Resources (III)
☒ Cultural Resources (IV)	☐ Energy (V)	☐ Geology/Soils (VI)
☐ Greenhouse Gas Emissions (VII)	☐ Hazards & Hazardous Materials (VIII)	☐ Hydrology/Water Quality (IX)
☐ Land Use/Planning (X)	☐ Mineral Resources (XI)	☐ Noise (XII)
☐ Population/Housing (XIII)	☐ Public Services (XIV)	☐ Recreation (XV)
☐ Transportation/Traffic (XVI)	☒ Tribal Cultural Resources (XVII)	☐ Utilities/Service Systems (XVIII)
☐ Wildfire (IX)	☐ Mandatory Findings of Significance (XX)	

DETERMINATION: (To be completed by the lead agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, an EIR Addendum will be prepared.

Signature: _____ Date: _____

Name: Areli Perez
Title: Associate Planner

4.0 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:				
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a state designated scenic highway?	☐	☐	☐	☒
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Impact Analysis

The proposed project site is located within the Ladyface Mountain Specific Plan area, and one of the primary purposes of the Specific Plan is to "ensure that all development at the base of Ladyface Mountain is compatible with the unique nature of this natural asset to the community." The Specific Plan identifies a goal to minimize any disturbance of dominant viewshed areas. According to the Specific Plan, the Ladyface Mountain Design Overlay District and the Hillside Grading Regulations assure that development would avoid view impacts to the view of Ladyface Mountain from the Ventura (101) Freeway by maintaining the following standards:

- Limit development (as measured to top of building) to below 1,100 feet elevation;
- Limit building heights to below the line-of-sight between viewer and ridgeline (as viewed from the Ventura Freeway);
- Use materials and colors compatible with the surrounding natural environment;
- Provide adequate setbacks for structures, maintaining views of Ladyface Mountain;
- Provide quality design and aesthetic character; and
- Preserve natural terrain and scenic viewshed.

The Specific Plan sets forth grading design guidelines in Chapter II.E.5 to assure compatibility with the natural contours and landforms of the mountain and development design guidelines (Chapter III) to ensure that development of the Ladyface Mountain area occurs in a well-coordinated, environmentally sensitive and aesthetically pleasing manner.

a. Less Than Significant Impact. A significant impact may occur if the proposed project introduces incompatible visual elements within a field of view containing a scenic vista or substantially blocks views of a scenic vista. Scenic vistas may be described in two ways: panoramic views (visual access to a large geographic area, for which the field of view can be wide and extend into the distance) and focal views (visual access to a particular object, scene, or feature of interest). Pursuant to the viewshed standards of the Specific Plan, development that includes inadequate setbacks for structures that do not maintain views of Ladyface Mountain, and/or that does not preserve natural terrain and the scenic viewshed, would result in significant view (or "scenic vista") impacts.

As described by the Specific Plan, portions of Ladyface Mountain are visible from locations along Agoura Road, as well as Canwood Street, Reyes Adobe Park, Forest Cove Park, and Morrison Ranch Estates, as well as along the 101 Freeway. Views of portions of the project site specifically, with Ladyface Mountain in the background (to the south), are intermittently available from points along Agoura Road, the 101 Freeway, Reyes Adobe Park, and Forest Cove Park. Although construction of portions of the proposed trails would occur above the 1,100-foot elevation, the trails would not obstruct the Ladyface Mountain scenic vista. Trail construction would involve minimal vegetation clearance and ground preparation by hand tools. The two-foot wide trails would have a minimal footprint and involve no structures. Signage would be designed for trail users to read at a relatively near-distance and thus not large enough to be read from afar and would not obstruct views of Ladyface Mountain from the surrounding area. Therefore, the project proposes no development that would obstruct panoramic views of the overall scenic vista or focal views of specific mountain features. The project would result in a less than significant scenic vista impact.

b. No Impact. A significant impact may occur if scenic resources within a State-designated scenic highway would be damaged and/or removed by the development of a project. In the project area, the 101 Freeway is considered an eligible scenic highway, as it has not received an official scenic highway designation from Caltrans.[6] The status of a proposed scenic highway changes from eligible to officially designated when the local governing body applies to the California Department of Transportation (Caltrans) for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated as a Scenic Highway.[7] The Los Angeles County General Plan similarly designates the 101 Freeway in the project area as an eligible scenic highway. As there are no State-designated scenic highways in the vicinity of the project site, the project would result in no impact regarding damage to scenic resources within a State-designated scenic highway. Further, the two-foot wide trails would have a minimal footprint, with minimal signage designed for trail users, and would not result in a substantial change to the views of the site as seen from the 101 Freeway.

c. Less Than Significant Impact. A significant impact would occur if in non-urbanized areas, the proposed project would substantially degrade the existing visual character or quality of public views of the site and its surroundings. For purposes of this analysis and based on the Specific Plan viewshed standards, significant visual character and quality impacts are those that would result in:

- Development (as measured to the top of the building) above the 1,100-ft. elevation;
- Buildings within the line-of-sight between viewer and ridgeline, as viewed from the Ventura (101) Freeway;
- The use of materials and colors that are incompatible with the surrounding natural environment;
- Inadequate setbacks for structures that do not maintain views of Ladyface Mountain;

[6] Caltrans. California State Scenic Highway System Map, accessed September 21, 2024 at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

[7] Caltrans, Scenic Highway Guidelines, October 2008.

- The use of poor quality design and aesthetic character; and/or
- Development that does not preserve natural terrain and scenic viewshed.

As previously described, the project would not introduce new structures to the project site. The trails would be constructed by personnel utilizing hand tools; therefore, vegetation clearance and ground alteration would be minimal. The trail alignments may be visible from certain vantage points. However, they will be constructed in the natural existing surficial earth material. Therefore, development of the proposed project would not substantially degrade the existing visual character to the scenic mountainside area and the project would result in a less than significant impact with regard to visual character of public views.

d. No Impact. A significant impact would occur if the project introduces new sources of light on, or glare from, the project site that would be incompatible with the surrounding areas, or that pose a safety hazard to motorists on adjacent streets or freeways. The proposed trails would be developed using only the natural materials occurring in situ. No illumination of the trails is proposed, and no materials that would generate glare would be utilized to construct the trails. According to the CTPMP, evening trail use (after sunset) is restricted on trails managed by the City, and trail signage will indicate this restriction. Therefore, no new sources of lighting or glare would be introduced to the site, and the project would result in no light or glare impacts.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Impact Analysis

a-e. No Impact. The project site is located in in an area that is currently zoned for Planned Development within the Ladyface Mountain Specific Plan area. The subject property is located in an area identified as "urban and built-up land" on the Los Angeles County Important Farmland 2016 map prepared by the California Department of Conservation[8] for the Farmland Mapping and Monitoring Program. The site is not used for agricultural purposes. The project site is not enrolled in an existing Williamson Act Contract.[9] The site is not mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and not located within a national forest or on forest land. As such, the project would have no impact on agricultural or forestry resources.

Mitigation Measures

No mitigation measures are required.

[8] California Department of Conservation, California Important Farmland Finder, accessed September 21, 2023 at: https://maps.conservation.ca.gov/DLRP/CIFF/.

[9] California Department of Conservation, Division of Land Resource Protection, State of California Williamson Act Contract Land.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

Impact Analysis

Certain air pollutants have been recognized to cause notable health problems and damage to the environment either directly or in reaction with other pollutants and are regulated at the national and state levels. The Clean Air Act (CAA) is the federal law that regulates air emissions in order to protect public health. Implementation and enforcement of the CAA is the purview of the US Environmental Protection Agency (USEPA). To accomplish this the USEPA has established the National Ambient Air Quality Standards (NAAQS) which sets pollutant concentration levels considered safe, with an adequate margin of safety, to protect the public health and welfare of "sensitive receptors," which include the elderly, young children, the acutely and chronically ill (e.g., those with cardio-respiratory disease, including asthma), and persons engaged in strenuous work or exercise. The USEPA identifies areas in the country as either in attainment, nonattainment, or maintenance of the standards. States with areas in nonattainment, meaning they do not meet the NAAQS, must create a State Implementation Plan (SIP) for each criteria pollutant in nonattainment. The SIP includes pollution control measures that demonstrate how the standards for those pollutants will be met within a certain time period. California has its own California CAA and Air Quality Standards (CAAQS), some of which are more stringent than the NAAQS.

California is divided geographically into 15 air basins that have similar meteorological and geographic conditions for the purpose of managing air resources on a regional basis. The state is also divided into 35 administrative air districts for the purpose of implementing the SIP. Each district represents a local air quality regulatory agency responsible for regional air quality planning, monitoring, and stationary source and facility permitting. The City of Agoura Hills is located within the South Coast Air Basin (air basin) and the local air quality agency is the South Coast Air Quality Management District (SCAQMD). The air basin is bounded by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and San Diego County to the south. The SCAQMD regulates the South Coast Air Basin and parts of two neighboring basins to the east. The six principal pollutants for which national and state standards have been promulgated, the “criteria pollutants,” are ozone (O3), respirable and fine particulate matter (PM10 and PM2.5, respectively), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead (Pb). The air basin is in nonattainment for O3 and PM-2.5, and Los Angeles County (outside of the Antelope Valley) is considered in nonattainment for Pb, though this is specifically related only to point sources located in Vernon and the City of Industry. The SCAQMD’s Air Quality Management Plan (AQMP) is the air quality regulatory document designed to bring the district into NAAQS and CAAQS

attainment and fulfill the obligations of the SIP. The AQMP is developed in collaboration with the Southern California Association of Governments (SCAG) which is responsible for preparing the portion of the SIP that addresses transportation control measures, land use, and growth projections within nonattainment areas. The AQMP is based upon the demographic, population, and motor vehicle emission projections SCAG produces for their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

a. Less Than Significant Impact. A project may have a significant air quality impact if it would obstruct or conflict with the applicable AQMP). The 2022 AQMP is the air quality plan applicable to the project site. A project's consistency with the AQMP is primarily based upon its consistency with air quality significance thresholds established by the SCAQMD, which are discussed in threshold b, below. However, as the pollution control measures of the AQMP are based upon the growth estimates and land use assumptions from the SCAG 2020-2045 RTP/SCS, a project that resulted in a significant population increase beyond the projections of the RTP/SCS, or that significantly conflicted with its land use assumptions, would conflict with it and by extension the AQMP.

The proposed project would construct three trails in the open space of the Specific Plan area. As discussed in Section XIII, Population and Housing, the project would not generate growth; therefore, it would not conflict with the growth and land use assumptions of the 2020-2045 RTP/SCS and by extension would not conflict with the AQMP. Impacts would be less than significant

b. Less Than Significant Impact. A project may have a significant impact if the project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. SCAQMD provides significance thresholds for emissions of criteria pollutants, including: reactive organic gases (ROG), nitric oxides (NOx), CO, sulfur oxides (SOx), and particulate matter (PM-10 and PM-2.5)[10]. Projects in the SCAQMD with daily emissions that exceed any of the following emission thresholds shown in **Table III-1, SCAQMD Daily Maximum Emissions Thresholds**, may be considered significant under CEQA guidelines.

Table III-1
SCAQMD Daily Maximum Emissions Thresholds

Pollutant	Construction (lbs./day)	Operations (lbs./day)
ROG	75	55
NO_X	100	55
CO	550	550
SO_X	150	150
PM-10	150	150
PM-2.5	55	55
Source: South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, Revision March 2023.		

Construction Emissions

Although the project is phased this analysis assumes a "worst-case" scenario where all of the trails would be constructed at once. The project's construction activities would include vegetation clearance to create the 0.82 mile of trails. The demolition of existing structures is not required nor is grading or the import or export of soil. The trails would be constructed by personnel utilizing hand tools, and weed trimmers would be the only fossil-fuel tools that may be employed. Therefore, pollutant emissions from construction

[10] PM-10 and PM 2.5 refer to particulate matter of less than 10 microns and less than 2.5 microns, respectively.

vehicles and large pieces of equipment that use gasoline or diesel fuel would not be involved in trail construction. It is anticipated that all of the trails could be constructed by a crew of 12 individuals working for approximately six weeks. Pollutant emissions would only be produced by worker vehicles and potentially hand-held gas powered trimmers or similar (primarily CO), and ground disturbance during trail building (PM-10 and PM-2.5). The SCAQMD construction emissions thresholds are designed to accommodate a wide range of construction activity and generally only a very large construction project engaging in extensive grading and soil import or export might violate a threshold. Given the nature of project construction it is not possible for the project to exceed any one of the daily construction emissions thresholds. Therefore, impacts would be less than significant.

Operational Emissions

Emissions generated during operations would be related to occasional trail maintenance activities which would be conducted utilizing hand tools that may include gas-powered weed trimmers for annual weed clearance. Small amounts of dust would be generated from this activity, hikers would generate even smaller amounts of dust, and visitor vehicle trips would generate mobile emissions. The project is being developed as part of the larger local trail network and is planned to provide a small local recreational option. It would not be expected to draw in numerous people from far outside of the City. Therefore, the amount of trips generated by the trails would likely be quite minimal, and the trips would likely be in lieu of other destinations. That is, the trails are unlikely to be a destination that generates new trips, the way a new municipal swimming pool might, for example. The project therefore would generate a very minimal amount of emissions that could not approach exceeding an SCAQMD operational threshold. Therefore, impacts would be less than significant.

c. Less Than Significant Impact. A project may have a significant impact if it generates pollutant concentrations to a degree that would significantly affect sensitive receptors. Sensitive receptors are populations that are generally more susceptible to the effects of air pollution than the population at large. Land uses considered sensitive receptors include residences, long-term care facilities, schools, playgrounds, parks, hospitals, and outdoor athletic facilities. There are no sensitive receptors in close proximity to the project and construction and operational emissions will be very minimal. Therefore, construction and operational impacts will be less than significant.

d. No Impact. Objectionable odor impacts are typically associated with projects that involve uses such as industrial processes, wastewater treatment, waste handling, or waste disposal (landfills). The proposed trails would not entail such processes. Furthermore, immediately adjacent land uses to the project site do not include residences or other uses that would be considered to be sensitive receptors for odors. As such, the project would result in no impact related to odors.

Mitigation Measures

No mitigation measures are required.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) Through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☒

Impact Analysis

This analysis incorporates relevant information from the Biological Constraints Analysis for the Agoura Hills Recreation Trail Project (Rincon Consultants, Inc., 2014) and the 2014 Rare Plant Survey Results for the Agoura Hills Recreation Trail Project (Rincon Consultants, Inc., 2014), which are appendices to the Trail Study - Agoura Hills Recreation Center Trailhead, dated May 15, 2015, attached as Appendix A. This section also incorporates information taken from jurisdiction delineation and rare plant surveys conducted by Envicom in 2016 and 2018, which included the original trail alignment. A proposed western connector trail was surveyed by Envicom between April and June 2023 and this study is attached as **Appendix C.** This "Western Connector" trail will not be part of the project but the west end of the loop will travel through areas that were surveyed for that study.

These surveys and reports and the impact analysis below document the vegetation, physiographic features, vertebrate species, invertebrate species, and a delineation of aquatic features that meet the physical criteria and regulatory definitions of "Waters of the United States" (WOUS) and "Waters of the State of California" (WOS), and associated riparian habitat that may be subject to regulation by the California Department of Fish and Wildlife (CDFW) under California Fish and Game Code section 1600 et seq., the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act (CWA), and U.S. Army Corps of Engineers (ACOE) under Section 404 of the CWA.

Existing Site Conditions

The project site is situated within the lower elevation inland foothills of the Santa Monica Mountains, at elevations ranging from approximately 1,000 to 1,300 feet above mean sea level. The soils in the project area are formed predominantly from colluviums and/or residuum weathered from andesite. The Project area soils include Cotharin clay loam (30 to 75 percent slopes) and Urban land Cropley, fill complex (0 to 8 percent slopes, Commercial). Neither soil is listed as hydric, according to the USDA National Resource Conservation Service (NRCS). The project area is dominated by three subunits (Tcvb, Tcvad, Tcvar) of the Conejo Volcanics Extrusive Rocks Formation. The Conejo Volcanics Formation is a submarine and subaerial volcanic extrusive and other related intrusive rocks of middle Miocene age (16.1 to 13. 1 million years old). The subunits present within the project area from north to south include:

- Tcvb – basaltic flows and breccias, black to dark gray in color, weathering to dark olive- brown. The deposits are fine grained with massive to vaguely identifiable bedding, incoherent and crumbly where weathered and weakly resistant to erosion. Within this subunit are a few thin lenses of up to a few meters thick of dark gray basaltic sandstone and siltstone.
- Tcvad – andesite-dacite breccias, light colored (light pinkish to light brown), composed of moderately to poorly sorted, cobble to boulder size angular fragments of light colored, very fine-grained feldspathic andesite-dacite in a semi-coherent, detrital of similar matrix materials.
- Tcvar – andesitic flow breccias, exposed only on the north slope of Ladyface Ridge brown, reddish to grey in color composed of unsorted angular fragments of commonly vesicular, sub-porphyritic andesitic rocks in semi-coherent brown to reddish, fragmented pyroclastic andesitic matrix.

Vegetation

The project site was extensively burned during the Woolsey Fire of November 2018. Naturally vegetated areas mapped and described by the previous reporting efforts were burned in the Woolsey Fire. Nevertheless, the plant communities on site prior to the fire are assumed to return in the biological assessments, though the composition and coverage may be slightly different from that previously documented.

The project site includes multiple habitat types, which were originally mapped at the alliance-level and refined with observations in the field by Rincon Consultants, Inc. The area between Kanan Road and the western boundary of the City is mapped as chaparral in the City General Plan. The six vegetation communities or land cover types that were observed by Rincon Consultants, Inc. include: California Chaparral, Coastal Sage Scrub, Native and Non-Native Grassland, Landscaped Land, Bare Ground, and Paved Surfaces. Although identified for a previous trail alignment, these habitat types remain applicable to the currently proposed trail alignment, based on the subsequent field observations by Envicom.

Jurisdictional Drainages

The westernmost portion of the loop trail crosses over one small ephemeral stream that contains no riparian habitat and is assumed to be under the regulatory jurisdiction of the ACOE, RWQCB, and CDFW as WOUS, and WOS. If jurisdictional the stream would be subject to ACOE, RWQCB, and CDFW

jurisdiction under the Clean Water Act, the Porter-Cologne Water Quality Control Act, and California Fish and Game Code Section 1600.

Wildlife

Wildlife observed during the 2014 survey includes common species such as western scrub-jays (*Aphelocoma californica),* Anna's hummingbirds (*Calypte anna),* yellow-rumped warbler (*Dendroica 22ymose2222), and* California towhees (*Pipilo crissalis)* were observed , and three woodrat (*Neotoma* sp.) nests which would not remain present due to the Woolsey Fire.[11] The 2016-2018 Envicom surveys included observation of the Coastal Western Whiptail (*Aspidoscelis tigris* ssp*. Stejnegeri)* which is a sensitive species, though commonly observed.

Sensitive Species

A CNDDB records search conducted by Envicom in March 2019 provided records for 36 sensitive plant species and 33 sensitive wildlife species within the Thousand Oaks Topographic Quadrangle that includes the project area and the eight surrounding adjacent Topographic Quadrangles. This Potential for Occurrence table is attached as **Appendix D**. Sensitive plant and wildlife species typically have very specific habitat requirements and the majority of these species are not expected to occur in the project area or within the surrounding area. The results of the 2016-2018 and 2023 surveys are shown in **Figure 4-1, Trail Surveys-Sensitive/Rare Plants and Communities.**

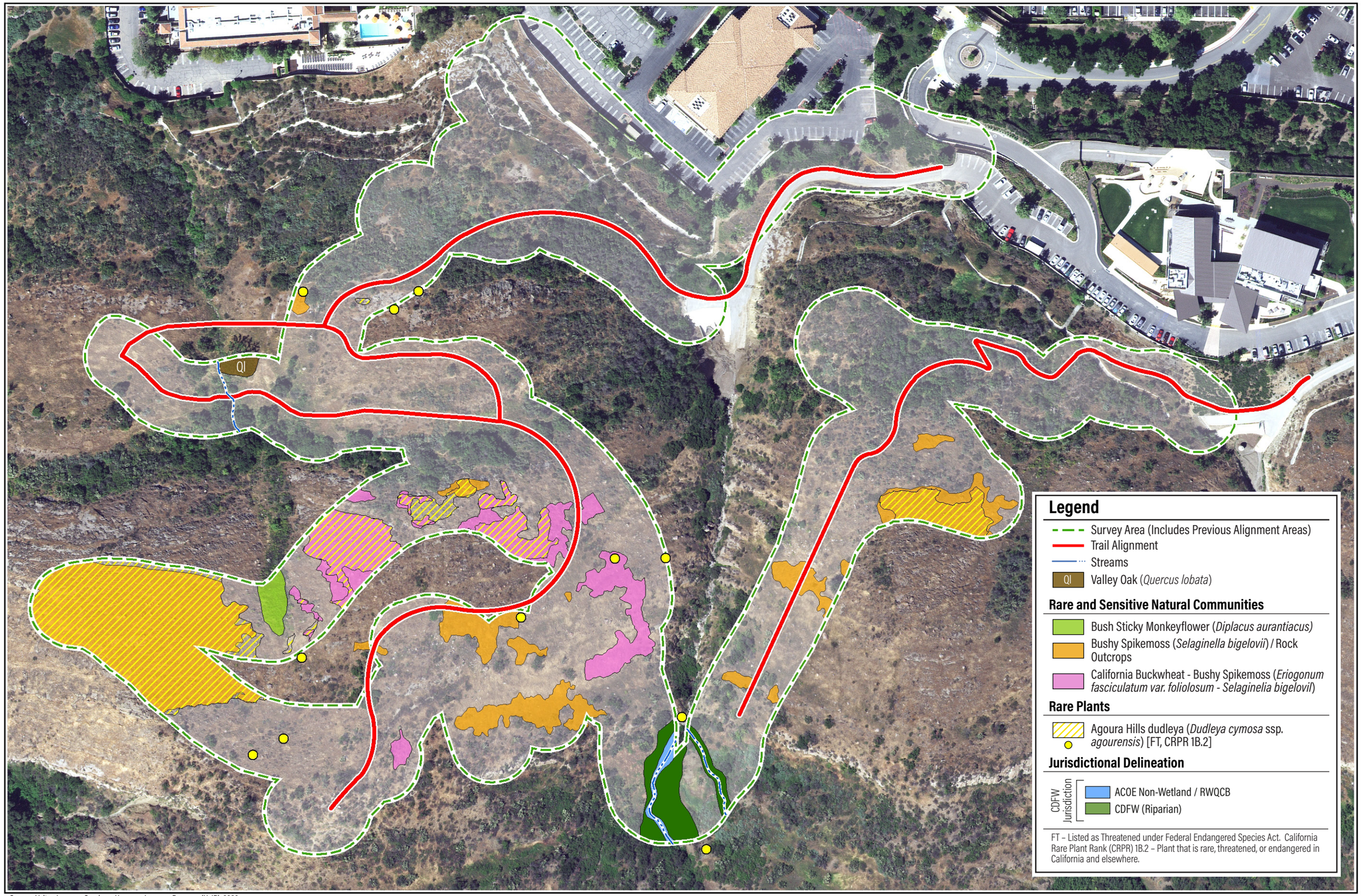
Sensitive Plant Species

Of the thirty-six special status plant species recorded in the Thousand Oaks Topographic Quadrangle and the surrounding quadrangles, four species were confirmed present, nine species have the potential to be present on site; and twenty-four species are presumed absent or absent on site. Special status plant species confirmed present or have the potential to be present within or adjacent to the project area are described in more detail below.[12]

- Slender mariposa lily (*Calochortus clavatus* var. *gracilis).* Slender mariposa lily is a perennial bulbiferous herb that commonly blooms March through June. This species is found in chaparral and coastal scrub between 1,380 and 2,495 feet. It prefers shaded foothill canyons and is also often seen on grassy slopes within other habitats. Slender mariposa lily has a high potential to occur on-site. Suitable habitat is present, and two mariposa lily individuals were observed during the 2014 Rincon Consultants, Inc. survey. However, the 2016 and 2018 Envicom surveys identified *Calochortus clavatus* var. *pallidus*, which is endemic to southern and central California and is not considered sensitive or rare.
- Santa Susana tarplant (*Deinandra [Hemizonia] minthornii).* Santa Susana tarplant is a perennial deciduous shrub that commonly blooms July through November. This species is found in chaparral and coastal scrub between 1,920 to 2,495 feet. It prefers sandstone outcrops and crevices, mainly in shrubland. Santa Susana tarplant has a moderate potential to occur on-site. While the plant was potentially observed during the 2014 Rincon Consultants, Inc. survey south of the loop trail and outside of the project area, the inflorescence is needed for definitive identification. Suitable habitat for the species occurs outside of the project area and is not present within the current proposed

[11] Ibid.

[12] Ojai Navarretia (*Navarretia ojaiensis*) was identified in the 2016-2018 surveys, which is a rare plant. It has since been determined that plants previously identified as *ojaiensis* in the Santa Monica Mountains are actually *Navarretia mitracarpa*, which is not a special-status species. This is documented in Wildflowers of the Santa Monica Mountains National Recreation Area, located at https://www.smmflowers.org, a site that is maintained by NPS staff for the SMMNRA.



Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2020.

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Trail Surveys – Sensitive / Rare Plants and Communities

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FIGURE 4-1

project area, based on the Envicom surveys. Should the proposed trail be re-routed to extend farther south, impacts to suitable habitat for this species may potentially occur.

- Agoura Hills dudleya (*Dudleya cymosa* ssp. *Agourensis).* Agoura Hills dudleya is a perennial herb that commonly blooms May through June. This species is found in chaparral and cismontane woodland between 655 to 1,640 feet. It prefers rocky, volcanic breccia. Agoura Hills dudleya has a high potential to occur on-site. Although no species were directly observed during the 2014 Rincon Consultants, Inc. survey, suitable habitat and favorable volcanic soils are present in the survey area. The 2016 and 2018 Envicom surveys positively identified this plant at multiple points within the 50-foot buffer of the trail alignments.
- Bushy Spikemoss (*Selaginella bigelovii*). Bushy spikemoss is a pteridophyte, a mosslike fern that is native to California and Baja California, where it grows in open rocky places in many different habitat types, from the coastline to the mountains to the deserts. This lycophyte forms clumps of spreading upright to erect stems up to 20 centimeters long with a few short lateral branches. It is found at elevations from sea level to approximately 7,400 feet. The 2016 and 2018 Envicom surveys positively identified this plant at several points along the trail alignment and within the 50-foot buffer.
- Conejo buckwheat (*Eriogonum crocatum).* Conejo buckwheat is a perennial herb that commonly blooms April through July. This species is found in chaparral, coastal scrub, and valley and foothill grassland between approximately165 to 1900ft. It prefers Conejo volcanic outcrops and generally rocky sites. Conejo buckwheat has a moderate potential to occur on site. Although no species were directly observed during the 2014 Rincon Consultants, Inc. survey or Envicom surveys, suitable habitat and favorable volcanic soils are present in the survey area.
- Lyon's pentachaeta (*Pentachaeta lyonii).* Lyon's pentachaeta is an annual herb that commonly blooms March through August. This species is found in chaparral, valley and foothill grassland, and coastal scrub between approximately 100 to 2,065 feet. It prefers edges of clearing in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks. Lyon's pentachaeta has a high potential to occur on-site. Although no individuals were observed during any of the surveys of the site, suitable habitat is present in the survey area.
- San Fernando Valley Spineflower (*Chorizanthe parryi* var. *Fernandina).* San Fernando Spineflower is an annual herb that commonly blooms April through July. It is found in coastal scrub, valley and foothill grasslands at elevations between approximately 500 to 4,000 feet. Habitat and soil types in the project area are suitable. No individuals were identified during any of the field surveys conducted on the project site and within the buffer.
- Marcescent dudleya (*Dudleya cymosa* ssp. *Marcescens*). Marcescent dudleya is a perennial herb that commonly blooms April through July. It is found in chaparral in volcanic rocky soils at elevations between approximately 500 to 1,700 feet. Habitat and soil types in the project area are suitable. No individuals were identified during any of the field surveys conducted on the project site and within the buffer.
- Santa Monica dudleya (*Dudleya cymosa* ssp. *Ovatifolia*). Santa Monica dudleya is a perennial herb that commonly blooms March through June. It is found in chaparral and coastal scrub in volcanic or sedimentary rocky soils at elevations between approximately 500 to 5,500 feet. Habitat and soil types in the project area are suitable. No individuals were identified during any of the field surveys conducted on the project site and within the buffer.
- Conejo dudleya (*Dudleya parva*). Conejo dudleya is a perennial herb that commonly blooms May through June. It is found in coastal scrub and valley and foothill grasslands in volcanic, rocky or gravelly and clay soils at elevations between approximately 200 to 1,500 feet. Habitat and soil types

in the project area are suitable. No individuals were identified during any of the field surveys conducted on the project site and within the buffer.

- Mesa horkelia (*Horkelia cuneata* var. *puberula*). Mesa horkelia is a perennial herb that commonly blooms February through July. It is found in chaparral, cismontane woodland, and coastal scrub in sandy or gravelly soils at elevations between approximately 230 to 2,700 feet. Some suitable habitat is present on site. No individuals were identified during any of the field surveys conducted on the project site and within the buffer, but the project area is generally within the range of the species.
- Chaparral ragwort (*Senecio aphanactis*). Chaparral ragwort is an annual herb that commonly blooms January through April. It is found in chaparral, cismontane woodland, and coastal scrub in sometimes alkaline soils at elevations between approximately 50 and 2,600 feet. No individuals were identified during any of the field surveys conducted on the project site and within the buffer, but habitat and some soil types in the project area are suitable and the project site is within the range of the species.
- Sensitive Plant Communities. A search of the CNDDB yielded three special status plant communities recorded within five miles of the project area, including California Walnut Woodland, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland. However, these communities were not observed on the site. The Bushy Spikemoss Herbaceous Alliance (*Selaginella Bigelovii)* and the California Buckwheat / Bushy Spikemoss Alliance (*Eriogonum fasciculatum/Selaginella Bigelovii*) were observed by Envicom within the final trail alignment. Other sensitive plant communities observed during the 2016-2018 survey are not within the current trail alignment.

Sensitive Wildlife Species

Of the special status wildlife species recorded within five miles of the project area, one species was observed to be present, five species have the potential to be present within the project area and 28 species are presumed absent or absent within the project area. Special status wildlife species with a moderate to high potential to occur, or known to occur, within or adjacent to the project area are described in more detail below.

- Santa Monica grasshopper (*Trimerotropis occidentiloides*). Limited distribution information is available for this species. Known only from the Santa Monica Mountains, the Santa Monica grasshopper is found on bare hillsides and along dirt trails in chaparral. Although no grasshoppers were identified during any of the field surveys conducted on the project site and within the buffer, potential habitat is present on-site.
- Coastal Western Whiptail (*Aspidoscelis tigris* ssp. *Stejnegeri*). The 2016 and 2018 Envicom survey identified this slim-bodied lizard with a long slender tail, a pointed snout, and large symmetrical head plates along the trail alignment. The tail can reach up to two times the length of the body. It is found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage – chaparral, woodland, and riparian areas. This subspecies is found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. It ranges south into Baja California. Unlike some species of whiptails which are all females, there are male and female western whiptails. Males and females usually begin mating in May and females lay eggs shortly thereafter. Females lay one clutch of eggs per year. Eggs hatch from May to August. CDFW lists this subspecies as a SSC.
- Coastal California Gnatcatcher (*Polioptila californica californica*). The coastal California gnatcatcher is an obligate permanent resident bird of coastal sage scrub typically found below 2,500 feet in Southern California. It is found in low coastal sage scrub in arid washes and on mesas and slopes. Not all areas classified as sage scrub are occupied. No individuals were identified during

the field surveys conducted on the project site and within the buffer. Some suitable habitat exists in the area of the project, but the site is at the extremes of elevation and distribution range.

- California Glossy Snake (*Arizona elegans occidentalis*). The California glossy snake is a medium-sized muscular snake with smooth, glossy scales, a faded or bleached-out appearance, and a short tail. It is patchily distributed from the eastern portion of the San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse and Peninsular ranges, south to Baja California. It is a generalist reported from a range of scrub and grassland habitats often with loose or sandy soils that make it easier for burrowing. No individuals were identified during the field surveys conducted on the site and within the buffer. The soil type in the project area is generally not preferred for the species; however, the site is within the range for the species.
- Coast Horned Lizard (*Phrynosoma blainvillii*). The coast horned lizard is a flat-bodied lizard with a wide oval-shaped body, scattered enlarged pointed scales on the upper body and tail, and a large crown of horns or spines on the head. The two center horns are the longest. This species frequents a wide variety of habitats but is most common in lowlands along sandy washes with scattered low bushes. It prefers open areas for sunning, bushes for cover and patches of loose soil for burial, and an abundant supply of ants and other insects. Habitat and soil types in the project area are suitable. No individuals were identified during the field surveys conducted on the project site and within the buffer.
- San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego desert woodrat is a small rodent found in coastal sage scrub of Southern California from San Diego County to San Luis Obispo County. It prefers habitat with moderate to dense vegetated canopies and sites with abundant rock outcrops, rocky cliffs and slopes. Rocky outcrop habitat is limited but the site is within the range of the species and multiple woodrat nests were observed during the Rincon Consultants, Inc. field surveys. The specific woodrat species was not confirmed.

Nesting Birds

The California Fish and Game Code, Section 3503, and the Migratory Bird Treaty Act (MBTA) protect native birds and their nests. There is a potential for nesting bird species protected by the California Fish and Game Code and Federal MBTA to be present on-site during the nesting bird season of February 1 to August 30. Nesting birds, regardless of special status listing, may have protection while nesting. Suitable nesting habitat occurs within and directly adjacent to the project site.

Ground and vegetation disturbing activities, if conducted during the nesting bird season, would have the potential to result in the removal or disturbance to trees and shrubs that could contain active bird nests. In addition, these activities would also affect herbaceous vegetation that could support and conceal ground-nesting species. Birds nesting in the vicinity of project activities may potentially be disturbed by noise, lighting, dust, and human activities associated with the project, which could result in nesting failure and the loss of eggs or nestlings. Project activities that result in the loss of bird nests, eggs, and young, would be in violation of one or more of California Fish and Game Code sections 3503 (any bird nest), 3503.5 (birds-of-prey), or 3511 (Fully Protected birds). In addition, removal or destruction of one or more active nests of any other birds listed by the Federal MBTA of 1918, whether nest damage was due to vegetation removal or to other construction activities, would be considered a violation of the MBTA and California Fish and Game Code Section 3511.

a. Potentially Significant Unless Mitigation Incorporated. A project would be considered to have a potentially significant impact if it is shown to have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the CDFW or USFWS.

All of the proposed trail alignments have been formally surveyed with the exception of the lower (northern) portions of the loop. The eastern leg of the lower loop was included in the previous survey buffer but the precise proposed alignment was not scrutinized. The western leg of the lower loop was informally surveyed through the course of project fieldwork but the precise trail alignment was not scrutinized. These areas have the potential to host Lyon's pentachaeta and Slender mariposa lily. These species may only be observed in the springtime so mitigation measure **BIO-1, Springtime Survey** is applied requiring a pre-construction spring survey is conducted so that special status species can be avoided.

To ensure no other impacts are made during trail construction **BIO-2, Biological Monitoring,** and **BIO-3, General Biological Resource Protection Measures,** shall be applied to the project to reduce impacts. BIO-2 requires the City to retain a qualified biologist to serve as lead biological monitor and provide general guidance to work crews, and BIO-3 requires the biologist to determine the precise trail alignment to avoid impacts and demarcate the limits of disturbance and any nearby sensitive species for avoidance. The activities required in BIO 1, BIO 2, and BIO 3 may occur concurrently if timing of construction allows for it. As the only observed special-status plant species, *Dudleya cymosa* ssp. *Agourensis,* did not appear within the proposed trail alignments, only close to it, these measures would reduce potential impacts to less than significant.

The loss of protected bird nests, eggs, or young due to project activities would be a potentially significant impact. Implementation of mitigation measure **BIO-4** requires nesting bird surveys and would reduce potentially significant impacts to a less than significant level. Impacts to nesting birds would be reduced to a less than significant level, because BIO43 requires avoidance and minimization of potentially adverse effects to birds by halting construction and the establishment of spatial buffers.

Project activities also have the potential to impact candidate, sensitive or special status wildlife, such as the Coastal Western Whiptail which was observed on site. This species, and other potential special-status wildlife species, generally have the ability to avoid project construction work. However, mitigation measure **BIO-5** would require a pre-construction survey for special-status wildlife species prior to the construction of any section of the trail. Implementation of BIO-4 would reduce potential impacts to special-status wildlife species to less than significance.

b. Potentially Significant Unless Mitigation Incorporated. A project would be considered to have a potentially significant impact if it is shown to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations by the CDFW or USFWS. The 2023 biological survey identified one assumed-jurisdictional stream near the end of the western loop (identified as the "eastern stream" in the survey) but it does not contain riparian habitat. In addition, the trail alignment passes through two areas with Bushy Spikemoss Herbaceous Alliance (*Selaginella bigelovii*) and one area with California Buckwheat / Bushy Spikemoss Alliance (*Eriogonum fasciculatum/Selaginella bigelovii*).

The trails will be constructed by a small crew on foot using hand tools to clear vegetation only as necessary and provide a safe walking surface. There is no proposed cut and fill and the trails are designed to follow the natural contours of the land as much as practicable. The ephemeral stream crossed by the western loop does not contain riparian habitat so none of that habitat type would be impacted. Creating a path through the Bushy Spikemoss Herbaceous Alliance while avoiding all impacts will likely be more difficult, and a path through the California Buckwheat / Bushy Spikemoss Alliance (*Eriogonum fasciculatum/Selaginella bigelovii*) could also result in impacts. Therefore, mitigation measure **BIO-6** is applied to the project which requires that the project compensate for impacts at a 2:1 ratio by the enhancement of local equivalent habitat. As such, impacts to sensitive communities would be less than significant.

c. Less Than Significant Impact. A project would be considered to have a potentially significant impact if it is shown to have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. As mentioned above the project crosses over one assumed-jurisdictional stream which does not support riparian vegetation. The stream is very narrow and can be easily stepped over, and trail contouring will stop just before the banks of the stream on either side. As the stream does not support riparian vegetation and there will be no modification made to the banks or bed of the stream, no permitting from the ACOE or CDFW would be required to establish the crossing points. Given there will be no trail building activity within the stream boundaries potential impacts would only result from the action of hikers crossing the stream. Use of the trail is not expected to be heavy, and the City routinely closes parks and trails during and after rainstorms, so hiking traffic would not be expected to damage the stream significantly. Given the lack of riparian vegetation and slight nature of the ephemeral stream allowing easy crossing, impacts resulting from hikers crossing the stream would be less than significant.

d. Less Than Significant Impact. A project would be considered to have a potentially significant impact if it would interfere substantially with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Habitat linkages are physical connections that allow wildlife to move between areas of suitable habitat in both undisturbed and fragmented landscapes. Wildlife corridors are areas of open space (OS) of sufficient width to permit the movement of larger, mobile species to move from one major OS region to another. Regional habitat linkages are larger wildlife corridors or regions of connectivity that are important for movement of multiple species and maintenance of ecological processes at a regional scale.

Wildlife crossings are generally small, narrow areas allowing wildlife to pass through an obstacle or barrier, such as a roadway to reach another patch of habitat. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, or open areas with little vegetative cover. Examples of wildlife crossings include culverts, drainage pipes, underpasses, and tunnels.

Based on a review of the following documents, the project site is not located within an area designated as a regional-scale habitat linkage or a wildlife movement corridor:

- City of Agoura Hills General Plan Update (March 2010);
- California Essential Connectivity Project: A Strategy for Conserving a Connected California (February 2010); https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC;
- Santa Monica Mountains National Recreation Area Land Protection Plan (March 1998); https://www.nps.gov/samo/learn/management/upload/Final_LPP_Complete.pdf, and
- South Coast Missing Linkages Project: A Linkage Design for the Santa Monica Mountains-Sierra Madre Connection (Penrod, K. et. al., 2006). http://www.scwildlands.org/reports/scml_santamonica_sierramadre.pdf

Additionally, the proposed project is composed of two-foot wide recreation trails with a natural earth surface and would not impede wildlife movement. The project would not place physical or visual barriers to wildlife movement on the project site, and it would not remove substantial native habitat or fragment existing habitat. As previously described, the project has been planned and shall be constructed in a manner that is sensitive to the existing topography and biological resources. The project site is not in a critical linkage for wildlife movement such as an area providing access to an open culvert that wildlife could use to safely crossroads between areas of open space, or a narrow bottleneck of space or habitat between two larger areas of open space. The project site is not considered essential for the Santa Monica Mountains-

Sierra Madre Mountains Connection regional wildlife corridor. The majority of the parcel on which the project site is located would remain undisturbed, and this area would provide sufficient cover and a variety of the habitats found on-site to support movement of species that may potentially pass through the site. Therefore, project impacts to wildlife movement would be less than significant.

e. Potentially Significant Unless Mitigation Incorporated. A project would result in a potentially significant impact if it would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. The proposed project is subject to the City of Agoura Hills Oak Tree Ordinance and Guidelines. The ordinance and guidelines provide local regulations regarding tree protections, removal permitting, and replacements, if applicable. Under the City's Municipal Code, the loss or disturbance to individuals of the *Quercus* genus (oaks) would require an oak tree permit.

As shown in the 2015 Trail Study scrub oak chapparal is present in the northern half of the project area, and both proposed trails cross through it. These oaks are protected by the City of Agoura Hills Municipal Code. According to the City, these trees require special care and consideration to remain healthy and vigorous. To promote healthy oak trees, there is a protected zone for any oak tree having a trunk diameter of two inches or greater. The protected zone is defined as the area beneath the dripline or canopy of the tree plus five more feet beyond the dripline. Oaks are especially sensitive to disturbance in this protected zone and therefore activities with this zone require special attention.

Removal of oak trees is not required for trail construction, but the trail may travel through the protected zone of some scrub oaks, though all efforts will be made to avoid this. Any activity within the protected zone of an oak will require an OTP prior to the start of construction activities. If impacts are determined by the arborist to be detrimental to the tree, a 3:1 replacement would be required, though this is not anticipated. Compliance with mitigation measure **BIO-7**, which requires that a qualified oak tree consultant/arborist conduct surveys, erect exclusion fencing, and authorize any work to be done in the tree canopy or within the protected zone of the tree, would reduce the project's potentially significant impact to scrub oak trees to a less than significant level.

f. No Impact. A project would be considered to have a potentially significant impact if it would conflict with an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. The project site is not part of any draft or adopted habitat conservation plan, natural community conservation plan, or other approved local, regional or State habitat conservation plan. Thus, there would be no project impact related to such plans.

Mitigation Measures

BIO-1: Pre-Construction Springtime Survey

A qualified biologist shall conduct a pre-project botanical survey within the project limits and an adjacent buffer area for potentially occurring special-status plant species, including *Calochortus clavatus var. gracilis, Deinandra [Hemizonia] minthornii, Eriogonum crocatum, Pentachaeta lyonii, Dudleya cymosa* ssp*. agourensis, Chorizanthe parryi* var*. fernandina, Dudleya cymosa* ssp*. marcescens, Dudleya cymosa* ssp*. ovatifolia, Dudleya parva, Horkelia cuneata* var*. puberula, and Senecio aphanactis*. The survey shall be conducted the spring prior to commencement of project construction. The survey will be valid for two years. Any trail construction occurring after two years from the survey date shall require a new survey according to these requirements. The survey shall consist of a survey in mid-spring and a survey in late-spring to ensure detection of all potentially occurring special-status plant species.

If special-status plants are not detected during the survey, no additional mitigation would be required and the results of the survey shall be submitted to the City of Agoura Hills Planning Department and CDFW (if applicable). If a special-status plant(s) is present at or adjacent to the project site, the extent of the population shall be mapped and the number of individual plants and the acreage of occupied habitat that would be impacted by the project shall be determined. The City of Agoura Hills Planning Department shall be notified and consultation with CDFW and USFWS (if applicable) shall be conducted prior to initiation of ground or vegetation disturbing activities and the following actions shall be taken:

Avoidance of the special-status plants shall occur where feasible. If avoidance is not feasible, the Applicant shall offset the proposed loss of individual plants by on-site restoration (salvage and replanting, or propagation) at a 2:1 ratio, or a ratio and method acceptable to City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable). At the discretion of the City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable), compensation for impacts to the species may be accomplished by off-site restoration at a 2:1 ratio or preservation of on-site or off-site populations in the vicinity of the site at a 2:1 ratio, if present.

A Mitigation and Monitoring Plan that provides for the replacement of the species impacted by the project shall be developed by a qualified restoration specialist and approved by City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable). The Plan shall specify the following:

- a summary of impacts;
- the location of the mitigation site;
- methods for harvesting seeds or salvaging and transplantation of individuals to be impacted;
- measures for propagating plants or transferring living plants from the salvage site to the mitigation site;
- site preparation procedures for the mitigation site;
- a schedule and action plan to maintain and monitor the mitigation area;
- criteria and performance standards by which to measure the success of the mitigation, including replacement of impacted plants;
- measures to exclude unauthorized entry into the mitigation areas; and
- contingency measures such as replanting or weeding in the event that mitigation efforts are not successful.

The performance standards for the Mitigation and Monitoring Plan shall be at a minimum the following:

- Within five years after introducing the plants to the mitigation site, the number of established, reproductive plants shall be no less than 2x the number of those lost to project construction,
- Non-native species in the treated area shall be less than 15% cover by the end of the third year of treatment and less than 5% by the end of the fifth year of treatment, and;
- Restoration will be considered successful after the success criteria have been met for a period of at least 2 years without any maintenance or remediation activities other than invasive species control.

Prior to issuance of project permits, the Applicant shall secure a bond for an amount equal to the cost of the restoration effort. The bond shall be released by the City upon satisfaction of the approved performance criteria.

The mitigation project shall be initiated prior to development of the project and shall be implemented over a five-year period or until performance standards are met, whichever period is longer. The mitigation project shall incorporate an iterative process of annual monitoring and evaluation of progress, and allow for adjustments to the Plan, as necessary, to achieve desired outcomes and meet performance standards. Annual reports discussing the implementation, monitoring, and management of the mitigation project shall be submitted to City of Agoura Hills Planning Department CDFW, and USFWS (if applicable). Five years after the start of the mitigation project, a final report shall be submitted to City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable), which shall at a minimum discuss the implementation, monitoring, and management of the mitigation project over the five-year period and indicate whether the mitigation project has been successful based on established performance standards. The mitigation project shall be extended if performance standards have not been met to the satisfaction of City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable) at the end of the five-year period.

BIO-2: Biological Monitoring

Prior to any ground disturbing activities, a qualified biologist shall be retained as the lead biological monitor subject to the approval of the City. That person shall ensure that impacts to sensitive biological resources are minimized or avoided and shall conduct (or supervise) pre-project field surveys and routine monitoring for species that may be avoided, affected, or eliminated as a result of trail building activities. The qualified biologist shall serve as lead biological monitor and shall ensure that all surveys and monitoring activities are performed by qualified personnel (e.g., avian biologists for nesting bird surveys) and that they possess all necessary permits and memoranda of understanding with the appropriate agencies for the handling of potentially-occurring special-status species. The lead biological monitor shall also conduct a pre-project environmental education program for all personnel working at the site, which shall be focused on conditions and protocols necessary to avoid and minimize potential impacts to biological resources. The lead biological monitor shall also ensure that daily monitoring reports (e.g., survey results, protective actions, results of protective actions, adaptive measures, etc.) are prepared, as necessary, and shall make these monitoring reports available to the City and California Department of Fish and Wildlife at their request.

BIO-3: General Biological Resource Protection Measures

The following measures shall be implemented during the construction phase to avoid impacts to native habitats adjacent to or in the vicinity of the limits of disturbance, as well as special-status flora and fauna that could potentially be associated with these habitats:

a) Prior to all ground disturbing and construction activities, the qualified biologist (as identified in mitigation measure BIO-1) shall:
    i. Demarcate in coordination with the City's trail construction contractor the precise alignment of the trail to avoid impacts as much as practicable according to the proposed alignments, adjusting the alignment as necessary;
    ii. Demarcate the project limits of disturbance with highly visible staking and flagging to prevent encroachment of project activities into adjacent native habitats; and,

iii. Demarcate any special-status plant species or communities near the trail alignment for avoidance. The City shall verify the staking and flagging has been correctly installed prior to the start of ground disturbance or construction activities. The temporary staking and flagging shall be routinely inspected and maintained in functional condition for the duration of project construction.

b) Any trail alignment where the outside border of the trail is within 5 feet of the canopy of any species of *Quercus* or within 15 feet of the trunk of any species of *Quercus* shall be inspected by a certified arborist that is a qualified oak tree consultant for determination of impacts (see mitigation measure BIO-7). The certified arborist shall demarcate the protection zones of any protected oak trees located near the trail alignment for avoidance. Impacts will be avoided wherever possible.

c) All construction and maintenance activities, except in an emergency, shall be limited to the hours of 7:00 a.m. to 7:00 p.m.

d) No artificial lighting shall be used during construction.

e) No pets shall be allowed on the project site.

f) All food-related trash shall be disposed of in closed animal-proof containers.

g) All project related equipment shall be cleaned and decontaminated of weeds and soils prior to entering the project site to reduce the potential for the spread and introduction of invasive and noxious weeds.

BIO-4: Nesting Bird Surveys

No earlier than 14 days prior to ground or vegetation disturbing activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February 1 through August 31), the City-approved qualified biologist shall perform two (2) field surveys to determine if active nests of any bird species protected by the state or Federal Endangered Species Acts, Migratory Bird Treaty Act, and/or the California Fish and Game Code Sections 3503, 3503.5, or 3511 are present in the disturbance zone or within 200 feet of the disturbance zone for songbirds or within 500 feet of the disturbance zone for raptors and special-status bird species. The second nesting bird survey shall be conducted within three days of the start of ground or vegetation disturbing activities. A letter report summarizing the methods and results of the surveys shall be submitted to the City and CDFW prior to commencement of project activities. In the event that an active nest is found within the survey area, site preparation and trail construction activities shall stop until consultation with CDFW and USFWS (as applicable) is conducted and an appropriate setback buffer can be established. The buffer shall be demarcated and project activities within the buffer shall be postponed or halted, at the discretion of the biologist, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting.

BIO-5: Pre-construction Survey for Special-Status Wildlife Species

Prior to the commencement of ground or vegetation disturbing activities, a pre-construction survey for special-status wildlife species, including the Coastal Western Whiptail and those species with potential to occur, shall be conducted by qualified biologist(s) to determine the presence/absence of these species at the site. The pre-construction survey shall incorporate appropriate methods and timing to detect these species, including individuals that could be concealed in burrows, beneath leaf litter, trees, or in loose soil. If a special-status species is found, avoidance is the preferred mitigation option. If avoidance is not feasible, a relocation plan including, at a minimum, the timing and methods for capturing and releasing the animals as well as locations for their release shall be

prepared and submitted to the City and CDFW for review and approval prior to approval to commence work. The species shall then be captured and transferred to appropriate habitat and location where they would not be harmed by project activities, preferably to open space habitats in the vicinity of the project site. If a Federally listed species is found, the USFWS shall also be notified. A letter report summarizing the methods and results of the surveys and relocation efforts, if applicable, shall be submitted to the City and CDFW prior to commencement of project activities.

BIO-6: Bushy Spikemoss Alliances

Trail development impacts to the Bushy Spikemoss Herbaceous Alliance and California Buckwheat / Bushy Spikemoss Alliance sensitive plant communities shall be mitigated by enhancement of local and equivalent habitat at a 2:1 ratio. Enhancement may consist of weed removal or similar methods. Prior to commencement of work, the final trail alignment shall be mapped and the qualified biologist shall determine the final acreage of trail construction impacts to the sensitive plant communities at the site. Enhancement activities shall be implemented where equivalent habitats exist. If on-site enhancement in the vicinity of the project site is infeasible, impacts to sensitive plant communities shall be mitigated by off-site restoration of equivalent habitat at a 2:1 ratio within the same watershed.

BIO-7: Oak Tree Protection

Per the requirements of BIO-2, the City shall retain the services of a qualified oak tree consultant (who is also a certified arborist) who shall perform the following duties:

a) The qualified oak tree consultant/certified arborist shall inspect the proposed trail alignment and determine if ground disturbance will occur within the protected zone of any oak trees. The protected zone is defined by the Agoura Hills Municipal Code as:

> Using the dripline as a point of reference, the protected zone shall commence at a point five (5) feet outside of the dripline and extend inwards to the trunk of the tree. In no case shall the protected zone be less than fifteen (15) feet from the trunk of an oak tree.

b) In the event that the trail alignment would encroach into the protective zone of any protected oak trees and could not be feasibly realigned to avoid the protective zone (subject to the City's determination), and/or if the trail alignment would require the pruning of any protected trees, then the tree consultant/certified arborist shall monitor ground disturbance activities on the project site that occur within the identified protective zone. In the event that the pruning of protected oak trees within or adjacent to the trail alignment is necessary to maintain visibility and public safety, the oak tree consultant/certified arborist shall also monitor such pruning to ensure that no impacts to oak trees occur. No pruning of live wood of an oak tree (including branches and roots) shall be permitted unless specifically authorized by the oak tree consultant/certified arborist, and pruning shall be performed by the qualified arborist. All pruning operations shall be consistent with American National Standards Institute (ANSI) A300 Standards – Part 1 Pruning and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning.

c) If the tree consultant/certified arborist determines significant impacts will occur, then trees shall be replaced at a ratio of 3:1 with size of replacement stock and location determined by the City in consultation with the tree consultant/certified arborist.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Impact Analysis

The cultural resources impact analysis is based on the Cultural Resources Constraints Analysis completed by Rincon Consultants, Inc. for Questa Engineering Corporation in January 2014, included as an attachment to Appendix A, and the cultural resources Phase I & II Survey from Envicom dated September 12, 2023 and included as **Appendix E**.

The 2014 analysis performed a records search to identify all previously conducted cultural resources work within a 0.5-mile radius of the project site, as well as to identify previously recorded cultural resources within a 0.5-mile radius of the project site. The California Historical Resources Information System (CHRIS) search at the assigned CHRIS center, the South Central Coastal Information Center (SCCIC), included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps. The SCCIC records search identified a total of 41 previous studies (refer to Appendix C, Cultural Resources Constraints Analysis, of Appendix A to this MND), one of which included a portion of the project site (LA-3674). Study LA-3674, a Cultural Resources Survey of a 27 Acre Parcel of Property in Agoura and Subsequent Test Excavations at LAN-1069, conducted by J.P. Brock and D.M Van Horn of Archaeological Associates, Ltd., covered a small portion of the project site and consisted of pedestrian survey and archaeological testing. A total of 14 previously recorded cultural resources were identified within 0.5 mile of the project site, one of which contained human remains, which increased the sensitivity of the area for archaeological resources.

In 2022 Envicom was tasked with performing a Phase I cultural resources assessment to directly investigate the previous trail alignment. Given the time that had passed since the last records search the 2022 Phase I included another SCCIC records search and a Sacred Lands records search request to the Native American Heritage Commission (NAHC). In addition, a pedestrian survey was conducted. During the pedestrian survey five prehistoric archeological sites were discovered. Subsequently, the trail alignment was changed and the new trail sections were surveyed, at which point another three prehistoric archeological sites were found. The trail alignment was changed again in order to avoid impacts to cultural (and biological) resources as much as possible. The Phase II assessment involved study of the eight sites that were discovered to assess their sensitivity and eligibility for listing as a historical or archaeological resource. Four of the sites were found eligible for listing in the CRHR. The proposed trail alignment does not pass through any of the eligible sites.

a.-b. Potentially Significant Unless Mitigation Incorporated. A project would be considered to have a potentially significant impact if it would cause a substantial adverse change in the significance of an historical resource or archaeological resource by physical demolition, destruction, relocation, or alteration of the occurrence or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The Phase I survey resulted in discovery of eight cultural resources, and subsequently a change to the proposed trail was made to avoid resources as much as possible. The final trail alignment avoids all four sites that were found eligible for CRHR listing (Nos. 1, 3, 5, and 7), and as such construction of the trail will not cause a substantial adverse change in the significance of an archaeological resource, and there would be no impacts to these eligible resources.

The trail segments do cross through three of the non-eligible sites, nevertheless, construction of the trail would have a less than significant impact on these sites as the Phase II evaluation of those sites (Nos. 2, 4, and 6) determined that they are not eligible for CRHR listing. Each consisted only of some quarried stone and scant "lithic debitage," essentially the stone debris created when a tool is constructed, which are considered non-unique site features that are common throughout the Santa Monica Mountain foothills. No subsurface components were present at these sites and recordation of the existing lithic scatter was found sufficient to provide the majority of information available from the sites. As such, construction of the trail through sites 2, 4, and 6 would not cause a substantial adverse change in the significance of an archaeological resource as the sites are not significant (eligible) and consist only of surface lithic debitage and as such impacts would be less than significant.

However, given the high sensitivity of the area in general, it is possible that work constructing the trail could encounter unknown buried resources. To reduce potential impacts to less than significance due to the potential for project site preparation and trail work to uncover unknown archaeological resources not evident during the pre-construction pedestrian survey, mitigation measures **CUL-1A and B** are added to the project. Mitigation measure CUL-1A requires archaeological and Native American monitoring during project trail work, and CUL-1B requires specific consultation for discovery of new materials. The Phase I & II Survey attached to this document is the public version with confidential locational material redacted. The confidential version of the survey will be available to the archaeological and Native American monitors for the purposes of implementing the mitigation measures. Implementation of CUL-1A and CUL-1B would reduce potential impacts to previously undiscovered archaeological resources to a less than significant level.

c. Potentially Significant Unless Mitigation Incorporated. A project could be considered to have a potentially significant impact if it disturbed any human remains. A resource containing human remains is known to exist within 0.5 mile of the project site, therefore, the potential exists for human remains to be discovered during trail construction. Mitigation Measure **CUL-2** addresses the potential for inadvertent discovery of human remains during trail construction reiterating State Health and Safety Code Section 7050.5. As project construction will be monitored per CUL-1A it can be determined with reasonable surety that CUL-2 will result in reducing impacts regarding the discovery of human remains to a less than significant level.

Mitigation Measures

Due to the potential for significant impacts to cultural resources, avoidance and minimization measures are recommended prior to project implementation. Avoidance and minimization measures include:

CUL-1A: Archaeological and Native American Monitoring

Prior to construction of any trail segment the City shall retain a professional archaeological monitor and a Native American monitor who has a cultural affiliation to the project region to observe all ground disturbing activities along the entire trail route. The archaeological monitor must meet the Secretary of Interior's standards of qualification to oversee and manage the trail monitoring work that impacts the top two feet of soil. This includes oversight of the Native American monitor.

If prehistoric artifacts are encountered that are similar to such materials described in the confidential version of the Phase I & Phase II Survey (2023), then such artifacts can be relocated to a safe and more hidden part of either the archaeological site that construction is located within, or to a place away from the trail if construction is not within or near a known archaeological site. If prehistoric exotic materials or features are encountered, such as a previously unknown prehistoric feature, burial, shell, or faunal material, then trail construction work will cease within 30-feet of the discovery and a principal archaeologist will be contacted to assess the find. If the principal archaeologist confirms that the find is of consequence and cannot easily be relocated, then the City or MRCA will be notified and a course of action will be discussed between the City or MRCA representative, the principal archaeologist, and the Native American monitor.

CUL-1B: Reburial of Native American Artifacts

If consultation regarding the discovery of an additional prehistoric or ethnographic Native American cultural resource leads to an agreed upon course of action between the City or MRCA, the project principal archaeologist, and the Native American monitor, and if the discovery is determined to be a Tribal Cultural Resource, then the City or MRCA shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the project region as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during trail construction. Once all invited Native American groups have been consulted with, the City or MRCA will then select a course of action for the reburial of all uncovered artifacts or features determined to be "of importance" in a way that best matches the suggestions of the consultation group. It is preferred that all artifacts uncovered be placed at a secure location within the nearest of the known prehistoric sites discussed in the confidential version of the Phase I & Phase II Survey (2023), or at a location away from the proposed trail if the discovery is located outside of known sites.

CUL-2: Inadvertent Discovery of Human Remains

If human remains are discovered, State Health and Safety Code Section 7050.5 requires that no further disturbances shall occur until the County Coroner has made the necessary findings regarding origin and disposition pursuant to the Public Resources Code Section 5097.98. If human remains are unearthed, the City Planning Department staff and County Coroner shall be notified immediately. In the case of the discovery of prehistoric or ethnographic Native American remains, the Native American Heritage Commission of the State of California states that the following process should be followed:

1. **Call the County Coroner. (Health and Safety Code section 7050.5)**. The County Coroner, and not the NAHC, site archaeologists, monitors, or anyone else, determines that the remains are Native American for purposes of the NAHC's jurisdiction. If they are, the County Coroner will contact the NAHC. **The NAHC does not have jurisdiction to designate Most Likely Descendants until the County Coroner determines that the remains discovered are Native American.** The landowner shall ensure that the immediate vicinity of the remains, according to generally accepted cultural or archaeological

standards or practices, is not damaged or disturbed further by development activity until the landowner has discussed and conferred with the Most Likely Descendants regarding their recommendations. The coroner shall make his or her determination within two working days from the time when the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of human remains. If the coroner determines the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that there are those of a Native American, he or she shall contact the NAHC, by telephone, within 24 hours.

2. The NAHC Environmental and Cultural Staff will designate which California Native American Tribe on its Most Likely Descendants list is the Most Likely Descendant of the Native American whose remains were discovered and contact that Tribe. (Public Resources Code sections 5097.94(a), 5097.98)
3. The Tribe designated as MLD will have 48 hours from the time at which they are granted access by the landowner of the property to where the remains were discovered to inspect the area of the remains and make recommendations or preferences for treatment known to the landowner. The landowner shall discuss and confer with the MLDs all reasonable options regarding the MLDs preferences for treatment, which may include:
    a. The nondestructive removal and analysis of human remains and items associated with the Native American human remains.
    b. Preservation of the Native American human remains in place.
    c. Relinquishment of the Native American human remains to the MLDS for treatment. d. Other culturally appropriate treatment. (Public Resources Code section 5097.98).
    d. The parties may also agree to extend discussions, taking into account the possibility that additional or multiple Native American human remains are located in the project area, providing a basis for additional treatment. (Public Resources Code section 5097.98)
    e. If the NAHC is unable to identify MLDs, the identified MLDs fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendations of the MLDs and the mediation provided for under Public Resources Code section 5097.98, subdivision (k), if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. To protect these sites, the landowner shall do one or more of the following:
        i. Record the site with the commission or the appropriate Information Center.
        ii. Utilize an open-space or conservation zoning designation or easement.
        iii. Record a document with the county in which the property is located. The document shall be titled “Notice of Reinterment of Native American Remains” and shall include a legal description of the property, the name of the owner of the property, and the owner’s acknowledged signature, in addition to any other information required by this section. The document shall be indexed as a notice under the name of the owner. (Public Resources Code section 5097.98)”

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:				
a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Impact Analysis:

a. No Impact. A significant impact would occur if the project would result in a significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during project construction or operation. The project will be 0.82 mile of recreational trails through open space, constructed by personnel using hand tools to clear the two-foot wide trail area and perform some leveling of the surface terrain to make it safe to walk. There will be no diesel-powered mechanized equipment used. Operation of the project will not require any power as there will be no lights or other electrical fixtures involved. Therefore, there will be no wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation and no impacts.

b. No Impact. A significant impact would occur if the project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The proposed recreation trails will be constructed by a small field crew using hand tools and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. No impact would occur.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a. Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☒	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Impact Analysis

a.i. No Impact. A significant impact may occur if the project site is located within a State-designated Alquist-Priolo Zone or other designated fault zone and would expose structures or individuals to fault-related geologic risks. Fault rupture occurs when movement on a fault breaks through the earth's surface. Faults that show evidence of movement within the past 11,000 years (during the Holocene Epoch) are referred to as active faults. The Alquist-Priolo Earthquake Fault Zoning Act was signed into law on December 22, 1972 to prohibit the location of most structures for human occupancy across the traces of active faults, thereby mitigating the fault rupture hazards. The California Geological Survey (CGS) provides

official maps of Alquist-Priolo Earthquake Fault Zones, which establish regulatory zones comprising surface traces of active faults that have a potential for future surface fault rupture.[13]

The State of California has not delineated any Alquist-Priolo Special Study Zones within the City,[14] even though the counties of Los Angeles and Ventura have both been identified by the CGS as locations affected by Alquist-Priolo earthquake fault zones.[15] Fault rupture risk in the City is considered to be negligible, as there are no major active faults known to exist in the Conejo-Las Virgenes region. Six minor faults have been identified in the City, but all are considered inactive and would not result in fault rupture. Since the project site would not be located within an area at risk for fault rupture, impacts would be less than significant.

a.ii. Less Than Significant Impact. A significant impact may occur if a project represents an increased risk to public safety or destruction of property by exposing people, property, or infrastructure to seismically induced ground shaking hazards that are greater than the average risk associated with other locations in Southern California. The project site is located within a seismically active region, as is all of Southern California. The intensity of ground shaking at a source depends primarily on an earthquake's magnitude, the distance from the source, and the site response characteristics. Active faults that could potentially cause ground shaking in Agoura Hills are at a distance of seven miles or greater from the City, and include the San Andreas, Oak Ridge, Malibu Coast, San Cayetano, and the Simi-Santa Ana faults. The Thousand Oaks area contains segments of the potentially active Sycamore Canyon-Boney Mountain fault zone, which lies no closer than five miles from the City of Agoura Hills. The most likely earthquake generating faults in the geographic region are the San Andreas, San Jacinto, Elsinore-Whittier, and the Newport-Inglewood faults. Development of the pedestrian bridge would be required to comply with applicable requirements of the California Building Code and Agoura Hills Building Code, as well as the recommendations of the City Geologist, if any. Thus, project impacts would be less than significant.

a.iii. No Impact. A significant impact may occur if a project site is located within a liquefaction zone. Liquefaction is the loss of soil strength or stiffness due to buildup of pore-water pressure during severe ground shaking. Liquefaction is associated primarily with loose (low density), saturated, fine- to medium-grained, cohesionless soils. Liquefied soils may be subject to flow or excessive strain, which may induce settlement. Liquefaction occurs primarily in soils below the groundwater table. Soils commonly subject to liquefaction include loose to medium-dense sand and silty sand. Predominantly fine-grained soils such as silts and clay are less susceptible to liquefaction. Given the local bedrock geology and depth to groundwater within the City, the liquefaction potential is considered low. However, seasonable fluctuation in rainfall, and the effect of development, can cause the local water table to rise. The 2000 Seismic Hazards Zones map prepared by the California Department of Conservation for the Thousand Oaks Quadrangle identifies an area within Agoura Hills that is subject to liquefaction in the eastern portion of the City, located immediately south of the 101 Freeway and partially included in the Agoura Village Specific Plan area. Due to the nature of the project and as the project site location is south and west of each of these potential liquefaction areas, the project would result in no impact related to liquefaction.

a.iv. Less Than Significant Impact. A project could have a significant geologic hazard impact if it may cause or accelerate geologic hazards that would result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. A project-related, significant adverse effect may occur if the project is located in a hillside area with soil conditions that would suggest a high potential for sliding. Factors that can influence landslides include earthquakes, slope, moisture content of the soil, and

[13] California Department of Conservation, California Geological Survey, accessed June 1, 2021 at: http://www.conservation.ca.gov/cgs/alquist-priolo.
[14] City of Agoura Hills, General Plan Update, March 2010.
[15] City of Agoura Hills, General Plan Update 2035 EIR, February 2010.

composition of the subsurface geology. Heavy rains or improper grading could potentially trigger a landslide. Slope stability problems in Agoura Hills are often associated with the thin-bedded, clay-rich portions of the Topanga, Calabasas, and Modelo rock formations. Historic landslides have occurred in the mountainous portions of Agoura Hills, particularly in the higher elevations of Ladyface Mountain; however, the stability rating for the whole of Ladyface Mountain is rated High to Moderately High.[16] On the project site, the areas subject to landslide fall along the sides of the westerly drainage. Rockfalls are typically associated with seismic ground shaking and are a potential hazard to the users of a trail development that is located at the base of steep slopes with large, fractured outcroppings, a condition that is present in the Ladyface Mountain area. However, the proposed project would not be creating a structure, would comply with proper grading practices that minimize landslide risk, and no trail areas will pass beneath large rock outcroppings. Furthermore, adhering to signage criteria in the CTPMP, the City shall install clear and informative signage regarding the trail, including a map of the trail, potential hazards (such as fire danger, loose rock, uneven dirt surface, and wildlife), emergency information, trail difficulty, and hours of use, in order to inform trail users of trail conditions. The project would result in a less than significant impact.

b. Less Than Significant Impact. A project could have significant impact if it created substantial soil erosion or the loss of topsoil. The proposed trails would be constructed by hand without power tools and constructed with proper trail building techniques. For most of the trails the existing contour of the land will only be slightly modified, and water runoff will behave as usual. Where contouring might produce an opportunity for erosion, water control features such as a sculpted water bar or grade reversal will direct water so that erosion-related impacts remain less than significant.

c. Less Than Significant Impact. A project could have a significant geologic hazard impact if it could cause or accelerate geologic hazards, exposing people to substantial risk of injury. A significant impact may occur if a project is built in an unstable area without proper site preparation or design features to provide adequate foundations for buildings, thus posing a hazard to life and property. According to the City's Seismic Safety Element (1993), the project site is not located in an area that has great potential for slope stability problems.[17] As such, the development of the proposed project would result in a less than significant impact.

d. Less Than Significant Impact. A project could have a significant impact if it was developed on expansive soils without proper site preparation or design features. Expansive soils contain significant amounts of clay particles that swell considerably when wetted and shrink when dried. According to the Natural Resources Conservation Service, ungraded native soils in the lowland portions of the City exhibit the highest potential for shrinking and swelling associated with expansive soils. Ladyface Mountain has areas in which soils are rated with low and moderate expansion potential. Due to the nature of the project as a trail development that proposes no structures the project would result in a less than significant impact.

e. No Impact. Septic tanks or alternative disposal systems are not proposed to be developed in concert with the project. No impacts would occur.

f. No Impact. A project could have a significant impact if it directly or indirectly destroyed a unique paleontological resource or site or unique geologic feature. The proposed trail alignments have avoided unique geologic features and therefore the impacts to these would be less than significant. Ladyface mountain is part of a geologic formation known as the Conejo Volcanics. Volcanic rocks of this type do not contain fossils. The soil above the volcanic bedrock is derived from the bedrock and would not contain fossils either, therefore there would be no impacts to paleontological resources.

[16] City of Agoura Hills, General Plan Update 2035 EIR, February 2010.
[17] Ibid.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Impact Analysis

The California Code of Regulations defines greenhouse gases (GHGs) as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), and hydrofluorocarbons.[18] Because the warming potential of various identified GHGs differs, GHG emissions are commonly expressed in terms of carbon dioxide equivalents (CO_2e) that account for the volume and warming potential of each GHG generated by a particular emitter. The total GHG emissions from individual sources are then generally reported in metric tons (MT) and expressed as metric tons of carbon dioxide equivalents ($MTCO_2e$). Fossil fuel use in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for half globally. Energy use associated with industrial and commercial land uses contribute approximately one quarter of global GHG emissions.

a-b. Less Than Significant Impact. A project may have a significant impact if the project would generate GHGs, either directly or indirectly, in quantities that might have a significant impact on the environment, or Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Because individual projects do not generate sufficient GHG emissions that would substantially affect climate change; the issue of climate change typically involves an analysis of whether a project's contribution toward an impact is cumulatively considerable. As defined by the CEQA Guidelines Section 15355, "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

The CEQA Guidelines Section 15064.4(a) states that a lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Quantify greenhouse gas emissions resulting from a project; and/or
2. Rely on a qualitative analysis or performance based standards.

Additionally, the Section 15064.4(b) states that "In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change," and that the following factors should be considered:

[18] California Code of Regulations, Section 15364.5.

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)).

CEQA Guidelines Section 15064.4 does not establish a threshold of significance for GHG emissions. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies or suggested by other experts (see CEQA Guidelines Section 15064.7(c)). To date, the City, as lead agency, has not established a quantitative threshold for evaluating the significance of GHG emissions for general use as part of the City's environmental review process. There are also no quantitative thresholds established at the regional or State level that could be applied to the project. Therefore, the amount of GHG emissions produced by the project cannot by itself be used to determine impacts. However, section 15064.4(a) of the CEQA Guidelines requires that the "lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project." Therefore, there must be a good-faith effort to quantify emissions, but impacts must be determined through a qualitative analysis.

Construction of the trails will produce minimal GHG emissions as those emissions will be produced only by the few vehicles used by workers to reach the work site and by the use of weed trimmers. If each worker drove their own vehicle to the work site every day, the amount of GHG emissions produced would be a fraction of the amount of emissions produced by workers arriving at the Event Center or The Edge business park every day, and a fraction of existing traffic on nearby roadways and the 101 Freeway. It can also be argued that workers would be traveling to one or another job site in the same air basin, regardless of this project, and thus trips are the same or an almost imperceptible increase in trips. Further, construction would cease after approximately six weeks. During operation, it is anticipated that the trails will generate few vehicle miles travelled (VMT) during the week. Most weekday users are expected to be nearby workers whose use of the trail will generate no additional VMT, and some nearby residents, wherein any VMT generated will be low. On the weekend the trails may attract more users, but they are expected to primarily be nearby residents, again generating little VMT. The amount of visitors to the trails and distance traveled is likely to be fairly minor, and it is unlikely the trails will generate new trips. Most likely trips made to the new trails will be in lieu of another destination, rather than generating brand new trips from people who otherwise would not have traveled to an open space trail for recreation. This is because there are numerous open space trails within a 5 or 10-mile radius of the project site and hiking is a common recreational pastime in the area. These new trails do not introduce a new activity to the area, rather simply a new destination of a common activity wherein there are multiple destinations to choose from. It would be highly speculative to attempt to quantify the number of new trips the project might create. It is possible the project could potentially result in no new trips. That is, all trips to the project site may be trips diverted from a different destination, and the project does not generate any new trips on its own.

Qualitatively, it can be determined that the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs by following the guidance of CEQA Guidelines Section 15064.4(b)(3) by assessing the "extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b))." What constitutes a "statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emission" is detailed in CEQA Section 15183.5(b).

At present the only plan at the regional or State level that qualifies is SCAG's 2020-2045 RTP/SCS. The RTP/SCS has been determined by CARB to achieve CARB's 2035 GHG emission reduction target of 19 percent below 2005 per capita emissions levels, consistent with SB 375. The RTP/SCS is a land use plan that, if implemented, would result in a reduction of GHG emissions. Compliance with the plan essentially requires that a project does not conflict with the land use assumptions that underlie the plan, or that a project serves to fulfill the goals of the plan. The core of the RTP/SCS is placing housing and job density in areas serve by transit, which decreases sprawl and VMT. The project does not involve any construction and will not engender any change in land use at the project site or nearby. The land use designation and zoning of the properties the trails will travel through will not change, and therefore the project is consistent with the land use assumptions the RTP/SCS is based upon. As the project does not involve any development and land use remains unchanged, there is no conflict with the RTP/SCS and impacts would be less than significant.

The City has adopted a Climate Action and Adaptation Plan in April 2022; however, this plan concerns the built environment and does not have any provisions that would apply to the project for purposes of qualitative impact threshold assessment.

Mitigation Measures

No mitigation measures are required.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Impact Analysis

a-b. Less Than Significant Impact. A significant impact may occur if the proposed project would involve the use or disposal of hazardous materials as part of its routine operations or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors. As a trail development, the proposed project would not involve the use or disposal of hazardous materials for operations, and it would have no potential to generate toxic or generally hazardous emissions. During the six-week construction phase, the proposed project would require the use of handheld equipment and other tools that may utilize small quantities of fuel and/or oil such as gas-powered weed trimmers. However, regulations governing the use and disposal of these potentially hazardous materials, would be adhered to during the construction phase. Therefore, a less than significant impact would occur.

c. No Impact. The project may have a potentially significant impact if the project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. As described above, the project would not emit substantial amounts of hazardous emissions or handle large volumes of hazardous or acutely hazardous materials, and there are no existing or proposed schools within one-quarter mile of the project. The closest school to the project site is the Conejo Hebrew High School, located approximately 0.40 mile to the northwest at 30345 Canwood Street. The project would have no impact with regard to this issue.

d. No Impact. A search of the California Environmental Protection Agency's (CalEPA's) Cortese List Data Resources databases[19] showed that the project site and abutting properties are not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The search involved the following records:

- Department of Toxic Substances Control's Envirostor Hazardous Waste and Substances Site List;
- State Water Resources Control Board's (SWRCB's) GeoTracker database [for Leaking Underground Storage Tank (LUST) sites, Department of Defense sites, and Cleanup Program sites, as well as GeoTracker irrigated lands, oil and gas production, operating permitted USTs, and Land Disposal sites];
- CalEPA's list of hazardous solid waste disposal sites; and the
- SWRCB's list of Cease and Desist Orders and Cleanup and Abatement Orders.

The search of the SWRCB's GeoTracker database showed that one open LUST remediation case exists in the vicinity of the project, located approximately 800 feet to the northwest of the project site at 4950 Reyes Adobe Road for the Circle K gas station (former Mobil station). In addition, the GeoTracker database shows that the Adobe Mobil located at the same address is operating under Waste Discharge Requirements (WDRs) issued by the SWRCB or RWQCB. However, due to the distance of these cases from the project site, the location of the project site upgradient of the identified cases, and the fact that the project does not involve substantial earthwork or the use of groundwater, these sites would not pose a hazard to trail users. The project would have no impact associated with being located on a site that is included on a list of hazardous materials sites.

e. No Impact. A significant impact would occur if a project were located within two miles of a public or private airport area and would subject area residents or workers to a safety hazard. The project is not located within an airport land use plan and is not within the vicinity of an airport or private airstrip. The closest airport to the project site is the Van Nuys Airport, located approximately 20 miles east of Agoura Hills. Therefore, no impact would occur.

f. No Impact. A project would normally have a significant impact related to hazards and hazardous materials if it involved possible interference with an emergency response plan or emergency evacuation plan. The Los Angeles County Operational Area is divided into Disaster Management Areas and the City of Agoura Hills is located in Area "B." Disaster Management Areas contain disaster routes that are freeway, highway, or arterial routes pre-identified for use during times of crisis. Disaster routes are utilized to bring in emergency personnel, equipment, and supplies to impacted areas in order to save lives, protect property and minimize impact to the environment. During a disaster, these routes have priority for clearing, repairing, and restoration over all other roads.
The County of Los Angeles Department of Public Works identifies Disaster Routes, freeways, highways, or arterial routes that are pre-identified for use during times of crisis to bring in emergency personnel,

[19] California Environmental Protection Agency, Cortese List Data Resources, accessed June 1, 2021 at: https://calepa.ca.gov/sitecleanup/corteselist/.

equipment, and supplies to impacted areas to save lives, protect property and minimize impact to the environment. The 101 Freeway is designated as a Freeway Disaster Route and Kanan Road is a Disaster Route within the City.[20] The proposed project would involve the construction of a loop and overlook trails and would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan; therefore, there would be no impact from the proposed project.

g. Less Than Significant Impact. A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could adversely affect persons or structures in the area in the event of a fire. City of Agoura Hills falls entirely within a Very High Fire Severity Zone,[21] and the project site itself is situated at the interface of urbanized areas and wildland areas. Recreation activities on wildlands assume a number of inherent risks, and the City would provide installation of clear and informative signage regarding potential hazards along the major corridors of the trail system, adhering to signage criteria in the CTPMP. Pertinent information to include to promote fire awareness would include: 'Fire Danger Level', 'No Smoking,' a map of the trail to facilitate evacuation, how to handle emergencies, information on hazards in the general area, trail conditions and difficulty, and hours of use. This comprehensive signage would provide sufficient information to public trail users to render this potentially hazardous impact less than significant.

Mitigation Measures

No mitigation measures required.

[20] County of Los Angeles Department of Public Works, Los Angeles County Operational Area - Disaster Routes by City, accessed June 1, 2021 at: https://dpw.lacounty.gov/dsg/DisasterRoutes/map/Agoura%20Hills.pdf.

[21] California Department of Forestry and Fire Protection/CAL-FIRE, Agoura Hills: Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL-FIRE, September 2011.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would:	☐	☐	☒	☐
	i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
	ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
	iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
	iv) Impede or redirect flood flows?	☐	☐	☒	☐
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Impact Analysis

a. Less Than Significant Impact. A significant impact may occur if a project would violate any water quality standards or WDRs or otherwise substantially degrade surface or groundwater quality. The project establishes trails in OS and does not introduce any impermeable surfaces and therefore will not generate any stormwater runoff from man-made structures or surfaces. Typical trail construction technique involves taking any removed soil to a location that can accept more soil and compacting it in place. Occasionally some small amounts of excess soil may need to be sidecast into a bare area; however, this water courses are avoided when this is necessary and the end result would be the soil being dispersed and settling across the landscape during a rain event. Impacts to surface water quality would be less than significant.

b. No Impact. A project would result in a significant impact if it would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The project does not propose the use of groundwater and would not

involve grading activities that would encounter groundwater resources. The project would result in no impact related to groundwater supplies and recharge.

c.i – c.iii. Less Than Significant Impact. A project may have a significant impact if it would substantially alter the existing drainage pattern of the site in a manner would result in erosion or siltation, substantially increase the rate or amount of surface water runoff, create or contribute runoff water that would exceed existing capacity. The trails will follow the natural contours of the land as much as practicable, and standard trail building techniques account for trail longevity through contouring techniques that resist pooling or channeling of water, reducing opportunities for erosion. No impermeable surfaces are proposed as part of the project so the project will not produce any increase in stormwater runoff. The drainage pattern of the site will be mostly unchanged. The only instances where drainage would be noticeably changed is where construction of the trail could create an opportunity for pooling or channeling, but as mentioned standard trail building techniques account for this. Drainage patterns will therefore be changed to a small extent in localized instances, but the scale of the project is not enough to result in substantial alterations to drainage patterns of the site, and impacts would be less than significant.

c.iv. Less Than Significant Impact. A significant impact would occur if a project were to impede or redirect flood flows. The project site is located in an OS area that is not located within a flood hazard area, and it would not create any changes to the local drainage pattern. Thus, the proposed project would result in no impact related to flood hazards.

d. No Impact. A significant impact would occur if the proposed project would risk release of pollutants due to inundation within flood hazard, tsunami, or seiche zones. The project site is not located in a flood hazard area, and there are no dams or levees located on the vicinity of the project site. The site is also not located close enough to a lake feature to be affected by a seiche. In addition, the proposed use is not one that would introduce pollutants to the project site. There would be no impacts.

e. No Impact. A project would have a significant impact if it conflicted with or obstructed implementation of a water quality control plan or sustainable groundwater management plan. The project will not impact water quality as it will not create a new source of stormwater or dry weather runoff that would make its way into a sanitary sewer system or stormwater control facilities. The project will not use water during operation. Water may be used as a tool during construction, but whatever amount is used would not be enough to conflict with sustainable groundwater management. There would be no impacts.

Mitigation Measures

No mitigation measures are required.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**LAND USE AND PLANNING**. Would the project:				
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Impact Analysis

a. No Impact. A significant impact may occur if a project would be sufficiently large or otherwise configured in such a way as to create a physical barrier within an established community. The project is a series of trails not near an established community and not within land that could be residentially developed.

b. No Impact. A significant impact may occur if a project is inconsistent with the General Plan or zoning designations that currently apply to the project site and were adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project would occur on land designated as PD (General Plan) and PDD (Ladyface Mountain Specific Plan). The project site is located in the Specific Plan area and the proposed trails would therefore be subject to the Specific Plan guidelines and CTPMP, which are consistent with and build upon the goals and policies of the General Plan. The City's General Plan and CTPMP conceptually describe a future, all-purpose trail that traverses the Specific Plan area. Furthermore, within the Specific Plan area, areas such as a portion of the project site, which are generally located at or above the 1,100-foot elevation, or areas that contain major rock outcroppings and natural canyons, are designated Open Space. These areas are subject to the provisions of the OS District, Chapter 4, and Part 8 of the City Zoning Code. According to the Specific Plan, the purpose of this subarea is to designate areas that, because of natural habitat, aesthetic value, or other reasons, should be preserved as natural open space. No uses are permitted by right in this district; however, subject to a Conditional Use Permit, certain uses that are sensitive to OS may be permitted, including recreational uses that have a reasonable relationship to open space. The trail project would therefore be consistent with this standard and permitted in the Specific Plan area with a Conditional Use Permit. Given that there is no conflict with an applicable plan, policy, or regulation, no impact would occur.

Mitigation Measures

No mitigation measures required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a. Would the project result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☒
b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Impact Analysis

a. No Impact. A project may have a potentially significant impact if it would result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State. Chapter 4, Natural Resources, of the City's General Plan states that, according to the California Division of Mines and Geology (DMG), no significant mineral deposits are known to exist within the City. The DMG has mapped areas south of Agoura Road within the City, including the project site, as Mineral Resource Zone (MRZ) 3; "areas containing mineral deposits the significance of which cannot be evaluated from available data."[22] MRZ-3 areas are distinct from MRZ-2 areas where there is "adequate information" or "a high likelihood" for the presence of significant mineral deposits. Given the designation of MRZ-3, any mineral deposits within the project area would not be considered known mineral resources that would be of future value to the region and the residents of the State. Furthermore, given that no significant mineral deposits are known to exist within the City, the project would not result in the loss of availability of a known mineral resource. Therefore, the project would result in no impact.

b. No Impact. A project may result in a potentially significant impact if it would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The proposed project site does not contain a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The City's General Plan identifies the project site within a Planned Development District for the Ladyface Mountain Specific Plan (West End). Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site and there would be no impact.

Mitigation Measures

No mitigation measures are required.

[22] California Department of Conservation, Division of Mines and Geology, Mineral Land Classification Map, Special Report 145, Plate 1.18.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

a. Less Than Significant Impact. A project could have a significant impact if it created a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance. The City's noise ordinance exempts noises associated with construction from its requirements, provided work does not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, Saturday, or at any time on Sunday or a legal holiday (Agoura Hills Municipal Code Section 9656.4.E). Regardless, the project would not produce noise levels that could constitute a significant impact.

According to the City General Plan, noise sensitive receptors include schools, libraries, and hospitals. The Agoura Hills Library would be the nearest sensitive receptor to the project site, which is located approximately 600 feet north of the trail terminus. Noise levels drop by 6 dB for each doubling of distance. A weed trimmer, the loudest piece of small equipment that may be used during construction, may operate at 100 dB.[23] Assuming that is the sound intensity as measured from about three feet (the distance to an operator's ear), at six feet from the trimmer the noise level will be 94 dB, and so on. At 600 feet the noise level would be approximately 54 dB. According to the noise ordinance, the exterior noise standard for daytime hours is 55 dB. As decibels are expressed in logarithmic units they cannot be added by arithmetic means. To produce a 3 dB increase in the ambient noise level, the point at which changes in noise level are noticeable to the human ear, a doubling of the ambient noise level would be required.[24] Assuming outdoor noise levels at the library are 55 dB, the increase in noise level outside of the library during use of a weed trimmer would be under 3 dB. If the ambient noise level was less than 55 dB, then a 3 dB increase would occur, however, a temporary increase in the outdoor ambient noise level from 54 dB to 57 dB could not be considered a significant impact as 57 dB is not a noise level that could be considered excessive or damaging. In addition, such would be the noise level outside, inside any structure the noise level would typically be reduced by 12 dBA with windows open, and 24 dBA with windows closed, assuming typical warm climate

[23] California State University, San Bernardino, Hearing Conservation Program information page, accessed September 29, 2023 at: https://www.csusb.edu/ehs/occupational-health-and-safety/hearing-conservation-program

[24] California Department of Transportation, Division of Environmental Analysis, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, page 2.15.

construction.[25] For a commercial building, noise attenuation would likely be greater. Further, project construction will take place during a limited timeframe of an estimated six weeks. Operations of the project would involve hikers walking the trail, which is not a use that produces excessive noise. Therefore, project impacts during construction and operations would be less than significant.

b. No Impact. A project could have a significant impact if it created excessive ground borne vibration. The proposed project would exclusively utilize hand tools, rather than large pieces of equipment that would cause a significant groundborne vibration impact. As such, project development would result in no impact with regard to groundborne vibration.

c. No Impact. The proposed project is not located within an Airport Land Use Plan or within the vicinity of an airport or airstrip. The nearest airport is the Van Nuys Airport, located approximately 20 miles east of Agoura Hills. Given the substantial distance to an airport, no impact would occur.

Mitigation Measures

No mitigation measures are required.

[25] U.S. Environmental Protection Agency, Protective Noise Levels: Condensed Version of EPA Levels Document, November 1978.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact Analysis

a. No Impact. A significant impact would occur if a project would induce substantial population growth through the development of homes, businesses, or infrastructure. The determination of whether a project results in a significant impact on population and housing growth can be made by considering (1) the degree to which a project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds projected/planned levels for the year of project occupancy/build-out, and would result in an adverse physical change in the environment; (2) whether the project would introduce unplanned infrastructure that was not previously evaluated in the adopted Community Plan or General Plan; and (3) the extent to which growth would occur without implementation of the project. The proposed project would create trails that would not involve new homes, businesses, or infrastructure (such as roads or utility lines), nor would it accelerate development in an undeveloped area that exceeds any planned levels. The proposed trails are envisioned by applicable City planning documents. No impact would occur.

b. No Impact. A significant impact would occur if a project would result in the displacement of existing people or housing units, necessitating the construction of replacement housing elsewhere. The project site is located on undeveloped open space. There are no residential units present on or in the immediate vicinity of the site; therefore, the project would not displace people or housing and no impact would occur.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☒	☐
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☐	☒

Impact Analysis

a. Less Than Significant Impact. A project could result in significant impacts if new or expanded fire facilities were required to compensate for the project, and provision of those new facilities caused significant impacts. The Los Angeles County Fire Department (LACFD) serves the City with fire protection and prevention services. The existing Fire Station nearest the project site is Los Angeles County Station #89 located at 29575 Canwood Street, a driving distance of 1.3 miles northeast of the project site. The next closest station is Los Angeles County Fire Station #65 located at 4206 Cornell Road, a driving distance of 1.7 miles southeast of the project site. The trail project does not propose new or physically altered governmental facilities and would not increase the population in the project area. Furthermore, the LACFD has indicated that the existing fire stations are adequate to serve the proposed project.[26] Therefore, new or physically altered fire protection facilities would not be needed and the project impact on fire protection facilities would be less than significant.

b. Less Than Significant Impact. A project could result in significant impacts if new or expanded police facilities were required to compensate for the project, and provision of those new facilities caused significant impacts. The Los Angeles County Sheriff Department (LACSD) serves the City with police protection services. The nearest Sheriff Station to the project site is the Malibu/Lost Hills Sheriff Station located at 27050 Agoura Road, a driving distance of 4.2 miles east of the project site. The trail project does not propose new or physically altered governmental facilities and would not increase the population in the project area. The LACSD has also indicated that this existing station would be adequate to serve the project.[27] Therefore, new or physically altered police protection facilities would not be needed, and the project impact on police protection facilities would be less than significant.

[26] Los Angeles County Fire Department (Captain Doug Lipp, Station #89 and Captain Derek Bart, Station #65), Telephone communications with Envicom Corporation, February 25 & 29, 2016.

[27] Los Angeles County Sheriff Department (Deputy Mike Woodard, Malibu/Lost Hills Sherriff Station). Email communication with Envicom Corporation, March 9, 2016.

c. No Impact. A project could result in significant impacts if new or expanded school facilities were required to compensate for the project, and provision of those new facilities caused significant impacts. The project is located within the existing service area of the Las Virgenes Unified School District but would not involve the construction of any new buildings on which development impact fees would be based. Furthermore, no new students would be generated by the project because the project does not propose residential development. Therefore, the project would have no impact with regard to schools.

d. No Impact. A project could result in significant impacts if new or expanded park facilities were required to compensate for the project, and provision of those new facilities caused significant impacts. The proposed project effectively is a new recreational facility; its construction would not make it necessary to create more park facilities. In addition, it will not introduce residential uses that would increase population making it necessary to build new park facilities. Therefore, the project would have no impact with regard to this issue.

e. No Impact. A project could result in significant impacts if new or expanded government facilities were required to compensate for the project, and provision of those new facilities caused significant impacts. The proposed trails will not require the provision of any other new or expanded government facilities. No expansion or significant changes in services are required for the trails to operate. There would be no impacts.

Mitigation Measures

No mitigation measures are required.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**RECREATION.**				
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Impact Analysis

a. No Impact. A project could result in a significant impact if it increased the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The project proposes the creation of trails that are already envisioned by the General Plan and CTPMP, and in the future, other trails may connect to the proposed project. The proposed trails may serve to alleviate a portion of trail use elsewhere in the project area by offering trail users an additional recreational opportunity. Given that the proposed project serves to increase recreational facilities and does not increase the population of the area, the net effect upon the demand for recreational services would be beneficial and there would be no adverse impact.

b. Less Than Significant Impact. A significant impact could occur if a project includes the construction or expansion of recreational facilities that would have a significant adverse effect on the environment. The project is three recreational trails and potential impacts are identified in Sections IV and V, with all potential impacts reduced to less than significance through the implementation of mitigation measures. There are no further significant impacts requiring discussion in this section.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/CIRCULATION. Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

Impact Analysis

a. Less Than Significant Impact. According to the City of Agoura Hills Traffic Impact Analysis Guidelines, a significant impact may occur if a project would conflict with adopted policies regarding transportation. The development of recreational trails is not expected to have a significant impact on the performance of the City's circulation system. According to the City of Agoura Hills Traffic Impact Analysis Guidelines, a traffic impact analysis is required when at least one of the following conditions would occur:

- The project generates 50 or more new AM or PM peak-hour vehicle trip-ends;
- The project generates 500 or more new daily vehicle trip-ends;
- The project substantially affects an intersection or roadway segment already identified as operating at an unacceptable level of service;
- The project is inconsistent with the General Plan land, zoning designations, or could potentially generate substantially greater levels of traffic than contemplated by the General Plan;
- The project creates a hazard to public safety; or
- The project substantially changes the off-site transportation system or connections to it.

It is anticipated that the trails would mainly serve residents of the City of Agoura Hills and those who work in the vicinity of the project site. The trails would be utilized mostly outside of peak traffic hours, presumably with optimum use occurring on the weekends, as well as occasionally during the weekday (early morning hours, lunch hours, and in the evening after work in the spring/summer months when daylight hours are extended). Therefore, the project would not achieve the conditions listed above, and preparation of a traffic impact analysis is not warranted. Since the project is not expected to generate additional VMT during peak traffic periods, the project would not conflict with a plan or ordinance pertaining to the City's circulation system and the impact would be less than significant.

b. No Impact. A significant impact may occur if the project would conflict or be inconsistent with CEQA Section 15064.3 subdivision (b). Senate Bill 743 (SB 743) was enacted in September 2013 changing the way transportation impact analysis is conducted under CEQA. These changes include the elimination of auto delay, Level of Service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant traffic impacts under CEQA. As stated above, the

preparation of a traffic impact analysis was not warranted based on the City's Guidelines. As such, the project is not anticipated to generate additional VMT during peak traffic periods. As the project would not be inconsistent with Section 15064.3 subdivision (b), no impact would occur.

c. No Impact. A significant impact may occur if a project were to include a new roadway design, or introduce a new land use or project features into an area with specific transportation requirements and characteristics that have not been previously experienced in that area, or if project access or other features were designed in such a way as to create hazardous conditions. The proposed trails do not require any new roads or new vehicular infrastructure. No impact would occur.

d. No Impact. A significant impact would occur if a project would result in inadequate emergency access. As discussed in Section VIII, Hazards and Hazardous Materials, Response g., the Los Angeles County Operational Area is divided into Disaster Management Areas and the City of Agoura Hills is located in Area "B." Disaster Management Areas contain disaster routes that are freeway, highway, or arterial routes pre-identified for use during times of crisis. Disaster routes are utilized to bring in emergency personnel, equipment, and supplies to impacted areas in order to save lives, protect property and minimize impact to the environment. The 101 Freeway is designated as a Freeway Disaster Route and Kanan Road is a Disaster Route within the City.[28] The proposed project would involve the construction of three trails and would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Furthermore, as the project would not induce population growth in the project area or result in a perceptible increase in VMT, it would not increase traffic congestion and impede emergency response efforts. Therefore, the proposed project would have no impact regarding emergency access.

Mitigation Measures

No mitigation measures are required.

[28] County of Los Angeles Department of Public Works, Los Angeles County Operational Area - Disaster Routes by City, accessed June 1, 2021 at: https://dpw.lacounty.gov/dsg/DisasterRoutes/map/Agoura%20Hills.pdf.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Impact Analysis

The tribal cultural resources impact analysis is based on the Cultural Resources Constraints Analysis completed by Rincon Consultants, Inc. for Questa Engineering Corporation in January 2014, included as an attachment to Appendix A, and the cultural resources Phase I & II Survey from Envicom dated September 12, 2023 and included as Appendix E.

The 2014 analysis performed a records search to identify all previously conducted cultural resources work within a 0.5-mile radius of the project site, as well as to identify previously recorded cultural resources within a 0.5-mile radius of the project site. The CHRIS search included a review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps. The SCCIC records search identified a total of 41 previous studies (refer to Appendix C, Cultural Resources Constraints Analysis, of Appendix A to this MND), one of which included a portion of the project site (LA-3674). Study LA-3674, a Cultural Resources Survey of a 27 Acre Parcel of Property in Agoura and Subsequent Test Excavations at LAN-1069, conducted by J.P. Brock and D.M Van Horn of Archaeological Associates, Ltd., covered a small portion of the project site and consisted of pedestrian survey and archaeological testing. A total of 14 previously recorded cultural resources were identified within 0.5 mile of the project site, one of which contained human remains, which increased the sensitivity of the area for archaeological resources. The 2014 analysis was done for a trail alignment that the proposed project does not follow. A search was also requested of the Sacred Lands File (SLF) by the NAHC on January 9, 2014.

The NAHC faxed a response on January 17, 2014, which stated that "a record search of the NAHC Sacred Lands File failed to indicate the presence of Native American traditional cultural places in the project site submitted." The NAHC also provided a contact list of nine Native American tribes and individuals who may have information regarding the project area. Rincon prepared and mailed letters to these contacts on January 17, 2014 pursuant to Assembly Bill 52 (AB 52).

Representatives of the Fernandeño Tataviam Band of Mission Indians contacted the City through this outreach and requested more information regarding the implementation of the plan. Subsequently, at the City's request, and with concurrence from the Tataviam representatives, the tribe consulted with Envicom through the Phase I and Phase II processes. As explained in Section V five prehistoric archeological sites were discovered in the initial Phase I pedestrian survey. Subsequently, the trail alignment was changed and the new trail sections were surveyed, at which point another three more prehistoric archeological sites were found. The trail alignment was changed again in order to avoid impacts to cultural (and biological) resources as much as possible. The Phase II assessment involved study of the eight sites that were discovered to assess their sensitivity and eligibility for listing as a historical or archaeological resource. Four of the sites were found eligible for listing in the CRHR. The final trail alignment avoids the eligible sites and was reviewed and approved by Tataviam representatives.

a-b. Potentially Significant Unless Mitigation Incorporated. A project could have a significant impact if it caused a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, in a local register of historical resources, or if it meets National Register of Historic Places criteria. As explained in Section V, eight archeological sites were discovered in the Phase I survey of the project site. The subsequent Phase II assessment studied each of the eight sites and determined that four of the sites were found eligible for listing in the CRHR. There are no resources that meet National Register criteria and there is no local historic resource ordinance. The proposed trail alignment does not pass through any of the four eligible sites. As there will be no trail building near the eligible sites, impacts will be less than significant. The trail alignment does pass through three non-eligible sites, but construction of the trail will have a less than significant impact on these sites as the Phase II evaluation determined they consist of some quarried stone and scant "lithic debitage" which are considered non-unique site features that are common throughout the Santa Monica Mountain foothills, and therefore are not eligible for CRHR listing.

However, because the area is sensitive for resources there is the possibility that unknown buried resources which could be eligible for listing could be present. Following implementation of mitigation measures CUL-1A and 1B, detailed in Section V, project impacts to potential unknown eligible tribal cultural resources would be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Impact Analysis

a. No Impact. The project may have a potentially significant impact if the project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. The project does not require the construction of expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. As such, the project would have no impact with regard to this issue.

b. Less Than Significant Impact. A project may have a potentially significant impact if it would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. The project does not propose a land use that demands a substantial amount of water. The amount of water required for trail construction and periodic maintenance would be minimal and would not result in the need for new or expanded water entitlements; therefore, the project impact would be less than significant.

c. No Impact. A project may have a potentially significant impact if it would result in a determination by the wastewater treatment provider, which serves or may serve the project, that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. The proposed project does not include the construction of any restroom facilities and would not generate

wastewater; therefore, it would not affect the capacity of the wastewater treatment provider. No impact would occur related to this issue.

d. Less Than Significant Impact. A project may result in a significant impact if it would be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs. The project is unlikely to generate any solid waste due to construction. Soil or rocks removed for construction of the trail will be used elsewhere on site and would not be hauled to a landfill. Green waste may be removed from the site but would be sent for composting and not to a landfill. The amount of solid waste generated by trail users during operations varies depending on the number of visitors and seasonal fluctuations. However, for informational purposes, this analysis presents a conservative scenario, wherein 50 individuals use the trail in a day. CalRecycle provides estimated solid waste generation rates from various sources that may be used for planning purposes. However, given that the project proposes no new or physically modified buildings, operational solid waste cannot be estimated on the basis of built square footage. Therefore, this analysis uses an estimated operational solid waste generation rate of 0.5 pounds per user per day from the solid waste generation associated with a golf course in Los Angeles County analyzed as part of the Stevenson Ranch Draft Environmental Impact Report. Using the solid waste generation rate of 0.5 pounds per user per day, an average of 50 trail users would generate an estimated 25 pounds of solid waste per day during trail operations, which would equate to 0.013 tons per day (4.6 tons of operational solid waste generation per year). Contractors haul most solid waste in the City to the Calabasas Landfill for disposal. The maximum permitted intake capacity of the Calabasas Landfill is 3,500 tons per day, and the remaining capacity is 14,500,000 cubic yards. With a maximum permitted intake capacity of 3,500 tons per day, the project would represent 0.00037 percent of the daily permitted capacity of the Calabasas Landfill. The City requires waste haulers operating within the City to collect and properly process materials for recycling and to submit diversion rate reports to the City for review. Therefore, compliance with requirements for recycling would reduce the amount of operational solid waste actually disposed of in a landfill. In consideration of these factors, the project solid waste impact would be less than significant.

e. No Impact. A project may have a potentially significant impact if it would not comply with Federal, State, and local statutes and regulations related to solid waste. The City would be responsible for removing solid waste from the site, and as such would comply with all applicable regulations, resulting in no impacts with regard to this issue.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Impact Analysis

According to the CAL FIRE[29], the project site is located within a very high fire hazard severity zone.

a. Less Than Significant Impact. A significant impact would occur if the project would substantially impair an adopted emergency response plan or emergency evacuation plan. Plans concerning emergency response or evacuation in the City include the Agoura Hills General Plan and SEMS/NIMS (Standardized Emergency Management System/National Incident Management System) Emergency Operations Plan, the County's County Operational Area Emergency Response Plan (and related organizing documents at the department levels), and the Los Angeles County General Plan Safety Element. In each case, the plan is the organizational framework and hierarchy of implementation for the County, County departments, and the City when there is an emergency. In other words, these organizational documents determine how the involved parties are to respond when there is an emergency. Impairment of these plans, therefore, could occur if the proposed project interfered with the County or the City's ability to implement the plans.

Impairment could take the form of the project introducing conditions that placed a burden on emergency responders during an emergency response situation, or impaired the implementation of emergency response planning. The project creates recreational trails that will primarily serve the local population and are not expected to generate substantial traffic. Trail users would park in existing parking lots which are less than 0.25 mile from Agoura Road and less than 0.5 mile from the 101 Freeway via Reyes Adobe Road once the Event Center is exited. The ease to leave the vicinity of the trails and low expected number of visitors at

[29] CAL FIRE, Fire and Resource Assessment Program, FHSZ Viewer, accessed September 25, 2023 at: https://egis.fire.ca.gov/FHSZ/

any one time would result in less than significant impacts to the execution of an emergency response plan or emergency evacuation plan.

b. No Impact. A significant impact would occur if the project would exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors. No dwellings or other buildings are proposed as components of the project. Therefore, there are no project occupants to consider and no built facilities to protect. If there was a wildfire on Ladyface Mountain itself the trails would have no impact on the progression of wildfire and would not create any new sources of fuel that would exacerbate risk from wildfire. Therefore, the project will not exacerbate wildfire risks due to slope, prevailing winds, and other factors, and there would be no impact.

c. No Impact. A significant impact would occur if the project were to require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. The project requires no new infrastructure and as a pathway through OS does not itself constitute infrastructure that might exacerbate fire risk; there would be no impact.

d. No Impact. A significant impact would occur if the project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project is three recreation trails to be constructed by a small crew using only hand tools in order to create a minimum of surface disturbance. The trails will follow the natural contours of the land and as such will not create instabilities that could create downstream flooding or landslides, or post-fire slope instability or drainage changes, in the instance of a wildfire. As such there would be no impact.

Mitigation Measures

No mitigation measures are required.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☒	☐
c. Does the project have environmental effects that cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Impact Analysis

a. Less Than Significant Impact. A project would be considered to have a potentially significant impact if has the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

As detailed in Section IV the project has the potential to significantly impact nesting birds, the special-status species Coastal Western Whiptail, riparian habitat and the two Bushy Spikemoss sensitive Alliances, and *Quercus* species. To address potential impacts mitigation measures BIO-1 through BIO-7 are added to the project, reducing all biological impacts to less than significance. As detailed in Section V, the trail alignments avoids all eligible cultural resource sites but has the potential to significantly impact cultural resources that may be buried and unknown. Mitigations measures CUL-1A, -1B and CUL-2 are added to the project, which reduces all potential cultural resource impacts to less than significance.

There are no other potential or more severe biological or cultural impacts posed by the project beyond those discussed in Sections IV and V. The project is three two-foot wide recreational trails that will be built with hand tools and follow the natural contours of the alignment as much as practicable. Biological and cultural impacts have been thoroughly analyzed and mitigated to less than significance.

b. Less Than Significant Impact. For the purpose of this analysis, a significant impact could occur if a project, in conjunction with other projects in the vicinity, would result in impacts that would be less than significant when viewed separately, but would be significant when viewed together. The project consists of hiking trails wherein potential impacts to biological or cultural resources have been reduced to less than significance either by avoidance of the impact or mitigation which requires compensatory action. Provided mitigation is properly applied, there will be no net loss of resources. Therefore, if another trail were to be constructed in a nearby area there would be no losses from the proposed project that could exacerbate impacts at the new trail, for example, reducing the breeding stock of a localized, special-status biological resource. Therefore, the cumulative impact of the project when viewed in connection with the effects of past projects, other current projects, and the effects of probable future projects is less than significant.

c. No Impact. The project consists of recreational trails constructed to create more outdoor recreational opportunities in the City. The project is the addition of a recreation option in OS approved for such use, and it would not have environmental effects that cause substantial adverse effects on human beings, either directly or indirectly. Therefore, this project would have no impact.

Mitigation and Compliance

No mitigation measures are required.

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6.0 MITIGATION MONITORING PROGRAM

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
BIO-1	**Pre-Construction Springtime Survey** A qualified biologist shall conduct a pre-project botanical survey within the project limits and an adjacent buffer area for potentially occurring special-status plant species, including *Calochortus clavatus var. gracilis, Deinandra [Hemizonia] minthornii, Eriogonum crocatum, Pentachaeta lyonii, Dudleya cymosa* ssp. *agourensis, Chorizanthe parryi* var. *fernandina, Dudleya cymosa* ssp. *marcescens, Dudleya cymosa* ssp. *ovatifolia, Dudleya parva, Horkelia cuneata* var. *puberula, and Senecio aphanactis*. The survey shall be conducted the spring prior to commencement of project construction. The survey shall consist of a survey in mid-spring and a survey in late-spring to ensure detection of all potentially occurring special-status plant species. If special-status plants are not detected during the survey, no additional mitigation would be required and the results of the survey shall be submitted to the City of Agoura Hills Planning Department and CDFW (if applicable). If a special-status plant(s) is present at or adjacent to the project site, the extent of the population shall be mapped and the number of individual plants and the acreage of occupied habitat that would be impacted by the project shall be determined. The City of Agoura Hills Planning Department shall be notified and consultation with CDFW and USFWS (if applicable) shall be conducted prior to initiation of ground or vegetation disturbing activities and the following actions shall be taken: Avoidance of the special-status plants shall occur where feasible. If avoidance is not feasible, the Applicant shall offset the proposed loss of individual plants by on-site restoration (salvage and replanting, or propagation) at a 2:1 ratio, or a ratio and method acceptable to City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable). At the discretion of the City of Agoura Hills Planning	Retain a qualified biologist to conduct a pre-project botanical survey the spring prior to project construction and to prepare a mitigation and monitoring plan if necessary.	Mid-spring and late-spring prior to construction	City of Agoura Hills	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	Department, CDFW, and USFWS (if applicable), compensation for impacts to the species may be accomplished by off-site restoration at a 2:1 ratio or preservation of on-site or off-site populations in the vicinity of the site at a 2:1 ratio, if present. A Mitigation and Monitoring Plan that provides for the replacement of the species impacted by the project shall be developed by a qualified restoration specialist and approved by City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable). The Plan shall specify the following: • a summary of impacts; • the location of the mitigation site; • methods for harvesting seeds or salvaging and transplantation of individuals to be impacted; • measures for propagating plants or transferring living plants from the salvage site to the mitigation site; • site preparation procedures for the mitigation site; • a schedule and action plan to maintain and monitor the mitigation area; • criteria and performance standards by which to measure the success of the mitigation, including replacement of impacted plants; • measures to exclude unauthorized entry into the mitigation areas; and • contingency measures such as replanting or weeding in the event that mitigation efforts are not successful. The performance standards for the Mitigation and Monitoring Plan shall be at a minimum the following: • Within five years after introducing the plants to the mitigation site, the number of established, reproductive				

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	plants shall be no less than 2x the number of those lost to project construction, • Non-native species in the treated area shall be less than 15% cover by the end of the third year of treatment and less than 5% by the end of the fifth year of treatment, and; • Restoration will be considered successful after the success criteria have been met for a period of at least 2 years without any maintenance or remediation activities other than invasive species control. Prior to issuance of a grading permit, the Applicant shall secure a bond for an amount equal to the cost of the restoration effort. The bond shall be released by the City upon satisfaction of the approved performance criteria. The mitigation project shall be initiated prior to development of the project and shall be implemented over a five-year period or until performance standards are met, whichever period is longer. The mitigation project shall incorporate an iterative process of annual monitoring and evaluation of progress, and allow for adjustments to the Plan, as necessary, to achieve desired outcomes and meet performance standards. Annual reports discussing the implementation, monitoring, and management of the mitigation project shall be submitted to City of Agoura Hills Planning Department CDFW, and USFWS (if applicable). Five years after the start of the mitigation project, a final report shall be submitted to City of Agoura Hills Planning Department, CDFW, and USFWS (if applicable), which shall at a minimum discuss the implementation, monitoring, and management of the mitigation project over the five-year period and indicate whether the mitigation project has been successful based on established performance standards. The mitigation project shall be extended if performance standards have not been met to the satisfaction of City of Agoura Hills Planning				

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	Department, CDFW, and USFWS (if applicable) at the end of the five-year period.				
BIO-2	**Biological Monitoring** Prior to any ground disturbing activities, a qualified biologist shall be retained as the lead biological monitor subject to the approval of the City. That person shall ensure that impacts to sensitive biological resources are minimized or avoided and shall conduct (or supervise) pre-project field surveys and routine monitoring for species that may be avoided, affected, or eliminated as a result of trail building activities. The qualified biologist shall serve as lead biological monitor and shall ensure that all surveys and monitoring activities are performed by qualified personnel (e.g., avian biologists for nesting bird surveys) and that they possess all necessary permits and memoranda of understanding with the appropriate agencies for the handling of potentially-occurring special-status species. The lead biological monitor shall also conduct a pre-project environmental education program for all personnel working at the site, which shall be focused on conditions and protocols necessary to avoid and minimize potential impacts to biological resources. The lead biological monitor shall also ensure that daily monitoring reports (e.g., survey results, protective actions, results of protective actions, adaptive measures, etc.) are prepared, as necessary, and shall make these monitoring reports available to the City and California Department of Fish and Wildlife at their request.	Retain a qualified biologist as the lead biological monitor to ensure impacts to sensitive resources are minimized/avoided, pre-project field surveys and monitoring are conducted, pre-project environmental education program for site personnel are completed and ensure daily monitoring reports are prepared.	Prior to construction	City of Agoura Hills	
BIO-3	**General Biological Resource Protection Measures** The following measures shall be implemented during the construction phase to avoid impacts to native habitats adjacent to or in the vicinity of the limits of disturbance, as well as special-status flora and fauna that could potentially be associated with these habitats: a) Prior to all ground disturbing and construction activities, the qualified biologist (as identified in mitigation measure BIO-1) shall:	Implement general biological resource protection measures to avoid impacts to native habitats adjacent to or in the vicinity of the limits of disturbance, as well as special-status flora and fauna that could potentially be associated with these habitats.	Prior to construction	City of Agoura Hills Qualified Biologist	

	i. Demarcate the precise alignment of the trail to avoid impacts as much as practicable according to the proposed alignments, adjusting the alignment as necessary; ii. Demarcate project limits of disturbance with highly visible staking and flagging to prevent encroachment of project activities into adjacent native habitats; and, iii. Demarcate any special-status plant species or communities near the trail alignment for avoidance. The City shall verify the staking and flagging has been correctly installed prior to the start of ground disturbance or construction activities. The temporary staking and flagging shall be routinely inspected and maintained in functional condition for the duration of project construction. b) Any trail alignment where the outside border of the trail is within 5 feet of the canopy of any species of Quercus or within 15 feet of the trunk of any species of Quercus shall be inspected by a certified arborist that is a qualified oak tree consultant for determination of impacts (see mitigation measure BIO-7). The certified arborist shall demarcate the protection zones of any protected oak trees located near the trail alignment for avoidance. Impacts will be avoided wherever possible. c) All construction and maintenance activities, except in an emergency, shall be limited to the hours of 7:00 a.m. to 7:00 p.m. d) No artificial lighting shall be used during construction. e) No pets shall be allowed on the project site.				

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	f) All food-related trash shall be disposed of in closed animal-proof containers. g) All project related equipment shall be cleaned and decontaminated of weeds and soils prior to entering the project site to reduce the potential for the spread and introduction of invasive and noxious weeds.				
BIO-4	**Nesting Bird Surveys** No earlier than 14 days prior to ground or vegetation disturbing activities that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February 1 through August 31), the City-approved qualified biologist shall perform two (2) field surveys to determine if active nests of any bird species protected by the state or Federal Endangered Species Acts, Migratory Bird Treaty Act, and/or the California Fish and Game Code Sections 3503, 3503.5, or 3511 are present in the disturbance zone or within 200 feet of the disturbance zone for songbirds or within 500 feet of the disturbance zone for raptors and special-status bird species. The second nesting bird survey shall be conducted within three days of the start of ground or vegetation disturbing activities. A letter report summarizing the methods and results of the surveys shall be submitted to the City and California Department of Fish and Wildlife prior to commencement of project activities. In the event that an active nest is found within the survey area, site preparation and trail construction activities shall stop until consultation with California Department of Fish and Wildlife and U.S. Fish and Wildlife Service (as applicable) is conducted and an appropriate setback buffer can be established. The buffer shall be demarcated and project activities within the buffer shall be postponed or halted, at the discretion of the biologist, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting.	1. Perform two (2) field surveys as specified, in order to determine if active nests of any protected bird species are present in the disturbance zone or within 200 feet of the disturbance zone (songbirds) or 500 feet of the disturbance zone (raptors or special status bird species). 2. Submit a letter report summarizing the methods and results of the surveys to the City and CDFW. 3. Stop construction if an active nest is found until consultation with CDFW/USFWS is conducted and an appropriate setback buffer is established.	1. No earlier than 14 days prior to ground or vegetation disturbing activities occurring during nesting/breedin g season (typically February 1-August 31). Conduct second survey within three days of the start of ground or vegetation disturbing activities. 2. Prior to commencement of project activities 3. If active nest is found within survey area	City Of Agoura Hills Qualified Biologist	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
BIO-5	**Pre-construction Survey for Special-Status Wildlife Species** Prior to the commencement of ground or vegetation disturbing activities, a pre-construction survey for special-status wildlife species, including the Coastal Western Whiptail and those species with potential to occur, shall be conducted by qualified biologist(s) to determine the presence/absence of these species at the site. The pre-construction survey shall incorporate appropriate methods and timing to detect these species, including individuals that could be concealed in burrows, beneath leaf litter, trees, or in loose soil. If a special-status species is found, avoidance is the preferred mitigation option. If avoidance is not feasible, a relocation plan including, at a minimum, the timing and methods for capturing and releasing the animals as well as locations for their release shall be prepared and submitted to the City and California Department of Fish and Wildlife for review and approval prior to approval to commence work. The species shall then be captured and transferred to appropriate habitat and location where they would not be harmed by project activities, preferably to open space habitats in the vicinity of the project site. If a Federally listed species is found, the U.S. Fish and Wildlife Service shall also be notified. A letter report summarizing the methods and results of the surveys and relocation efforts, if applicable, shall be submitted to the City and California Department of Fish and Wildlife prior to commencement of project activities.	1. Conduct a pre-construction survey for special-status wildlife species identified on site, and those with the potential to occur. 2. Prepare and submit a relocation plan to the City and CDFW if avoidance of special-status species is not feasible. 3. Prepare and submit a relocation plan to the City and CDFW if avoidance of federally listed species is not feasible and notify the USFWS.	1. Prior to commencement of ground or vegetation disturbing activities 2. Prior to approval to commence work if a special status species is found 3. Prior to approval to commence work if a federally listed species is found	City of Agoura Hills Qualified Biologist	
BIO-6	**Bushy Spikemoss Alliances** Trail development impacts to the Bushy Spikemoss Herbaceous Alliance and California Buckwheat / Bushy Spikemoss Alliance sensitive plant communities shall be mitigated by enhancement of local and equivalent habitat at a 2:1 ratio. Enhancement may consist of weed removal or similar methods. Prior to commencement of work, the final trail alignment shall be mapped and the qualified biologist shall determine the final acreage of trail construction impacts to the sensitive plant communities at the site. Enhancement activities shall be implemented where equivalent habitats exist. If on-site enhancement in the vicinity of the project site is infeasible,	Mitigate trail development impacts to the Bushy Spikemoss Herbaceous Alliance and California Buckwheat / Bushy Spikemoss Alliance by enhancement of local and equivalent habitat at a 2:1 ratio.	If trail impacts to the Bushy Spikemoss Herbaceous Alliance, California Buckwheat / Bushy Spikemoss Alliance occur	City of Agoura Hills	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	impacts to sensitive plant communities shall be mitigated by off-site restoration of equivalent habitat at a 2:1 ratio within the same watershed.				
BIO-7	**Oak Tree Protection** Per the requirements of BIO-2, the City shall retain the services of a qualified oak tree consultant (who is also a certified arborist) to inspect any trail alignment within 5 feet of the canopy of any species of *Quercus* who shall perform the following duties: a. The qualified oak tree consultant/certified arborist shall inspect the proposed trail alignment and determine if ground disturbance will occur within the protected zone of any oak trees. The protected zone is defined by the Agoura Hills Municipal Code as: Using the dripline as a point of reference, the protected zone shall commence at a point five (5) feet outside of the dripline and extend inwards to the trunk of the tree. In no case shall the protected zone be less than fifteen (15) feet from the trunk of an oak tree. b. In the event that the trail alignment would encroach into the protective zone of any protected oak trees and could not be feasibly realigned to avoid the protective zone (subject to the City's determination), and/or if the trail alignment would require the pruning of any protected trees, then the tree consultant/certified arborist shall monitor ground disturbance activities on the project site that occur within the identified protective zone. In the event that the pruning of protected oak trees within or adjacent to the trail alignment is necessary to maintain visibility and public safety, the oak tree consultant/certified arborist shall also monitor such pruning to ensure that no impacts to oak trees occur. No pruning of live wood of an oak tree (including branches and roots) shall be permitted unless specifically authorized by the oak tree consultant/certified arborist, and pruning shall be	Retain the services of the qualified oak tree consultant (also a certified arborist) to execute the numerous duties specified in the measure.	Prior to construction.	City of Agoura Hills Oak Tree Consultant/ Arborist	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	performed by the qualified arborist. All pruning operations shall be consistent with American National Standards Institute (ANSI) A300 Standards – Part 1 Pruning and the most recent edition of the International Society of Arboriculture Best Management Practices for Tree Pruning. c. If the tree consultant/certified arborist determines significant impacts will occur, then trees shall be replaced at a ratio of 3:1 with size of replacement stock and location determined by the City in consultation with the tree consultant/certified arborist.				
CUL-1A	**Archaeological and Native American Monitoring** The City shall retain a professional archaeological monitor and a Native American monitor who has a cultural affiliation to the project region to observe all ground disturbing activities along the entire trail route. The archaeological monitor must meet the Secretary of Interior's standards of qualification to oversee and manage the trail monitoring work that impacts the top two feet of soil. This includes oversight of the Native American monitor. If prehistoric artifacts are encountered that are similar to such materials described in this report, then such artifacts can be relocated to a safe and more hidden part of either the archaeological site that construction is located within, or to a place away from the trail if construction is not within or near a known archaeological site. If prehistoric exotic materials or features are encountered, such as a previously unknown prehistoric feature, burial, shell, or faunal material, then trail construction work will cease within 30-feet of the discovery and a principal archaeologist will be contacted to assess the find. If the principal archaeologist confirms that the find is of consequence and cannot easily be relocated, then the City or Mountains Recreation and Conservation Authority (MRCA) will be notified and a course of action will be discussed between the City or MRCA representative, the principal archaeologist, and the Native American monitor	Appoint a professional archaeological monitor and a Native American monitor to observe ground disturbing activities within the top two feet of soil.	Prior to construction.	City of Agoura Hills	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
CUL-1B	**Reburial of Native American Artifacts** If consultation regarding the discovery of an additional prehistoric or ethnographic Native American cultural resource leads to an agreed upon course of action between the City or Mountains Recreation and Conservation Authority (MRCA), the project principal archaeologist, and the Native American monitor, and if the discovery is determined to be a Tribal Cultural Resource, then the City or MRCA shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the project region as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during trail construction. Once all invited Native American groups have been consulted with, the City or MRCA will then select a course of action for the reburial of all uncovered artifacts or features determined to be "of importance" in a way that best matches the suggestions of the consultation group. It is preferred that all artifacts uncovered be placed at a secure location within the nearest of the known prehistoric sites discussed in this report, or at a location away from the proposed trail if the discovery is located outside of known sites.	If discovery of a Tribal Cultural Resource is made during monitoring the City or MRCA shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the project region as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during trail construction	In the event of an archaeological discovery	City of Agoura Hills Project Archaeologist	
CUL-4	**Inadvertent Discovery of Human Remains** If human remains are discovered, State Health and Safety Code Section 7050.5 requires that no further disturbances shall occur until the County Coroner has made the necessary findings regarding origin and disposition pursuant to the Public Resources Code Section 5097.98. If human remains are unearthed, the City Planning Department staff and County Coroner shall be notified immediately. In the case of the discovery of prehistoric or ethnographic Native American remains, the Native American Heritage Commission of the State of California states that the following process should be followed: 1. **Call the County Coroner. (Health and Safety Code section 7050.5)**. The County Coroner, and not the NAHC, site archaeologists, monitors, or anyone else, determines that the remains are Native	Notify the County Coroner and City in the event human remains are discovered and halt all work until necessary findings are made per Public Resources Code Section 5097.98.	In the event human remains are discovered	Archeological monitor	

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	American for purposes of the Native American Heritage Commission (NAHC) jurisdiction. If they are, the County Coroner will contact the NAHC. **The NAHC does not have jurisdiction to designate Most Likely Descendants until the County Coroner determines that the remains discovered are Native American.** The landowner shall ensure that the immediate vicinity of the remains, according to generally accepted cultural or archaeological standards or practices, is not damaged or disturbed further by development activity until the landowner has discussed and conferred with the Most Likely Descendants regarding their recommendations. The coroner shall make his or her determination within two working days from the time when the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of human remains. If the coroner determines the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that there are those of a Native American, he or she shall contact the NAHC, by telephone, within 24 hours. 2. The NAHC Environmental and Cultural Staff will designate which California Native American Tribe on its Most Likely Descendants list is the Most Likely Descendant of the Native American whose remains were discovered and contact that Tribe. (Public Resources Code sections 5097.94(a), 5097.98) 3. The Tribe designated as MLD will have 48 hours from the time at which they are granted access by the landowner of the property to where the remains were discovered to inspect the area of the remains and make recommendations or preferences for treatment known to the landowner. The landowner shall discuss				

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	and confer with the MLDs all reasonable options regarding the MLDs preferences for treatment, which may include: a. The nondestructive removal and analysis of human remains and items associated with the Native American human remains. b. Preservation of the Native American human remains in place. c. Relinquishment of the Native American human remains to the MLDS for treatment. d. Other culturally appropriate treatment. (Public Resources Code section 5097.98). d. The parties may also agree to extend discussions, taking into account the possibility that additional or multiple Native American human remains are located in the project area, providing a basis for additional treatment. (Public Resources Code section 5097.98) e. If the NAHC is unable to identify MLDs, the identified MLDs fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendations of the MLDs and the mediation provided for under Public Resources Code section 5097.98, subdivision (k), if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. To protect these sites, the landowner shall do one or more of the following:				

#	Mitigation	Action	Timing	Responsible Agency or Party	Date & Status
	i. Record the site with the commission or the appropriate Information Center. ii. Utilize an open-space or conservation zoning designation or easement iii. Record a document with the county in which the property is located. The document shall be titled "Notice of Reinterment of Native American Remains" and shall include a legal description of the property, the name of the owner of the property, and the owner's acknowledged signature, in addition to any other information required by this section. The document shall be indexed as a notice under the name of the owner. (Public Resources Code section 5097.98)"				

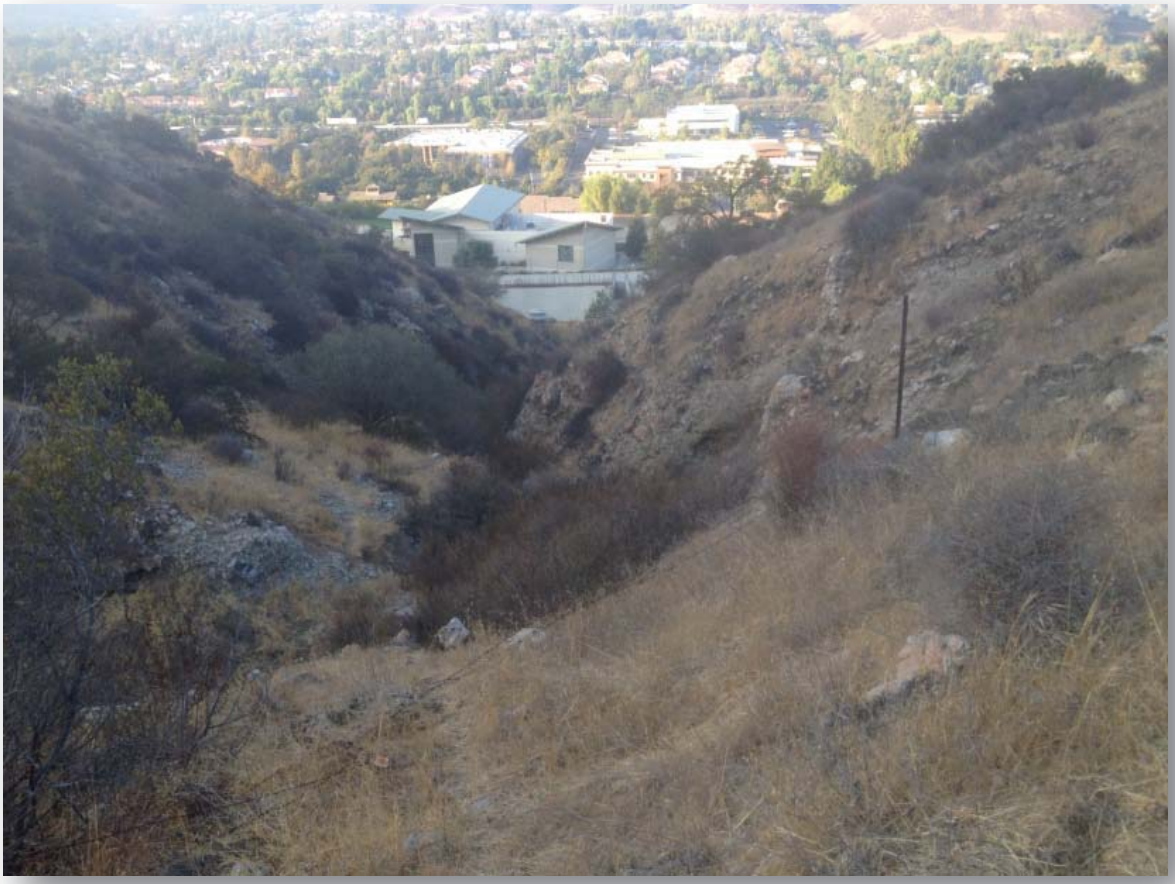
APPENDIX A

Trail Study - Agoura Hills Recreation Center Trailhead

May 15, 2015

Questa Engineering Corp.

Trail Study
Agoura Hills Recreation Center Trailhead



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Trail Study for the
Agoura Hills Recreation Center Trailhead

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in Association with:
Rincon Consultants

Questa Project No. 1300139

Table of Contents

1. Introduction

The Trail Study for the Agoura Hills Recreation Center Trailhead includes planning, preliminary engineering design and environmental review for a trail system at the Agoura Hills Recreation Center.

Study Purpose. This Trail Study provides a conceptual design for a trail system that will connect to the new recreational trail behind the Recreation Center. The first phase of the project will be a trailhead and loop trail starting from the new Recreation Center, proceeding south, to potentially connect to existing nearby trails, then westerly to adjacent properties. Future extensions of the Recreation Center trail in an easterly direction could connect to Kanan Road, where trail users will be able to also access neighboring trails such as the Ladyface Mountain trail identified in the City's Ladyface Mountain Specific Plan. This Plan, as well as the City's Bicycle and Pedestrian Plan, shown the conceptual location of a recreational loop trail, connections and linkages to city streets (including Agoura Hills Drive), and connections to regional trails systems within Santa Monica Mountains parklands.

The Study documents existing conditions, analyzes site opportunities and constraints, provides preliminary design recommendations (width, tread, slope, etc.) and input on draft trail alignments, and chart a course for phasing, funding, and implementation of the approved Trail Plan, including cost estimation, funding identification and required environmental review and permitting. Stakeholder and public input is an important component of the planning process, and will be completed associated with environmental review and public review and approval of the project. The Trail Plan is needed as a next step to define a feasible alignment, achieve consensus on planning objectives, and to identify specific trail improvements that can be funded for implementation by the City.

Location and Surrounding Land Use. The City of Agoura Hills is in the eastern Conejo Valley between the Simi Hills and the Santa Monica Mountains. The project site, located south of Agoura City Hall, includes lands owned by the City as well as adjacent lands owned and/or managed by The Santa Monica Mountains Conservancy and Mountains Recreation Conservation Authority. The Agoura Hills Recreation Center Trailhead is located within the City of Agoura Hills in western

Los Angeles County, within Township 1 North, Range 18 West of the U.S. Geographical Survey (USGS) Thousand Oaks 7.5-minute topographic quadrangle.

The project site is generally bounded by a developed commercial tract to the north and undeveloped open space to the east, west, and south. The proposed project activities will include the construction of the Recreation Center Loop Trail, with potential future connections to existing trails within adjacent public open space areas.

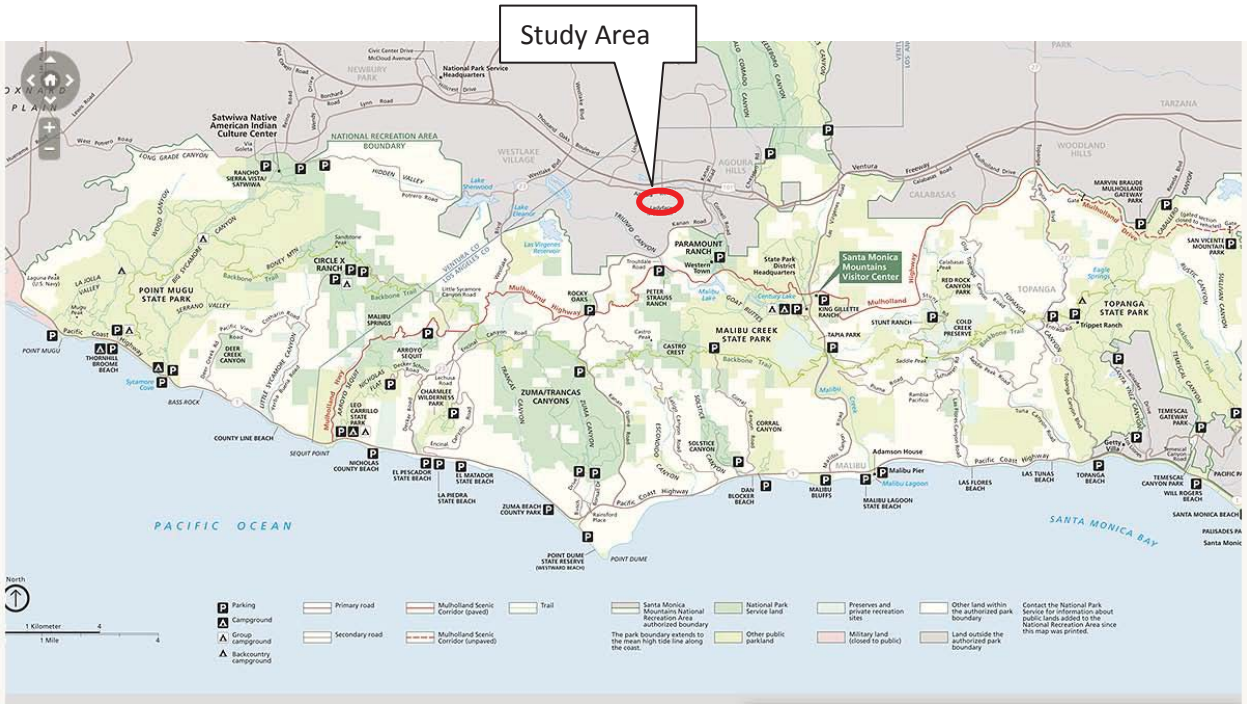
2. Existing Conditions

2.1 Property Ownership

Parcel boundaries are shown on **Figure 1 (Appendix A)**, and were obtained from the Los Angeles County GIS Department and ownership was determined through an online records search. Easements were identified using Parcelquest data. Lands on adjacent open space areas are owned and/or managed by the Mountains Recreation and Conservation Authority (MRCA) and Santa Monica Mountains Conservancy (SMMC).

The Mountains Recreation and Conservation Authority (MRCA) is a local government public entity established in 1985, which is a partnership between the SMMC, (a state agency established by the Legislature), and local park agencies: the Conejo Recreation and Park District and the Rancho Simi Recreation and Park District. The MRCA manages and provides ranger services for public lands and parks that it owns and that are owned by the Santa Monica Mountains Conservancy or other agencies.

Further south of the project site are lands within the Santa Monica Mountains National Recreation Area (SMMNRA), and under the jurisdiction of a variety of agencies, including National Park Service (NPS), California State Parks (State Parks), SMMC, and the MRCA. Under the direction of the National Park Service, the SMMNRA Interagency Trail Management Plan (TMP) is being prepared, which has been in the planning stages since the mid 1990's. The TMP will establish the overall vision for future development and management of the nearly 500-mile SMMNRA trail network.



Source: NPS

West of the site is the International Headquarters of Joni and Friends International Disability Center, which serves as the administrative center for ministries which provide worldwide outreach to families affected by disability, as well as the Sheraton Hotel, Interthinx, and an office condominium. East of the site, towards Kanan Road, there are several large, privately owned parcels including a church camp.

2.2 Ladyface Mountain Specific Plan Consistency

Because the trail will be located on steep slopes, there will be a need for some significant side-hill roadway or trail cuts, as well as construction of retaining walls. These need to be designed and constructed carefully so they do not create a visual impact on the hillside, noticeable from the City streets and HWY 101. Some of the cuts may be in the hard rock that could potentially "stand" at a 1:1 angle most will be stable at 2:1. The cuts in areas of debris will require flatter cuts and some over-excavation or rock and concrete retaining walls.

The Ladyface Mountain Specific Plan includes design guidelines that may be applicable to the project, including:

- Placement of the trails (except connections) above 1100 feet elevation,
- Limits on slope at angles,
- Limits on height of cuts,
- Requiring cut rounding and blending and
- Utilizing earthstone and stone façade concrete or stacked stone retaining walls to minimize visual impacts.

Additional geotechnical analysis and visual assessment will be required as part of the environmental analysis, including assessment of potential visual impacts of trail cuts by utilizing visual renderings to determine trail visibility and incorporate visual elements to minimize viewshed disruption.

2.3 Hydrology and Drainage

Figure 2 shows the location of area creeks and drainages, including storm drains maintained by Los Angeles County, and information obtained from the Los Angeles County GIS Department. Considering that this project is located primarily on the south side of the existing developed area adjacent to open space, storm drain facilities are the primary utility that will need to be considered while designing this project. Figure 2 also shows easements that are owned by the Los Angeles County Flood Control District. These easements

generally follow the storm drains and were taken from the Assessor's Parcel Maps for the project vicinity. Two natural drainage courses cross the site and end at the Flood Control District facilities. A short bridge (less than 40 feet) may be required to cross the westerly drainage. The easterly drainage terminates at the Flood Control facilities and would not be affected by this phase of trail construction. An easement or use agreement will be needed to utilize the Flood Control storm drain facility access road, as well as to construct safety fencing around the facility.

2.4 Topography

The area above the Recreation Center is very steep, as shown on **Figure 3.** Topographic data, obtained from the City of Agoura Hills was taken from a 2006 LiDAR survey by the LAR-IAC. Existing access roads to the Flood Control facilities range from 9 to 11% grade and are not ADA accessible. Natural surface trail segments to form a loop above the Recreation Center are generally above a 10% grade. It should be noted that property lines, drainage facilities, and easement locations are approximate and should be accurately located in the field by a licensed surveyor as the project design proceeds beyond the 30% level.

Per requirements of the City's Ladyface Mountain Specific Plan, the trail should be located at elevations above 1100 feet (except connections).

2.5 Geology

The Study area is underlain by bedrock of the Miocene-age Conejo volcanics (Yerkes & Showalter, 1991, Dibble, 1993). These rocks are slightly- to moderately- weathered, variable in composition and generally well fractured and jointed. The soils that have developed on the volcanic rocks are shallow and stony (typically less than 2 feet in depth), except along colluvial slopes associated with drainage-ways and rock fall collection areas. In some areas the soils are moderately expansive. There are no known active faults within the study area.

A number of possible (questionable) landslides and rockfall areas occur within the study area. The rockfall hazard areas occur at the base of and are associated with steep slopes with large rock outcrops, where rocks can become dislodged and tumble down as boulders and large to small rock clasts. Rockfall hazard is greatest associated with large, regional earthquake events. No trail areas pass beneath large rock outcrops.

Geotechnical Issues. The trail would cross through some areas that are susceptible to earthquake-induced landslides (derived from the *Seismic Hazard Evaluation of the Thousand Oaks 7.5 minute quadrangle, Ventura County, California: California Division of Mines and Geology, Open-File Report 2000-008).* Hatched areas on Figure 3 refer to "Areas where previous occurrences of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Sections 2693(c) would be required." It is important to note that this mapping was done at a coarse scale and thus the Hazard Zones represent general areas where further geotechnical investigations are necessary. In addition, based on field observations, there are other areas within the project vicinity not mapped as Hazard Zones which will also require geotechnical investigation. There are no areas with liquefaction potential within the study area.

2.6 Biological Resources

The study area consists of vegetation covered hill slopes. Vegetation types are strongly influenced by climate and soils, with a predominance of plant morphological adaptations to the Mediterranean climatic influence (waxy leaf cuticles, drought deciduous, and deep tap root system) of wet, cool winters and warm, dry summers.

The Project includes multiple habitat types which have been mapped at the alliance-level using descriptions and classifications outlined in *A Manual of California Vegetation 2ed* (Sawyer, et al. 2009) and refined with observations in the field. The area between Kanan Road and the western boundary of the city is mapped as chaparral in the City of Agoura Hills General Plan. The six vegetation communities or land cover types that were observed include: California Chaparral, Coastal Sage Scrub, Native and Non-Native Grassland, Landscaped Land, Bare Ground, and Paved Surfaces.

The project area contains suitable habitat for sensitive plant species (including federally protected threatened and endangered plants), sensitive wildlife, jurisdictional drainages, and locally protected trees within areas of the currently proposed Loop Trail and Overlook Trail alignments. **Appendix B** contains a Biological Constraints Analysis for the project site. **Appendix D** contains Rare Plant Survey Results.

Due to the potential for significant impacts to sensitive biological resources, avoidance and minimization measures are recommended prior to project implementation.

Avoidance and minimization measures may include, but are not limited to:

- Conduct protocol rare plant surveys during the appropriate blooming seasons
- Preconstruction surveys for nesting birds and sensitive wildlife

- Compliance with standard avoidance, minimization, and mitigation measures and the requirements of the appropriate USACE, CDFW, and RWQCB permits and implementation of any mitigation therein,
- Avoidance of individual oak trees and/or procurement of an oak tree permit from the City of Agoura Hills prior to the start of construction activities.
- Depending on the rare plant survey findings, the trail may need to be locally realigned to avoid existing populations of plants and individual oak trees.

2.7 Cultural Resources

Appendix C contains a Cultural Resources Constraints Analysis for the project site. The cultural resources records search and Native American scoping did not identify any previously recorded archaeological resources within the project site. However, 14 previously recorded archaeological sites were recorded within a 0.5-mile radius of the project site, but not within the recreational loop trail footprint. Of these, four were habitation sites, seven were lithic scatters, one was a prehistoric quarry and the remaining two were isolated lithic artifacts. One of the habitation sites contained human remains.

Three prehistoric isolates were identified during the pedestrian survey, but not recorded. The presence of several prehistoric archaeological sites near the project site, one of which contained human remains, significantly increases the sensitivity of the area for archaeological resources.

Due to the potential for significant impacts to cultural resources, avoidance and minimization measures are recommended prior to project implementation.

Avoidance and minimization measures may include, but are not limited to:

- **Resource Recordation.** Three isolates identified during the pedestrian survey should be formally recorded in accordance with Department of Parks and Recreation protocols.
- **Phase I Cultural Resources Report.** A cultural resources technical report (prepared in accordance with the California Office of Historic Preservation's Archaeological Resource Management Reports (ARMR) guidelines) should be prepared that incorporates the results of the constraints analysis, survey, and recordation of isolates. The Phase I report will provide recommendations for cultural resources management within and adjacent to the project site.
- **Cultural Resources Mitigation Monitoring and Reporting Plan.** Prior to the start of project related ground-disturbance, a qualified archaeologist should prepare a cultural resource mitigation monitoring and reporting plan (CRMMP). The CRMPP should include: research design including prehistoric cultural context, research questions and potential data sources, data collection procedures; cultural resources mitigation measures; an unanticipated discovery plan; avoidance measures; a data recovery plan; a curation plan; and measures to reduce potential cultural resources impacts to a less than significant level. The CRMPP should include a plan for

archaeological and Native American monitoring and protocols for the treatment of unanticipated discovery of cultural resources and human remains.

- **Archaeological and Native American Monitoring.** Full-time archaeological and Native American monitoring of all project-related ground disturbing activities may be needed. Archaeological monitoring should be conducted under the direction of a qualified archaeologist.
- **Discovery of Human Remains**. If human remains are found, no further disturbance will occur, and protocols followed in accordance with California state law.

Estimated costs for each of these measures are included in **Section 4.2 – Preliminary Project Costs** (**Table 1**).

3. Opportunities and Constraints

3.1 Ownership, Easements, and Utilities

In order to construct the proposed Recreation Center Loop Trail and Outlook Spur Trail, the City of Agoura Hills will have to obtain an easement from Joni and Friends, Interthinx, as well as the Santa Monica Mountains Conservancy. In addition, for the beginning of the trail at the Recreation Center, the City would need to make arrangements with the Los Angeles County Flood Control District to locate the trail within their easement and utilize the access road as well as the dikes from the stormwater retention facilities. These existing paved access roads provide the only viable access for the trailhead that would begin at the existing parking facility. Relocation or placement of additional gates and/or fencing may be needed, but no significant modifications to these access roads would be required. Overall, it doesn't appear that the storm drainage system or any other utilities would present constraints to the trail design.

Potential Phase 2 connector trails to the east and west would require easements from Mountains Recreation Conservation Authority, the Hilton Foundation, the International Church of the Foursquare Gospel, and/or Creekside Terrace.

3.2 Topography, Geography, and Hydrology

The primary physical constraint to the trail construction is the overall steepness of the terrain. This results in geologic hazards including shallow landslides, rock falls, and accelerated soil erosion, which adds to the expense of building and maintaining a trail. Generally, constructing a trail on steep terrain is more expensive because more earthwork is necessary as well as the installation of retaining walls in some locations.

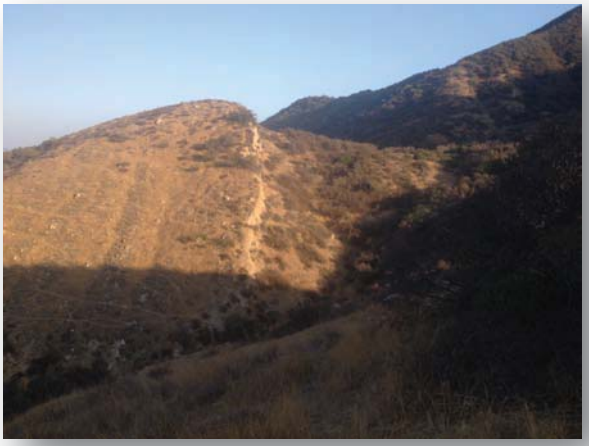
4. Preliminary Trail Plan

4.1 Trail Segments

For this study, the project was broken into five trail segments as shown on **Figure 3**. Each segment was further subdivided into three sub-categories based on terrain: 1) gentle terrain with slopes less than 5:1 or 20%; 2) moderate terrain with slopes between 20% and 50%; and 3) steep terrain with slopes greater than 2:1 or 50%.

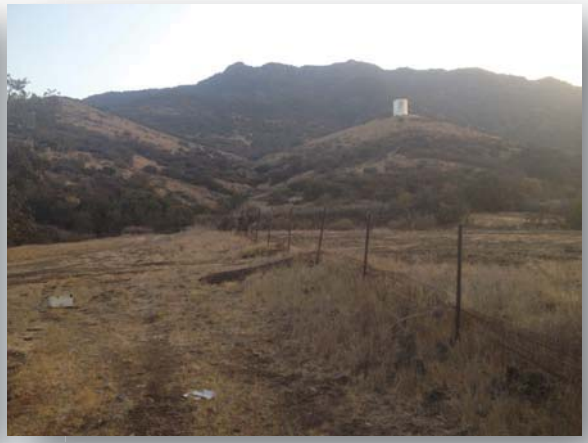
- Segment 1: This 630 ft. segment begins at the end of the existing access road southwest of the Recreation Center and continues westerly at an approximate 13% grade. This would be a 6 ft. wide segment. A potential accessible trail from the Joni and Friends International Disability Center and Interthinx would connect to this trail at a small overlook area.

- Segment 2: This 710 ft. segment continues southerly at an approximately 10-15% grade to reach above elevation 1100 feet. This would be a 6 ft. wide segment.



- Segment 3: This 1050 ft. segment extends easterly at approximately 1130-1140 foot contour, with grades ranging from 0-10%. This segment would cross a swale with a proposed 20-30 foot bridge crossing. This would be a 4 ft. wide segment.

- Segment 4: This 1015 ft. segment connects to the existing access road on the east side of the Recreation Center, and when combined with Segments 1 through 3, provides a complete loop trail. A future trail connection to Kanan Road would occur at the approximate 1100 foot elevation. This would be a 4 ft. wide segment.



- Segment 5: This 1420’ spur trail segment would begin at elevation 1135 and continue along the slope at an approximate 13% grade to a small overlook area. This would be a 4 ft. wide segment.

4.2 Preliminary Project Costs

For each of the terrain types represented in the trail segments, a cost per linear foot of trail construction was determined based on information provided in **Table 1**.

Overall, it is cost prohibitive to construct 6-foot-wide trail on steep terrain. Trail Segment 3 would be particularly expensive to construct considering that it primarily crosses steep terrain that includes the crossing of a watercourse as well as a geologically unstable area. Constructing a 6’ wide trail along Segments 1 and 2 and a 4-foot-wide trail along Segment 5 appears to be the most cost effective option. However, constructing a 6-foot-wide trail along all the segments should be possible if sufficient funding is available for engineering and construction.

Table 1: Agoura Hills Trail - Preliminary Cost Estimate

Segment (6' Width)	Length Gentle Terrain (ft)	Length Moderate Terrain (ft)	Length Steep Terrain (ft)	Total Length Trail Segment (ft)	Balanced Grading Volume (CY)	Grading Cost	Retaining Wall Cost*	Surfacing Cost	Stream Crossing Cost	Total Estimated Cost	**Total plus 20% Contingency**
1	0	410	220	630	284	$21,333	$22,000	$11,340	$ -	$54,673	**$65,608**
2	710	0	0	710	26	$1,972	$ -	$12,780	$ -	$14,752	**$17,703**
3	0	300	750	1050	644	$48,333	$75,000	$18,900	$20,000	$162,233	**$194,680**
4	200	330	480	1010	461	$34,556	$48,000	$18,180	$ -	$100,736	**$120,883**
5	100	900	250	1250	456	$34,167	$25,000	$22,500	$ -	$81,667	**$98,000**
Total	1010	1940	1700	4650	1871	$140,361	$170,000	$83,700	$20,000	$414,061	**$496,873**

** Assume 4' height retaining wall in steep terrain*

Segment (4' Width)	Length Gentle Terrain (ft)	Length Moderate Terrain (ft)	Length Steep Terrain (ft)	Total Length Trail Segment (ft)	Balanced Grading Volume (CY)	Grading Cost	Retaining Wall Cost*	Surfacing Cost	Stream Crossing Cost	Total Estimated Cost	**Total plus 20% Contingency**
1	0	410	220	630	142	$10,667	$ 11,000	$ 7,560	$ -	$ 29,227	**$35,072.00**
2	710	0	0	710	13	$ 986	$ -	$ 8,520	$ -	$ 9,506	**$11,407.33**
3	0	300	750	1050	322	$24,167	$ 37,500	$ 12,600	$ 15,000	$89,267	**$107,120.00**
4	200	330	480	1010	230	$ 17,278	$ 24,000	$ 12,120	$ -	$ 53,398	**$64,077.33**
5	100	900	250	1250	228	$ 17,083	$ 12,500	$ 15,000	$ -	$ 44,583	**$53,500.00**
Total	1010	1940	1700	4650	936	$70,181	$ 85,000	$ 55,800	$15,000	$ 225,981	**$271,176.67**

** Assume 2' height retaining wall in steep terrain*

Accessible Segment (4' Width with Turnouts)	Length Gentle Terrain (ft)	Length Moderate Terrain (ft)	Length Steep Terrain (ft)	Total Length Trail Segment (ft)	Balanced Grading Volume (CY)	Grading Cost	Retaining Wall Cost*	Surfacing Cost	Drain Crossing Cost	Turnouts	Railings	Total Estimated Cost	**Total plus 20% Contingency**
Accessible	0	100	1400	1500	533	$40,000	$ 140,000	$ 48,000	$25,000	$75,000	$ 75,000	**$ 403,000**	**$483,600**

** Assume 2' height retaining wall in steep terrain*

Cut and Fill

Terrain	Cut Area per foot of trail (6' width)	Cut Area per foot of trail (4' width)	Cut Area per foot trail (8' width)
Steep	20	10	30
Moderate	8	4	12
Gentle	1	0.5	2

Unit Costs

Item	Unit	Amount
Grading	$/CY	75
Retaining Wall	$/SF	25
Gravel Trail Surfacing	$/SF	3
Asphalt Trail Surfacing	$/SF	8

Cultural Resources Costs: Avoidance and Minimization Measures*

Resource Recordation	$1,015.00	
Phase I Cultural Resources Report	$1,215.00	
Cultural Resources Mitigation Monitoring and Reporting Plan	$1,770.00	
Archaeological and Native American Monitoring	$28,090	4 weeks
	$41,650	6 weeks
Discovery of Human Remains**	Not anticipated. No costs provided at this time.	

** Archaeological and Native American monitoring would be billed at a rate of $1,356 per day plus $970 for negative findings report. That includes both monitors and all direct expenses.*

***Discovery of human remains is not anticipated; therefore no costs are provided at this time.*
Similarly, this assumes no archaeological sites are found during monitoring; findings would result in additional costs.

4.3 Action Plan

This Section includes recommendations for trail implementation, along with the potential project phasing, environmental compliance and regulatory permit issues. This section also includes a summary of potential funding sources.

4.4 Next Steps

Implementation of the Agoura Hills Recreation Center Trail, as well as future connections to regional trail systems will likely occur in phases.

The following steps are required for construction of a public trail project requiring detailed planning, design, environmental review and project permitting prior to construction.

- Review and/or approval of this Trail Study by City and project stakeholders.
- Integrate Trail Study concepts into applicable planning documents.
- Program funds for project implementation.
- Integrate results of the completed sensitive species surveys into environmental documents and revise Trail concept plans to reflect appropriate avoidance and minimization measures in the final Trail alignment (See **Appendices B, C, and D**)
- Completion of the required environmental review document(s) (CEQA).
- Preparation of Engineering Design plans, coordinated with available budget for initial design and construction.
- Securing funds for preliminary design and for trail construction (in Phases, if needed) as well as for needed mitigation projects such as roadway soil erosion control and stream and wetlands restoration.
- Obtaining regulatory permit approvals, including Section 10 consultation with the US Fish and Wildlife Service if needed.
- Obtaining a Conditional Use Permit for grading in the Open Space area of the Ladyface Mountain Specific Plan, and obtaining a Grading Permit
- Preparation of detailed engineering design plans and construction documents.
- Publically bidding the project's Construction Plans.
- Construction, including construction oversight of the approved plans by a qualified Contractor to ensure that the project plans, along with all of the CEQA mitigation measures and all permit conditions, are followed and implemented as approved.
- Continuing informal discussions of easement acquisition and Right of Way with adjacent landowners and project partners, leading to obtaining agreements as individual projects or phases move forward towards construction.
- Negotiation and completion of potential Right of Way (ROW), including easements, and trail use or licensing agreements for connections to regional trails.
- Engineering and environmental work for extended trail connections.

The following steps outline the near-term process in more detail for trail planning and design, leading to trail construction:

1. Project Review and Approval

The Trail Study Report, including alignment recommendations, should be presented to the Agoura Hills City Council. Alternatively, this Study could be received by the Community Services Committee.

3. CEQA Documentation

An environmental analysis needs to be conducted per California Environmental Quality Act (CEQA) requirements prior to any project approval. A CEQA Initial Study Checklist must be prepared to determine if there are potentially significant environmental impacts. If there are potential impacts, then an expanded environmental assessment or a full EIR may need to be prepared, most likely focusing on specific project issues and initial priority phases. Mitigation measures may be incorporated into the project design such as fencing, separation, trail realignment or other measures, and completion of compensatory mitigation (trail erosion control) to reduce or offset the potential environmental impacts.

Rare plant species surveys are currently being conducted to determine potential impacts to sensitive species. The environmental document will need to identify Avoidance/Minimization Measures, Mitigation requirements, and specific Mitigation to address potential impacts.

If the environmental review and special studies identify feasible mitigation measures that reduce potential environmental impacts of the project to less than significant levels, then a Mitigated Negative Declaration may be considered for adoption by the lead agency.

4. Right of Way Agreements

If acquisition or permission for use of a property for the trail is needed in the form of a lease, easement or use agreement, this should be obtained, at least informally as an agreement in concept, before any significant further planning or design work begins. Typically Right of way is secured after environmental studies are completed, but well before engineering design is completed, when the most feasible/preferred alignment is more precisely defined.

For initial trail segments, agreements with Mountains Recreation Conservation Authority and Santa Monica Mountains Conservancy should be obtained. Future trail segments will need agreements with adjacent private landowners.

Separate agreements would be needed with each landowner or easement holder (such as Joni and Friends) within a trail segment. Continued dialogue with respective property owners and stakeholders will be critical to incorporate trail elements into current and planned projects where appropriate.

5. Project Permitting

Preparation of permit applications and requests for permit approvals from applicable regulatory agencies is typically completed concurrent with or following completion of preliminary engineering design. Typically, permitting can often be completed on well thought-out conceptual (35% submittal) plans. Some trail segments will likely be subject to permit and review associated with proximity to sensitive habitat areas.

The following project permits are anticipated:

- City of Agoura Hills Building/Grading Permit
- U.S. Army Corps of Engineers Section 404 Nationwide wetlands fill permit (if wetlands are affected)
- CA Department of Fish and Wildlife 1600 Streambed Alteration Agreement (potential creek crossing)
- Section 10 Consultation with US Fish and Wildlife Service if federally protected species are potentially impacted.
- Conditional Use Permit for grading in the Open Space area of the Ladyface Mountain Specific Plan

Typically six to nine months should be allocated to project permitting, although this can be conducted concurrently with the CEQA review.

6. Final Design

The design process can often proceed at the same time the environmental review work and permitting is being completed. Next steps may include topographic, property or boundary and ROW/easement surveying, completion of soil borings for trail surface and/or boardwalk/bridge design, and trail design. Typically a design proceeds through several stages of preparation and review, from concept drawings to a final construction bid package (i.e., 35% completion, 70% completion, and 95% completion review and submittals). Depending on complexity, the completion of a final design and bid package, followed by public bidding.

Preparation of Final Engineering Plans and Construction Documents typically takes from three to four months. This can also be undertaken concurrently with the later phases of environmental review and project permitting.

7. Trail Construction

Trail implementation can also be completed in phases, depending upon prioritization, available funding, and environmental requirements, permitting, or combined with other construction projects. The project may also be subject to seasonal implementation restrictions to avoid impacts to wildlife resources during nesting or breeding season. Trail construction can take from three months to six or more months.

5. Funding Opportunities

This section provides a summary of current funding opportunities related to trails, and matches funding opportunities to the project implementation steps in the Action Plan. Bicycle, pedestrian, trail (recreational trails), and school safety improvement projects may be funded by a variety of federal, state, regional, and/or local funding programs. Federal and state programs have continued to acknowledge the importance of these improvements with increased flexibility in the major funding programs, along with the development of dedicated programs for "active" or "non-motorized" transportation projects. Project funding may also be obtained through bond measures, special tax districts, private entities, and/or directly by a local agency's general fund. However, this trail is unlikely to qualify for funding set asides for transportation funding, since the trail will not be utilized for nonmotorized transportation or commuting.

Summary of Programs

The following section presents a general description of funding programs that can be used to implement the projects contained in this study.

5.1 Federal Programs

National Recreational Trails Program

The Recreational Trails Program (RTP) provides funds for recreational trails and trails-related projects. The RTP is administered at the federal level by the Federal Highway Administration (FHWA). It is administered at the state level by the California Department of Parks and Recreation (DPR). Non-motorized projects are administered by the Department's Office of Grants and Local Services (OGLS), motorized projects are administered by the Department's Off-Highway Motor Vehicle Recreation Division. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails;
- Development and rehabilitation of trailside and trailhead facilities and trail linkages;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails (with restrictions for new trails on federal lands);
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and

- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

Eligible applicants include cities and counties, parks districts, state agencies, Federal agencies, and non-profit organizations with management responsibilities of public lands. There is no maximum or minimum limit on grant request amounts. The maximum amount of RTP funds allowed for each project is 88% of the total project cost. The applicant is responsible for obtaining a match amount that is at least 12% of the total project cost. Eligible match sources include: State funds, including State Grant funds; Local funds, including general funds and bond funds; Private funds; Donated materials and services; Value of donated land (for Acquisition projects only); and other federal funds.

The RTP non-motorized funding program will provide approximately $1.47 million per year. The current federal RTP funding source, MAP-21, expires September 30, 2014. OGALS cannot announce a request for new applications until it can verify that a re-authorization of MAP-21 or a new authorization has been signed into law. The next RTP Application Filing Deadline: Unknown, and no earlier than 2015.

Web Link: http://www.parks.ca.gov/?page_id=24324

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) program provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. LWCF is administered by the National Parks Service and the California Department of Parks and Recreation and has been reauthorized until 2015. Cities, counties, tribes, and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project and will be reimbursed for fifty percent of costs. $2,000,000.00 is the maximum request amount for any individual project.

Eligible projects must meet two specific criteria. The first is that projects acquired or developed under the program must be primarily for recreational use and not transportation purposes, and the second is that the lead agency must guarantee to maintain the facility in perpetuity for public recreation. Applications are considered using criteria such as priority status within the State Comprehensive Outdoor Recreation Plan (SCORP). The State Department of Park and Recreation will select which projects to submit to the National Park Service (NPS) for approval. Final approval is based on the amount of funds available that year, which is determined by a population-based formula, with a 40/60 split for northern and southern California respectively.

Web Link: http://www.parks.ca.gov/?page_id=21360

Rivers, Trails and Conservation Assistance Program

The National Park Service Rivers, Trails, and Conservation Assistance (RTCA) program supports community-led natural resource conservation and outdoor recreation projects across the nation. This

program provides technical assistance via direct staff involvement to establish and restore greenways, rivers, trails, watersheds, and open space areas. The RTCA program provides planning assistance only. Projects are prioritized for assistance based upon criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation and focusing on lasting accomplishments. Federal agencies may be the lead partner only in collaboration with a non-federal partner.

Web Link: http://www.nps.gov/orgs/rtca/index.htm

Santa Monica Mountains Conservancy

The Santa Monica Mountains Conservancy manages several programs that provide grant funds for local trails, access, and habitat restoration projects, especially for projects on their lands. The funding cycle for these programs is open and on-going throughout the year. Funds are available to local government as well as non-profits. The Conservancy may be a funding source for trails that improve access to area rivers and creeks.

Web Link: http://smmc.ca.gov/

Habitat Conservation Fund

The Habitat Conservation Fund (HCF) provides $2 million dollars annually in grants for the conservation of habitat including wildlife corridors and urban trails statewide. Eligible activities include property acquisition, design, and construction. The HCF is 50% dollar for dollar matching program. California Environmental Quality Act (CEQA) compliance is required. Urban projects should demonstrate how the project would increase the public's awareness and use of park, recreation, or wildlife areas.

Web Link: http://www.parks.ca.gov/?page_id=21361

Wildlife Conservation Board Public Access Program

This program funds land acquisitions that preserves wildlife habitat or provides recreational access for hunting, fishing or other wildlife-oriented activities. Up to $250,000 is available per project with applications accepted quarterly. Eligible projects include interpretive trails, river access and trailhead parking areas. The state must have a proprietary interest in the project. Local agencies are generally responsible for the planning and engineering phases.

Web Link: https://www.wcb.ca.gov/FundingSources.aspx

State Water Resources Control Board Grants

Federal CWA 319(h) Program

This program is an annual federally funded nonpoint source pollution control program that is focused on controlling activities that impair beneficial uses and on limiting pollutant effects caused by those activities. States must establish priority rankings for waters on lists of impaired waters and develop action plans, known as Total Maximum Daily Loads (TMDLs), to improve water quality. Project proposals that address TMDL implementation and those that address problems in impaired waters are favored in the selection process. There is also a focus on implementing management activities that lead to reduction and/or prevention of pollutants that threaten or impair surface and ground waters. This funding could be explored in conjunction with erosion or water quality improvements to off-set any erosion caused by trail construction and operation.

Web Link: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/319h/

5.2 Local/Regional Funding Programs

Direct Local Jurisdiction Funding

Local jurisdictions can fund trails projects using a variety of sources. A city's general funds are often earmarked for non-motorized projects.

Impact Fees

Another potential local source of funding is developer impact fees, typically tied to specific plan implementation, or reduction in vehicle trip generation. A clear connection between the impact fee and the mitigation project must be established. This may be appropriate for future implementation of trails east to Kanan Road in conjunction with property development.

Community Partnerships

Corporate philanthropy is a component of many organizations. Partnering with corporations that supply products that contribute to healthy living may provide funding options for trail implementation. Potential partners include:

- REI Foundation http://www.rei.com/stewardship/report/community/rei-foundation.html
- Amgen Foundation http://www.amgen.com/citizenship/foundation.html The Amgen Foundation supports programs that align with their mission and priority giving areas in communities where Amgen has a presence. Their focus is to fund programs that enhance civic engagement by supporting science and education based initiatives, environmental programs, health and social services, as well as culture and arts in an effort to strengthen and enrich communities.

- Kaiser Permanente Southern California http://community.kp.org/be-involved/funding-opportunities The Kaiser Permanente Southern California Region Grants Program provides support to nonprofit organizations, government entities, and academic institutions in Kaiser Permanente service areas throughout Southern California, to improve the health of communities and eliminate health disparities; parks and recreation is an area of focus.

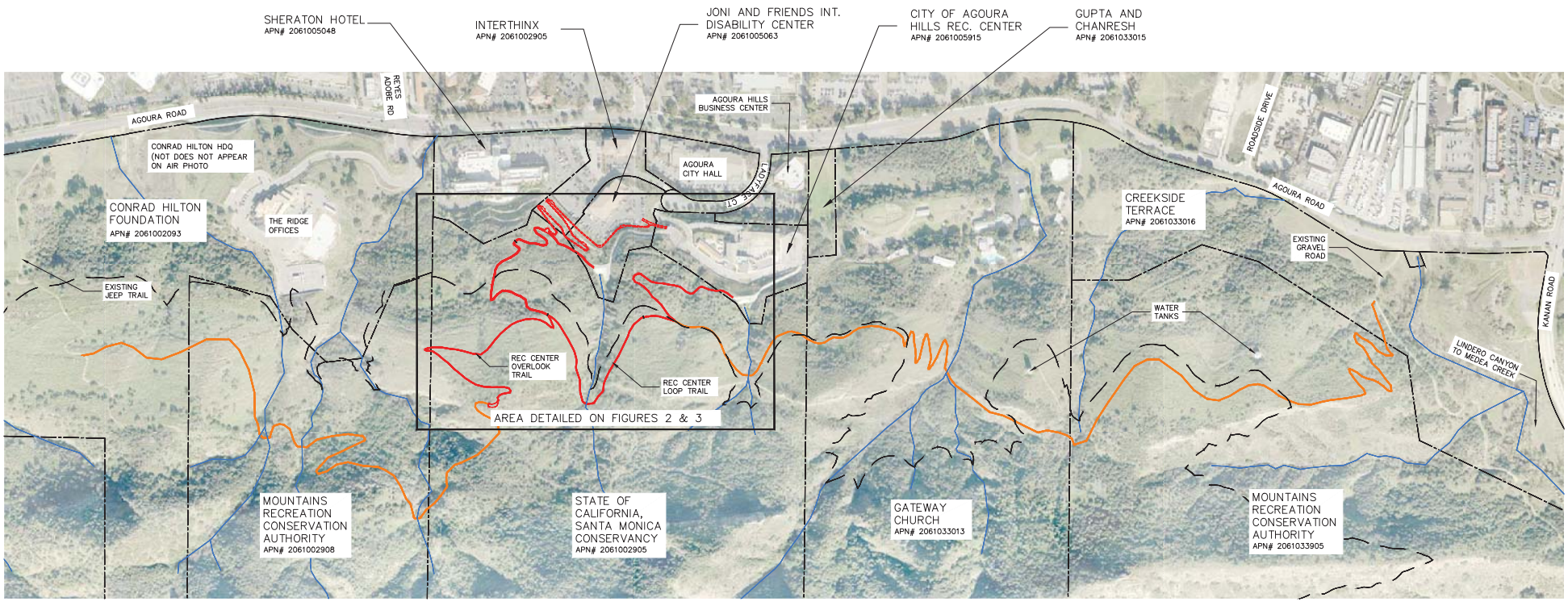
Other

Local sales taxes (which may be subject to a local vote), fees, and permits may be implemented. Volunteer programs may substantially reduce the cost of implementing some of the trail segments. Use of groups such as the California Conservation Corp which offer low-cost assistance will be effective at reducing project costs. Local schools or community groups may use the trail as a project. Work parties may be formed to help clear the right of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations "adopt" a trail and help construct and maintain the facility.

Partnering with adjacent property owners such as Joni and Friends, Sheraton Hotel, and others to complete trail connections is also worth consideration.

APPENDIX A

Study Figures



LEGEND

- PARCEL BOUNDARIES
- PROPOSED RECREATION CENTER LOOP
- PROPOSED EAST AND WEST CONNECTOR TRAILS
- NATURAL DRAINAGE COURSES
- 1100' ELEVATION CONTOUR

N

0 250' 500'
(1" = 250')

PRELIMINARY - NOT FOR PUBLIC RELEASE

NOTES:
1. AERIAL IMAGERY FROM 2011 LAR-IAC SURVEY
2. PROPERTY OWNERSHIP AND STORM DRAINS FROM LA COUNTY GIS DEPARTMENT

AGOURA HILLS TRAIL FEASIBILITY STUDY

CITY OF AGOURA HILLS

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
(510) 236-6114
FAX (510) 236-2423
P.O. Box 70356 1220 Brickyard Cove Road Point Richmond, CA 94807

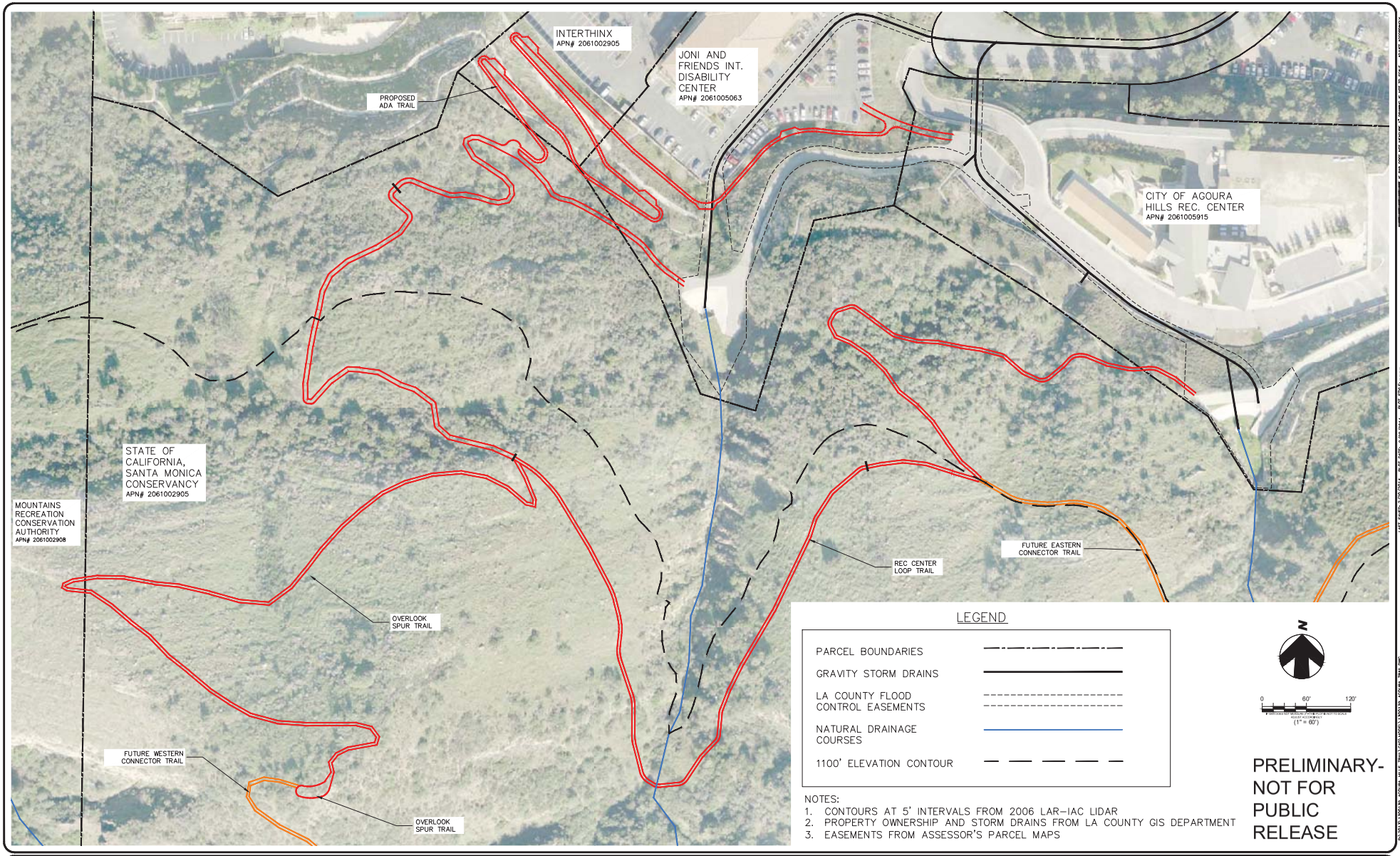
Sht	Rev:	Date:	By:	Description:	App'd

Design: JM/JP
Drawn: JM
Checked: JP
Appr'd: JP

PROJECT OVERVIEW - FIGURE 1

AGOURA HILLS, LOS ANGELES COUNTY

Size D | Project 1300139
Scale: AS NOTED
Date: 2014-2-18
Sheet: OF X



NOTES:
1. CONTOURS AT 5' INTERVALS FROM 2006 LAR-IAC LIDAR
2. PROPERTY OWNERSHIP AND STORM DRAINS FROM LA COUNTY GIS DEPARTMENT
3. EASEMENTS FROM ASSESSOR'S PARCEL MAPS

PRELIMINARY-NOT FOR PUBLIC RELEASE

AGOURA HILLS TRAIL FEASIBILITY STUDY

CITY OF AGOURA HILLS

QUESTA ENGINEERING CORP.
Civil Environmental & Water Resources
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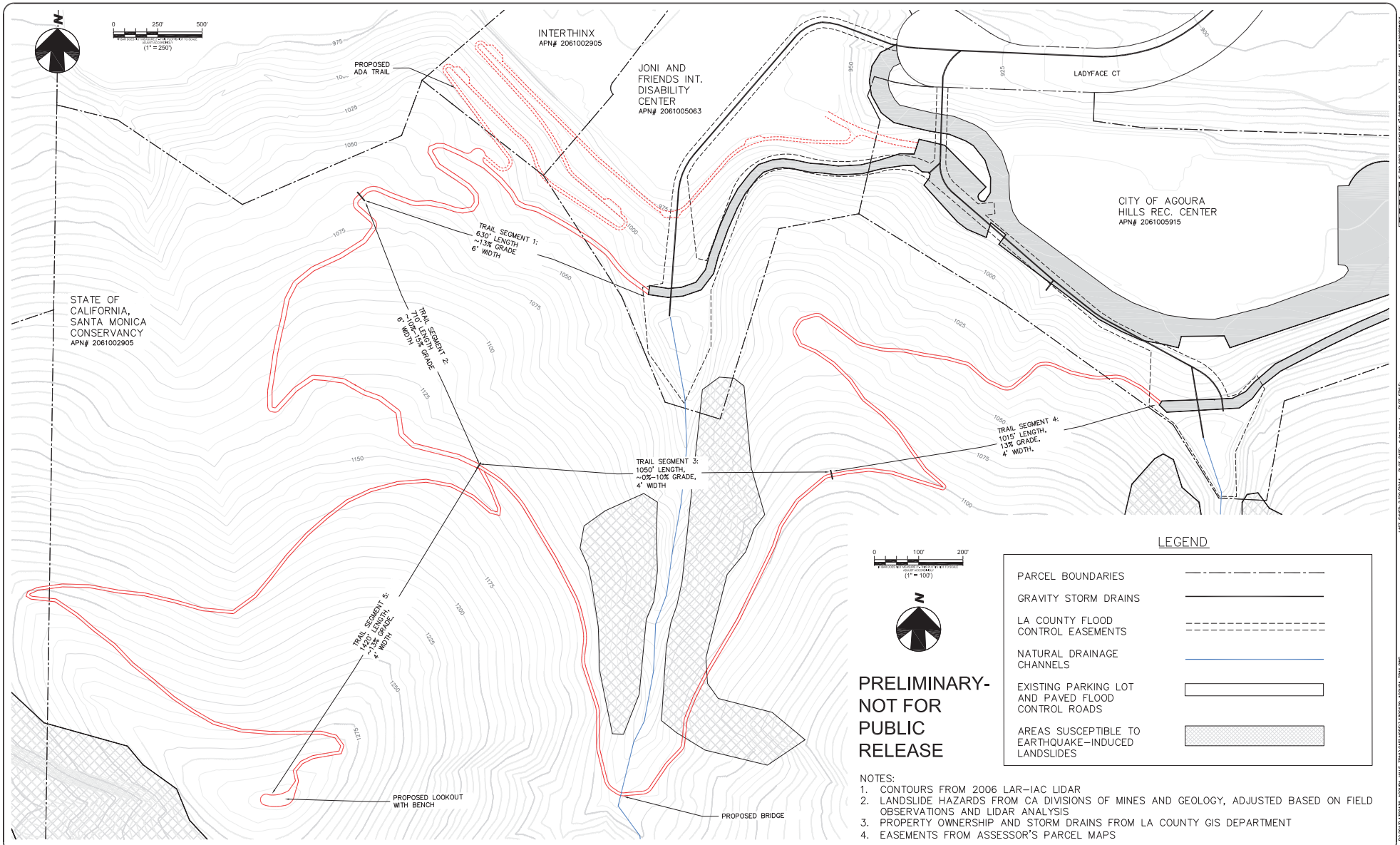
Sht	Rev:	Date:	By:	Description:	App'd

Design: JM/JP
Drawn: JM
Checked: JP
Appr'd: JP

REC CENTER TRAIL - FIGURE 2
AERIAL IMAGERY, PARCELS, UTILITIES, & EASEMENTS

AGOURA HILLS, LOS ANGELES COUNTY

Size: D | Project: 1300139
Scale: AS NOTED
Date: 2014-2-18
Sheet: OF X



NOTES:
1. CONTOURS FROM 2006 LAR–IAC LIDAR
2. LANDSLIDE HAZARDS FROM CA DIVISIONS OF MINES AND GEOLOGY, ADJUSTED BASED ON FIELD OBSERVATIONS AND LIDAR ANALYSIS
3. PROPERTY OWNERSHIP AND STORM DRAINS FROM LA COUNTY GIS DEPARTMENT
4. EASEMENTS FROM ASSESSOR'S PARCEL MAPS

AGOURA HILLS TRAIL FEASIBILITY STUDY

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Design: JM/JP
Drawn: JM
Checked: JP
Appr'd: JP

REC CENTER TRAIL - FIGURE 3
TOPOGRAPHY, HYDROLOGY & GEOLOGY

AGOURA HILLS, LOS ANGELES COUNTY

Size D | Project 1300139
Scale: AS NOTED
Date: 2014-2-18
Sheet: OF X

APPENDIX B

Biological Constraints Analysis

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

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info@rinconconsultants.com
www.rinconconsultants.com

February 14, 2014
Project Number 13-01371

Jeff Peters
Principal
Questa Engineering Corporation
1220 Brickyard Cove Road, Suite 206
Point Richmond, CA 94801-4171
JPeters@questaec.com

Subject: Biological Constraints Analysis for the Agoura Hills Recreation Trail Project, Agoura Hills, Los Angeles County, California

Dear Mr. Peters:

This report documents the findings of a Biological Constraints Analysis for the Agoura Hills Recreation Trail Construction Project, Agoura Hills, Los Angeles County, California. The purpose of this report is to identify potential "fatal flaws" or items associated with biological resources that may cause an exceptional cost or significant project delays, establish baseline conditions for purposes of CEQA and project permitting, and recommend further studies or mitigation measures, if any, that will be appropriate for the project.

EXECUTIVE SUMMARY

This Biological Constraints Analysis concerns the Agoura Hills Recreation Trail Project, which includes the Agoura Hills Recreation Center Loop and Overlook Spur Trail (Project), located within the City of Agoura Hills, Los Angeles County, California. The proposed Project trail alignment contains potential habitat for five special status plants and one special status animal. It also contains potentially jurisdictional drainages and protected trees. The Recreation Center Loop Trail (Loop) and Overlook Spur Trail (Overlook) fall under the jurisdiction of the City of Agoura Hills, the City of Agoura Hills General Plan Open Space and Conservation Element, and the Ladyface Mountain Specific Plan. The Project in conjunction with the proposed Eastern and Western Connector Trails (Connector Trails) falls under the jurisdiction of the City of Agoura Hills, the City of Agoura Hills General Plan Open Space and Conservation Element, the Agoura Village Specific Plan, and the Ladyface Mountain Specific Plan.

Regulated or sensitive resources studies analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive natural communities, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources, such as protected trees. Walking surveys were conducted within the Loop, the Overlook, and within a 50-buffer on both sides of these trails (Survey Area) to document existing habitats and determine the

potential for the presence of sensitive resources. Visual (binocular) surveys were performed to determine the potential for presence of sensitive resources in the surrounding undisturbed areas east and west of the Project. Approximately 500 feet of the proposed Eastern and Western Connector Trails (Connector Trails) were visually surveyed beginning from the end points of the Loop Trail and the Overlook Trail, respectively.

The results of the survey determined that the Project contains suitable habitat for sensitive plant species, sensitive wildlife, jurisdictional drainages, and locally protected trees within areas of the currently proposed trail alignments. Construction of the Project appears feasible from a biological perspective, provided certain avoidance, minimization, and mitigation measures are developed to reduce impacts to sensitive resources to less than significant. Avoidance and minimization measures may include, but are not limited to: (1) protocol rare plant surveys during the appropriate blooming seasons, (2) preconstruction surveys for nesting birds and sensitive wildlife, (3) Compliance with standard avoidance, minimization, and mitigation measures and the requirements of the appropriate USACE, CDFW, and RWQCB permits and implementation of any mitigation therein, (4) avoidance of individual oak trees and/or procurement of an oak tree permit from the City of Agoura Hills prior to the start of construction activities.

PROJECT LOCATION AND DESCRIPTION

The Project includes the development of the proposed Agoura Hills Recreation Center Trailhead, Loop Trail, and Overlook Trail (Figures 1 and 2). The Project is generally located within the City of Agoura Hills (City) in western Los Angeles County. The City of Agoura Hills is in the eastern Conejo Valley between the Simi Hills and the Santa Monica Mountains. The site is depicted in Township 1 North, Range 18 West of the U.S. Geographical Survey (USGS) Thousand Oaks 7.5-minute topographic quadrangle. The Project is specifically located within undeveloped areas south of Agoura Road between Ladyface Circle and Reyes Adobe Road (Figure 2).

METHODOLOGY

The Biological Constraints Analysis for the proposed project consisted of a review of relevant literature followed by a field reconnaissance survey. The literature review included information on sensitive resource occurrences within a five mile buffer around the Project from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB), Biogeographic Information and Observation System (BIOS – www.bios.dfg.ca.gov), and U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (http://criticalhabitat.fws.gov). Site plans provided by the client, aerial photographs, and topographic maps were also examined.

Rincon Senior Biologist, Julie Broughton, and Associate Biologists, Lindsay Griffin and Jennifer Alvarado, conducted a field reconnaissance survey on January 10, 2014, between the hours of 0900 and 1300. Rincon biologists conducted the survey to document existing site conditions and the potential presence of sensitive biological resources, including sensitive plant and wildlife

species, sensitive plant communities, jurisdictional waters and wetlands, and habitat for nesting birds.

Weather conditions during the survey included an average temperature of 73 degrees Fahrenheit, with winds between 3 and 5 miles per hour and minimal cloud cover. The survey was performed by walking transects of convenience as allowed by vegetative cover and steepness of topography to characterize the existing biological resources present. The Survey Area included the proposed Loop Trail, Overlook Trail, and a 50-foot buffer surrounding these proposed trails (Figure 3). A visual survey from high areas (ridgelines) was conducted to determine the extent of the surrounding plant communities and habitats within areas proposed for the eastern and western connector trails. Existing biological conditions (e.g. vegetative communities, potential presence of sensitive species and/or habitats, and presence of potentially jurisdictional waters) within the Project area and survey buffer were documented.

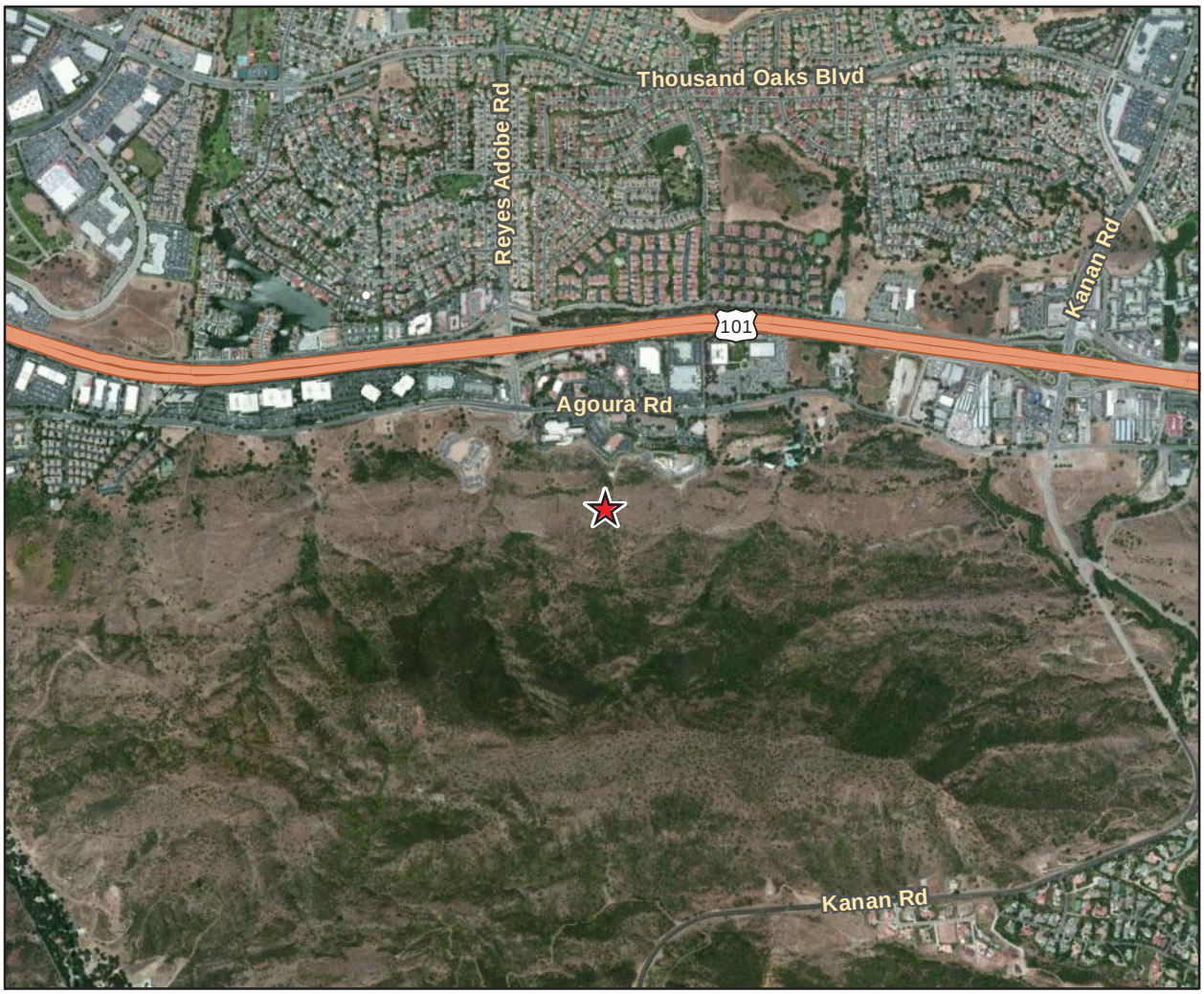
The potential presence of sensitive species is based on a literature review and field surveys designed to assess habitat suitability only. Definitive surveys to confirm the presence or absence of special-status species were not performed. Definitive surveys for sensitive plant and wildlife species generally require specific survey protocols including extensive field survey time to be conducted only at certain times of the year. The findings and opinions conveyed in this report are based on this methodology. Please note, this review is cursory in nature and does not provide a thorough analysis of sensitive biological resource(s) potential that is typically required for the purposes of compliance with California Environmental Quality Act (CEQA).

EXISTING SITE CONDITIONS

Jurisdictional Drainages and Wetlands. A review of an aerial of the Project area indicated the presence of one potentially jurisdictional drainage within the proposed trails and buffer zone. The drainage is centrally located to the south of the Agoura Hills Recreation center, where it terminates and empties into a concrete detention basin (Figure 4). A second potentially jurisdictional drainage (mapped as a "swale" in Figure 4) empties into lateral concrete v-ditches that connect with the concrete detention basin on the western side of the Agoura Hills Recreation Center.

In addition, a review of an aerial of the overall proposed trail system indicated the presence of at least six potentially jurisdictional drainages within the proposed Connector Trails alignment. Three of the drainages bisect the proposed Eastern Connector Trail and three drainages bisect the Western Connector Trail.

Geology. The Project Area is dominated by three subunits (Tcvb, Tcvad, Tcvar) of the Conejo Volcanics Extrusive Rocks Formation (Dibblee 1993). The Conejo Volcanics Formation is a submarine and subaerial volcanic extrusive and other related intrusive rocks of middle Miocene age (16.1 to 13. 1 million years old).



Imagery provided by ESRI and its licensors © 2014.

Project Location

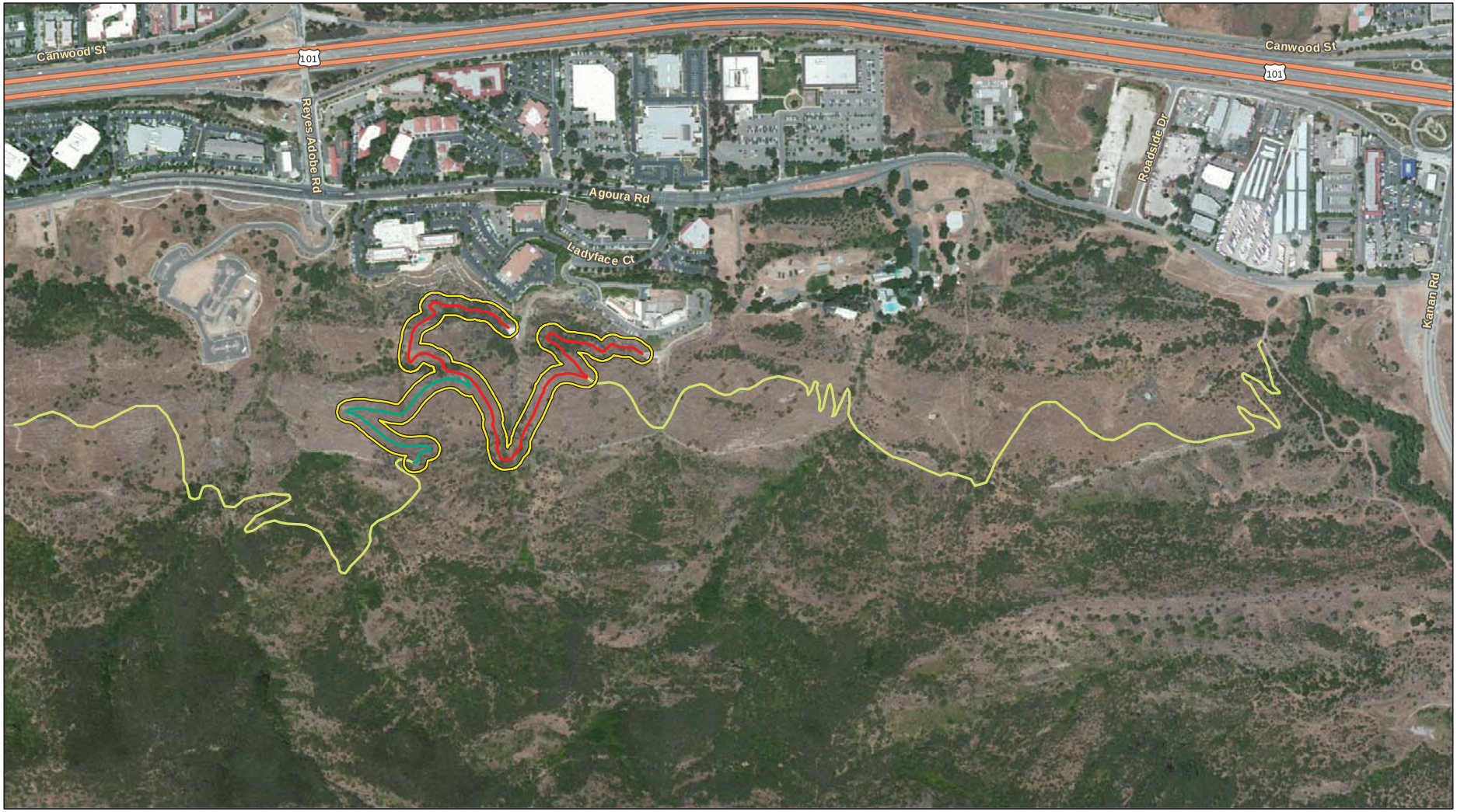
N

0 1,000 2,000

Feet

Project Location

Figure 1



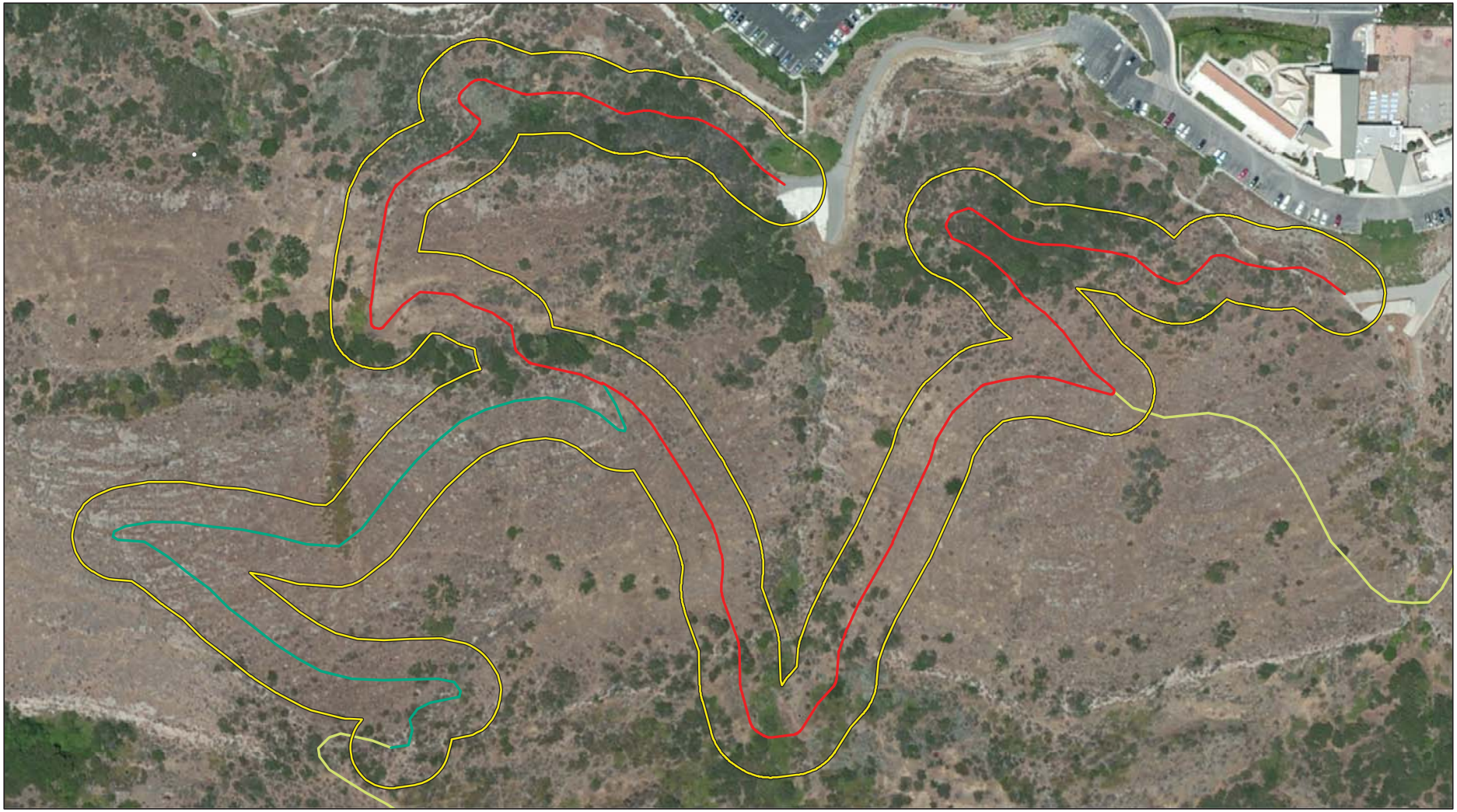
Project Boundary (trail with 50' buffer)
Loop Trail
Overlook_Trail
East/West Connector Trails (Future Potential)

0 250 500
Feet

N

Conceptual Trail Alignment

Figure 2



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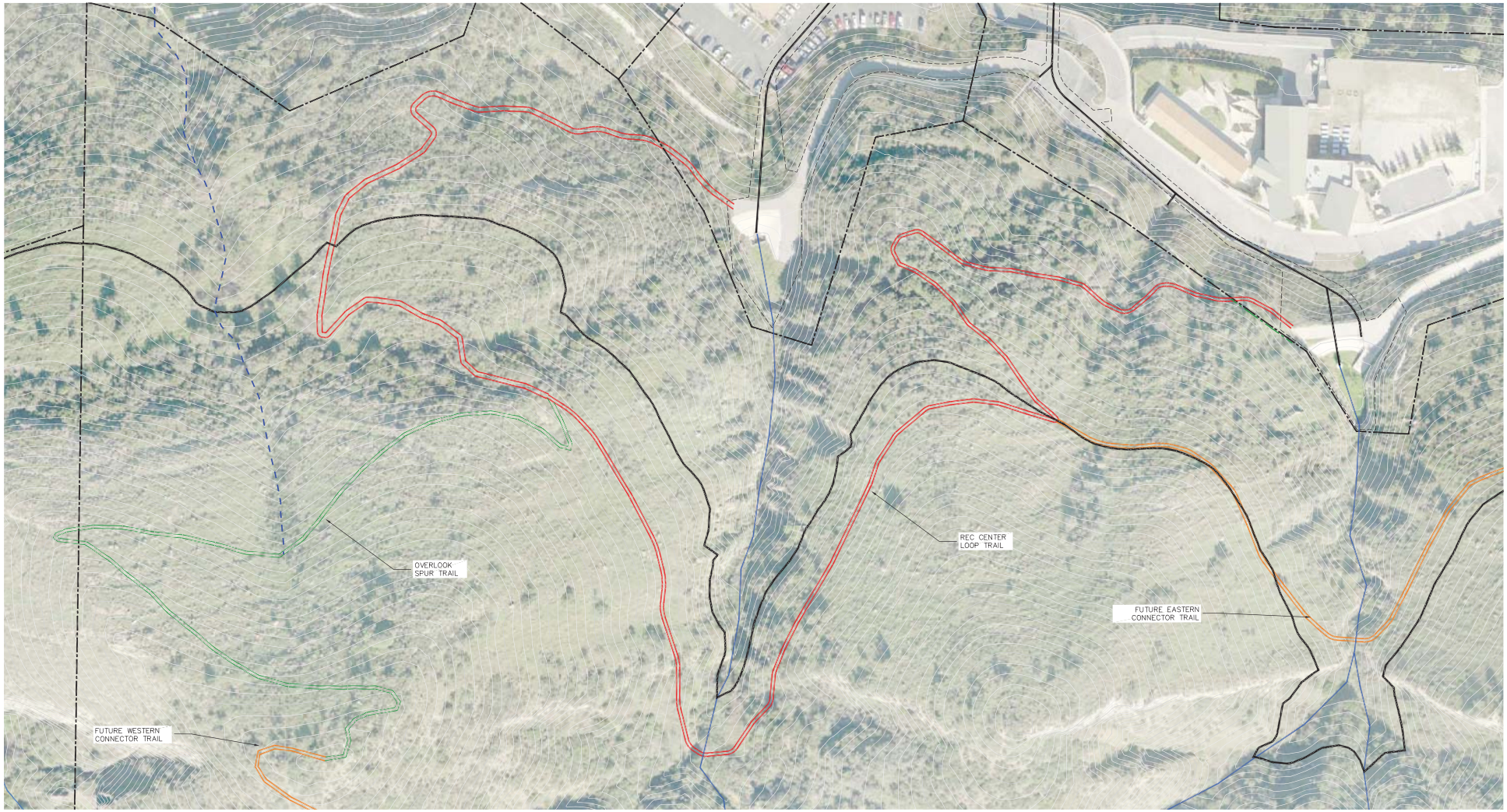
Survey Area

Figure 3



Potentially Jurisdictional Drainage Features

Source: Questa Engineering, December 2013

Figure 4

The subunits present within the Project area from north to south include:

- Tcvb – basaltic flows and breccias black to dark gray in color, weathering to dark olive-brown. The deposits are fine grained with massive to vaguely identifiable bedding, incoherent and crumbly where weathered and weakly resistant to erosion. Within this subunit are a few thin lenses of up to a few meters thick of dark gray basaltic sandstone and siltstone.
- Tcvad – andesitie-dacite breccias light colored (light pinkish to light brown), composed of moderately to poorly sorted, cobble to boulder size angular fragments of light colored, very fine grained feldspathic andesite-dacite in a semi-coherent, detrital of similar matrix materials.
- Tcvar – andesitic flow breccias, exposed only on the north slope of Ladyface Ridge brown, reddish to grey in color composed of unsorted angular fragments of commonly vesicular, sub-porphyritic andesitic rocks in semi-coherent brown to reddish, fragmented pyroclastic andesitic matrix.

Soils. The soils in the project area are formed predominantly from colluviums and/or residuum weathered from andesite. The Project area soils include:

- Cotharin clay loam, 30 to 75 percent slopes
- Urban land Cropley, fill complex 0 to 8 percent slopes, commercial

According to the USDA National Resource Conservation Service (NRCS), neither soil is listed as hydric (NRCS 2013).

Vegetation. Vegetation types are strongly influenced by climate and soils, with a predominance of plant morphological adaptations to the Mediterranean climatic influence (waxy leaf cuticles, drought deciduous, and deep tap root system) of wet, cool winters and warm, dry summers. The Project includes multiple habitat types which have been mapped at the alliance-level using descriptions and classifications outlined in *A Manual of California Vegetation 2ed* (Sawyer, et al. 2009) and refined with observations in the field. The area between Kanan Road and the western boundary of the city is mapped as chaparral in the City of Agoura Hills General Plan. The six vegetation communities or land cover types that were observed include: California Chaparral, Coastal Sage Scrub, Native and Non-Native Grassland, Landscaped Land, Bare Ground, and Paved Surfaces. The aerial extents of the vegetation communities identified onsite are shown on Figure 5. Detailed descriptions of habitat types found within the Project are described below.

<u>California Chaparral</u>

Adenostoma fasciculatum Shrubland Alliance (**Chamise chaparral**). As described by Sawyer, et al. (2009), this habitat is part of the California chaparral series with chamise (*Adenostoma fasciculatum*) as the dominant shrub. This habitat is found on varied topography with commonly shallow soils over colluviums and many kinds of bedrock, at elevations of 10 - 1800 meters (30 - 5,900 feet). Emergent trees may be present at low cover with shrubs forming an intermittent to continuous canopy up to 4 meters (15 feet) tall. The understory herbaceous

layer is sparse to intermittent dependent on the extent of the shrub canopy. Common associated species include manzanita (*Arctostaphylos* sp.), California buckwheat (*Erioginum fasciculatum*), chaparral yucca (*Hesperoyucca whipplei*), scrub oak (*Quercus berberidifolia*), sages (*Salvia* spp.), and toyon.
Within the Project, this habitat dominates the southern edges of the project area and intergrades with the wild oats (*Avena fatua*) grasslands. While the dominant species throughout is chamise, the co-dominant species include buckwheat, purple sage (*Salvia leucophylla*), and deerweed (*Acmispon glaber*).

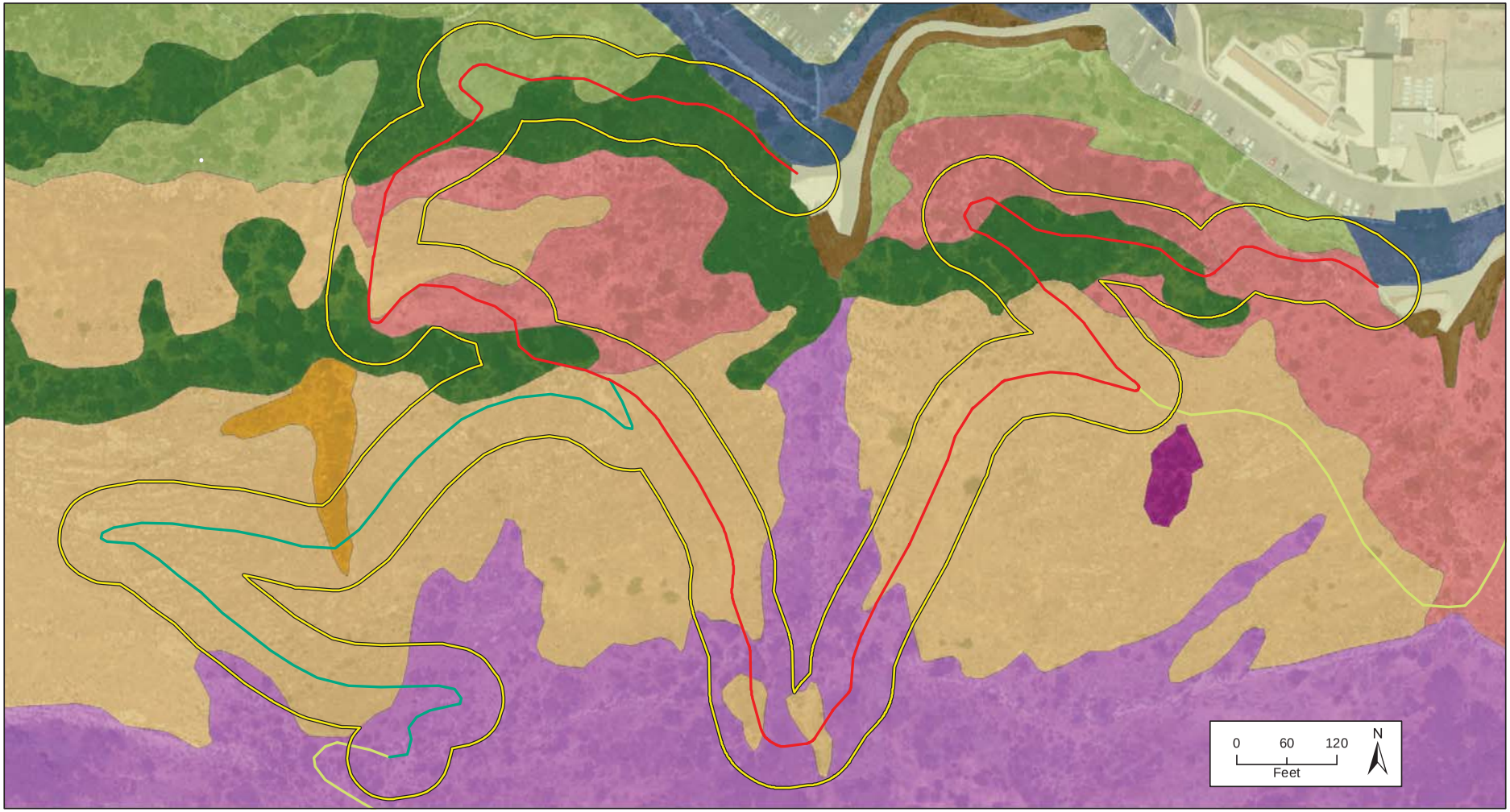
Ceanothus megacarpus Shrubland Alliance (**big pod ceanothus chaparral**). As described by Sawyer, et al. (2009), this habitat is part of the California chaparral series with big pod ceanothus (*Ceanothus megacarpus*) as the dominant shrub. This habitat is found on varied topography at elevations between (100 – 750 meters). The shrub canopy reaches a height of up to 4 meters with an intermittent to continuous canopy. The understory herbaceous layer is sparse or occasionally grassy. Common associate species include chamise, chaparral yucca, California buckwheat, toyon, and scrub oak. This habitat is found as a single isolated monotypic stand surrounded by non-native grassland in the east central section of the Project area.

Quercus berberidifolia Shrubland Alliance (**scrub oak chaparral**). As described by Sawyer, et al. (2009), this habitat is part of the California chaparral series with scrub oak (*Quercus berberidifolia*) as the dominant shrub. This habitat is found on north-facing, steep slopes with deep to shallow soils that are extremely well drained at elevations between (300 – 1700 meters). The canopy is generally less than 6 meters high and is typically continuous; the herbaceous understory layer is sparse. Common associated species include chamise, various ceanothus species, toyon (*Heteromeles arbutifolia*), holly-leafed cherry (*Prunus ilicifolia*), and sugarbush (*Rhus ovata*).

Within the Project area, scrub oak is the dominant species within the habitat transitioning into California buckwheat scrub, Wild oats grassland and California sagebrush scrub. Scrub oak transitions into chamise chaparral outside of the Project area within the centrally located jurisdictional drainage feature. The understory is sparse with limited purple needlegrass (*Stipa pulchra*) and non-native grass coverage.

Coastal Sage Scrub

Artemisia californica Shrubland Alliance **(California sagebrush scrub).** As described by Sawyer, et al. (2009), this habitat is part of the coastal scrub series with California sagebrush (*Artemisia californica*) and coyote brush (*Baccharis pilularis)* comprising the majority of the shrub cover. This habitat is generally found on steep slopes and rarely flooded, low-gradient deposits along streams at elevations of 0 - 1200 meters (0 - 3937 feet). Soils associated with this habitat are alluvial or colluvial derived and shallow. California sagebrush scrub commonly occurs in a two-tiered shrub canopy with chamise, coyote brush, California brittlebush (*Encelia californica*), California buckwheat, chaparral yucca, climbing penstemon (*Keckiella cordifolia*), deerweed, monkey flower (*Mimulus aurantiacus*), prickly pear (*Opuntia littoralis*), white sage (*Salvia apiana*),



Project Boundary (trail with 50' buffer)
Loop Trail
Overlook Trail
East/West Connector Trails (Future Potential)
Bare Ground
Big Pod Ceanothus Chaparral
Bush Monkeyflower Scrub
California Buckwheat Scrub
California Sagebrush Scrub
Chamise Chaparral
Landscaped
Paved
Scrub Oak Chaparral
Wild Oats Grasslands

Habitat Map

Figure 5

purple sage (*Salvia leucophylla*), black sage, and poison oak (*Toxicodendron diversilobum*). Lemonadeberry (*Rhus integrifolia*) and elderberry emerge as taller shrubs in the upper tier. The herbaceous understory layer varies. This habitat is found primarily along the northern section of the Project area adjacent to the Agoura Hills Recreation Center and other commercially developed lands. The California sagebrush scrub is bisected by the scrub oak chaparral across the site from east to west. Associate species include deerweed, California buckwheat and purple sage with an understory of purple needlegrass and non-native grasses.

***Eriogonum fasciculatum* Shrubland Alliance (California buckwheat scrub**). As described by Sawyer, et al. (2009), this habitat is part of the coastal scrub series with California buckwheat as the dominant shrub. This habitat is found on upland slopes, intermittently flooded arroyos, channels and washes, and rarely flooded low-gradient deposits on coarse, well-drained and moderately acidic to slightly saline soils. The habitat is found at elevations up to (1200 meters). The canopy is commonly less than (2 meters) and is continuous to intermittent. Commonly associated species include California sagebrush, coyote brush (*Baccharis pilularis*), brittlebush (*Encelia californica*), deerweed, and bush mallow (*Malacothamnus fasciculatus*). The herbaceous layer is variable and may be grassy.

Within the Project area, this habitat is open to intermittent intergrading into both wild oats grasslands and scrub oak chaparral. Deerweed and California sagebrush are associated shrub species with an herbaceous layer dominated by a mix of non-native grasses and isolated patches of purple needlegrass.

***Mimulus (Diplacus) aurantiacus* Shrubland Alliance (bush monkeyflower scrub).** As described by Sawyer, et al. (2009), this habitat is part of the coastal scrub series with bush monkeyflower as the dominant shrub. Since publication of *A Manual of California Vegetation 2ed* (Sawyer, et al. 2009) the bush monkeyflower has undergone a taxonomic name change from *Diplacus aurantiacus* to *Mimulus aurantiacus* (Jepson Flora Project, 2013). As such the habitat alliance name will follow the most recently accepted name for the species. This habitat is found on somewhat steep northerly slopes on soils that are typically shallow loams at elevations between (40-600 meters). The canopy is commonly between 2 meters and 5 meters and is intermittent to two tiered. The herbaceous layer is open to intermittent. Commonly associated species include California sagebrush, coyote brush, big pod ceanothus, purple sage, laurel sumac (*Malosma laurina*), and elderberry (*Sambucus nigra* ssp. *caerulea*).

This habitat occurs as a single isolated monotypic stand located within the upper reach of a drainage along the western edge of the Project area.

Native and Non-native Grasslands

***Avena fatua* Semi-Natural Herbaceous Stands (Wild oats grasslands).** As described by Sawyer, et al. (2009), this habitat is part of the Mediterranean California naturalized annual and perennial grassland series with wild oat comprising the majority of herbaceous cover. This habitat is generally found in waste places, rangelands, and openings in woodlands (10 - 1200 meters [32 - 3937 feet]). Commonly associated species within this habitat include narrow leaf

milkweed (*Asclepias fascicularis)*, black mustard (*Brassica nigra),* ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), blue dicks (*Dichelostemma capitatum)*, and hairy vetch (*Vicia villosa)*. Emergent trees and shrubs may be present at low cover. The canopy cover of this habitat type is open to continuous.

This habitat occurs on the gently sloping topography between the chamise chaparral and the scrub oak chaparral/California buckwheat shrub habitats. Wild oats are co-dominant with other non-native grasses including ripgut brome and red brome. Emergent California buckwheat, toyon, and lemonadeberry shrubs are present at low cover.

Other Habitat Types

Landscaped Lands. This habitat type consists of any area vegetated with non-native, planted species and directly associated with the commercial development to the north. It is not officially identified in A Manual of California Vegetation (Sawyer, et al. 2009) as a defined habitat type. The areas surrounding the Project area include commercial structures with associated landscaping including sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), rosemary (*Rosmarinus officinalis*), and African daisy (*Gazania linearis*)

Bare Ground. For this report, these mapped areas include any area not covered by either vegetation or pavement/asphalt. These areas were commonly found associated with steep, graded slopes adjacent to the drainage basins and access roads.

Paved Surfaces. For this report, these mapped areas include all adjacent paved roadways and parking lots.

Wildlife. Wildlife activity during the site visit was low. Approximately eight western scrub-jays (*Aphelocoma californica)* were observed foraging and perching in coyote brush. Four Anna's hummingbirds (*Calypte anna)* were observed foraging and flying overhead. One yellow-rumped warbler (*Dendroica coronata)* was observed flying. Three wrentits (*Chamaea fasciata)* were heard calling. One white-crowned sparrow (*Zonotrichia leucophrys)* was observed foraging in the planted rosemary bordering the recreation center parking lot. Two red-tailed hawks (*Buteo jamaicensis)* were observed flying overhead. Three California towhees (*Pipilo crissalis)* were observed foraging in monkeyflower. One Allen's hummingbird (*Selasphorus sasin)* was observed perched in elderberry.

In addition, three woodrat (*Neotoma sp.*) nests were observed on site within the survey buffer of the Loop trail to the west just below the ridgeline (Figure 6).

SENSITIVE BIOLOGICAL RESOURCES

Local, state, and federal agencies regulate special status species and require an assessment of their presence or potential presence to be conducted onsite prior to the approval of any proposed development on a property. This section discusses sensitive biological resources observed within the Project area, and evaluates the potential for the Project area to support

other sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the Survey Area, and previous reports for the Project area. The potential for each special status species to occur in the Survey Area was evaluated according to the following criteria:

- *No Potential*. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- *Low Potential*. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- *Moderate Potential*. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- *High Potential*. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- *Present*. Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The CNDDB has records for 16 sensitive plant species, 3 sensitive plant communities, and 19 sensitive wildlife species within a 5 mile radius of the Project area. Sensitive plant and wildlife species typically have very specific habitat requirements and the majority of these species are not expected to occur in the Project area or within the surrounding area. The following discusses those species with potential to occur in the Project area.

Sensitive Plant Species. A search of the CNDDB yielded sixteen (16) special status plant species recorded within 5 miles of the Project area (Appendix B). These species have special status based on state and/or federal listing. Four species have a high potential to occur on site; one species has a moderate potential to occur on site; and eleven have a low potential or are not expected to occur on site.

Special status species with a moderate to high potential to occur or are known to occur within or adjacent to the Project area are described in more detail below.

Slender mariposa lily (*Calochortus clavatus* var. *gracilis)*. Slender mariposa lily is a perennial bulbiferous herb that commonly blooms March through June. This species is found in chaparral and coastal scrub between 420-760m (1380-2495ft). It prefers shaded foothill canyons and is also often seen on grassy slopes within other habitat.

Slender mariposa lily has a high potential to occur on site. Suitable habitat is present, and mariposa lily seed heads were observed during survey; however, they were not identifiable to species (Figure 6).

Project Boundary (trail with 50' buffer)
Loop Trail
Overlook Trail
East/West Connector Trails (Future Potential)
Mariposa lily *(Calochortus spp.)*
Woodrat Nests *(Neotoma spp.)*

Potential to Occur

Agoura Hills Dudleya *(Dudleya cymosa spp. agourensis)*
Lyon's Pentachaeta *(Pentachaeta lyonii)*

Sensitive Plant and Wildlife Species

Figure 6

Santa Susana tarplant (*Deinandra [Hemizonia] minthornii).* Santa Susana tarplant is a perennial deciduous shrub that commonly blooms July through November. This species is found in chaparral and coastal scrub between 280-760m (1920-2495ft). It prefers sandstone outcrops and crevices, mainly in shrubland.

Santa Susana tarplant has a moderate potential to occur on site. While the plant was observed during the survey south of the Loop Trail and outside of the Project area, the inflorescence is needed for definitive identification. Suitable habitat for the species occurs outside of the Project area and is not present within the current proposed Project area. Should the proposed trail be re-routed to extend farther south, impacts to suitable habitat for this species may potentially occur (Figure 6).

Agoura Hills dudleya (*Dudleya cymosa ssp. agourensis)*. Agoura Hills dudleya is a perennial herb that commonly blooms May through June. This species is found in chaparral and cismontane woodland between 200-500m (655-1640ft). It prefers rocky, volcanic breccia.

Agoura Hills dudleya has a high potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils are present in the Survey Area (Figure 6).

Conejo buckwheat (*Eriogonum crocatum)*. Conejo buckwheat is a perennial herb that commonly blooms April through July. This species is found in chaparral, coastal scrub, and valley and foothill grassland between 50-580m (165-1900ft). It prefers Conejo volcanic outcrops and generally rocky sites.

Conejo buckwheat has a moderate potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils are present in the Survey Area.

Lyon's pentachaeta (*Pentachaeta lyonii)*. Lyon's pentachaeta is an annual herb that commonly blooms March through August. This species is found in chaparral, valley and foothill grassland, and coastal scrub between 30-630m (100-2065ft). It prefers edges of clearing in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks.

Lyon's pentachaeta has a high potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils are present in the Survey Area (Figure 6).

Sensitive Plant Communities. A search of the CNDDB yielded three (3) special status plant communities recorded within 5 miles of the project area (Appendix B). No sensitive plant communities were observed on site; California Walnut Woodland, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland are not present on site.

Sensitive Wildlife Species. A search of the CNDDB yielded nineteen (19) special status wildlife species recorded within 5 miles of the Project area (Appendix B). These species have special status based on a state and/or federal listing, or because they are considered a California Species of Special Concern (SSC), Bird of Conservation Concern (BCC), or on the CDFW Watch List (WL). One species has an unknown but possible potential to occur within the Project area;

and 18 species have a low potential or are not expected to occur within the Project area. In addition to the species described above, there is potential for nesting bird species protected by the California Fish and Game Code (CFGC) and the federal Migratory Bird Treaty Act (MBTA) to be present on site during the nesting bird season (February 1 to August 30). Nesting birds, regardless of special status listing, may have protection while nesting.

Special status species with a moderate to high potential to occur, or known to occur, within or adjacent to the Project area are described in more detail below.

Santa Monica grasshopper (*Trimerotropis occidentiloides*). Limited distribution information is available for this species. Known only from the Santa Monica Mountains, the Santa Monica grasshopper is found on bare hillsides and along dirt trails in chaparral. Although no grasshoppers were observed during the survey, potential habitat is present on site.

Nesting Birds. The California Fish and Game Code (CFGC) Section 3503 and the Migratory Bird Treaty Act (MBTA) protect native birds and their nests. No nests or breeding/nesting behavior such as courtship displays, copulation, vegetation or food carries, presence of fledglings, or territorial displays (e.g. singing or aggression) was observed during the survey. However, suitable nesting habitat occurs within and directly adjacent to the project site. Therefore, the project has the potential to affect nesting birds if construction occurs during the nesting season.

Wildlife Movement. The Project is not within a mapped wildlife corridor. The closest wildlife corridor, the Santa Monica – Sierra Madre Connection (near Liberty Canyon), is located about 2.5 miles east of the site (General Plan, 2010). The Santa Monica Mountains Sensitive Environmental Areas present to the south of the Project area and the Simi Hills located to the north of the Project area have multiple linkages that allow movement between large open space areas. Open space linkages between Kanan Road and Calabasas Parkway along Highway 101 are of particular importance for continued wildlife movement, due to the lack of alternative routes and encroachment of development. In any case, the project may result in effects caused by increased human disturbance related to trail use but this effect is not likely to be significant given the Project is limited within an adjacent urban environment, and no significant impediments on wildlife movement are. There are no known wildlife nursery sites within the City of Agoura Hills or adjacent to the City. Therefore, potential impacts to wildlife corridors, fish or wildlife movement, or wildlife nursery sites would be less than significant.

Jurisdictional Drainages and Wetlands. One potentially jurisdictional natural drainage is present within the proposed Project area along with a potentially jurisdictional drainage swale. Six other potentially jurisdictional natural drainages bisect the proposed Connector Trails and may be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), Los Angeles Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). All natural drainages exhibited a defined bed, bank, and channel, characteristic of a jurisdictional drainage feature. Final alignment of the Connector Trails may temporarily impact jurisdictional drainages during construction of the trail system. If impacts are anticipated to these features, a jurisdictional delineation would be necessary to determine

the types, total acreages, precise locations, and whether they are within the jurisdiction(s) of the USACE pursuant to the Clean Water Act (CWA), CDFW pursuant to FGC Section 1600 et seq. and/or the Los Angeles RWQCB pursuant to the CWA and Porter-Cologne Water Quality Control Act.

Local Policies and Ordinances. The *City of Agoura Hills Appendix A- Oak Tree Preservation Guidelines* prescribes avoiding impacts to all oak trees unless compelling reasons justify the removal of such trees. Both individual scrub oaks and scrub oak chaparral were mapped within the Project area. The current Project trail alignment would affect scrub oaks. Should the project impact protected trees, an oak tree permit may be needed pursuant to the provisions of sections 9657 through 9657.5 of the City Zoning Ordinance.

Conservation and Specific Plans. In 2008 the City's updated Trails and Pathways Master Plan was adopted and included an updated Specific Plan Trails Map that included an east/west trail (Ladyface Mountain Trail) between Kanan Road and the western city boundary at or about 1100 foot elevation. The Project in conjunction with the proposed Connector Trails falls under the jurisdiction of the City of Agoura Hills, the City of Agoura Hills General Plan Open Space and Conservation Element, the Agoura Village Specific Plan, and the Ladyface Mountain Specific Plan (Addendum to the Final Environmental Impact Report for the City of Agoura Hills Ladyface Mountain Specific Plan [SCH No. 88062917] adopted in September 1991).

The Project falls under the jurisdiction of the City of Agoura Hills, the City of Agoura Hills General Plan Open Space and Conservation Element, and the Ladyface Mountain Specific Plan. Agoura Road, the main access road to the Agoura Hills Recreation Center and trailhead access points, is designated as a valuable scenic resource to the community providing views of the Santa Monica Mountains, including Ladyface Mountain.

The proposed trail system is located within the proposed Scenic Ecological Area (SEA) #26 (Santa Monica Mountains) and west of the Agoura Village Specific Plan Area. The current proposed trail system transverses the proposed SEA. See further discussion regarding the proposed SEA expansion in the Potential Impacts and Recommendations section, below.

POTENTIAL IMPACTS AND RECCOMENDATIONS

Sensitive Plant Species. Four sensitive plant species within the Loop Trail, Overlook Trail, and 50-foot buffer has a moderate to high potential to occur. Slender mariposa lily has a high potential to occur on site and may be found within mapped chaparral and coastal scrub vegetation communities within the Project area. Mariposa lily seed heads were observed during the survey, however, they were not identifiable to species. Agoura Hills dudleya has a high potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils were present in the Survey Area. This species may be found in mapped chaparral within the Project area. Lyon's pentachaeta has a high potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils were present in the Survey Area. This species is found in chaparral, valley and foothill grassland, and coastal scrub and prefers edges of clearing in chaparral, usually at the ecotone between

grassland and chaparral or edges of firebreaks and is a disturbance follower. Conejo buckwheat has a moderate potential to occur on site. Although no species were directly observed, suitable habitat and favorable volcanic soils were present in the Survey Area. This species is found in chaparral, coastal scrub, and valley and foothill grassland and prefers Conejo volcanic outcrops and generally rocky sites.

Due to the high potential for the presence of sensitive plant species to occur within the Project area, protocol rare plant surveys during the appropriate blooming seasons are recommended to determine if avoidance, minimization, or other mitigation measures would need to be developed.

Sensitive Plant Communities. This Project area contains no sensitive plant communities therefore no impacts are expected to occur during construction activities.

Sensitive Wildlife Species. One special status species, the Santa Monica grasshopper, has a moderate potential to occur within or adjacent to the Project area. Based on the CNDDB records search the grasshopper is recorded in only one location approximately 1 mile southwest of the Project area. However, based on the species' habitat suitability requirements, it could occur throughout the Santa Monica Mountains. Although no grasshoppers were observed during the survey, potential habitat is present within the Survey Area. Because suitable habitat for the grasshopper is relatively widespread and protected in the Santa Monica Mountains, the limited impacts of the proposed Project are not likely to substantially reduce the population of the species below a self-sustaining level. Therefore, potential impacts would be less than significant.

Three woodrat nests were observed within the Loop Trail survey buffer, with one nest located adjacent to the proposed Loop Trail. In the Santa Monica Mountains and surrounding areas two known species of woodrats occur: the dusky-footed woodrat (*Neotoma fuscipes*) which is slightly larger than the desert woodrat (*Neotoma lepida*). Both of these species are present in both the natural core areas and even some of the smallest urban fragmented habitat patches, although the dusky-footed woodrat appears to be more common in both environments. Dusky-footed woodrats can be found abundantly within its geographgic range and are unprotected. The desert woodrat is a California Species of Special Concern (SSC). Currently the proposed trails occur near, but would not disturb the observed woodrat nests. Therefore, potential impacts would be less than significant. However, should the alignment change and avoidance become infeasible, typical avoidance and minimization measures are available, including preconstruction surveys and subsequent relocation of woodrat nests, to reduce impacts to individuals and reduce impacts to less than significant.

Nesting Birds. The Project area and adjoining area contains habitat suitable for nesting birds. If project activities will occur during the avian nesting season (typically February to September), a survey of the Project area and surrounding area for active nests should be conducted by a qualified biologist 1 to 2 weeks prior to trail construction. If active nest(s) are located, an appropriate buffer should be established surrounding the nest(s) and flagged for avoidance. The avoidance buffer should be determined by the monitoring biologist based upon the species

nesting and the activity being conducted. Alternatively, construction within the buffer area may be conducted at the discretion of a qualified biological monitor. The biologist should monitor the active nest(s) during initial disturbance activities and/or development activities to determine if the recommended avoidance buffers are adequate and that the nests are not being stressed or jeopardized. With implementation of the above measures impacts to nesting birds would considered less than significant.

Wildlife Movement. The Project area and adjoining areas contain open space elements of the Santa Monica Mountains-Simi Hills wildlife corridor. While the proposed Connector Trail will create an east-west trail system, no significant impediments on wildlife movement will occur as a result of the proposed trail project. A limited amount of temporary disturbance will occur from both construction of the trail and subsequent trail use, however, the proposed Project is located adjacent to existing urban development within the larger context of the wildlife corridor and would not substantially affect wildlife movement.

Jurisdictional Drainages and Wetlands. Based on the currently proposed trail alignment a Section 404 permit of the Clean Water Act may be required from the USACE for alteration of drainages present. A Section 401 Water Quality Certification would be required from the Los Angeles RWQCB. Additionally, a Streambed Alteration Agreement would be required from the CDFW. If avoidance of the drainages is not feasible (i.e. with a bridge), compliance with standard avoidance, minimization, and mitigation measures and the requirements of the appropriate USACE, CDFW, and RWQCB permits and implementation of any mitigation therein, would reduce potential impacts to jurisdictional drainages to a less than significant level.

Local Policies and Ordinances. If project activities will impact any oak tree, regardless of the size of the tree, a permit from the City of Agoura Hills Department of Planning and Community Development is required. Encroachment, cutting, pruning, the physical removal or relocation of a tree or causing of the death of a tree through damaging, poisoning or other direct or indirect action shall constitute an impact. The protected zone of an oak tree is defined in the *City of Agoura Hills Appendix A- Oak Tree Preservation Guidelines* as the point five (5) feet outside of the dripline that extends inwards to the trunk of the tree and shall be less than fifteen (15) feet from the trunk of an oak tree.

Although not recognized as a sensitive species within CNDDB, the scrub oaks within the proposed Project area are protected under the City of Agoura Hills Municipal Ordinance. Removal or damage to individual trees will require an oak tree permit prior to the start of construction activities and 1:1 replacement for impacted scrub oaks.

Conservation and Specific Plans. The Loop Trail and Overlook Trail are under the jurisdiction of the City of Agoura Hills, the City of Agoura Hills General Plan Open Space and Conservation Element, and the Ladyface Mountain Specific Plan. The potential future Connector Trails are also subject to the jurisdiction of the previously mentioned Plans as well as the Agoura Village Specific Plan.

Agoura Road, the main access road to the Agoura Hills Recreation Center and trailhead access points, is designated as a valuable scenic resource to the community providing views of the Santa Monica Mountains, including Ladyface Mountain. The proposed trail system is located within the Los Angeles County (County) proposed Scenic Ecological Area (SEA) # 26 (Santa Monica Mountains) and is west of the Agoura Village Specific Plan Area. The currently proposed trail system would transverse the proposed SEA.

The County has proposed to extend the existing SEA #26 into the City of Agoura Hills; however, the majority of this land is currently under private ownership. The SEA boundary begins near the Liberty Canyon underpass south of U.S. Highway 101 and follows the north-facing side of an unnamed ridge at the southern end of the City of Agoura Hills toward the northern slopes of Ladyface Mountain. The SEA northern boundary crosses Kanan Dume Road in the area where Lindero Canyon formerly joined Medea Creek and continues its contour along the north-facing ridge of Ladyface Mountain. A small area with development and fill along the south side of Kanan Dume Road has been excluded from the SEA (Los Angeles County, Draft General Plan 2035: Technical Appendix E, 2012).

Los Angeles County has policies and regulations influencing development activities within the SEAs. Agoura Hills' adopted Zoning Ordinance contains measures to protect the SEA from incompatible development, preserve the natural terrain, and maintain a quality environment and aesthetic character of the City while limiting development. The adopted ordinance requires new development to obtain a conditional use permit or architectural review approval prior to the commencement of development within the SEA.

CONCLUSION

The project area does contain suitable habitat for sensitive plant species, sensitive wildlife, jurisdictional drainages, and locally protected trees within areas of the currently proposed Loop Trail and Overlook Trail alignments. Therefore, there is a potential for significant impacts to these sensitive resources unless mitigation or avoidance measures are developed. Avoidance and minimization measures may include, but are not limited to: (1) protocol rare plant surveys during the appropriate blooming seasons, (2) preconstruction surveys for nesting birds and sensitive wildlife, (3) Compliance with standard avoidance, minimization, and mitigation measures and the requirements of the appropriate USACE, CDFW, and RWQCB permits and implementation of any mitigation therein, (4) avoidance of individual oak trees and/or procurement of an oak tree permit from the City of Agoura Hills prior to the start of construction activities.

Please do not hesitate to contact Rincon Consultants if you have any questions regarding this biological constraints analysis or the above recommendations.

Sincerely,
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Attachments:
Appendix A: Limitations, Assumptions, and Reliance
Appendix B: Special Status Species in the Regional Vicinity of the Project Site

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APPENDIX A

LIMITATIONS, ASSUMPTIONS, AND RELIANCE

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

APPENDIX B

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed / State ESA CRPR G-Rank / S-Rank	Habitat Preference / Requirements	Potential for Occurrence / Basis for Determination
Plants			
Astragalus brauntonii Braunton's milk-vetch	FE / -- 1B.1 G2/S2	Perennial herb. Blooms Jan-Aug. Closed-cone coniferous forest, chaparral, coast scrub, valley and foothill grassland. Recent burns or disturbed areas; in saline, somewhat alkaline soils high in Ca, Mg, with some K. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. 200-650m (655-2130ft).	**Low.** Preferred habitat (chaparral) present, preferred soils lacking.
Baccharis malibuensis Malibu baccharis	-- / -- 1B.1 G1/S1	Perennial deciduous shrub. Blooms Aug. Coastal scrub, chapparal, cismontane woodland. In Conejo volcanic substrates, often on exposed roascuts. Sometimes occupies oak woodland habitat. 150-260m (490-855ft).	**Not expected**. Although soils and habitat is present, this perennial shrub would have been seen during the survey.
California macrophylla Round-leaved filaree	-- / -- 1B.1 G2 / S2	Annual herb. Blooms Mar-May. Cismontane woodland, valley and foothill grassland. Clay soils. 15-1200m (50-3935ft).	**Not expected.** Marginal habitat (grasslands) present; preferred soils lacking.
Calochortus clavatus var. *gracilis* Slender mariposa lily	--/ -- 1B.2 G4T2/S2	Perennial bulbiferous herb. Blooms Mar-Jun. Chaparral, coastal scrub. Shaded foothill canyons; often on grassy slopes within other habitat. 420-760m (1380-2495ft).	**High.** Habitat present. Mariposa lily seed heads observed during survey. Not identifiable to species.

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed / State ESA CRPR G-Rank / S-Rank	Habitat Preference / Requirements	Potential for Occurrence / Basis for Determination
Calochortus plummerae Plummer's mariposa lily	-- / -- 4.2 G4/S4	Perennial bulbiferous herb. Blooms May-Jul. Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 100-1700m (330-5575ft).	**Low.** Calochortus species observed on-site however preferred rocky, sandy substrate lacking.
Deinandra (Hemizonia) minthornii Santa Susana tarplant	-- / SR 1B.2 G2/S2.2	Perennial deciduous shrub. Blooms Jul-Nov. Chaparral, coastal scrub. On sandstone outcrops and crevices, in shrubland. 280-760m (1920-2495ft).	**High.** Preferred habitats present. Potential plant observed during survey; need inflorescence for definitive identification.
Delphinium parryi ssp. blochmaniae Dune larkspur	-- / -- 1B.2 G4T2/S2	Perennial herb. Blooms Apr-Jun. Chaparral, coastal dunes (maritime). On rocky areas and dunes. 0-200m (0-655ft).	**Not expected.** Chaparral habitat present; preferred soil not observed during surveys. Outside elevational range of plant.
Didymodon norrisii Norris' beard moss	-- / -- 2B.2 G3G4 / S3S4	Moss. Cismontane woodland, lower montane coniferous forest. Moss from seasonally wet sheet drainages on exposed rock slabs or terraces that completely dry in summer. Less frequently seen in intermittent streams. Not rock specific. 260-1780m (855-5840ft).	**Not expected.** Preferred habitat not observed during surveys. Plant not observed during surveys.
Dudleya cymosa ssp. agourensis Agoura Hills dudleya	FT / -- 1B.2 G5T1/S2	Perennial herb. Blooms May-Jun. Chaparral, cismontane woodland. Rocky, volcanic breccia. 200-500m (655-1640ft).	**High.** Preferred habitat and preferred volcanic soils present on-site.
Dudleya cymosa ssp. marcescens Marcescent dudleya	FT / SR 1B.2 G5T2/S2	Perennial herb. Blooms Apr-Jul. Chaparral. On sheer rock surfaces and rocky volcanic cliffs. 150-520m (490-1705ft).	**Low.** Preferred habitat present on-site, no sheer, rocky volcanic cliffs present.

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed / State ESA CRPR G-Rank / S-Rank	Habitat Preference / Requirements	Potential for Occurrence / Basis for Determination
Eriogonum crocatum Conejo buckwheat	-- / SR 1B.2 G2/S2.1	Perennial herb. Blooms Apr-Jul. Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites. 50-580m (165-1900ft).	**Moderate.** Preferred habitat and preferred volcanic soils present on-site.
Monardella hypoleuca ssp. hypoleuca White-veined monardella	-- / -- 1B.3 G4T2T3/S2S3	Herb. Blooms Apr-Dec. Chaparral, cismontane woodland. Dry slopes. 50-1525m (165-5005ft).	**Low.** Preferred habitat present, limited preferred dry slopes substrate. Occurrences within 5-mile radius are historical (<50 years).
Nolina cismontana Chaparral nolina	--/ -- 1B.2 G2/S2	Perennial evergreen shrub. Blooms Mar-Jul. Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. 140-1275m (460-4185ft).	**Not expected.** Preferred habitat present on-site; no preferred substrate present.
Orcuttia californica California Orcutt grass	FE/ SE 1B.1 G1/S1	Annual herb. Blooms Apr-Aug. Vernal pools. 15-660m (50-660ft).	**Not expected.** No vernal pool habitat present on-site.
Pentachaeta lyonii Lyon's pentachaeta	FE/ SE 1B.1 G2/S2	Annual herb. Blooms Mar-Aug. Chaparral, valley and foothill grassland, coastal scrub. Edges of clearing in chaparral, usually at the ecotone between grassland and chaparral or edges of firebreaks. 30-630m (100-2065ft).	**High.** Preferred habitat and preferred volcanic soils present on-site.
Tortula californica California screw moss	-- / -- 1B.2 G2? / S2	Moss. Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. 10-1460m (30-4790ft).	**Not expected.** Marginal habitat (grasslands) present; preferred soils lacking.
Plant Communities			
California Walnut Woodland	-- / -- -- G2 / S2.1		**Not expected.** No California walnut trees observed on site.

Special Status Plant Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed / State ESA CRPR G-Rank / S-Rank	Habitat Preference / Requirements	Potential for Occurrence / Basis for Determination
Southern Coast Live Oak Riparian Forest	-- / -- -- G4 / S4		**Not expected.** No riparian areas observed on site.
Southern Sycamore Alder Riparian Woodland	-- / -- -- G4 / S4		**Not expected.** No alders observed on site. Sycamores observed were previously planted.

Regional Vicinity refers to within a 5 mile radius of site.
FE = Federally Endangered FT = Federally Threatened
SE = State Endangered ST = State Threatened SR = State Rare
CRPR (CNPS California Rare Plant Rank):
1A = Presumed Extinct in California
1B = Rare, Threatened, or Endangered in California and elsewhere
2 = Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (a Review List)
4 = Plants of Limited Distribution (a Watch List)
CRPR Threat Code Extension:
.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (<20% of occurrences threatened)
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind 5.
G1 or S1 - Critically Imperiled Globally or Subnationally (state)
G2 or S2 - Imperiled Globally or Subnationally (state)
G3 or S3 - Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4 or S4 - Apparently secure Globally or Subnationally (state)
G5 or S5 - Secure Globally or Subnationally (state)
? - Inexact Numeric Rank
T - Infraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority

Special Status Animal Species in the Regional Vicinity of the Project Site

Scientific Name Common Name	Status Fed / State ESA CDFW G-Rank / S-Rank	Habitat Preference / Requirements	Potential for Occurrence / Basis for Determination
Birds			
Aquila chrysaetos Golden eagle	-- / -- -- G5 / S3	Rolling foothills, mountain areas, sage-juniper flats, & desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	**Low.** Preferred nesting sites not present on-site.
Polioptila californica californica Coastal California gnatcatcher	FT / -- SSC	Obligate, permanent resident of coastal sage scrub below 2500 feet in southern California. Occurs in low coastal sage scrub in arid washers, on mesas and slopes.	**Low.** Coastal scrub habitat present; however, the site is located at the northern fringe of the species' range and upper elevation limits, and generally has steep topography that is less preferred by the species. Species not observed on site during surveys.
Riparia riparia Bank swallow	-- /ST -- G5 / S2S3	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Not expected.** Preferred habitat and species not observed during surveys.
Mammals			
Antrozous pallidus Pallid bat	-- / -- SSC G5 / S3	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low.** Preferred habitat and species not observed during surveys.

Euderma macaulatum Spotted bat	-- / -- SSC G4 / S2S3	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	**Not expected.** No rock crevices or caves in cliffs present for roosting.
Eumops perotis californicus Western mastiff bat	-- / -- SSC G5T4 / S3?	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low.** Preferred habitat and species not observed during surveys.
Lasiurus blossevillii Western red bat	-- / -- SSC G5 / S3?	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Low.** Preferred habitat and species not observed during surveys.
Lasiurus cinereus Hoary bat	-- / -- -- G5 / S4?	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Low.** Preferred habitat and species not observed during surveys.
Myotis ciliolabrum Western small-footed myotis	-- / -- -- G5 / S2S3	Wide range of habitats mostly arid wooded & brushy uplands near water. Seeks cover in caves, buildings, mines & crevices. Prefers open stands in forests and woodlands. Requires drinking water. Feeds on a wide variety of small flying insects.	**Low.** Preferred habitat and species not observed during surveys.
Myotis yumanensis Yuma myotis	-- / -- -- G5 / S4?	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of wate. Maternity colonies in caves, mines, buildings or crevices.	**Not expected.** Preferred habitat and species not observed during surveys.
Reptiles			

Anniella pulchra pulchra Silvery legless lizard	-- / -- SSC G3G4T3T4Q /S3	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**Not expected.** Preferred habitat and species not observed during surveys.
Aspidoscelis tigris stejnegeri Coastal whiptail	-- / -- -- G5T3T4 / S2S3	Found in deserts & semiarid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy or rocky.	**Low.** Preferred habitat and species not observed during surveys.
Emys marmorata Western pond turtle	-- / -- SSC G3G4 / S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not expected.** Ideal habitat and species not observed during surveys.
Phrynosoma blainvillii Coast horned lizard (=Blainvilli's)	-- / -- SSC G3G4 / S3S4	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	**Low.** Preferred habitat and species not observed during surveys.
Thamnophis hammondii Two-striped garter snake	-- / -- SSC G4 / S2	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	**Not expected.** Preferred habitat and species not observed during surveys.
Amphibians			
Rana draytonii California red-legged frog	FT / -- -- G2G3 / S2S3	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Not expected.** Suitable habitat and species not observed during surveys.

Fish			
Gila orcutti Arroyo chub	-- / -- SSC G2 / S2	Native to streams from Malibu Cr to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mohave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation & associated invertebrates.	**Not expected.** No active streams observed during surveys.
Invertebrates			
Danaus plexippus Monarch butterfly	-- / -- -- G5 / S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	**Not expected.** Suitable habitat and species not observed during surveys.
Trimerotropis occidentiloides Santa Monica grasshopper	-- / -- -- G1G2 / S1S2	Known only form the Santa Monica Mountains. Found on bare hillsides and along dirt trails in chaparral.	**Unknown, but possible.** Limited information available. Possible habitat exists, but species not observed during surveys.

Regional Vicinity refers to within a 5 mile radius of site.
FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
SE = State Endangered
ST = State Threatened
SSC = CDFW Species of Special Concern
FP = Fully Protected
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5.
G1 or S1 - Critically Imperiled Globally or Subnationally (state)
G2 or S2 - Imperiled Globally or Subnationally (state)
G3 or S3 - Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4 or S4 - Apparently secure Globally or Subnationally (state)
G5 or S5 - Secure Globally or Subnationally (state)
? - Inexact Numeric Rank
T - Infraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority

APPENDIX C

Cultural Resources Constraints Analysis

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January 31, 2014
Project Number 13-01371

Jeff Peters
Principal
Questa Engineering Corporation
1220 Brickyard Cove Road, Suite 206
Point Richmond, CA 94801-4171
jpeters@questaec.com

Subject: Cultural Resources Constraints Analysis for the Agoura Hills Recreation Center Trail Construction Project, Agoura Hills, Los Angeles County, California

Dear Mr. Peters:

Rincon Consultants, Inc. (Rincon) was retained by Questa Engineering Corporation to provide cultural resources services for the Agoura Hills Recreation Center Trail Construction Project, Agoura Hills, Los Angeles County, California. Specifically, Rincon was tasked with conducting a cultural resources constraints analysis, including a records search, Native American scoping, and pedestrian survey. This project is subject to the California Environmental Quality Act (CEQA).

Project Site

The project site is located within the City of Agoura Hills in western Los Angeles County. The project APE is depicted in Township 1 North, Range 18 West of the U.S. Geographical Survey (USGS) Thousand Oaks 7.5-minute topographic quadrangle (Figure 1). The City of Agoura Hills is in the eastern Conejo Valley between the Simi Hills and the Santa Monica Mountains. The project site, located south of Agoura City Hall, includes an approximate 100-foot swath that is being considered for development of a trail. The project site is generally bounded by a developed commercial tract to the north and undeveloped open space to the east, west, and south. The proposed project activities will include the construction of the Recreation Center Loop Trail.

Cultural Resources Records Search

Methods

On January 13, 2013, Rincon conducted a search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The search was conducted to identify all

previously conducted cultural resources work within a 0.5-mile radius of the project site, as well as to identify previously recorded cultural resources within a 0.5-mile radius of the project site. The CHRIS search included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Historic Resources Inventory list. The records search also included a review of all available historic USGS 7.5- and 15-minute quadrangle maps.

Findings

The SCCIC records search identified a total of 41 previous studies (Table 1 in Attachment A), one of which included a portion of the project site (LA-3674). Study LA-3674, a *Cultural Resources Survey of a 27 Acre Parcel of Property in Agoura and Subsequent Test Excavations at LAN-1069*, conducted by J.P. Brock and D.M Van Horn of Archaeological Associates, Ltd., covered a small portion of the project site and consisted of pedestrian survey and archaeological testing.

A total of 14 previously recorded cultural resources were identified within 0.5 mile of the project site (Table 2 in Attachment B). None of these resources are located within the proposed trail route.

Native American Scoping

Rincon Consultants requested a search of the Sacred Lands File (SLF) at the Native American Heritage Commission (NAHC) on January 9, 2014. The NAHC faxed a response on January 17, 2014 which stated that "a record search of the NAHC Sacred Lands File failed to indicate the presence of Native American traditional cultural places in the project site submitted." The NAHC also provided a contact list of 9 Native American tribes and individuals who may have information regarding the project area. Rincon prepared and mailed letters to these contacts on January 17, 2014.

Beverly Salazar Folkes responded via telephone on January 23, 2014 stating that the project is located in a sensitive area. She also stated that she was available to monitor the project if needed.

On January 27, 2014, Freddie Romero, of the Santa Ynez Tribal Elders Council, responded via telephone. Mr. Romero had no comments on the proposed project and deferred to local tribes.

As of January 31, 2014, Rincon has not received any additional responses to the letters or phone calls.

Field Survey

Methods

Rincon archaeologists Ashley Ginther and Tara Giuliano conducted an intensive pedestrian survey of the proposed trail route on January 19, 2014. The project site was surveyed using transects spaced no greater than 15 meters apart and oriented parallel to the proposed trail route. Figure 1 depicts the area surveyed.

The archaeologists examined all exposed ground surface for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock [FAR]), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were visually inspected.

Findings

Ground visibility was fair (60 percent or greater) throughout the entirety of the project site. Rincon archaeologists identified three prehistoric isolates within the proposed trail alignment. Each isolate consisted of one to two metavolcanic flakes.

Discussion and Recommendations

The cultural resources records search and Native American scoping did not identify any previously recorded archaeological resources within the project site. However, 14 previously recorded archaeological sites (CA-LAn-320, CA-LAn-321, CA-LAn-402, CA-LAn-467, CA-LAn-671, CA-LAn-872, CA-LAn-970, CA-LAn-1021, CA-LAn-1024, CA-LAn-1027, CA-LAn-1069, CA-LAn-1236, CA-LAn-100209, and CA-LAn-100210) were recorded within a 0.5-mile radius of the project site. Of these, four were habitation sites (CA-LAn-872; CA-LAn-1024, CA-LAn-1027, and CA-LAn-1236), seven were lithic scatters (CA-LAn-320, CA-LAn-321, CA-LAn-402, CA-LAn-467, CA-LAn-671, CA-LAn-1021, and CA-LAn-1069), one was a prehistoric quarry (CA-LAn-970), and the remaining two were isolated lithic artifacts (CA-LAn-100209 and CA-LAn-100210). One of the habitation sites, CA-LAn-1027, contained human remains. Three prehistoric isolates were identified during the pedestrian survey for this constraints analysis, but not recorded at this time. Rincon recommends that these isolates be recorded on State of California Department of Parks and Recreation (DPR) Series 523 forms and that a formal Phase I survey report be prepared.

The presence of several prehistoric archaeological sites near the project site, one of which contained human remains, significantly increases the sensitivity of the area for archaeological resources. Even though many of these sites have been impacted by modern development, undiscovered human remains or significant archaeological deposits can still be discovered in the area. Therefore, Rincon recommends archaeological and Native American monitoring for this project.

Recommendation 1 - Resource Recordation
Rincon recommends that the three isolates identified during the pedestrian survey be formally recorded on DPR Series 523 forms. Recordation of the resources should include the preparation of a DPR Series 523 primary form and location map form for each isolate. Recordation should also include photographs, measurements, and complete descriptions of each isolate.

Recommendation 2 -Phase I Cultural Resources Report
A cultural resources technical report should be prepared that incorporates the results of this constraints analysis, the survey, and the recordation of isolates. It should describe the methods and results of the literature review, Native American consultation, intensive pedestrian survey, and the evaluations of the isolates. It should also provide recommendations for the management of cultural resources within and adjacent to the project site. The report should include maps depicting the area surveyed for cultural resources, the locations of the isolates identified during the survey, and the site records for the isolates. The report should be prepared in accordance with the Office of Historic Preservation's Archaeological Resource Management Reports (ARMR) guidelines (OHP 1990). As such, it should include an environmental setting and detailed cultural setting that includes prehistoric, ethnographic, and historic period subsections.

Recommendation 3 -Cultural Resources Mitigation Monitoring and Reporting Plan
Prior to the start of project related ground-disturbance, an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (qualified archaeologist) should be retained to prepare a cultural resource mitigation monitoring and reporting plan (CRMMP). The purpose of the CRMMP is to establish a clearly defined plan for the CRHR eligibility evaluation and treatment of any archaeological materials identified during project implementation. The CRMPP should include: a research design including prehistoric cultural context, research questions and potential data sources, and data collection procedures; a discussion of the cultural resources mitigation measures for the project and how they will be complied with; an unanticipated discovery plan that clearly defines how archaeological resources will be evaluated for CRHR eligibility and standards for eligibility, possible avoidance measures in the case significant (CRHR eligible) resources are encountered, a data recovery plan to exhaust the data potential for any significant resources that cannot be avoided, including a curation plan; and the standards for a cultural resources report that will present the results of these efforts and how they reduced the level of impacts to cultural resources to less than significant under the State CEQA Guidelines. The CRMPP will include a plan for archaeological and Native American monitoring as well as a detailed course of action for the treatment of unanticipated discovery of cultural resources and human remains. Brief discussions of these key components of the mitigation and monitoring program are presented below.

Recommendation 4 -Archaeological and Native American Monitoring
Based on the results of the records search and the high sensitivity of project vicinity Rincon recommends full-time archaeological and Native American monitoring of all project related ground disturbing activities. Archaeological monitoring should be conducted under the direction of a qualified archaeologist.

Recommendation 5 -Discovery of Human Remains
If human remains are found, State of California 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. In accordance with this code, in the event of an unanticipated discovery of human remains, the Los Angeles County coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD would complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Please do not hesitate to contact Rincon Consultants if you have any questions regarding this cultural resources survey or the above recommendations.

Sincerely,
RINCON CONSULTANTS, INC.

Hannah Haas, B.A.
Cultural Resource Specialist

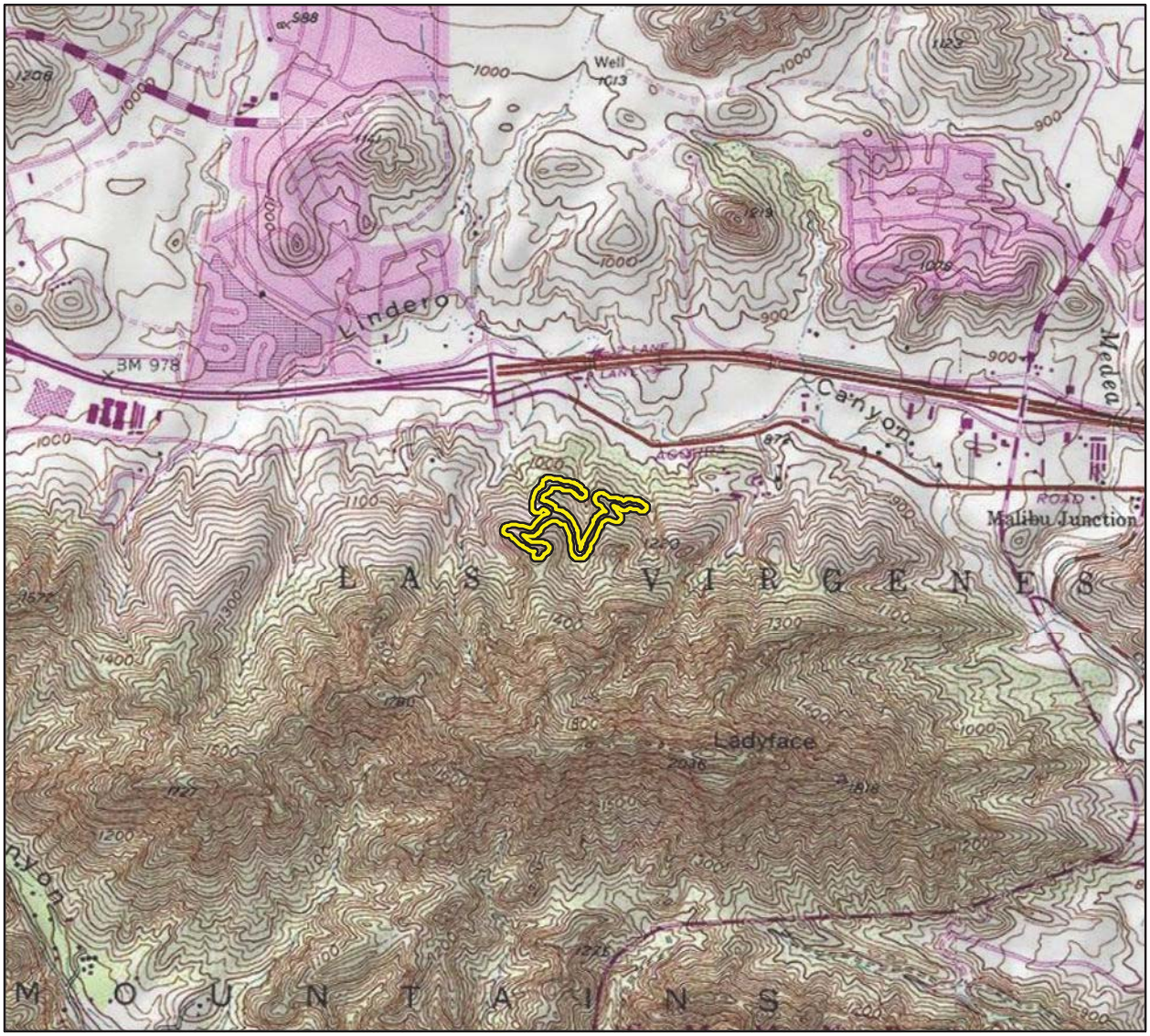
Duane Vander Pluym, D. Env.
Vice-President

Robert Ramirez, M.A., RPA
Principal Investigator

Attachments:
Figure 1. Project Location Map
Attachment A. Table 1- Previous Studies within 0.5 Mile of the Project Site
Attachment B. Table 2- Previously Recorded Cultural Resources within 0.5 Mile of the Project Site

References:

California Office of Historic Preservation.
1990 Archaeological Resource Management Reports: Recommended Contents and Format. Department of Parks and Recreation. Office of Historic Preservation: Sacramento, California.



Imagery provided by National Geographic Society, ESRI and its licensors © 2014. Thousand Oaks Quadrangle. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Boundary

0 1,000 2,000
Feet
1:24,000

N

Project Location Map

Figure 1

Table 1
Previous Studies Within 0.5 Mile of the Project Site

SCCIC Report No.	Author	Year	Study	Relationship to Project Site
LA-00024	Unknown	1974	Draft Environmental Impact Report; Zoning Case #6576-(5)	Outside
LA-00081	Rosen, Martin D.	1975	Evaluation of the Archaeological Resources for the Areawide Facilities Plan for the Las Virgenes Municipal District	Outside
LA-00241	Singer, Clay A. and John E. Atwood	1988	Archaeological Testing at CA-LAN-1021 in the City of Agoura Hills, Los Angeles County, California	Outside
LA-00243	Greenwood, Roberta S.	1976	Archaeological Investigation Property East of Lindero County	Outside
LA-00392	Hector, Susan M.	1977	An Archaeological Resource Survey and Impact Assessment of Trailer Lifer Publishing Co., C.U.P. 1191, Los Angeles County	Outside
LA-00521	Day, Donna A.	1979	Cultural Resources Survey for Zone Change 6457	Outside
LA-00545	Padon, Beth	1979	An Archaeological Reconnaissance of a 30 Acre Parcel Along Agoura Road, Los Angeles County, California	Outside
LA-00556	Singer, Clay A.	1979	Cultural Resource Survey and Impact Assessment for a 1.6 Acre Parcel in Agoura, Los Angeles County, California	Outside
LA-00564	Chace, Paul G.	1979	An Archaeological Assessment of the Reyes Adobe Road Sites: A Preliminary Report [tract #35031/CUP 1305-(5)]	Outside
LA-00623	Singer, Clay A.	1979	Systematic Archaeological Testing at LAN-1021—An Evaluation of Potential Impacts from the Proposed Construction of the Miller and Folse Office Complex in Agoura, Los Angeles County, California	Outside
LA-00926	D'Atlroy, Terence N.	1976	Assessment of the Impact on Archaeological Resources of the Proposed Development of Two Parcels of Land West of Agoura, Los Angeles County	Outside
LA-01036	Brown, Carol	1981	Archaeological Reconnaissance of a 4 Acre Parcel of Land, Tentative Tract 42429 Located in Agoura, California	Outside
LA-01115	Foster, John M.	1977	Archaeological Element of the Draft Environmental Impact Report: Zone Change 6288	Outside
LA-01768	Singer, Clay A. and John E. Atwood	1989	Cultural Resources Survey and Impact Assessment for the Proposed Agoura Canyon Ranch Center in the City of Agoura Hills	Outside

Table 1
Previous Studies Within 0.5 Mile of the Project Site

SCCIC Report No.	Author	Year	Study	Relationship to Project Site
LA-01822	Dillon, Brian D.	1989	Archaeological Survey, Impact Evaluation, and Mitigation Plan for the Agoura West Project, a 632 Acre Parcel on Kanan-Dume Road, Los Angeles County	Outside
LA-01916	McKenna, Jeanette A., Roger G. Hatheway, and Paul E. Langewalter II	1989	Historic Property Survey Report: the Kanan Road Interchange at Route 101 (Ventura Freeway) Project Area	Outside
LA-01977	Rosen, Martin D.	1980	Archaeological Evaluation of Tract No. 37246, Agoura, California	Outside
LA-02409	Stelle, Kenneth and Albert Galiardo	1982	For Improvements of the Operational Characteristics of Route 101, the Ventura Freeway in Los Angeles and Ventura Counties, Between Route 405 in Los Angeles, and the Santa Clara River in Oxnard	Outside
LA-03355	Maki, Mary K. and Larry Carbone	1996	A Phase 2 Archaeological Investigation at Site CA-LAN-467 and an Extended Phase 1 Archaeological Investigation at Site CA-LAN-1436 for the Creekside Center Project, Agoura Hills, Los Angeles County, California	Outside
LA-03546	Wlodarski, Robert J.	1996	A Phase I Archaeological Study Bikeway Gap Closure Project Cities of Calabasas, Agoura Hills, Westlake Village and Unincorporated Los Angeles County	Outside
LA-03589	Van Horn, David M. and T.A. Freeman	1985	Salvage Excavation at LAN-1236 in the City of Agoura Hills, Los Angeles County, California	Outside
LA-03674	Brock, James P.	1980	Cultural Resources Survey of a 27 Acre Parcel of Property in Agoura and Subsequent Test Excavation	Within
LA-03742	Romani, John F.	1982	Archaeological Survey Report for the 07-LA/VEN 101 Project P.M. 171-38.2/0.0-22.7 07351 - 076620	Outside
LA-06584	Wlodarski, Robert J.	2002	Archaeological Survey Report (ASR) for the Reyes Adobe Road Interchange Project, City of Agoura Hills, County of Los Angeles, California	Outside
LA-06601	King, Chester and Parsons, Jeff	2000	Archaeological Record of Settlement and Activity in the Simi Hills Malu'liwini	Outside
LA-06687	Demcak, Carol R.	2000	Cultural Resources Assessment of Proposed Improvements to Boy Scout Camp, City of Monrovia and Angeles National Forest, Los Angeles County, California	Outside
LA-07679	Wlodarski, Robert J.	2004	A Phase I Archaeological Study for 29515 Canwood Street City of Agoura Hills, County of Los Angeles, California	Outside
LA-07936	McLean, Roderic	2006	Cultural Resources Study for the Replacement	Outside

Table 1
Previous Studies Within 0.5 Mile of the Project Site

SCCIC Report No.	Author	Year	Study	Relationship to Project Site
			of Eight Deteriorated Southern California Edison Power Poles: Mulholland A-3 16 kV, Mulholland A-2 16 kV, Conejo A-1 16 kV, Lasher A-1 4 kV, Brennan B-4 16 kV, and Morganstein A-2 16 kV Circuits, County of Los Angeles	
LA-09152	Wlodarski, Robert J.	2008	A Phase I Archaeological Study for Proposed Improvements to APN #2061-033-015, The Proposed Gupta Corporate Offices (Tentative Address: 28760 Agoura Road) City of Agoura Hills, County of Los Angeles, California	Outside
LA-09862	Toren, George A. and John F. Romani	2009	Archaeological Reconnaissance Report: Two Parcels Located within the City of Agoura Hills, Los Angeles County, California	Outside
LA-09902	Toren, George A. and John F. Romani	2009	Results of the Extended Phase I Archaeological Investigation at CA-LAn-1027 located within the Gateway Foursquare Church Property, City of Agoura Hills, Los Angeles County, California	Outside
LA-09903	McKenna, Jeanette	2008	A Phase I Cultural Resources Investigation of the Conrad N. Hilton Foundation Project Area on Agoura Road, Agoura Hills, Los Angeles County, California	Outside
LA-10208	Sylvia, Barbara	2001	Negative Archaeological Survey Report: Metal Beam Guardrail (MBGR) Along Sections of Route 1010 From Route 134 to the Ventura County Line	Outside
LA-10475	Toren, A. George and Gwen R. Romani	2010	Phase I Archaeological Survey: The Las Virgenes Municipal Water District 1235 ft. Backbone System Improvement Program: Agoura Hills Pipeline Alignment	Outside
LA-10778	King, Chester	2010	Archaeological Backhoe Test Excavation Program to Determine if Cultural Deposits Exist beneath Agoura Road in the Areas of CA-LAN-41 and CA-LAN-467, Las Virgenes Municipal Water District (LVMWD) Backbone System Improvement Program	Outside
LA-10779	McKenna, Jeanette A.	2010	A Phase I Cultural Resources Investigation of Assessor Parcel No. 2061-005-031, 29900 Ladyface Court, in the City of Agoura Hills, Los Angeles County, California	Outside
LA-11786	Valasik, Molly, Shanna Wexelblat, Melinda Horne, and Sherri Gust	2012	Cultural Resources of Construction Phase I for the Conrad N. Hilton Foundation Headquarters Project, City of Agoura Hills, Los Angeles County, California	Outside
LA-11835	Grimes, Teresa and Dory, Elysha	2011	Agoura Road Widening, 29008 Agoura Road, Agoura Hills, CA Historic Resource Report	Outside

Table 1
Previous Studies Within 0.5 Mile of the Project Site

SCCIC Report No.	Author	Year	Study	Relationship to Project Site
LA-11836	GPA Environmental	2012	Agoura Road Widening, Draft Initial Study and Mitigated Negative Declaration	Outside
LA-12308	Harper, Caprice and Robin Turner	2011	Cultural Resources and Paleontological Resources Assessment for the Agoura Road Widening Project, Agoura Hills, Los Angeles County, California	Outside

South Central Coastal Information Center, January 2013

Table 2
Previously Recorded Cultural Resources Within 0.5-mile of the Project Site

Trinomial	Description	NRHP/CRHR Eligibility Status	Recorded/Updated By and Year	Relationship to Project Site
CA-LAn-320	Lithic scatter	Insufficient information	C. King, 1965; B. Padon 1979; J. McFarland and S. Horne 1998	Outside
CA-LAn-321	Lithic scatter	Insufficient information	C. King 1965; B. Padon 1979;J. McFarland and S. Home 1998	Outside
CA-LAn-402	Lithic scatter	Insufficient information	T. Blackburn and T. King 1969	Outside
CA-LAn-467	Lithic scatter	Insufficient information	Coleman 1972	Outside
CA-LAn-671	Lithic scatter	Insufficient information	Greenwood and Bente 1976	Outside
CA-LAn-872	Habitation site	Insufficient information	R. Croasdale 1971	Outside
CA-LAn-970	Prehistoric quarry	Insufficient information	J. Foster and D. Day 1977; J. McKenna 2008	Outside
CA-LAn-1021	Lithic scatter	Insufficient information	D. Day 1979; C. Singer 1979	Outside
CA-LAn-1024	Habitation site	Insufficient information	R. Breitborde and B. Padon 1979	Outside
CA-LAn-1027	Habitation site; possible burials	Presumed eligible	Coleman 1972; C. Singer and J. Karl 1979	Outside
CA-LAn-1069	Lithic scatter	Recommended significant	J. Brock 1980	Outside
CA-LAn-1236	Habitation site	Insufficient information	L. Smith 1985	Outside
CA-LAn-100209	Isolated basalt flake	Ineligible	J. McKenna 1989	Outside
CA-LAn-100210	Isolated basalt core	Ineligible	J. McKenna 1989	Outside

South Central Coastal Information Center, January 2014

APPENDIX D

Rare Plant Survey Results

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

805 644 4455
FAX 644 4240

info@rinconconsultants.com
www.rinconconsultants.com

September 2, 2014
Project Number: 13-01371

Jeff Peters
Questa Engineering Corp.
1220 Brickyard Cove Road, Suite 206
Pt. Richmond, California 94807
Via Email: JPeters@questaec.com

Subject: 2014 Rare Plant Survey Results for the Agoura Hills Recreation Trail Construction Project, Los Angeles County, California

Dear Mr. Peters:

This letter reports on the results of rare plant surveys conducted in the spring of 2014 by Rincon Consultants, Inc. (Rincon) for the proposed Agoura Hills Recreation Trail Construction Project (project). The project site is located within undeveloped areas south of Agoura Road, between Ladyface Circle and Reyes Adobe Road, within the City of Agoura Hills, Los Angeles County, California. The approximate center of the project occurs near 34°08'32.00"N/118°46'40.92"W, as depicted in an unsectioned portion of Township 1 North, Range 18 West, of the U.S. Geographical Survey (USGS) *Thousand Oaks, California* 7.5-minute topographic quadrangle (Figure 1; all figures are attached to the end of this report). Elevations within the proposed project range from approximately 1,000 to 1,300 feet above mean sea level.

This letter updates the preliminary findings letter report dated May 15, 2014. During the first survey conducted in March 2014, the following special-status plant species were observed within, adjacent to, and/or surrounding the proposed project alignment (Figure 2; note: some points of observation represent several individuals in close proximity of each other):

- Five (5) individuals of Agoura dudleya (*Dudleya cymosa* ssp. *agourensis*), a Federally-listed as threatened and California Rare Plant Rank (CRPR) 1B.2 species;
- Two (2) individuals of slender mariposa lily (*Calochortus clavatus* var. *gracilis*), a CRPR 1B.2 species; and
- Over one-hundred (100) individuals of Catalina mariposa lily (*Calochortus catalinae*), a CRPR 4.2 species.

No additional special-status plant species, with particular focus on Santa Susana tarplant (*Deinandra minthornii*), a State-listed rare and CRPR 1B.2 species, were observed during the second survey conducted in August 2014.

METHODS

The rare plant survey, performed by qualified Rincon botanists, was conducted in general accordance with the guidelines established by the California Department of Fish and Wildlife (CDFW, 2009) and California Native Plant Society (2001). The survey was floristic in nature. All plant taxa observed were documented and identified at least to the taxonomic level required to determine rarity status. The "survey area" consisted of the areas located within a 50-foot buffer surrounding the proposed Loop Trail and Overlook Trail alignments (Figure2). The first survey was conducted on May 2 and 9, 2014, near the peak of the flowering season for a majority of the target species. The second survey was conducted on August 19, 2014, to identify later blooming plants, particularly Santa Susana tarplant. The surveys consisted of walking along transects that provided for 100 percent visual coverage and detection of the smallest target species, with distances between transects varying depending upon overall diversity and structural complexity. All special-status plant species observed within the survey were mapped onto an aerial photograph of the project site at a scale of 1 inch = 200 feet (Figure 2).

RESULTS AND RECOMMENDATIONS

Agoura Dudleya

Five (5) individuals of Agoura dudleya were observed along the eastern section of the Loop Trail, in bloom at the time of the March 2014 survey, adjacent to (within approximately 20 feet) the proposed trail alignment (see Figure 2). Several (approximately 10) other individuals of dudleya (*Dudleya* sp.) were observed within approximately 20 feet of the trail; however, these individuals are not likely those of the Agoura dudleya since they were not in bloom at the time in which the five nearby individuals were, and confirmed as, Agoura dudleya.

Current guidelines for this Federally-listed species (per U.S. Fish and Wildlife Service and the California Environmental Quality Act [CEQA]) include avoidance, minimization, and compensation with potential long-term species protection. Avoidance is defined in the Agoura Village Specific Plan as a minimum 200-foot setback. If avoidance is not feasible, on-site mitigation is recommended if suitable, unoccupied, habitat is present that can be isolated from human disturbance; otherwise an off-site location would be considered. A mitigation restoration plan shall be prepared by a qualified plant ecologist that identifies the number of plants to be replanted and the methods that would be used to preserve this species in the on- or off-site mitigation location(s). The plan shall also include a monitoring program so that the success of the effort can be measured. Impacts to this plant species can easily be avoided by realigning the trail to avoid rocky outcroppings, and habitat for the plant, or establishing a successful mitigation replacement population by replanting plants that cannot be avoided.

Slender Mariposa Lily

Two (2) individuals of slender mariposa lily were observed along the western section of the Loop Trail, in bloom at the time of the March 2014 survey, on and/or immediately adjacent to the proposed trail alignment (see Figure 2).

Take of CRPR 1B.2 plant species is subject to the California Native Plant Protection Act (NPPA), which states "...the owner shall notify the department at least 10 days in advance of changing the land use to allow for salvage of such plant. Typical mitigation includes top-soil salvage, salvage of bulbs and seeds, and relocation to suitable habitat located on- or off-site.

Catalina Mariposa Lily

Over one-hundred (100) individuals of Catalina mariposa lily were observed in bloom at the time of the March 2014 survey. These individuals were identified within and surrounding the survey area along both the Loop Trail and Overlook Trail.

It is recommended that CRPR 4 plant species be evaluated for consideration during preparation of environmental documents relating to CEQA; however, most of the time, impacts to this list of species is considered less than significant and minor mitigation is required. Typical mitigation is similar to that of the slender mariposa lily described above.

Santa Susana Tarplant

As noted above, no individuals of Santa Susana tarplant were observed during the first and second survey. Therefore, no additional actions with regard to this species are recommended.

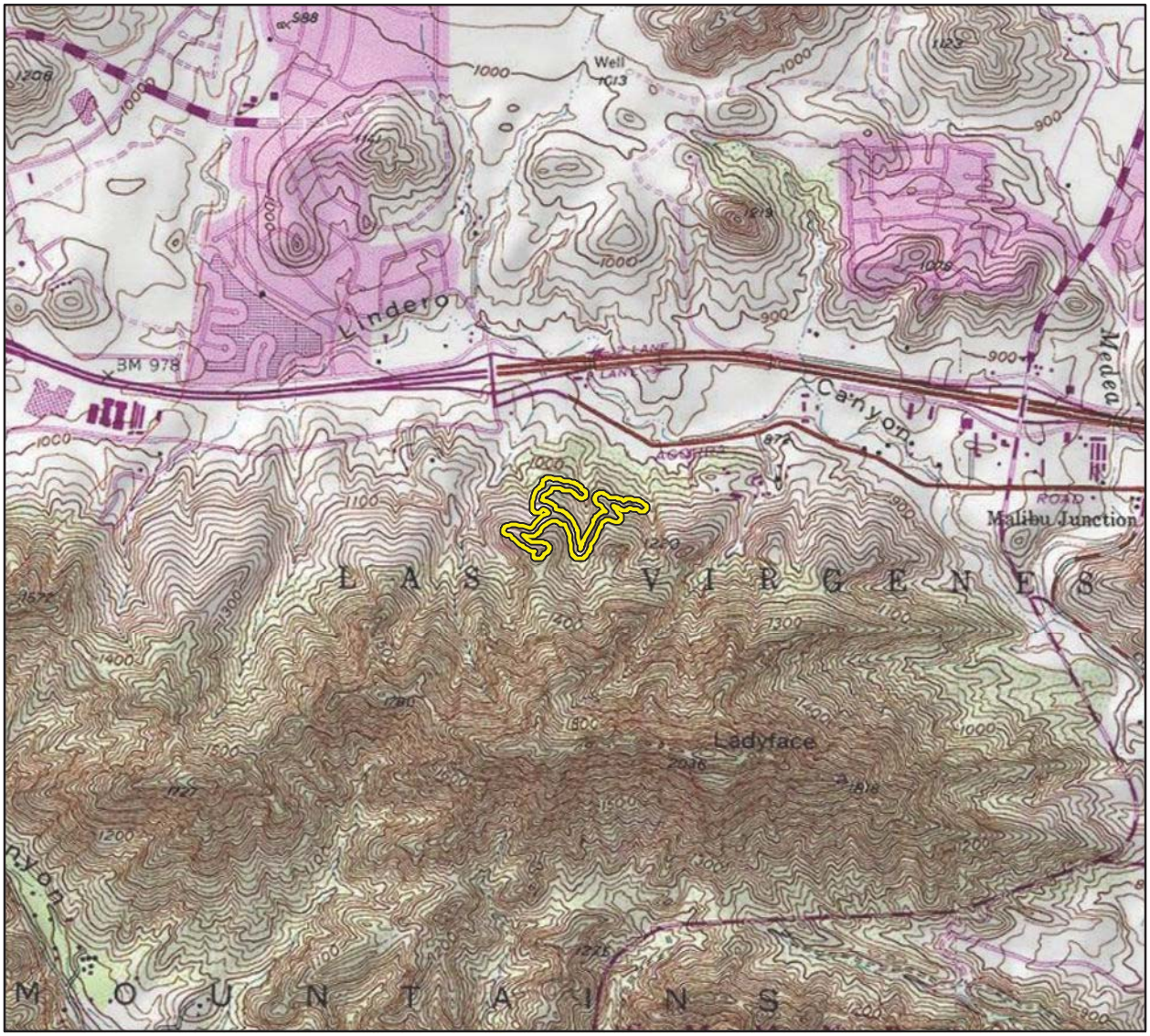
Should you have any questions, please contact us at (805) 644-4455.

Sincerely,
RINCON CONSULTANTS, INC.

Lindsay Griffin
Biologist/Project Manager

Steven J. Hongola
Biological Program Manager

Attachments: Figure 1. Regional and Project Location
Figure 2. Special-Status Plant Species Observations



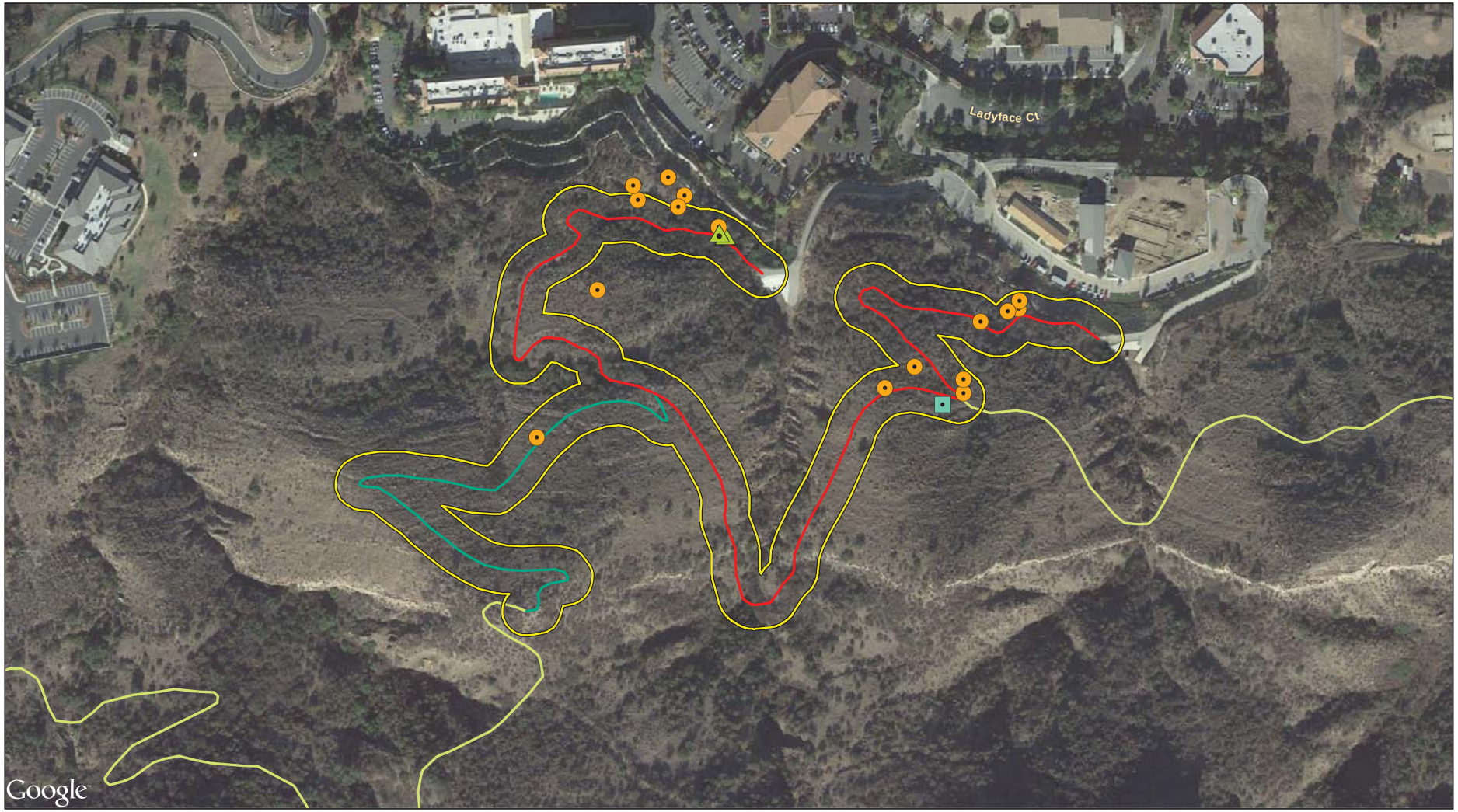
Imagery provided by National Geographic Society, ESRI and its licensors © 2014. Thousand Oaks Quadrangle. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Project Boundary

0 1,000 2,000
Feet
1:24,000

N

Regional and Project Location Map Figure 1



Study Area
Loop Trail
Overlook Trail
East/West Connector Trails (Future Potential)

Catalina Mariposa Lily *(Calochortus catalinae)*
Slender Mariposa Lily *(Calochortus clavatus var. gracilis)*
Agoura Dudleya *(Dudleya cymosa ssp. agourensis)*

0 100 200
Feet

N

Special-Status Plant Species Observations

Figure 2

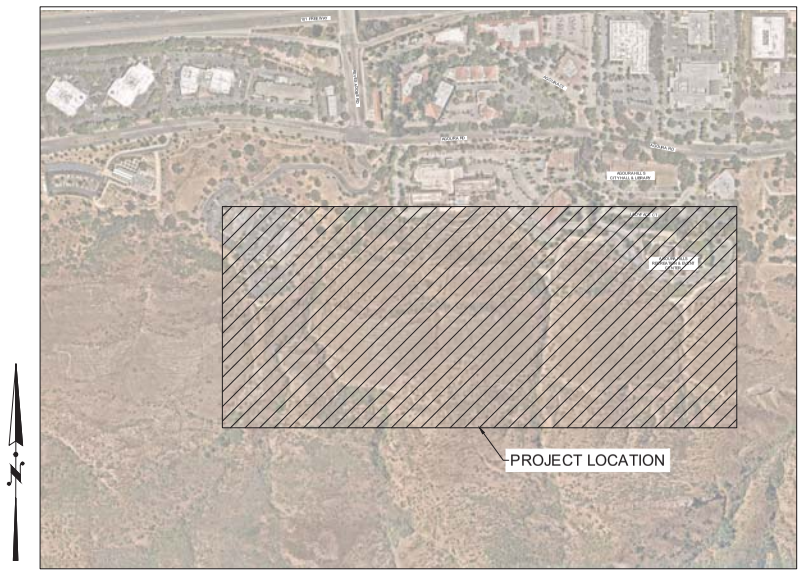
APPENDIX B
City of Agoura Hills Recreation Center Trail Plan Set, 2025
City of Agoura Hills

CITY OF AGOURA HILLS
RECREATION CENTER TRAIL

N.I.B. NO.

PROJECT DESCRIPTION

THE PROJECT IS THE DEVELOPMENT OF APPROXIMATELY 0.82 MILES OF TRAILS, CONSISTING OF A 0.45-MILE LOOP TRAIL, A 0.14-MILE ATTACHED OVERLOOK TRAIL, AND A SEPARATE 0.23-MILE OVERLOOK TRAIL, ALL EXTENDING INTO THE OPEN SPACE LOCATED WEST AND SOUTH OF THE AGOURA HILLS RECREATION AND EVENT CENTER. THE PROJECT WILL BE CONSTRUCTED IN PHASES WITH THE LOOP TRAILS TO BE CONSTRUCTED AFTER IN ONE OR TWO ADDITIONAL PHASES.



VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

PROJECT INFORMATION

PROJECT APPLICANT:	CITY OF AGOURA HILLS 30001 LADYFACE COURT AGOURA HILLS, CA 91301 CONTACT: LOUIS CELAYA, P.E.
ENVIRONMENTAL CONSULTANT:	ENVICOM CORPORATION CONTACT: MR. TRAVIS CULLEN 818-879-4700
PROJECT AERIAL:	NEARMAP AERIAL DATED JULY 9, 2023
SITE APN:	2061-002-905 & 2061-005-915
TRAIL NAME:	AGOURA HILLS RECREATION CENTER TRAIL
TRAIL OWNER:	CITY OF AGOURA HILLS
TRAIL MAINTENANCE:	CITY OF AGOURA HILLS

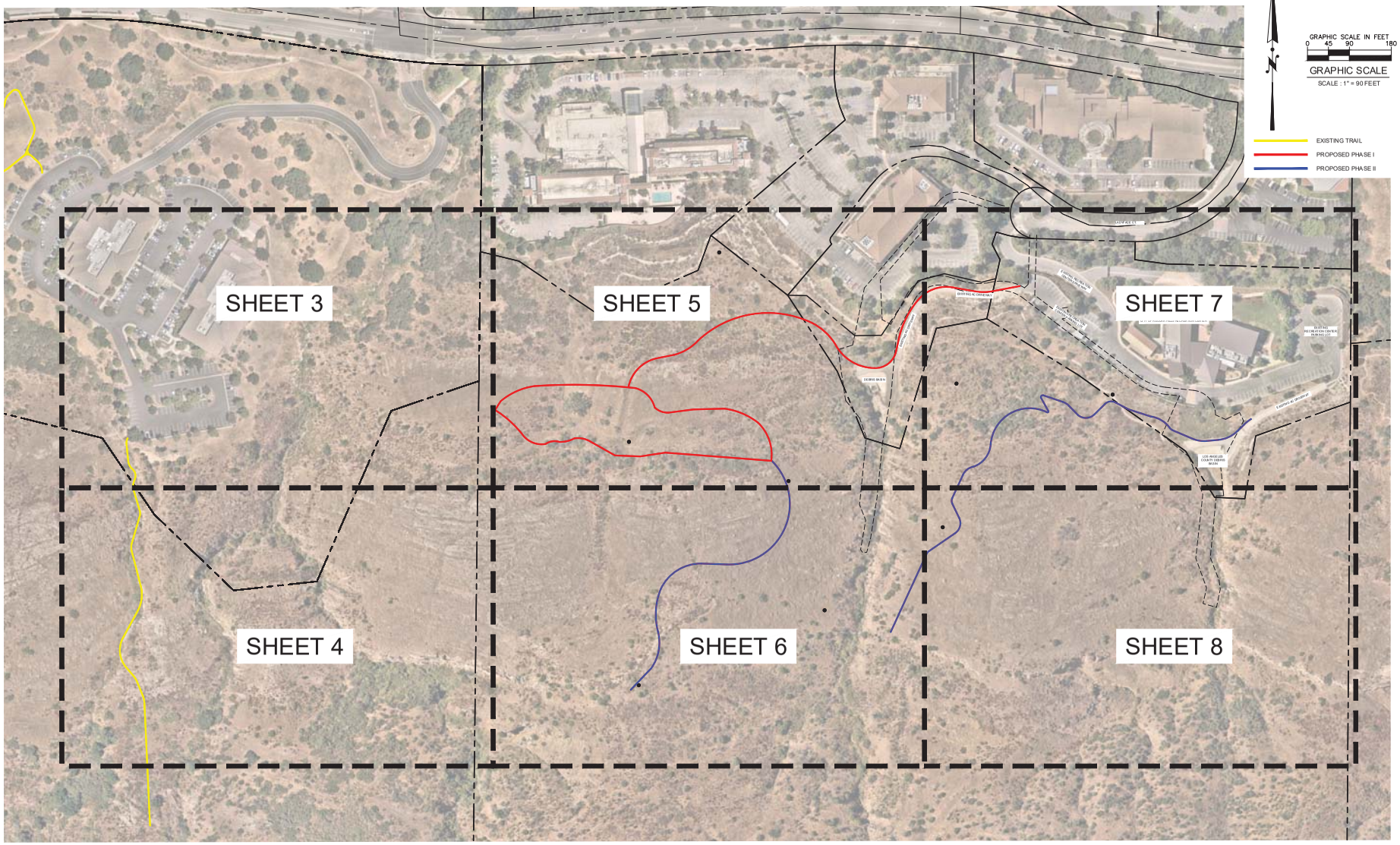
REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:
PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL
REVIEWED BY DATE
DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL
TITLE SHEET, LOCATION MAP AND PLAN NOTES
SHEET 1

CITY OF AGOURA HILLS DWG. NO. _____



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

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PROJECT ENGINEER DATE

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CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

OVERALL TRAIL SITEPLAN

SHEET 2

CITY OF AGOURA HILLS DWG. NO. _____

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

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PROJECT ENGINEER DATE

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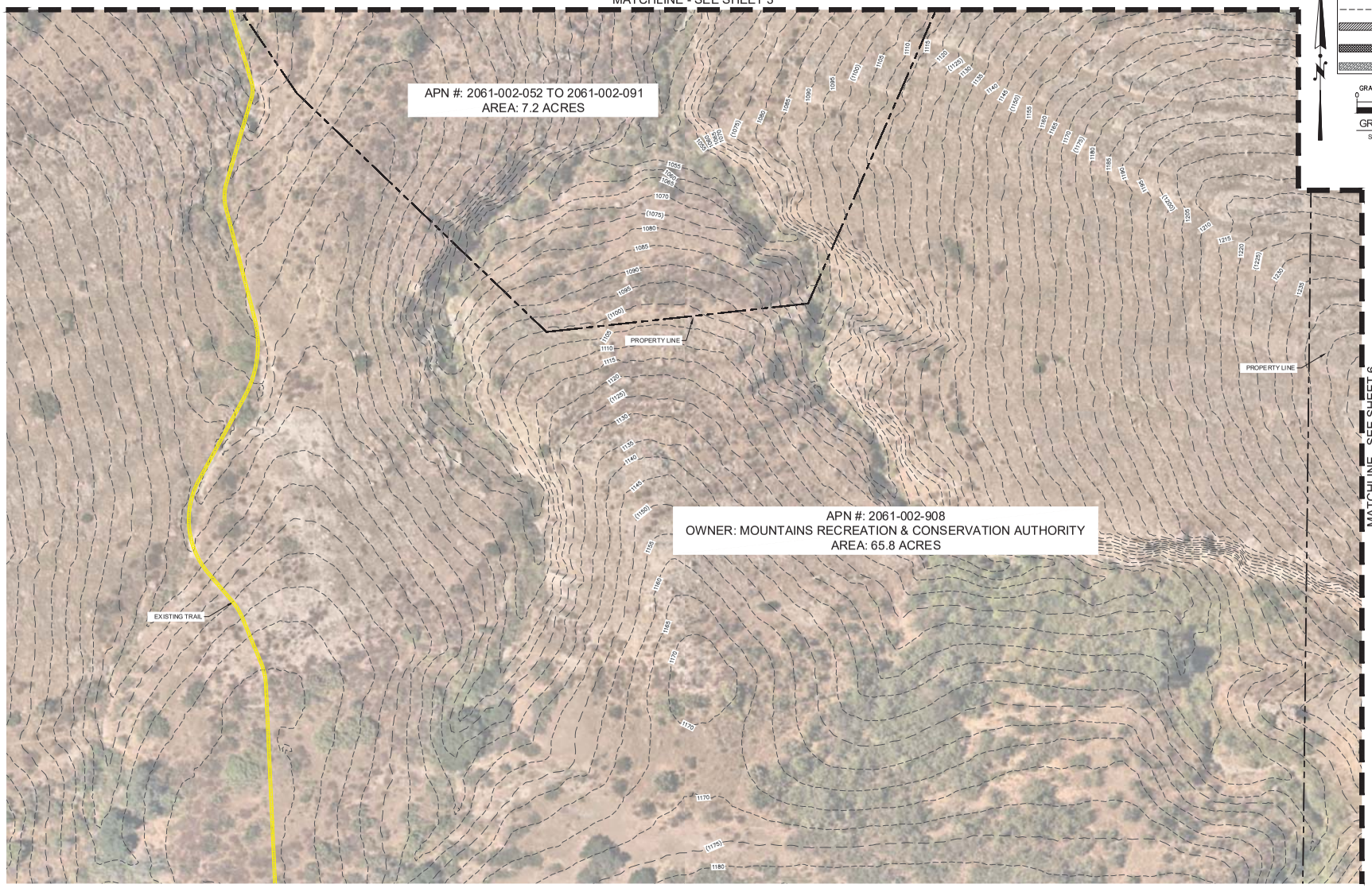
CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL ON NORTHWEST SIDE

SHEET 3

CITY OF AGOURA HILLS DWG. NO. _____



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

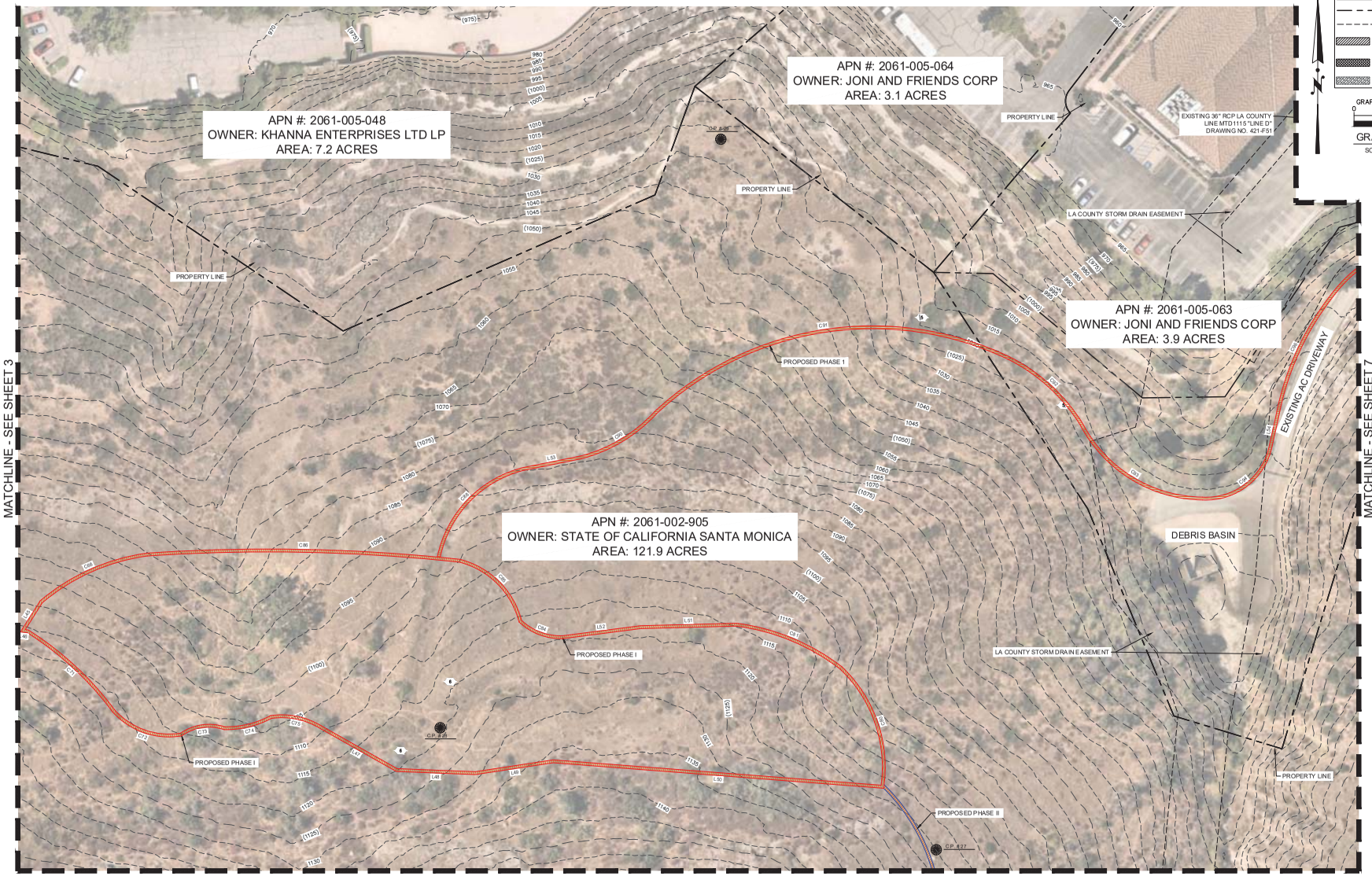
CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL CONTINUE ON SOUTHWEST SIDE

SHEET 4

CITY OF AGOURA HILLS DWG. NO. _____



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL CONTINUE ON NORTH SIDE BY EX. DEBRIS BASIN

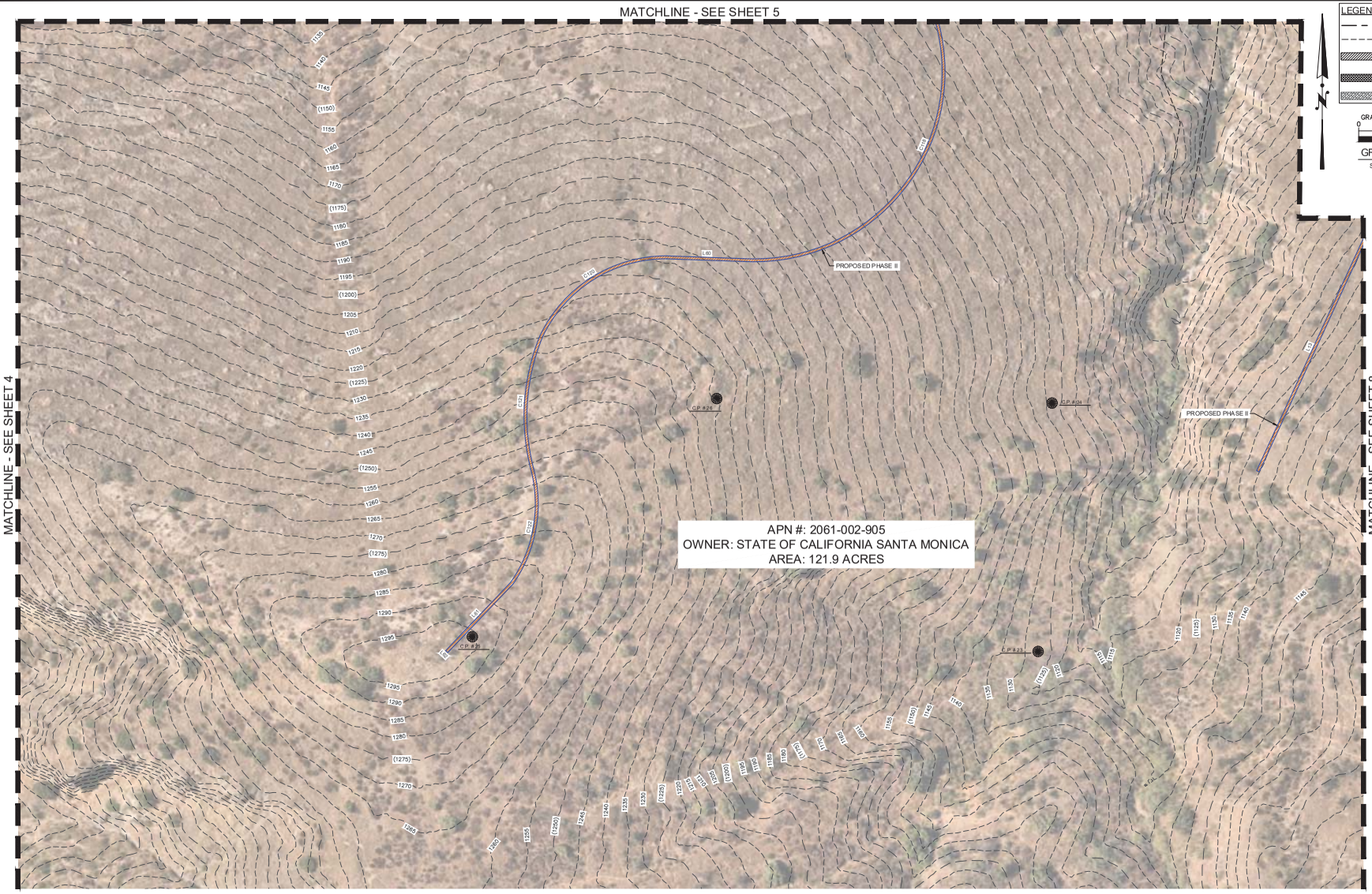
SHEET 5

CITY OF AGOURA HILLS DWG. NO. _____

MATCHLINE - SEE SHEET 5

MATCHLINE - SEE SHEET 4

MATCHLINE - SEE SHEET 8



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

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CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

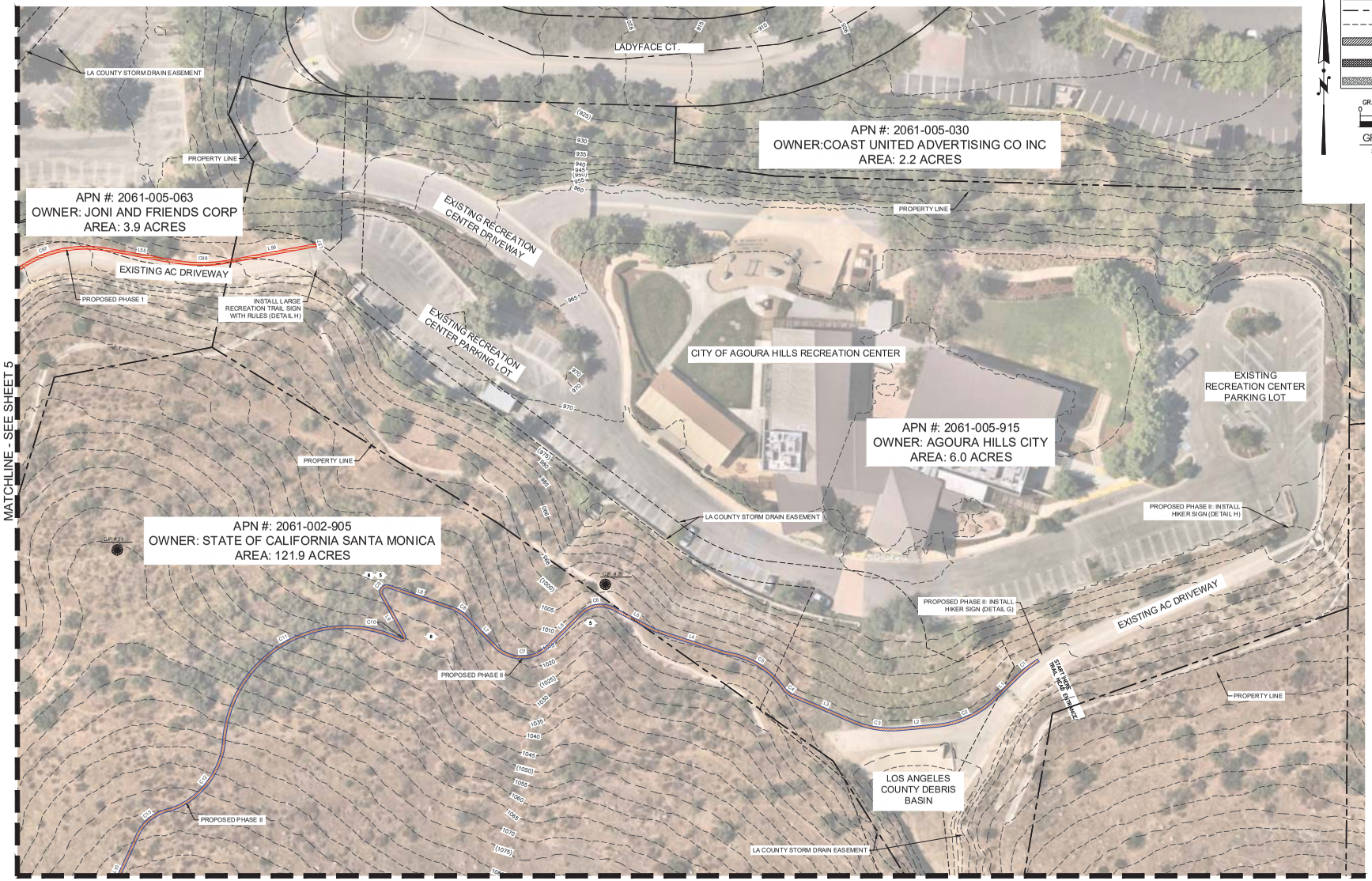
CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL CONTINUE ON SOUTH SIDE

SHEET 6

CITY OF AGOURA HILLS DWG. NO. _____



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

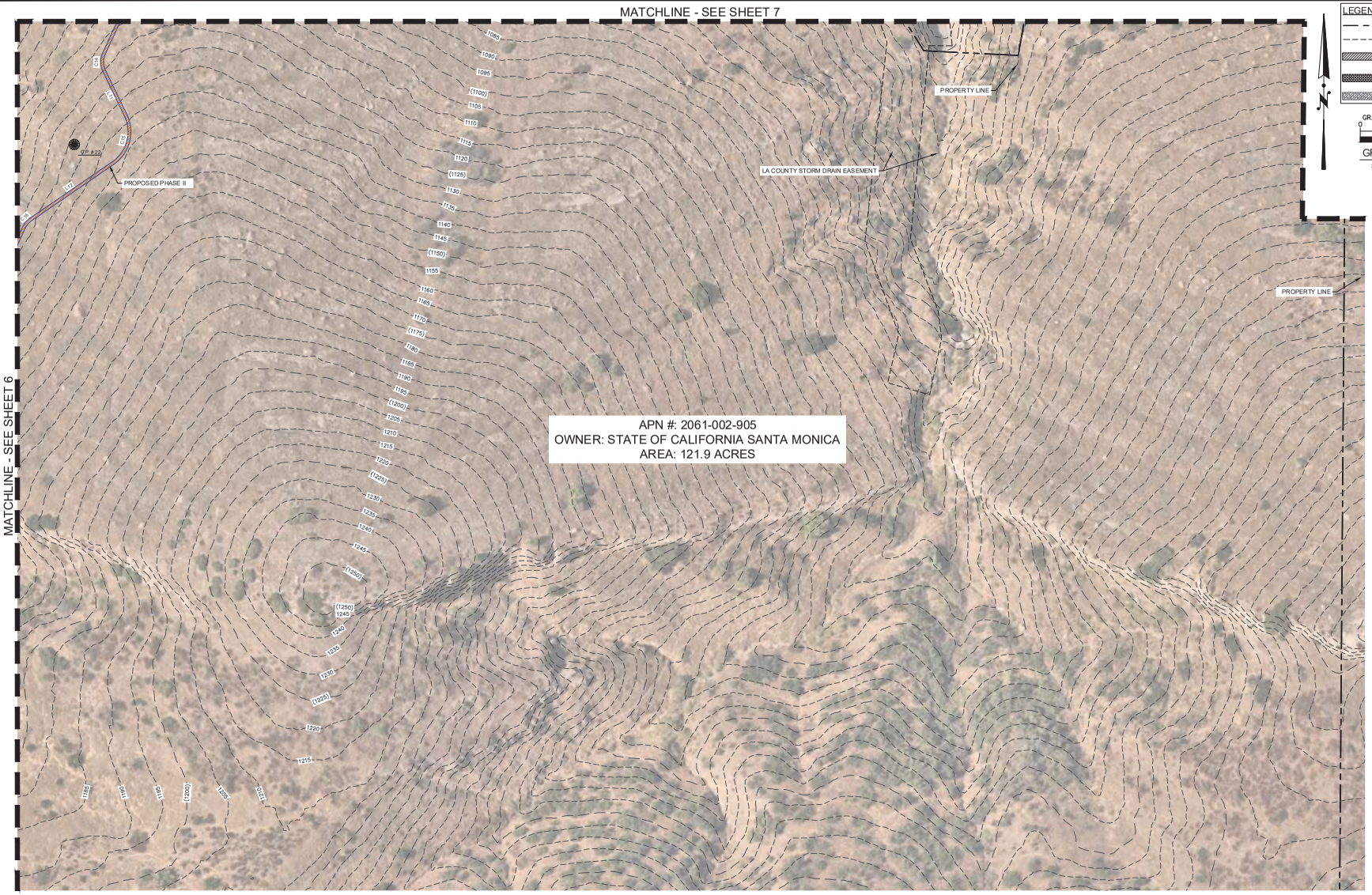
TRAIL CONTINUE ON NORTHEAST SIDE

SHEET 7

CITY OF AGOURA HILLS DWG. NO. _____

MATCHLINE - SEE SHEET 6

MATCHLINE - SEE SHEET 7



REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL CONTINUE ON SOUTHEAST SIDE

SHEET 8

CITY OF AGOURA HILLS DWG. NO. _____

LINE TABLE		
LINE #	LENGTH	BEARING
L1	20.1	S46°03'36.48"W
L2	25.0	S8-4'-45'50.08"W
L3	46.0	N66°52'39.60"W
L4	50.9	N72°08'14.90"W
L5	31.7	N62° 18'13.74"W
L6	32.0	S45° 19'40.60"W
L7	27.0	N44°23'58.40"W
L8	44.0	N7 1° 17'32.22"W
L9	32.0	S28°54'10.16"E
L10	95.0	S24°47'15.90"W
L11	34.0	S25°46'31.50"E
L12	68.4	S55°33'33.00"W
L13	165.0	S24°40'42.19"W
L45	25.3	S32° 15'33.36"W
L46	4.7	S82°42'06.33"E
L47	60.3	S60°32'16.02"E
L48	54.7	S87°44'53.07"E
L49	54.4	N81°22'02.23"E
L50	228.9	S85°35'04.41"E
L51	66.5	S88°30'46.69"W
L52	53.9	S82°39'22.40"W
L53	40.0	N78°35'59.97"E
L54	20.0	N12°36'45.10"E
L55	48.0	S80°05'58.86"E
L56	60.0	N79°20'34.75"E
L57	2.0	S10°39'25.23"E

CURVE TABLE			
CURVE #	RADIUS	LENGTH	DELTA
C1	75.0	20.6	15°14'45.4"
C2	65.0	44.6	39°20'25"
C3	65.0	30.6	26°57'33"
C4	15.0	8.2	31° 12'07"
C5	60.0	48.6	46°25'28"
C6	20.0	25.3	72°22'09"
C7	25.0	37.9	86°49'24"
C8	31.0	16.5	30°29'53"
C9	5.0	11.9	136°12'17"
C10	1.0	2.5	145°18'22"
C11	85.0	166.2	112°02'42"
C12	54.0	63.4	67° 18' 13"
C13	31.0	29.9	55° 13'28"
C14	15.0	13.3	50°55'26"
C15	25.0	35.5	81°20'04"
C16	15.0	8.1	30°52'51"
C68	144.4	81.9	32°29'43"
C71	218.5	80.6	21°07'58"
C72	52.4	53.0	58°07'24"
C73	32.7	30.7	53°41'15"
C74	66.7	34.0	29° 11'26"
C75	50.9	35.2	39°34'56"
C80	95.4	92.2	55°23'21"
C81	150.9	79.8	30°19'04"
C84	39.5	31.1	45°07'46"
C85	59.0	63.0	61°06'28"
C86	1235.3	216.5	10°02'36"
C88	80.5	90.7	64°32'23"
C90	104.5	60.2	33°07'43"
C91	220.5	263.7	68°30'32"

CURVE TABLE			
CURVE #	RADIUS	LENGTH	DELTA
C92	125.5	69.6	31°47'29"
C93	94.5	101.6	61°36'20"
C94	44.5	63.8	82°10'03"
C96	195.5	99.0	29°00'06"
C97	80.5	86.7	61°42'44"
C99	104.5	37.5	20°33'26"
C118	129.0	310.0	137°40'53"
C120	96.0	109.5	65°2'01"
C121	146.0	93.1	36°33'20"
C122	94.0	82.0	49°57'31"

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

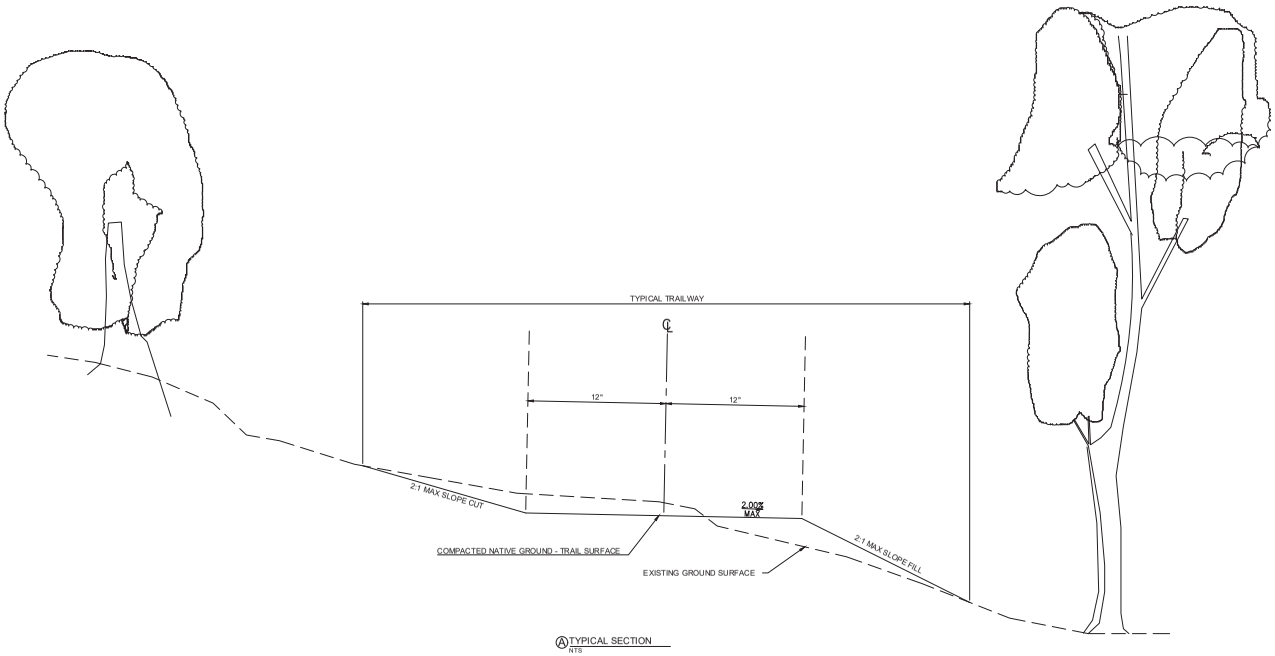
CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TRAIL ALIGNMENT DATA

SHEET 9

CITY OF AGOURA HILLS DWG. NO. _____



Ⓐ TYPICAL SECTION
NTS

SIGN NOTES:
1. CORNER ROUNDED, RADIUS = 0.5".
2. COLOR: SANTA MONICA BROWN, REVERSE PRINT ON WHITE REFLECTIVE SHEETING.
3. BORDER: ½" THICK.
4. COATING: 3M 1150 MATERIAL .08 ALUMINUM.
5. HIKER: PER MRCA, COLOR WHITE SOLID.
6. SECURE SIGN TO POST, CONSTRUCT POST PER TRAIL MARKER POST DETAIL HEREON.
7. SUPPLIED AND INSTALLED BY OWNER.

Ⓒ HIKER MARKER DETAIL
NTS

Agoura Hills
Recreation Center Trail

- Park closed: sunset to sunrise
- No Smoking or fires
- No Alcoholic beverages
- No littling or dumping
- No unauthorized vehicle use
- No bike/motorized bikes
- No defacing or destroying property.
- Dogs must be on leash and cleaned up after
- Possession of firearms, bow and arrow prohibited.
- Be cautious of wildlife
- No camping permitted

For information or emergencies call 911
Violators subject to $500 fine and/or 6 months in County Jail

SIGN NOTES:
1. CORNER ROUNDED, RADIUS = 1.5".
2. COLOR: SANTA MONICA BROWN, REVERSE PRINT ON WHITE REFLECTIVE SHEETING.
3. BORDER: ½" THICK.
4. FONT: HELVETICA, SOLID WHITE
5. COATING: 3M1150 MATERIAL .08 ALUMINUM.
6. SECURE SIGN TO POST, CONSTRUCT POST PER TRAIL SIGN DOUBLE POST DETAIL HEREON.
7. SUPPLIED AND INSTALLED BY OWNER.

Ⓗ TRAIL RULES SIGN DETAIL
NTS

REVISION #	SYMBOL	DESCRIPTION OF CHANGE	APPROVED	DATE

PREPARED BY:

PROJECT ENGINEER DATE

CITY OF AGOURA HILLS APPROVAL

REVIEWED BY DATE

DIR. OF PUBLIC WORKS/CITY ENGINEER DATE RCE NO. EXP DATE

CITY OF AGOURA HILLS

CITY OF AGOURA HILLS - RECREATION CENTER TRAIL

TYPICAL CROSS SECTION AND DETAILS

SHEET 10

CITY OF AGOURA HILLS DWG. NO. _____

APPENDIX C
Biological Survey of Proposed "Western Connector" Trail Alignment
Spring 2023
Envicom Corporation

September 8, 2023

City of Agoura Hills
3000 Ladyface Court
Agoura Hills, CA 91301

Attn: Ms. Denice Thomas, Community Development Director

Subj: Biological Survey of Proposed "Western Connector" Trail Alignment, Spring 2023
Agoura Hills Recreation Center Trail Project *(Envicom Project #2020-185-01)*

Dear Ms. Thomas,

This report provides the results of a biological survey conducted by Envicom Corporation in Spring 2023 for rare plants and other biological constraints for a segment of the proposed Agoura Hills Recreation Center Trail, referred to herein as the "Western Connector." The project site is in the foothills of the Santa Monica Mountains approximately 1/8th mile south of the intersection of Agoura Road and Reyes Adobe Road in the City of Agoura Hills.

METHODS

In preparation for the survey, a literature review was performed that included relevant lists and databases pertaining to the status and known occurrences of rare plant species and other special-status and sensitive biological resources. The following sources were among those reviewed prior to the survey or during preparation of this report:

- *Biogeographic Information and Observation System (BIOS),* California Department of Fish and Wildlife (CDFW), data as of April 26, 2023;
- *California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California* report for the 7.5' USGS Thousand Oaks quadrangle and adjacent quadrangles, CNPS, data as of April 26, 2023;
- *California Natural Communities List, CDFW, June 1, 2023;*
- *California Natural Diversity Database (CNDDB) Rarefind 5* report for the 7.5' United States Geological Survey (USGS) Thousand Oaks quadrangle and adjacent quadrangles, CDFW, data as of April 26, 2023;
- *List of Special Vascular Plants, Bryophytes, and Lichens*, CDFW, April 2023;
- *National Wetlands Inventory,* USFWS, data as of April 26, 2023;
- *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities*, CDFW, March 10, 2018; and,
- *United States Fish and Wildlife Service Critical Habitat Mapper*, United States Fish and Wildlife Service (USFWS), data as of April 26, 2023.

The survey was conducted by Jim Anderson, Principal Biologist, on the following dates and times and in the following conditions:

- April 27, 2023 between the hours of 1:45 p.m. and 6:00 p.m. in warm and fair conditions (mid to upper 70s °F) with winds of 5 to 10 m.p.h.;
- May 30, 2023 between the hours of 2:45 p.m. and 4:30 p.m. in warm and cloudy conditions (mid-60s °F) with winds of 5 to 10 m.p.h.; and,
- June 14, 2023 between the hours of 2:00 p.m. and 4:00 p.m. in warm and cloudy conditions (mid-60s °F) with no winds.

The survey area included the proposed Western Connector trail alignment and a 50-foot buffer. The proposed trail alignment and survey area are shown on **Figure 1, Biological Constraints,** which is attached to this report.

The biological survey was performed by slowly walking transects across the site, which resulted in a thorough investigation of all plant communities and habitats within the survey area. An inventory of vascular plants observed was recorded, and all species identified to the taxonomic level necessary to determine their status. Vascular plant species determinations were made using Baldwin et al. (2012)[1] and Prigge & Gibson (2013).[2] Rare and sensitive plant community determinations were made using the *Manual of California Vegetation Online*[3] and the *California Natural Communities List* (June 1, 2023).[4]

The extent of potential Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and CDFW jurisdiction over the three streams that cross the survey area was also delineated during the survey. The delineation focused on the outward limits of agency jurisdiction; determining the presence and extent of any potential wetlands within the stream banks was not within the scope of the survey.

The presence of species in the oak genus *Quercus* that may be protected under the City's oak tree ordinance (City Municipal Code Article IX Chapter 6 Part 2 Division 7 Section 9657) was also documented during the survey. However, determining whether individual oak trees or scrub oaks meet the necessary size thresholds for protection under the ordinance was outside the scope of the survey.

RESULTS

The survey area contains naturally occurring native and non-native habitats growing on sloped terrain and on rocky, volcanic clay loam soils at elevations ranging from approximately 1,000 to 1,130 feet. The generalized habitats within the survey area include annual grassland, coastal scrub, chaparral, three streams, volcanic rock outcrops, oak trees, a managed fuel modification zone, and a landscaped slope. Photos of the habitats along the proposed trail alignment are provided on **Plate 1**, **Photos 1A – 1E**. During the survey a total of 116 vascular plant species were found, including three (3) ferns and fern allies, 92 dicots, and 21 monocots. Of these, 94 species were native and 22 were non-native. A list of the vascular plant species identified during the survey is attached to this report.

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[1] Baldwin, B. G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson manual: vascular plants of California, second edition*. University of California Press, Berkeley.

[2] Prigge, B. A. & Gibson, A. C., 2013. *A Naturalist's Flora of the Santa Monica Mountains and Simi Hills, California*. http://www.smmflowers.org/bloom/UCLA_PDFs_Web.htm

[3] California Native Plant Society. *Manual of California Vegetation Online.* https://vegetation.cnps.org/

[4] California Department of Fish and Wildlife. June 1, 2023. *California Natural Communities List.* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline

Rare, Threatened, and Endangered Plant Species

One plant species considered to be rare, threatened, or endangered was found at the site during the survey, Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*). Agoura Hills dudleya is a perennial succulent herb in the stonecrop family (Crassulaceae), which grows on rocky, volcanic substrates at a restricted number of sites in the western Santa Monica Mountains. It is listed as Threatened under the Federal Endangered Species Act. A map showing the locations of this species is attached to this report (Figure 1). The species occurs on the east to west running band of shallow volcanic outcrops on the north-facing slope just north of the proposed trail alignment. There are an estimated 350 Agoura Hills dudleya plants within the survey area. The species does not occur along the proposed western connector trail alignment, but some of the plants are close to it. Other plant species growing in the same habitat along with the Agoura Hills dudleya include native mosses, lichens, and spikemoss (*Selaginella bigelovii*); native shrubs and herbs such as California buckwheat (*Eriogonum fasciculatum*), California aster (*Corythrogyne filaginifolia*), pygmy weed (*Crassula conata*), angel's gilia (*Gilia angelensis*), and blue grass (*Poa secunda*); and, non-native herbs such as red brome (*Bromus rubens*), rattail fescue (*Festuca myuros*), red-stemmed filaree (*Erodium cicutarium*), and goldentop grass (*Lamarckia aurea*). A representative photo of the Agoura Hills dudleya and its habitat are shown in **Photo 1F**.

California Rare Plant Rank (CRPR) 4 Species

One CRPR 4 plant occurs at the site, Catalina mariposa lily (*Calochortus catalinae*) [CRPR 4.2]. Catalina mariposa lily is a perennial bulbiferous herb in the lily family (Liliaceae), which occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland in parts of coastal southern California. Catalina mariposa lily was found in low numbers in herbaceous habitats as well as along the margins of the chaparral and coastal scrub at a few locations at the site. This species is relatively common in suitable habitats in the region. CRPR 4 plants are not rare, but rather are included on a "watch list" of species with limited distribution, and they do not meet criteria for listing as Threatened or Endangered under the California Endangered Species Act. There may be a small number of Catalina mariposa lilies along the proposed trail alignment, particularly in the open scrub and annual grassland habitats, but due to their unprotected status these plants were not mapped during the survey.

Rare and Sensitive Natural Communities

The only rare or sensitive natural community within the survey area is the Bushy Spikemoss Herbaceous Alliance (*Selaginella bigelovii*). This is an herbaceous community dominated by spikemoss that typically occurs on relatively gentle to moderately sloping slabs of rock where thin soils have accumulated. Within the survey area, it occurs on the east to west running band of shallow volcanic outcrops on the north-facing slope to the north of the proposed trail alignment. Other plants found in this community include those listed above as growing along with the Agoura Hills dudleya. Rare and sensitive natural communities are assigned status ranks that indicate they are vulnerable in the State of California due to a restricted range and relatively few populations (often 80 or fewer), recent and widespread declines, or other factors. The Bushy Spikemoss Herbaceous Alliance receives a G4S3 rank and is therefore apparently secure globally but considered vulnerable within the State. Approximately 40 feet of the proposed trail alignment intersects this natural community.

Jurisdictional Waters and Habitat

Three streams flow in a generally south to north direction through the survey area. These streams are under the regulatory jurisdiction of the ACOE, RWQCB, and CDFW as waters of the United States, waters of the State, and riparian habitat. The western and central stream are intermittent and support riparian habitat, while

the eastern stream is smaller and may only flow ephemerally. The two intermittent streams contained flowing water during the survey. The beds and banks of all three streams are generally rocky, and riparian habitat where it occurs along the two intermittent streams generally does not extend beyond the stream banks. The riparian habitat within the banks of the two intermittent streams includes native shrubs and herbs such as mulefat (*Baccharis salicifolia*), mugwort (*Artemsia douglasiana*), chaparral mallow (*Malacothamnus fasciculatus*), blue elderberry (*Sambucus mexicana*), creek monkey flower (*Erythranthe guttata*), California fuschia (*Epilobium canum* ssp. *canum*), and black sage (*Salvia mellifera*), and non-native herbs such as ripgut brome (*Bromus diandrus*) and Italian thistle (*Carduus pycnocephalus*). The central and eastern streams intersect the proposed trail alignment, while the eastern bank of the westernmost stream is near the proposed trail alignment.

Oak Trees and Scrub Oaks

There are several scrub oaks (*Quercus berberifolia*), six valley oaks (*Quercus lobata*), and two coast live oaks (*Quercus agrifolia*) within the survey area. Scrub oaks, valley oaks, and coast live oaks that meet established size thresholds are protected by the City's oak tree ordinance. The locations of these oak trees and shrubs are shown on Figure 1. The trail alignment intersects the canopies of at least two scrub oaks and it is near the canopies of additional scrub oaks as well as the canopies of two coast live oaks and three valley oak trees. As stated, determining whether the oak trees or scrub oaks meet size thresholds to be protected under the ordinance was not within the scope of the survey. An arborist survey would be necessary to determine which of the oak trees and scrub oaks are of ordinance size at the site.

If you have further questions, please contact me at Envicom Corporation at (818) 879-4700.

Sincerely,

Jim Anderson
Principal Biologist

Attachments:

- Vascular Plants Observed
- Figure 1, Biological Constraints
- Plate 1, Representative Photos of Survey Area

Vascular Plants Observed
Agoura Hills Recreation Center Trail
"Western Connector"
Spring 2023

* indicates a non-native or introduced species

GROUP **Family** ***Scientific Name***	**Common Name**
FERNS AND ALLIES	
Pteridaceae (Brake Family)	
Pellaea andromedifolia	coffee fern
Pentagramma triangularis	goldback fern
Selaginellaceae (Spike-moss Family)	
Selaginella bigelovii	Bigelow's spike moss
FLOWERING PLANTS-DICOTS	
Adoxaceae (Muskroot Family)	
Sambucus mexicana	blue elderberry
Anacardiaceae (Sumac or Cashew Family)	
Malosma laurina	laurel sumac
Rhus ovata	sugar bush
Toxicodendron diversilobum	poison oak
Apiaceae (Carrot Family)	
Apiastrum angustifolium	wild celery
Sanicula crassicaulis	Pacific sanicle
Apocynaceae (Dogbane Family)	
Asclepias fascicularis	narrowleaf milkweed
Asteraceae (Sunflower family)	
Artemisia californica	California sagebrush
Artemisia douglasiana	mugwort
Baccharis salicifolia	mulefat
**Carduus pycnocephalus*	Italian thistle
**Centaurea melitensis*	tocalote
Corethrogyne filaginifolia	California aster
Erigeron foliosus var. *foliosus*	fleabane aster
Eriophyllum confertiflorum	golden yarrow
**Helminthotheca echioides*	bristly ox-tongue
**Lactuca serriola*	prickly lettuce
Lasthenia gracilis	common goldfields
Logfia filaginoides	California filago
Malacothrix saxatilis	cliff aster
Micropus californicus var. *californicus*	slender cottonseed
Pseudognaphalium californicum	California everlasting
Rafinesquia californica	California chicory
**Senecio vulgaris*	common groundsel
Stebbinsoseris heterocarpa	grassland silver puffs
Stylocline gnaphaloides	everlasting neststraw

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GROUP **Family** ***Scientific Name***	**Common Name**
**Taraxacum officinale*	common dandelion
Uropappus lindleyi	silver puffs
Boraginaceae (Borage or Waterleaf Family)	
Amsinckia intermedia	common fiddleneck
Cryptantha clevelandii	white popcorn flower
Eucrypta chrysanthemifolia	common eucrypta
Pectocarya linearis ssp. *ferocula*	slender pectocarya
Phacelia cicutaria var. *hispida*	caterpillar phacelia
Pholistoma auritum	blue fiesta flower
Brassicaceae (Mustard Family)	
**Brassica nigra*	black mustard
**Hirschfeldia incana*	hoary mustard
Lepidium sp.	peppergrass
Thysanocarpus laciniatus	narrowleaf fringe-pod
Caprifoliaceae (Honeysuckle Family)	
Lonicera subspicata var. *denudata*	chaparral honeysuckle
Caryophyllaceae (Pink Family)	
**Cerastium glomeratum*	mouse-eared chickweed
**Silene gallica*	windmill pink
Chenopodiaceae (Goosefoot Family)	
Chenopodium californicum	California goosefoot
Convolvulaceae (Morning-glory Family)	
Calystegia macrostegia ssp. *intermedia*	South Coast false bindweed
Crassulaceae (Stonecrop Family)	
Crassula connata	pygmy weed
Dudleya cymosa ssp. *agourensis* [FT, CRPR 1B.2]	Agoura Hills dudleya
Dudleya lanceolata	lanceleaf live-forever
Cucurbitaceae (Gourd Family)	
Marah macrocarpa	wild cucumber
Euphorbiaceae (Spurge Family)	
Croton setigerus	turkey mullein
Fabaceae (Legume Family)	
Acmispon americanus var. *americanus*	Spanish clover
Acmispon glaber	deerweed
Lupinus bicolor	dove lupine
**Medicago polymorpha*	common bur clover
**Melilotus indicus*	yellow sweet clover
Trifolium willdenovii	tomcat clover
Fagaceae (Oak Family)	
Quercus berberidifolia	scrub oak
Quercus lobata	valley oak
Geraniaceae (Geranium Family)	
**Erodium botrys*	long-beaked filaree
**Erodium cicutarium*	red-stemmed filaree

GROUP **Family** ***Scientific Name***	**Common Name**
Grossulariaceae (Gooseberry Family)	
Ribes sp.	current
Lamiaceae (Mint Family)	
Salvia leucophylla	purple sage
Salvia mellifera	black sage
Stachys albens	white hedge nettle
Trichostema lanceolatum	vinegar weed
Malvaceae (Mallow Family)	
Malacothamnus fasciculatus	bush mallow
Montiaceae (Miner's Lettuce Family)	
Claytonia perfoliata	miner's lettuce
Nyctaginaceae (Four o'clock Family)	
Mirabilis laevis var. *crassifolia*	wishbone bush
Onagraceae (Evening-Primrose Family)	
Clarkia epilobioides	willow herb clarkia
Clarkia purpurea	purple clarkia
Clarkia unguiculata	elegant clarkia
Epilobium canum ssp. *canum*	California fuchsia
Orobanchaceae (Broomrape Family)	
Castilleja affinis ssp. *affinis*	Indian paintbrush
Paeoniaceae (Peony Family)	
Paeonia californica	California peony
Phrymaceae (Lopseed Family)	
Diplacus aurantiacus	bush monkey flower
Erythranthe guttata	creek monkey flower
Plantaginaceae (Plantain Family)	
Collinsia heterophylla	Chinese houses
Platanaceae (Sycamore Family)	
Platanus racemosa	western sycamore
Polemoniaceae (Phlox Family)	
Gilia angelensis	angel's gilia
Linanthus dianthiflorus	ground pink
Microsteris gracilis	slender phlox
Polygonaceae (Buckwheat Family)	
Eriogonum fasciculatum	California buckwheat
Pterostegia drymarioides	thread stem
Ranunculaceae (Buttercup Family)	
Delphinium parryi ssp. *parryi*	Parry's larkspur
Rhamnaceae (Buckthorn Family)	
Rhamnus ilicifolia	hollyleaf redberry
Rosaceae (Rose Family)	
Adenostoma fasciculatum	chamise
Cercocarpus betuloides var. *betuloides*	birchleaf mountain mahogany
Heteromeles arbutifolia	toyon

GROUP **Family** ***Scientific Name***	**Common Name**
Rubiaceae (Madder Family)	
Galium angustifolium ssp. *angustifolium*	narrowleaf bedstraw
Galium aparine	annual bedstraw
Galium nuttallii	climbing bedstraw
Salicaeae (Willow Family)	
Populus fremontii ssp. *fremontii*	Fremont cottonwood
Solanaceae (Nightshade family)	
Solanum xanti	purple nightshade
Urticaceae (Nettle Family)	
Parietaria hespera	pellitory
FLOWERING PLANTS-MONOCOTS	
Agavaceae (Century Plant Family)	
Chlorogalum pomeridianum	wavyleaf soapplant
Hesperoyucca whipplei	chaparral yucca
Liliaceae (Lily Family)	
Calochortus catalinae [CRPR 4.2]	Catalina mariposa lily
Calochortus clavatus var. *pallidus*	yellow mariposa lily
Calochortus venustus	butterfly mariposa lily
Poaceae (Grass Family)	
**Avena barbata*	slender wild oat
**Avena fatua*	common wild oat
Bromus carinatus var. *carinatus*	California brome
**Bromus diandrus*	ripgut brome
**Bromus hordeaceus*	soft chess
**Bromus rubens*	red brome
**Ehrharta erecta*	upright veldt grass
Elymus glaucus	blue wildrye
**Festuca myuros*	rattail fescue
Festuca octoflora	sixweeks grass
**Lamarckia aurea*	goldentop
Melica imperfecta	coast melic grass
Poa secunda	bluegrass
Stipa pulchra	purple needlegrass
Themidaceae (Brodiaea Family)	
Brodiaea terrestris ssp. *kernensis*	terrestrial brodiaea
Dipterostemon capitatus	blue-dicks

FT = plant that is listed as Threatened under Federal Endangered Species Act
CRPR = California Rare Plant Rank
CRPR 1B.2 = plants that are rare, threatened, or endangered in California and elsewhere.
CRPR 4 = a "watch list" for plants that are of limited distribution in California.

Source: Valtus Imagery Services: Hexagon Imagery Program (HxIP), 2020.

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Biological Constraints

FEET 0 40 80

FIGURE 1

Photo 1A: View of the westernmost section of the proposed trail alignment. In this area the trail would run between native scrub habitats to the south and a landscaped slope to the north.

Photo 1B: The trail would run along the slope shown in this photo, which contains annual grassland subject to routine fuel reduction. The trail would then cross the intermittent stream in the center of the photo and climb the adjacent rocky slope.

Photo 1C: The trail would traverse the slope shown in this photo, which contains open chamise (*Adenostoma fasciculatum*) chaparral and annual grassland habitats, as well as areas of exposed volcanic bedrock.

Photo 1D: View of the location where the trail would cross an intermittent stream. The trail would pass through the more gradually sloped gap in the steep rocky bank of the stream. In this area, the stream supports some riparian habitat, such as mulefat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), and creek monkey flower (*Erythranthe guttata*).

Photo 1E: This photo shows the annual grassland habitat that occurs along much of the proposed trail alignment. The annual grassland is strongly dominated by non-native grasses such as wild oats (*Avena* ssp.) and bromes (*Bromus* ssp.), but it also contains a few native herbs. Scrub oak (Quercus berberifolia) habitat as well as a large valley oak (*Quercus lobata*) are also visible in the background.

Photo 1E: This photo is representative of the volcanic outcrops within the survey area that support a sensitive natural community with bushy spikemoss (*Selaginella bigelovii*) as well as other native and non-native herbs, including the federally Threatened Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*). A few blooming Agoura Hills dudleya plants, which have yellow flowers, are visible in the center of the photo.

APPENDIX D
Agoura Hills Recreation Center Trail Project
Potential for Occurrence of Wildlife/Plant Species
March 2019
Envicom Corporation

Agoura Hills Recreation Center Trail Project
Potential for Occurrence of Wildlife Species

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
Federal or State Listed Species			
Invertebrates			
quino checkerspot butterfly (*Euphydryas editha quino*)	FE/None	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego Counties. Hills and mesas near the coast. Need high densities of food plants *Plantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*.	**Presumed Absent.** Known populations are in San Diego and Riverside Counties, or otherwise far south of the project area.
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE/None	Endemic to Western Riverside, Orange, and San Diego Counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	**Absent.** No suitable habitat on-site.
Fish			
unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)	FE/SE	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small southern California streams. Cool (<24 degrees Celsius), clear water with abundant vegetation.	**Absent.** No suitable habitat on-site.
tidewater goby (*Eucyclogobius newberryi*)	FE/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	**Absent.** No suitable habitat on-site.
steelhead - southern California (*Oncorhynchus mykiss irideus*)	FE/None	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	**Absent.** No suitable habitat on-site.
Santa Ana sucker (*Catostomus santaanae*)	FT/None	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	**Absent.** No suitable habitat on-site.

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
Amphibians			
California red-legged frog (*Rana draytonii*)	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Absent.** No suitable habitat on-site.
Reptiles			
arroyo toad (*Anaxyrus californicus*)	FE/SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	**Absent.** No suitable habitat on-site.
Birds			
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT/SE	Riparian forest nester, along the broad, lowers flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Presumed Absent.** May be observed in the area of the project site, but no suitable nesting habitat is present.
southwestern willow flycatcher (*Empidonax traillii extimus*)	FE/SE	Riparian woodlands in southern California.	**Presumed Absent.** May be observed in the area of the project site, but no suitable nesting habitat is present.
coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet in southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Potentially Present.** Some suitable habitat exists, but site is at extremes of elevation and distribution range. Potential is low.
bank swallow (*Riparia riparia*)	None/ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Presumed Absent.** May be observed in the area of the project site, but no suitable nesting habitat is present. Not observed during surveys.

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
least Bell's vireo (*Vireo bellii pusillus*)	FE/SE	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	**Presumed Absent.** May be observed in the area of the project site, but limited suitable nesting habitat is present.
Non-Listed Special Status Species			
Fish			
arroyo chub (*Gila orcuttii*)	None/SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**Absent.** No suitable habitat on-site.
Amphibians			
western spadefoot (*Spea hammondii*)	None/SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	**Absent.** No suitable habitat on-site.
Reptiles			
California legless lizard *(Anniella* sp.*)*	None/SSC	Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of Anniella not yet assigned to new species within the *Anniella pulchra* complex. Variety of habitats; generally in moist, loose soil. They prefer soils with high moisture content.	**Presumed Absent.** No suitable habitat on-site, low soil moisture levels.
southern California legless lizard (*Anniella stebbinsi*)	None/SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	**Presumed Absent.** No suitable habitat on-site, low soil moisture levels.
California glossy snake (*Arizona elegans occidentalis*)	None/SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**Potentially Present.** Soil type is generally not that preferred for the species, however the site is within range for the species.

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
coastal whiptail (*Aspidoscelis tigris stejnegeri*)	None/SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	**Potentially Present.** Not observed during surveys, but suitable habitat is present.
western pond turtle (*Emys marmorata*)	None/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000-foot elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	**Absent.** No suitable habitat on-site.
coast horned lizard (*Phrynosoma blainvillii*)	None/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Potentially Present.** Not observed during surveys, but suitable habitat is present.
two-striped gartersnake (*Thamnophis hammondii*)	None/SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000-foot elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	**Absent.** No suitable habitat on-site.
Birds			
American peregrine falcon (*Falco peregrinus anatum*)	None/CFP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**Absent.** May be observed in area, but no suitable habitat exists for nesting.
tricolored blackbird (*Agelaius tricolor*)	None/SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	**Absent.** May be observed in area, but no suitable habitat exists for nesting.
burrowing owl (*Athene cunicularia*)	None/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Absent.** May be observed in area, but no suitable habitat exists for nesting.
white-tailed kite (*Elanus leucurus*)	None/CFP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Absent.** May be observed in area, but no suitable habitat exists for nesting.

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
Mammals			
pallid bat (*Antrozous pallidus*)	None/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Presumed Absent.** May be observed in area, but suitable roosting areas that would protect from high temperatures are absent.
spotted bat (*Euderma maculatum*)	None/SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	**Presumed Absent.** May be observed in area, but no suitable roosting areas present.
western mastiff bat (*Eumops perotis californicus*)	None/SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Presumed Absent.** May be observed in area, but no suitable roosting areas present.
western red bat (*Lasiurus blossevillii*)	None/SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Presumed Absent.** May be observed in area, but no suitable roosting areas present.
California leaf-nosed bat (*Macrotus californicus*)	None/SSC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting.	**Presumed Absent.** May be observed in area, but no suitable roosting areas present.
San Diego desert woodrat (*Neotoma lepida intermedia*)	None/SSC	Coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	**Potentially Present.** Rocky outcrop habitat is limited, but site is within range for species and multiple woodrat nests were observed during surveys.
American badger (*Taxidea taxus*)	None/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Presumed Absent.** Limited suitable habitat on-site.

Common Name (Scientific Name)	Status (Federal/State)	Primary Habitat Associations	Status On-site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)

Source:
California Natural Diversity Database (CNDDB) Rarefind 5 report for the 7.5' United States Geological Survey (USGS) Thousand Oaks quadrangle and eight adjacent quadrangles, CDFW, data as of March 11, 2019.

Notes:
Federally Protected Species
FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.
FT (Federal Threatened): A species that is likely to become endangered in the foreseeable future.
FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.
FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate" species.
PFT (Proposed Federal Threatened): A species that has been formally proposed for listing as Threatened under the ESA.

State Protected Species
CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."
SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.
CFP (California Fully Protected): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as Threatened or Endangered species under the more recent endangered species laws and regulations. California Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock

Agoura Hills Recreation Center Trail Project
Potential for Occurrence of Plant Species

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
Federal or State-Listed Species					
Braunton's milk-vetch (*Astragalus brauntonii*)	perennial herb	Jan-Aug	FE/None/ 1B.1	Chaparral, Coastal scrub, Valley and foothill grassland recent burns or disturbed areas, usually sandstone with carbonate layers at elevations from 4 to 640 meters amsl.	**Presumed Absent.** Some suitable habitat on-site, but preferred soil is lacking.
San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*)	annual herb	Apr-Jul	FC/CE/ 1B.1	Coastal scrub (sandy), Valley and foothill grassland at elevations from 150 to 1,220 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable. Observed nearby.
Santa Susana tarplant (*Deinandra minthornii*)	perennial deciduous shrub	Jul-Nov	None/CR/ 1B.2	Chaparral, Coastal scrub rocky at elevations from 280 to 760 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable. Observed nearby. Not observed during focused surveys conducted by Rincon Consultants.
Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*)	perennial herb	May-Jun	FT/None/ 1B.2	Chaparral, Cismontane woodland rocky, volcanic at elevations from 200 to 500 meters amsl.	**Present.** Observed during 2014 surveys conducted by Rincon consultants.
marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*)	perennial herb	Apr-Jul	FT/CR/ 1B.2	Chaparral volcanic, rocky at elevations from 150 to 520 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable.
Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*)	perennial herb	Mar-Jun	FT/None/ 1B.1	Chaparral, Coastal scrub volcanic or sedimentary, rocky at elevations from 150 to 1,675 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable.
Conejo dudleya (*Dudleya parva*)	perennial herb	May-Jun	FT/None/ 1B.2	Coastal scrub, Valley and foothill grassland rocky or gravelly, clay or volcanic at elevations from 60 to 450 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable.

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
Verity's dudleya (*Dudleya verityi*)	perennial herb	May-Jun	FT/None/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub volcanic, rocky at elevations from 60 to 120 meters amsl.	**Absent.** Out of habitat range for species.
conejo buckwheat (*Eriogonum crocatum*)	perennial herb	Apr-Jul	None/CR/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland Conejo volcanic outcrops, rocky at elevations from 50 to 580 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable.
California Orcutt grass (*Orcuttia californica*)	annual herb	Apr-Aug	FE/CE/ 1B.1	Vernal pools at elevations from 15 to 660 meters amsl.	**Absent.** No suitable habitat (vernal pools) on-site.
Lyon's pentachaeta (*Pentachaeta lyonii*)	annual herb	(Feb) Mar-Aug	FE/CE/ 1B.1	Chaparral (openings), Coastal scrub, Valley and foothill grassland rocky, clay at elevations from 30 to 690 meters amsl.	**Potentially Present.** Habitat and soil conditions are amenable.
Non-Listed Special Status Species					
Coulter's saltbush (*Atriplex coulteri*)	perennial herb	Mar-Oct	None/ None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland alkaline or clay at elevations from 3 to 460 meters amsl.	**Presumed Absent.** Occurs almost exclusively on the coast. Inland observations are far to the southeast of site.
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)	annual herb	Apr-Oct	None/ None/ 1B.2	Coastal bluff scrub, Coastal scrub alkaline at elevations from 10 to 200 meters amsl.	**Absent.** Out of habitat range for species.
Malibu baccharis (*Baccharis malibuensis*)	perennial deciduous shrub	Aug	None/ None/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland at elevations from 150 to 305 meters amsl.	**Presumed Absent.** Documented near site, but showy perennial not observed during surveys.
slender mariposa lily (*Calochortus clavatus* var. *gracilis*)	perennial bulbiferous herb	Mar-Jun (Nov)	None/ None/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland at elevations from 320 to 1,000 meters amsl.	**Present.** Observed during 2014 survey by Rincon Consultants.

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
late-flowered mariposa lily (*Calochortus fimbriatus*)	perennial bulbiferous herb	Jun-Aug	None/ None/ 1B.3	Chaparral, Cismontane woodland, Riparian woodland often serpentinite at elevations from 275 to 1,905 meters amsl.	**Presumed Absent.** Suitable habitat is present, however preferred soil type (serpentine) is lacking and observational records are far to the north and northeast of the site.
Lewis' evening-primrose (*Camissoniopsis lewisii*)	annual herb	Mar-May (Jun)	None/ None/ 3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland sandy or clay at elevations from 0 to 300 meters amsl.	**Absent.** Out of habitat range for species.
southern tarplant (*Centromadia parryi* ssp. *australis*)	annual herb	May-Nov	None/ None/ 1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools at elevations from 0 to 480 meters amsl.	**Absent.** No suitable habitat at project site.
Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*)	annual herb	Jan-Aug	None/ None/ 1B.1	Coastal bluff scrub (sandy), Coastal dunes at elevations from 0 to 100 meters amsl.	**Absent.** Out of habitat range for species.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	annual herb	Apr-Jun	None/ None/ 1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland sandy or rocky, openings at elevations from 275 to 1,220 meters amsl.	**Presumed Absent.** Some suitable habitat is present, but documented observations are primarily to the east beyond the Santa Monica Mountains and Los Angeles.
dune larkspur (*Delphinium parryi* ssp. *blochmaniae*)	perennial herb	Apr-Jun	None/ None/ 1B.2	Chaparral (maritime), Coastal dunes at elevations from 0 to 200 meters amsl.	**Absent.** Out of habitat range for species.
Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*)	perennial herb	Apr-Jun	None/ None/ 1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland rocky, often clay or serpentinite at elevations from 5 to 450 meters amsl.	**Presumed Absent.** Some suitable habitat exists, but serpentine soils are lacking. Further, observation records are almost exclusively along

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
					the coast to the northeast and southwest with few to no observations north of the Santa Monica Mountains in the region.
many-stemmed dudleya (*Dudleya multicaulis*)	perennial herb	Apr-Jul	None/ None/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland often clay at elevations from 15 to 790 meters amsl.	**Presumed Absent.** Not observed during surveys, and observation records are exclusively far to the east beyond the Santa Monica Mountains and Los Angeles.
mesa horkelia (*Horkelia cuneata* var. *puberula*)	perennial herb	Feb-Jul (Sep)	None/ None/ 1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub sandy or gravelly at elevations from 70 to 810 meters amsl.	**Potentially Present.** Some suitable habitat is present at the site. Observation records indicate that the plant has not been observed near the site but the area is generally within the range of the species.
decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	perennial shrub	Apr-Nov	None/ None/ 1B.2	Chaparral, Coastal scrub (sandy, often in disturbed areas) at elevations from 10 to 135 meters amsl.	**Absent.** Out of habitat range for species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	annual herb	Feb-Jun	None/ None/ 1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools at elevations from 1 to 1,220 meters amsl.	**Absent.** No suitable habitat at the project site.
Payne's bush lupine (*Lupinus paynei*)	perennial shrub	Mar-Apr (May-Jul)	None/ None/ 1B.1	Coastal scrub, Riparian scrub, Valley and foothill grassland Sandy at elevations from 220 to 420 meters amsl.	**Presumed Absent.** Perennial shrub not observed during surveys. Observation records are primarily to the north in Simi Valley and beyond.

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
white-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*)	perennial herb	(Apr) May-Aug (Sep-Dec)	None/ None/ 1B.3	Chaparral, Cismontane woodland at elevations from 50 to 1,525 meters amsl.	**Presumed Absent.** Some suitable habitat is present at the site, but observation records indicate no sightings of the plant north of the Santa Monica Mountains within 50+ miles to the east and west.
Gerry's curly-leaved monardella (*Monardella sinuata* ssp. *gerryi*)	annual herb	Apr-Jun	None/ None/ 1B.1	Coastal scrub Sandy openings at elevations from 150 to 245 meters amsl.	**Absent.** Out of habitat range for species.
southern curly-leaved monardella (*Monardella sinuata* ssp. *sinuata*)	annual herb	Apr-Sep	None/ None/ 1B.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub (openings) Sandy at elevations from 0 to 300 meters amsl.	**Presumed Absent.** Observation records indicate the nearest sighting of this plant to be beyond Santa Barbara to the northwest. Site elevation is at extreme high for the species.
Ojai navarretia (*Navarretia ojaiensis*)	annual herb	May-Jul	None/ None/ 1B.1	Chaparral (openings), Coastal scrub (openings), Valley and foothill grassland at elevations from 275 to 620 meters amsl.	**Potentially Present.** Suitable habitat is present. Observations have been documented nearby (similar habitat in Calabasas).
chaparral nolina (*Nolina cismontana*)	perennial evergreen shrub	(Mar) May-Jul	None/ None/ 1B.2	Chaparral, Coastal scrub sandstone or gabbro at elevations from 140 to 1,275 meters amsl.	**Presumed Absent.** Suitable habitat present, but lack of suitable substrate.
Nuttall's scrub oak (*Quercus dumosa*)	perennial evergreen shrub	Feb-Apr (May-Aug)	None/ None/ 1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub sandy, clay loam at elevations from 15 to 400 meters amsl.	**Absent.** Conspicuous perennial shrub to arborescent shrub not observed during surveys.

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
chaparral ragwort (*Senecio aphanactis*)	annual herb	Jan-Apr (May)	None/ None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub sometimes alkaline at elevations from 15 to 800 meters amsl.	**Potentially Present.** Suitable habitat exists, site is within range for species.
Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*)	perennial rhizomatous herb	Jan-Sep	None/ None/ 2B.2	Meadows and seeps (seeps and streams) at elevations from 50 to 610 meters amsl.	**Absent.** No suitable habitat on-site.
California screw-moss (*Tortula californica*)	moss	-	None/ None/ 1B.2	Chenopod scrub, Valley and foothill grassland sandy, soil at elevations from 10 to 1,460 meters amsl.	**Presumed Absent.** Limited suitable habitat on site.

Sources:
California Natural Diversity Database (CNDDB) Rarefind 5 report for the 7.5' United States Geological Survey (USGS) Thousand Oaks quadrangle and eight adjacent quadrangles, CDFW, data as of March 11, 2019.

California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (online edition, version 8-03) report for the 7.5' USGS Thousand Oaks quadrangle and eight adjacent quadrangles, CNPS, data as of March 11, 2019.

Notes:
Federally Protected Species
FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.
FT (Federal Threatened): A species that is likely to become endangered in the foreseeable future.
FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

State Protected Species
CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."
CR (California Rare): A species, subspecies, or variety of plant is Rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Animals are no longer listed as Rare; all animals listed as Rare before 1985 have been listed as Threatened.

California Native Plant Society (CNPS) Rare Plant Rank
CRPR 1A: Plants presumed extinct in California and either rare or extinct elsewhere.
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
CRPR 2A: Plants presumed extirpated in California, but more common elsewhere.
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.

Common Name (*Scientific Name*)	Lifeform	Blooming Period (Rarely)	Status (Federal/ State/ CRPR)	Primary Habitat Associations	Status on site / Potential to Occur (Observed, Potentially Present, Presumed Absent, Absent)
CRPR 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them. CRPR 4: A watch list for plants that are of limited distribution in California. CNPS Threat Rank The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment, as follow: · 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat). · 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat). 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known). AMSL = above mean sea level (elevation)					

APPENDIX E
Agoura Hills Trail Phase I & II Survey
September 2023
Envicom Corporation

(Public Version)

PHASE I & II SURVEY

Agoura Hills Trail

City of Agoura Hills, California, Including the Phase II Evaluation of Five Prehistoric Cultural Resource Discovered During the Survey

PREPARED FOR:

The City of Agoura Hills
30001 Ladyface Court
Agoura Hills, CA 91301

PREPARED BY:

ENVICOM CORPORATION
4165 E. Thousand Oaks Blvd., Suite 290
Westlake Village, California 91362
Author: Wayne Bischoff, Ph.D.
Director of Cultural Resources
(818) 879-4700

September 2023

AGOURA HILLS TRAIL PHASE I SURVEY, CITY OF AGOURA HILLS, CALIFORNIA, INCLUDING THE PHASE II EVALUATION OF EIGHT PREHISTORIC CULTURAL RESOURCES DISCOVERED DURING THE SURVEY

(Confidential Version)

Prepared for:

THE CITY OF AGOURA HILLS
30001 Ladyface Court
Agoura Hills, CA 91301

Prepared by:

ENVICOM CORPORATION
4165 E. Thousand Oaks Boulevard, Suite 290
Westlake Village, California, 91362
Author: Wayne Bischoff, Ph.D.

September 2023

FIGURES

APPENDICES

MANAGEMENT SUMMARY

The City of Agoura Hills (City) has proposed to construct a new trail system south of City property within the foothills of the Santa Monica Mountains. The proposed Agoura Hills Recreation Center Trail (project) comprises the creation of new trail segments, overlook viewing spots, and connections to previously existing trail systems on currently undeveloped land. The project is located in the eastern Conejo Valley, between the Simi Hills to the north and the Santa Monica Mountains to the south, and within the northern foothills of the Santa Monica Mountains. The project is comprised of approximately 4800-feet of new dirt trail includes land mainly located land that is under the ownership of the Mountains Recreation and Conservation Authority (MRCA), a small portion by private companies, and a small portion that is owned by the City.

Envicom Corporation (Envicom) was tasked with completing a Phase I cultural resource survey report for the proposed trail project in 2022 and of a proposed additional western extension of the trail system in 2023. The Phase I assessment included a cultural resource record search conducted at the South Central Coastal Information Center (SCCIC), a request to the Native American Heritage Council (NAHC) to check their Sacred Lands files for possible Tribal Cultural Resources (TCR) located within or near the project location, and the examination of historical United States Geological Survey (USGS) maps, historical aerial photographs, and historical Google Earth images. Additionally, the Phase I cultural resource assessment included a physical pedestrian survey of the original proposed trail route in 2022 and of a western extension segment of the trail in 2023.

The entire proposed trail route was surveyed by Dr. Wayne Bischoff of Envicom. In several locations, especially near modern buildings adjacent to the project, modern impacts were observed along the proposed trail route. These impacts included grading associated with drainage and slope control, road access gradings, slope cutting associated with modern flood control features, concrete V-ditches, fuel modification removal, landscape plantings and irrigation, and several historic firebreak roads that often cut across the proposed trail route. Dr. Bischoff also identified numerous locations where prehistoric archaeological artifacts and features were encountered, with a total of eight (8) prehistoric sites being newly recorded and mapped as part of the Phase I survey. No older historical cultural resources were recorded.

Dr. Bischoff and staff from Envicom further evaluated (Phase II) all of the prehistoric archaeological sites using a combination of refined mapping, extensive surface examination, and subsurface shovel test pits. The findings of the Phase II evaluation efforts were included in the Phase I survey report, with four prehistoric sites being recommended as eligible to the California Register of Historical Resources (CRHR) and four sites not being recommended as being eligible.

All of the prehistoric archaeological sites were interpreted as being involved with extensive prehistoric lithic quarrying and reduction tasks related to local andesite toolstone material, however, the four sites recommended as being eligible to the CRHR also had large, heated rock feature areas, suggesting plant material processing. The four recommended-eligible sites also had numerous embedded rock features, graded and compacted task areas, rock rings, compacted trail segments, and other prehistoric features, as well as some volcanic groundstone artifacts (metate fragments, boulder metates, and expedient manos) and exotic lithic material that included chert, chalcedony, and chalcedony/quartz geodes.

California Department of Parks and Recreation (DPR) archaeological site forms were completed for each of the eight (8) newly discovered prehistoric sites. Boundary maps of the archaeological sites were then compared to the proposed trail route and to mapped sensitive plant species for cultural site and project management purposes. Finally, the combined Phase I & Phase II report provided additional pre-construction and construction-phase recommendations to reduce impacts to the known prehistoric sites as well as several contingency recommendations in case of unexpected discoveries of previously unknown cultural material or burials during trail construction.

1.0 INTRODUCTION

The City of Agoura Hills (City) has proposed to construct a new trail system south of City property within the foothills of the Santa Monica Mountains. The proposed Agoura Hills Recreation Center Trail (project) comprises the creation of new trail segments, overlook viewing spots, and connections to previously existing trail systems on currently undeveloped land. The primary access points to these new trail segments will be located south of the existing Agoura Hills Recreation and Event Center (29900 Ladyface Court) that lies south of the U.S. 101 Freeway (101 Freeway) between Reyes Adobe Road to the west and Kanan Road to the east (**Figure 1**).

The project is located in the eastern Conejo Valley, between the Simi Hills to the north and the Santa Monica Mountains to the south, within the northern foothills of the Santa Monica Mountains. The project site, which is comprised of approximately 4800-feet of new dirt trail includes land mainly located on County of Los Angeles Assessor's Parcel Numbers (APNs) 2061-002-905 and 2061-002-908, which is under the ownership of the MRCA, as well as a small portion of land (APN 2061-005-063) that is under the ownership of the Joni and Friends International Disability Center, and a small portion of land (APN 2061-005-915) that is owned by the City (the site of the Agoura Hills Recreation and Event Center).

The project site is located in western Los Angeles County and is shown on the 2018 U.S. Geographical Survey (USGS) Thousand Oaks 7.5-minute topographic quadrangle map (**Figure 2**). To the north of the project site lie the Agoura Hills Recreation and Event Center, Joni and Friends International Disability Center, Interthinx, and Sheraton Hotel, in addition to Agoura Road, a business park, and the 101 Freeway. An office condominium complex ("The Ridge") is located to the west of the proposed trail. Undeveloped open space lies to the south, east, and west. Farther to the east of the trail terminus also lie several large, privately owned parcels, including a church camp.

The project proposes to create new trail segments of roughly 4800-feet in length and approximately 3-feet in width, with two to four new overlook sites with benches, that would extend south and west from the Agoura Hills Recreation and Event Center, located at 29900 Ladyface Court in the City. The existing Agoura Hills Recreation and Event Center includes paved parking areas located to the northwest, west, south, and east of the structure. From the southwestern point of the parking lot, a paved access road of approximately 450 feet in length extends into the open space south of the Agoura Hills Recreation and Event Center, which will be utilized as part of the proposed trail segments. One of the proposed newly constructed dirt trail segments would originate from where this existing pavement currently ends. Similarly, from the southeastern point of the parking lot, a paved access road of approximately 370 feet in length extends into the open space south of the Agoura Hills Recreation and Event Center, which will also be utilized as part of a proposed trail segment. This point would mark the start of a second proposed newly constructed dirt trail segment. The paved roads are under the jurisdiction of the Los Angeles County Flood Control District (LACFCD).

The first, eastern trail segment would advance west from its origination point along the LACFCD paved road, before proceeding to the south into foothills open space and ending at an overlook spot facing the picturesque Santa Monica Mountains and natural ravine valleys. The second, western trail segment would first advance to the west along the LACFCD paved road, then continue to the west before turning south into the foothills and ending at an overlook, which again faces the Santa Monica Mountains and natural ravines.

Figure 1: The 2023 approved new Agoura Hills Recreation Center Trail route (oriented north).

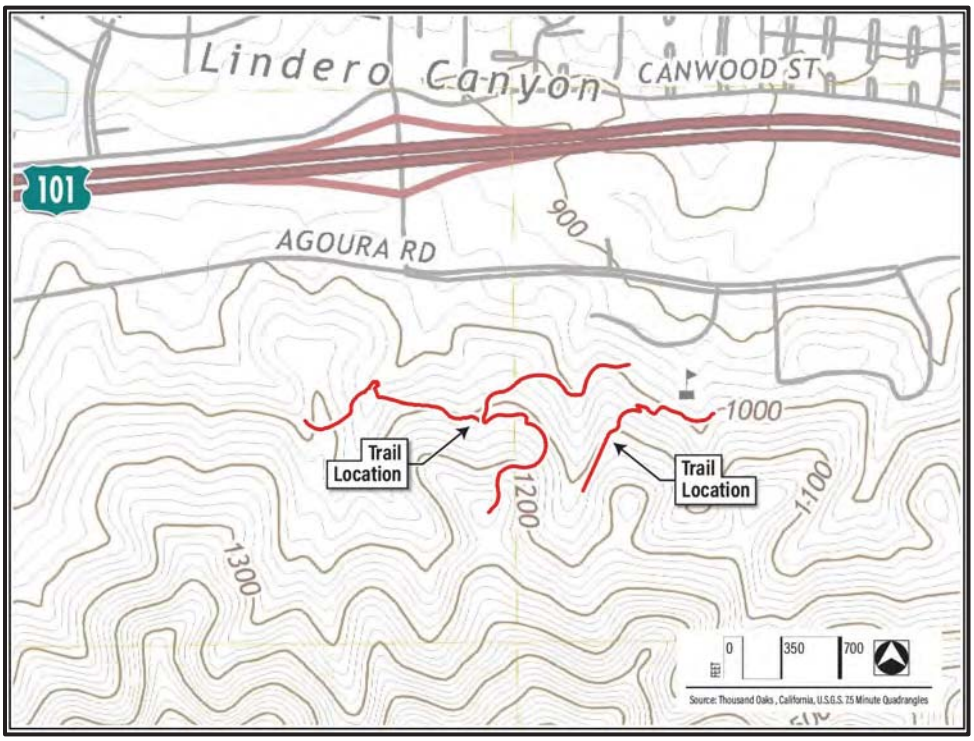

Figure 2: The final approved trail route on the 2022 USGS Thousand Oaks quadrangle map.

A third proposed newly constructed dirt trail segment would extend west from the middle of the second trail segment to connect with "The Ridge" office building parking lot, and from there, to two previously constructed trail segments that extent south and west into the Santa Monica Mountains foothills. The final trail system of used and existing trail segments would create roughly 4800-feet of linear trails south of Agoura Road with multiple public and semi-public access points.

Two natural drainages flow through steep ravines and cross the project route at two existing LACFCD facilities, which consist of the above-mentioned paved roads as well as two large concrete and earthen flood control basins. The trail segments will cross both drainages immediately outside of the LACFD facilities within modern disturbed areas. Two additional drainages along the third, western trail segment will also be crossed by the trail at natural fording locations, which will not need improvement.

The City will install clear and informative signage regarding the trail, including a map of the trail, potential hazards (such as fire danger and wildlife), emergency information, trail conditions and difficulty, and hours of use. Trash receptacles would also be placed at the City trailheads. The trail will be open to the general public, and would provide a nearby recreational opportunity for the residents of the City. The project aligns with one of the goals of the City's General Plan in that it would create an opportunity for its citizens to engage in their community through recreation.

The Phase I Cultural Resource Assessment of the Proposed Project

In 2022, Envicom was tasked by the City with completing a Phase I cultural resource assessment for the original proposed pedestrian trail project, which followed a somewhat different route than is shown on the final proposed trail map, and did not include the western trail segment (see Figures 1 and 2 for the current proposed trail configuration). This survey was completed in May of 2022 by Envicom staff led by Dr. Wayne Bischoff. The Phase I cultural resource assessment included a record search conducted at the South Central Coastal Information Center (SCCIC), which is the California Historical Resources Information System (CHRIS) depository for California Department of Parks and Recreation (DPR) site forms for previously identified cultural resources and for previously completed cultural resource reports pertaining to Los Angeles County (see **Appendix A**). The SCCIC request included the examination of the project site and a surrounding 0.25-mile buffer area (the "study area") located around the project route (**Figure 3**).

The purpose of the SCCIC record search is to identify any previously known archaeological or historical sites located directly within or adjacent to the project site to help assess direct impacts on cultural resources from the project. The purpose of examining cultural resources located within the study area is to understand the number and nature of prehistoric or older historical cultural resources located within the surrounding region in order to assess the overall sensitivity of the region for cultural resources. Often, projects found to be within sensitive regions for cultural resources are recommended to have cultural resource monitoring appropriate to the type and level of sensitivity. Finally, by examining previously completed cultural resource reports that deal with both the project site and the surrounding study area, any information important for the project cultural resource assessment that is not contained within SCCIC site forms can be evaluated. In this way, the findings and opinions of past cultural resource professionals working in the area can be reviewed, and in some rare cases, past cultural resource discoveries that did not lead to the completion of DPR site forms can be examined.

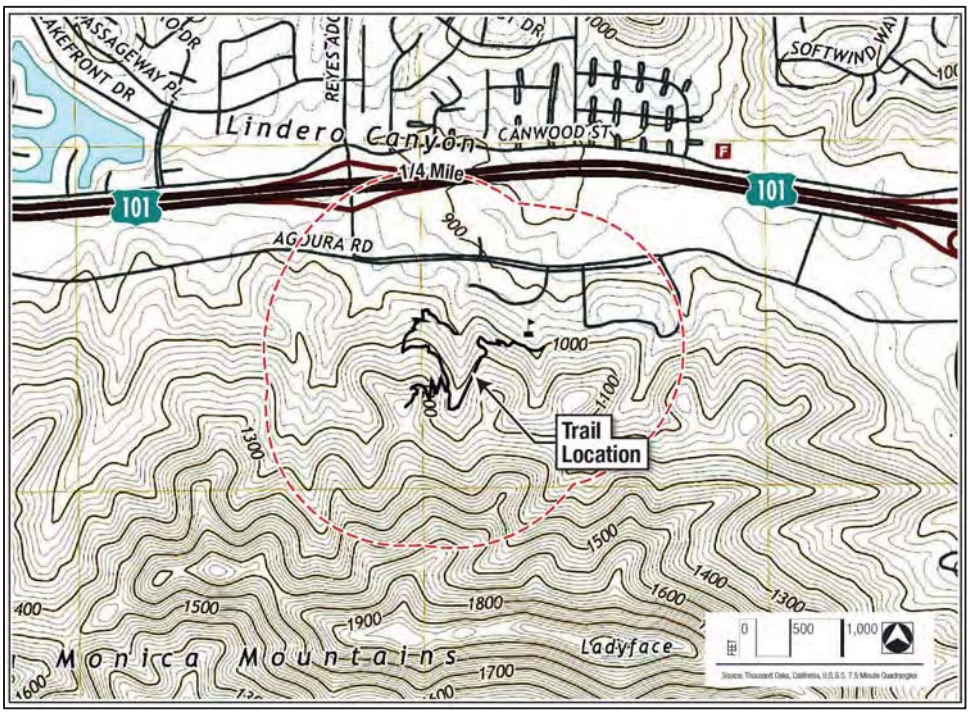

Figure 3: The original 2022 project study area (dashed red line) was based off of the initial proposed trail plan, which was later modified; however, all current proposed project elements remain within the shown cultural resource study area boundary (2018 USGS Thousand Oaks map).

A Phase I cultural resource assessment also involves a record search request sent to the Native American Heritage Commission (NAHC) with a request to check their Sacred Lands files for possible Tribal Cultural Resources (TCR) located within the project property or within the surrounding 0.25-mile study area. All correspondence with the SCCIC and NAHC are provided in **Appendix B** of this report. Additional databases examined during the Phase I assessment includes historic regional maps, historic United States Geological Survey (USGS) maps, and historic Google Earth images. The University of California Santa Barbara Library Historic Aerial Photograph Database is also examined. Examination of these additional historical databases may identify older historical cultural resources that were once located on the project property and can provide further evidence that a project site is located within a region that is sensitive for older historical cultural resources.

Additionally, the Phase I cultural resource assessment includes a physical survey of the proposed trail route conducted in accordance with Secretary of the Interior's Standards and Guidelines for Archaeological and Historic Preservation (48 FR 44716, Sept. 29, 1983). Any newly identified cultural resources discovered during the site survey are mapped on DPR site forms with important information being provided, such as site features, property ownership, the interpreted age of the site, etc. A cultural resource is often defined as any building, structure, object, or archaeological site older than 50-years in age and can include historic or prehistoric locations of human habitation or occupation. This definition is provided by the California Office of Historic Preservation guidelines, United States Department of the Interior guidelines, and as per *36 Code of Federal Regulations 60.4* of the National Register criteria. Built environment cultural resources were not addressed in this report as none were present within the project site.

Finally, the findings from the Phase I cultural resource database studies and pedestrian survey are summarized in a final report (this document), which describes any cultural resources identified or found within or adjacent to the project site and discusses regional sensitivity for prehistoric or older historical cultural resources. The final report normally also includes any recommendations for additional cultural resource tasks to be completed for the entitlement phase of the project, such as further subsurface testing, evaluation studies, or monitoring.

Due to the discovery by Dr. Bischoff during the initial project pedestrian survey of five (5) newly discovered prehistoric archaeological sites, Envicom recommended, and the City concurred with, the evaluation of these five (5) sites as part of a project Phase II cultural resource evaluation, with the findings added to the Phase I cultural report (again, this document). The evaluation work was completed in August of 2022 by Dr. Bischoff and Mr. Timothy James, also of Envicom. Furthermore, project planning discussions through late 2022 and early 2023 led to the adding of the proposed western trail segment shown on current project maps (see Figure 1 and Figure 2). Since the new trail segment was located fully within the study area of the original project scope, the SCCIC and NAHC findings were recommended by Envicom to be valid for the newly added proposed trail segment (see Figure 3). The new western trail addition was surveyed in April of 2023 by Dr. Wayne Bischoff, who discovered a further three (3) new prehistoric archaeological sites, which were also evaluated.

This cultural resource report, therefore, includes the findings from the 2022 original Phase I cultural resource assessment, the later 2022 Phase II evaluation of five (5) newly identified prehistoric sites, the 2023 survey of the added western trail segment, and the later 2023 discovery and evaluation of three (3) new prehistoric sites. Additionally, the report provides a recommended eligibility determination for each of the eight (8) discovered cultural resources, which will address whether any of the prehistoric archaeological sites are recommended as being eligible to the California Register of Historical Resources (CRHR) or not. If recommended as eligible, Envicom will provide what Criteria the archaeological site is being recommended as being eligible under, and which Criteria are not relevant for the recommendation of eligibility. DPRs for each of the eight (8) sites will also be provided in the confidential version of the report. Finally, recommendations for construction-phase tasks are also presented in the combined Phase I & Phase II cultural resource report, such as suggested prehistoric and Native American monitoring or procedures to follow in the case of an unexpected discovery of cultural resources or burials.

2.0 ENVIRONMENTAL SETTING

The project is located south of U.S. Route 101 in the City of Agoura Hills, Los Angeles County, California. The project site is bordered to the north by modern development along the south side of Agoura Road, to the east, south, and west by undeveloped land, and is located in the Ladyface Mountain area of the Santa Monica Mountains. The project is situated within the lower elevation inland foothills of the Santa Monica Mountains, at elevations ranging from approximately 960 to 1,370 feet above mean sea level. The project area is generally dry and exposed, however, a ravine crosses the project in the middle from north to south, which would have been flowing during the wetter times of the year. This stream also supports a riparian habitat and connects to numerous smaller ravines and gullies farther up in the mountains, creating a stream system that drains a much larger area within the Santa Monica foothills. The project area is currently undeveloped and naturally vegetated.

Modern impacts to the project area include the two concrete and earthen LACFCD flood control basins and associated concrete access roads, fencing related to the two flood control features, as well as slope development, plantings, slope cutbacks, and vegetation clearing. Modern building construction north of the project has also resulted in an extensive system along the northern part of the trail system, which includes concrete V-ditch construction, irrigation systems, plantings, access paths, and slope preparation. Finally, less visible are numerous modern firebreaks that have been constructed across the proposed trail route. These firebreaks appear to date back to the early 2000s, but may also be associated with the 1978 Agoura-Malibu Firestorm event, which resulted in many mechanical and hand-excavated firebreaks being constructed across the Santa Monica foothills.

King (1994:19-53) gives an excellent overview of the plant and animal species that would have been utilized by Native American peoples of the Santa Monica Mountains in prehistoric times. The plants include Winter greens and shoots (December-March), yucca and other bulb plants, Mariposa lilies, cattails, chia and other seed crops (April-July), grass seeds (Late Summer), Chenopodium and amaranth (June-September), acorns (October-November), walnuts and pine nuts, cactus fruit (tunas), and juniper berries. Animal species include deer, antelope, rabbit, California ground squirrel, birds and waterfowl, snakes, and other reptiles. Animal species commonly traded by local Native Americans include saltwater fish, sharks, abalone, clams, oysters, and other marine invertebrates.

Resources differed depending on what location prehistoric people lived within the Santa Monica Mountains range. For the project area, access to antelope, fish, and waterfowl – staple food sources for some Chumash villages – were less common than deer, rabbits, and upland plants and trees, such as yucca, wild hyacinth, and acorn-bearing oaks. Observed edible plant species in the project area included yucca, sage, California Live Oaks, Scrub Oaks, Valley Oaks, wild hyacinths, and wild grasses. Observed animal species included deer, raptors, songbirds, rabbit, rodents, snakes, and lizards, all of which were commonly encountered during the project.

The average high/low summer temperatures in the lower elevation inland foothills of the Santa Monica Mountains are 80/50°F, average high/low winter temperatures are 70/40°F. The largest challenge to prehistoric Native Americans would have been seasonal lack of rain and cyclical drought. The Agoura Hills area specifically averages 24-inches of rainfall a year, but most of this precipitation falls in the winter and spring, leaving on average six months out of the year with little rain. Drought years would have made the summer and fall seasons especially difficult.

3.0 GEOLOGICAL SETTING

The project is located within the Transverse Ranges, which consist of generally east-west trending mountains and valleys created by north-south compressive deformation linked to the movement of the San Andreas Fault and the motion of the Pacific Plates. More specifically, the project is located in the foothills of the northern base of the Santa Monica Mountains. South of the site are the Santa Monica Mountains proper, and north of the site originally were the grasslands of the Conejo Valley floor, which today is an urban environment.

Interest in the geology of the Santa Monica Mountains dates back to the early 19th Century, when oil exploration led to many of the first geological reports, published mostly by United States Government Agencies, by State of California Institutions, or by Petroleum Companies. The many different studies were finally collated in the 1930s in a volume titled *Names and Definitions of the Geologic Units of California* published by the United States Department of the Interior (Wilmarth 1931). It was these early efforts that provided the names of the more common geologic formations in the project region.

The project is located mostly over the Conejo Volcanics igneous rock formation, first identified by N. L. Taliaferro, who applied the name to "all the series of volcanic and intrusive rocks occurring in that region" (1924: 800-801). Conejo volcanics have been redefined somewhat since Taliaferro's time to now include all volcanic material, since the crystalline structure of the local volcanic material has been shown to be affected by later pressure metamorphoses as well. This process leads to metavolcanic stone, which is created by the re-fusing of original volcanic material under further pressure and heat.

On the surface, the Conejo Volcanics can be identified by a number of igneous stones, flows, and formations; all of which were originally formed and deposited in a marine environment. Andesite is a common volcanic cobble, rock, and boulder material, as is poor quality basalts. Rhyolite and tuff stones are less common and normally represented by smaller rock forms. Metavolcanic stones and conglomerate igneous stones can also be found. Lava flows of indeterminate igneous rock are also encountered across the region, with some of these flow formations forming shallow escarpments on the landscape. Weathering has added brown cortex to most of these volcanic deposits, and natural cracking of the older stones has resulted in chalcedony, quartz, and chert veins being formed in some of the larger rocks and boulders. In some cases, additional geological heating and pressure has cracked older veins of chalcedony and chert, then reformed them into meta-chalcedony, meta-chert, or mixed conglomerate rock forms.

In addition to volcanic formations, several other important geological formations are in the local region. Nelson (1925) described the nearby Simi Valley Conglomerate formation as, "A very persistent conglomerate of well-rounded pebbles and boulders of all sizes… in a matrix of coarse-grained askosic sandstone… The pebbles are chiefly quartzite, but granite and rhyolite pebbles are abundant, and the formation also contains pebbles of diorite, sandstone, gneiss, and schist." The location of this formation is on the southwest margins of the Simi Valley, and is therefore within the project geological region, but not immediately within the project site. Also near the project area is the Las Virgenes sandstone formation, located roughly 1-mile west of the Las Virgenes Canyon (Nelson 1925:400-401). Both of these areas are the closest sources of sandstone, siltstone, quartzite, granite, and rhyolite.

Many of the local ravine channels are also filled with recent alluvial material. Such material often consists of marine-formed andesite and volcanic cobbles, gravel, and smaller stones, but can also include larger rocks and boulders. The drainage areas can also have alluvial soil, which generally consists of silty, clayey, fine-to-coarse sand with cobbles. Uncommon deposits of older alluvium can also be found in the project region. Older alluvium or sandstone can have fossil-bearing strata, but no such formations were observed on the project site.

Finally, naturally occurring asphalt (or asphaltum) is a regional geologic material that was available to Native Americans. Nearby Santa Clarita area has a number of surface sources for liquid asphalt, as does the lower Conejo Grade area. Asphaltum was used by prehistoric people for making baskets watertight and for applying stone tools to wooden hafts. The Santa Barbara Coast also has a number of natural asphalt seeps, especially in the Carpinteria/Santa Barbara area, and tar balls are a common occurrence along the coast in those locations.

4.0 CULTURAL SETTING

The Cultural Setting provides the historic, ethnographic, and archaeological context for the trail project. Prehistoric context comes from past archaeological and ethnographic research. Historic cultural context comes from a number of written documents, including both primary (original) documents and secondary (books, manuscripts, and articles) documents. Photographs and artwork can also provide cultural setting information. Both can be original images of subjects or landscapes within their original context, or representational images that have been recreated or constructed at a later time.

The project is located within the Conejo Valley, which is located within Ventura and Los Angeles Counties and is a subset of the Southern California geographic region. Many temporal chronologies have been produced within the archaeological literature for Southern California that attempt to identify between different prehistoric time periods by using defining characteristics related to artifact types, subsistence, trade, habitation, or culture. Examples of different chronologies can be found in Chartkoff and Chartkoff (1984), Mason and Peterson (1994), Glassow (1996), Moratto (2004), and Arnold and Graech (2004:4). Erlandson et al. (2008:18) provides an excellent summary of seven past attempts to create time period chronologies for the Santa Barbara Channel Region, which often includes the Conejo Valley area (2008:18). For this report, the project area will be examined as part of the Southern Coastal Region and will follow the Glassow et al. (2007) time period chronology as this approach is more refined as to temporal divisions and incorporates more recent research and interpretation into period development.

4.1 PALEO-INDIAN PERIOD (11,000 – 9000 B.C.)

Paleo-Indian Period sites are the least common archaeological sites related to Native American occupation in California. Low numbers of Paleo-Indian sites come from smaller prehistoric population numbers during this time period, highly mobile populations that did not produce stable settlement sites, and drastic changes in the California shoreline from a rise in ocean levels, which has resulted in most coastal paleo sites being today under water. Often, the Paleo-Indian history of a region, such as the Southern Coastal Region, is built on inferences from the few known Paleo-Indian sites in the larger Southern California region.

Early coastal people probably concentrated on the exploitation of hunting both terrestrial and marine resources (Gamble 2008). They most likely followed a hunter-gatherer way of life that utilized a wide spectrum of accessible food sources. Moratto (2004) suggests that there is some incidental evidence that humans may have been in the coastal region of California much earlier than 11,000 B.C., however clear evidence for this conclusion remains elusive (Ciolek-Torrello et al. 2006).

The potentially oldest known human remains found in North America are the *Arlington Springs Man,* uncovered by Phil C. Orr in 1959-1960 on Santa Rosa Island. Recent Radiocarbon Dating analysis undertaken by Dr. John Johnson of the Santa Barbara Natural History Museum revealed that the remains are from roughly A.D. 11,000 years B.P. (before present) (2015). The discovery of such ancient Native American remains on Santa Rosa Island demonstrates that the earliest Paleo-Indians had watercraft capable of crossing the Santa Barbara Channel, and lends credence as well to a “coastal migration/ kelp highway” theory for the peopling of the Americas, using boats to travel south from Siberia and Alaska (Erlandson 2007).

Native Americans of this time would have been highly mobile, with limited trade between groups. Small, family-centered groups may have come together as bands during certain annual meetings, linked with seasonality, however, such sedentary living was an exception in their wide-ranging yearly movement cycle. A warming trend toward the end of the Paleo-Indian period led to distinct changes in available food sources. Herds of large mammals were replaced by small to medium-sized mammals, which in turn led to changes in lifestyle for the earliest of California’s Native American groups.

4.2 ARCHAIC PERIOD (9000 B.C. TO 7000 B.C.)

The Archaic Period for Southern California has been re-interpreted and refined often over the last fifty years. Some original chronology models extended this period to include almost the entire time between the migration of the Paleo-Indians and the formation of larger Native American settlements that occurred in late prehistoric times. The original Archaic Period has recently been refined and is now believed to include a number of distinct periods. This report uses the more recent interpretation of the *Archaic Period*, as the two thousand years after the transition away from a predominant hunting lifestyle to a less mobile hunting and gathering lifestyle by Coastal Native Americans (Glassow et al. 2007).

Changes during the Archaic Period are considered to be a response to changes in the climate and environment at the end of the Paleo-Indian period. The hunting and gathering lifestyle of Archaic Period people is characterized by a wide array of bifaces, choppers, scrapers, and other tools associated with a high-mobility strategy to exploit a wider range or regional resources. This period is poorly represented in the project area with few sites identified within this time period located in the region (Ciolek-Torrello et al. 2006). Many authors, therefore, begin the prehistoric chronology of the Southern Coastal Region at the end of this period, even though Native Americans most likely occupied the area from the earliest times.

4.3 MILLING STONE PERIOD (7000 TO 5000 B.C.)

The prehistoric chronology after 7000 B.C. has been divided into several distinct periods, as outlined by Glassow et al. (2007), and based on archaeological sites with known Carbon-14 dates. Earlier authors used different period indicators, or have different starting or ending dates than those presented below; however, for the purpose of this study, Glassow et al. represents the most recent, widely referenced chronology.

The *Milling Stone Period* is characterized by small, mobile Native American groups with a general shift in diet to the primary collecting of plant materials, accompanied by a dependence on groundstone implements associated with the grinding of seeds (Glassow 2007). Later periods saw a decrease in mobility and an increase in core group size, as dependence on seed-bearing plant materials intensified. These groups appear to have relied on a seasonal shifting of settlement, which included travels to and between inland and coastal residential bases.

Archaeological sites of this time period are characterized by abundant groundstone tools, especially manos (handstones, mullers) and metates (milling stones, slabs) (Glassgow et al. 2007:192-203). Cultural sites often have thick midden deposits (soil build up over time from the activities of a habitation), cooking features, and long-term habitation of re-used locations within the yearly settlement cycle. Flaked tools are made of cherts, quartzite, basalt, and other lithic materials. Most archaeological sites from this time period have been identified on the coast, but near-coastal inland sites have also been recorded. Residue and wear on groundstone tools indicate the milling of plant seeds and possibly hard nuts. Middens (refuse dumps) contain shellfish, some fish bones, and fragmented larger mammal bones, such as deer. *Olivella* shell beads appear at this time, indicating the beginnings of regional trade.

4.4 MIDDLE PERIOD (5000 TO 2000 B.C.)

Cultural sites identified as being within the *Middle Period* are characterized by changes in the size and shape of metates and manos, and the introduction of mortars and pestles. Mortars and pestles are primarily used to reduce harder or larger seed materials, such as acorns, into a processed food source. These changes signify a greater reliance on large seed food sources in the diet.

The use of acorns as a diet staple also provided a high-calorie and storable food source, which in turn is believed to have allowed for greater population sedentism, and higher levels of social organization. Protein quantity in the diet did not change, however, the number and types of projectile points increased during this

time. projectile points included large side-notched, stemmed, and leaf-shaped forms; used for spears and atlatl darts.

Specialized sites during the Middle Period included temporary camps, single primary-focus activity areas, such as quarries, and long-term settlement locations. Regional trade, primarily between the mainland and the Channel Islands, took place with large numbers of diverse ornaments and shell beads found in mortuary settings dating to the period. Characteristic burial practices include fully flexed burials placed face-down or face-up and facing toward the north or west (Warren 1968:2–3). Red ochre (a red-colored pigment) was commonly used, and internments sometimes were placed beneath cairns or broken artifacts. These later changes are thought to indicate an increase in social status differential and access to trade goods.

4.5 TRANSITION PERIOD (2000 B.C. TO A.D. 1)

The *Transition Period* indicated an intensification of prehistoric fishing and sea mammal hunting, with a reduction in shellfish utilization and an increase in regional trade networks (Glassow et al. 2007:200-203). Several new artifacts appear in cultural sites of this period, including net weights, circular fishhooks, asphaltum-use, and the shift from the use of atlatl darts to arrow points. Subsistence is characterized by an increased emphasis on acorns, as well as local intensification of plant and small mammal food sources.

At this time, sedentism and long-term occupation of sites increased, accompanied by more elaborate social practices and formal cemeteries. Ritual burial objects become common and mortuary practices suggest an increase in social wealth and status.

4.6 LATE PERIOD (A.D. 1 – A.D. 1000)

Coastal sites appear to have had relatively dense populations by the end of the Middle Period, as well as an exchange relationship between the occupied coastal islands, the mainland coast, and interior regions that expanded during the *Late Period* (Glassow et al. 2007:203-205). Glassow et al. (*Ibid*.:203-205) note that certain trends continued during the Late Period, including substantial midden deposits, defined cemetery use, and the first evidence of true bow and arrow use. Overall, the variety and complexity of material culture increased during this period, demonstrated by a more diverse classes of artifacts. Glassow et al. (2007:204) summarize this period as:

> "The period between cal A.D. 1 to 1000 was one of significant changes in technology, society, and economy. It is a period in which regional populations apparently grew too much higher levels and several important steps were taken along the road to increasing social and economic complexity."

Small, finely knapped projectile points, usually stemless with convex or concave bases, point to an increased utilization of the bow and arrow rather than the atlatl and dart for hunting. Mortuary practices, including cremation and interment, were more elaborate than in preceding periods, and some burials contain abundant grave goods. Seagoing vessels were introduced and plank canoes allowed Native Americans the ability to hunt deep-sea fish, such as tuna and swordfish (Chartkoff and Chartkoff 1984:169-203). As Glassow et al. (2007:211) state "…by the time of European contact, the Chumash and their coastal Tongva neighbors had hereditary political offices and a social elite, different sorts of regional organizations, and a well-developed shell bead currency that facilitated inter-village and cross-channel commerce."

The prehistoric Late Period also saw the production of many beautiful and complex objects of utility, art, and decoration. These artifacts include steatite cooking vessels and containers, steatite arrow shaft straighteners, perforated stones, a variety of bone tools, and personal ornaments made from bone, stone, and shell, including drilled whole *Chione* (Venus clam) and drilled abalone. During this period an increase in population size was accompanied by the establishment of larger, more permanent villages with greater

numbers of inhabitants (Wallace 1955:223). King (2000:75) identifies the presence of permanent inland villages at this time, noting evidence from the archaeological site of *Talepop* (*Ta'lopop*) site near Calabasas, which is also near the project site.

4.7 THE CHUMASH ETHNOGRAPHIC PERIOD THROUGH SPANISH CONTACT (A.D. 1000 –A.D. 1542)

The period of time after A.D. 1000 until first contact with Europeans marks the *Ethnographic Period* of Native American history in Southern California, when the material culture and social organizations later observed by the Spanish explorers were fully developed, but not yet fully influenced by European contact. The dominant ethnographic group in the project region was the Chumash people; historically one of the larger and more complex groups of California Native Americans.

> "The area inhabited by the Chumash measured approximately 200 by 70 miles. In size, this compares to the smallest states of the eastern United States. The total Chumash population included between 15,000 - 20,000 people. The Chumash of the Santa Monica Mountains occupied approximately 3% of the area and included around 1300 people or 6.5% of the Chumash population" (King 2011:1).

The Tongva people of the Los Angeles basin area historically occupied land that bordered on the Chumash territory toward Topanga Canyon to the east, and which also placed that group within the project region. Due to limitations of the historic and ethnographic literature, exact borders between the two groups are less a solid boundary line and more a general transition zone between the two different peoples. It is also quite possible that Tongva and Chumash people married or cohabitated between villages, especially in the border areas, for political, economic, or social reasons.

The period from A.D. 1000 for roughly the next 300-years represented a time of cultural change for Southern California Native Americans, with several researchers pointing to changes in water temperature, climate change, and drought as prominent factors in social and material cultural changes from the Late Prehistoric Period to the Ethnographic Period. However, whether these changes were gradual or punctuated is still debated (Glassow et al. 2007:205).

Craft specialization did expand during this period, with specialized regional workshops, specialized tools, shell money introduction, and an expanded trade network. Craft specialization centered on the production of shell beads, both for adornment and for currency, lithic micro blades, deer bone tools, basket production and basket asphalting. Current research points to a time of change for the Chumash people, with social reorganization, and fluctuations in subsistence models. The role of climate and weather is not fully understood in this variability (Glassow et al. 2007:206-208).

Craft specialization has recently been put forth as a leading example for the development of Chumash social and political complexity, however, changes in ritual specialization has also been proposed (Coupland 2004:176). Corbett (2004:70-71) notes that there appears to have been a transformation in Chumash ritual practice around A.D. 1000, which may have involved the increase in number of participants at ceremonial gatherings. He notes that this coincides with the incipient craft specialization of the Chumash, both in microblade and bead production (*Ibid.:*71). Corbett (2004:71-72) also notes that:

> "If the development of deer tibia whistles reflected concerted efforts to integrate and incorporate increasingly large numbers of people into the Chumash ceremonial system, and this in turn required increased organization by ritual specialists; all of which marks a significant stage in socio-religious elaboration. This indicates that (around A.D. 1000), Chumash society had achieved a relatively

advanced state of ceremonial integration, and there may have been politico-religious specialists who spurred these changes."

Holliman (2004:53) further notes that evidence suggests that religious shamans transitioned at this time from part-time, non-hereditary ritual specialists to highly formal, institutionalized, and exclusive religious-political leaders. Though Coupland (2004:176) and Holliman (2004:53-55) point out that the increase in complexity between technology (boat building, shell bead manufacture) and social organization complexity (religious ceremonies, religious and trade societies, and the power of chiefs) did not take place exactly at the same time, they appear to have influenced each other into enhancing overall complexity throughout Chumash culture.

The archaeological and ethnographic literature concludes that populations in the interior of the Chumash territory were not as dense as along the coast or on the islands. The relationship between the less chronicled interior areas and the coastal region is a current important research question in Chumash archaeology; with different models of seasonal migration between the coast and the inland areas being proposed. Another research question is whether the interior archaeological sites represented a seasonal round centered on larger residential bases. It is known that exchange with coastal villages and inter-village social and political ties based on marriage occurred, however the question remains whether actual movement of people occurred between the inland areas and the coast, or whether the extensive trade network of the Chumash was providing subsistence goods during seasonal scarcity (Glassow et al. 2007:208-210).

It is documented that fish and shellfish resources were transported to inland Chumash settlements, and that deer meat was transported from the inland areas to the coast, as well as deer bone tools and basketry. However, Glassow et al. (2007:2009) summarize that the lack of data from inland sites does not provide answers as to the actual level of social complexity at inland villages, nor what patterns of sedentism and regional trade were followed.

To summarize, the project area was historically settled by the Chumash Tribal Group, however, the site is close enough to the Tongva Tribal Group border that the local region may have been occupied by both groups through prehistoric times, or by mixed-group communities. The Chumash clearly dominated the project area by the Ethnographic Period, and for this reason, much of the following section concentrates on the history and ethnography of the Chumash people, then presents a briefer account of the Tongva people and the differences between the two groups.

4.8 FIRST CONTACT THROUGH THE END OF THE SPANISH MISSION PERIOD (A.D. 1542 – A.D. 1822)

The earliest Spanish explorers of the California coast included Juan Rodriguez Cabrillo in 1542, Pedro de Unamuno in 1587, Sebastian Rodriguez Cermeño in 1595, Sebastián Vizcaíno in 1602, and Gaspar de Portolá in 1769 (Chartkoff and Chartkoff 1984: 251-258). These early expeditions were transient in nature, and rarely impacted the areas traveled through except as a novelty. However, a more profound effect of these early voyages may have taken place.

Erlandson et. al. (2008:103-104) speculates that many Chumash villages were abandoned after initial European contact due to disease; an event that does not easily provide evidence in the archaeological record. Several archaeologists have attempted to track the abandonment of long-established villages to such events, but no clear link has been made to date, though there is some evidence that Native American population numbers reduced after contact, possibly due to introduced diseases, followed by a gradual repopulation to the numbers encountered by the Spanish in the 1770s.

By 1770, the Spanish had finally decided to systematically settle their claimed lands in California, and several major expeditions were completed during the 1770s in support of the founding of missions (major churches and associated buildings), *asistencias* (lesser churches), and *presidios* (fortified settlement). These state and church settlements were meant to support the settlement of individual ranchos and pueblos by Spanish citizens settling in California. Other state services included the expansion of local infrastructure, including the construction of wharfs, bridges, canals, and water channels, with labor expected to be mostly drawn from the local native American population.

Gaspar de Portolá was the first recorded Spanish explorer to visit the Conejo Valley, who traversed the area in 1770 on his way back to Mexico from northern California. At that time of his travels, the Spanish mission system was just beginning to be constructed and Spanish settlements was just starting to expand along the coast. The San Gabriel mission was still under construction, being founded a year later in 1771. The Buenaventura Mission had not yet been established, though it had been in planning since 1770. It would take until 1782 for the Buenaventura Mission to be officially founded by a priest. The Santa Barbara Mission would take even longer, being founded in 1786, and the San Fernando Mission was not founded until 1897. De Portolá's mission, then, was intended to support the larger planned permanent Spanish settlement of California by assessing the areas to be settled.

De Portolá's northern route followed an older route north along the Los Angeles River through Castaic, then down the Santa Paula River Valley to the Ventura area, before turning northward again. On his way back to Mexico, local Native American's showed him the Conejo Grade trail through the Conejo Valley, which cut significant time off of the trip between the San Gabriel Mission settlement and the Carpinteria coastal settlements. In the process, Portolá became the first Spaniard known to travel through the Conejo Valley. Unfortunately, the description of the Conejo Valley in his diary is scant, consisting wholly of the following:

> "The 12th, we travelled for more than even hours, taking a route different from that by which we had come and crossing a range that projects into the sea (the Conejo Grade). Near this we left the channel, having crossed a most beautiful level stretch made by the river along which we had come on the outward journey. We halted in a village of forty natives (probably the Chumash village of *Hipuk*).
>
> "The 13th, we travelled for about five hours, following the direct road through the Valle del Encino (San Fernando Valley) where the road was not very good. We halted in a village of about fifty natives" (de Portolá 1770:79).

This new path would be followed by later explorers and settlers, with the area around the village where they stayed the night being called "El Triunfo," or the lands of the "Triumph of Christ" (**Figure 4**). Today, "Triunfo" refers to the valley and roads along Triunfo Creek below Westlake Village, California, but at the time, it may have referred to a larger region.

There is also some evidence that De Portolá was camping at or near the Chumash village of *Hipuk*, which was later referred to as the small village of "El Triunfo" King (2011:167). A small settlement also known as "Triunfo" is located on the 1900 Triunfo Pass USGS map as being located north of the headwaters of Triunfo Creek. This settlement, though on the main road through the Conejo Valley at the time, was notably away from the better watered parts of Triunfo Creek, and probably, therefore, should not be taken as an indicator of either the original camp used by the early Spanish explores, nor as the location of the Chumash town of *Hipuk*. Most likely, the village was located south of this location at the mouth of Triunfo Canyon.

A 1928 aerial photo of the same area better shows how the watered sections of Triunfo Creek near the foothills and pass opening were the more likely location of village and camping spot, given the number of trees and the width of the creek tributaries (**Figure 5**). The village of *Hipuk* and probably all of the possible locations of the earliest Spanish camp site were later destroyed as part of the construction of Westlake Lake and the surrounding residential development in 1966.

Juan Bautista de Anza next led an expedition in 1774 following Portolá's route, also with a stopover at "El Triunfo." These early expeditions involved the escorting of settlers to specific locations along the coast, as well as assessing the California landscape, settlement progress, and future development needs. In 1774, de Anza travelled through the Conejo Valley twice that year, with a stop in the Monterey area in northern California between the two trips. His diary has the following entries from his travels north from Arizona:

> "Day 10 Sunday. From Tubac (Arizona) to the vicinity of El Triunfo 282 leagues. At nine o'clock this day I left the Mission of San Gabriel, and heading west northeast I walked four leagues to the Rio de Porciuncula (probably the current Rio Los Angeles) which I then followed for two more leagues and the rest of fourteen I made west until the evening prayers.
>
> "Day 11 Monday. From Tubac to Rio de la Carpinteria 298 on the Canal de Santa Barbara (*this entry refers to the Santa Barbara Channel*). As soon as the sun came up, I took up proper course direction passing through much docile heathendom in the afternoon, and having walked sixteen leagues I stopped, to spend the night in this part of the Rio de la Carpinteria (Rio Ventura), and first Rancheria of the Santa Barbara canal" (de Anza:104-105).

De Anza's return trip through Conejo Valley was not nearly as well documented, and has little value for this study. Based on his calculations, his stop within "El Triunfo" was roughly 48 miles west of the Los Angeles River within what would later be known as the Conejo Valley. This distance is fairly accurate, based on his stated route, which would have placed him in the Westlake Village area at his stopping point. Unfortunately, he does not describe any of the terrain or people of the Conejo Valley area, and is much more descriptive of the Santa Barbara channel area later in his diary.

De Anza returned in 1775 and 1776, with Father Pedro Font, who wrote an extensive diary of the travels. This expedition also stopped at "El Triunfo" in the Conejo Valley region. Father Font's recording of de Anza's 1775 expedition in the Valley is unfortunately scant.

> "[February] 22, Thursday. We set out from El Portezuelo at eight o'clock in the morning, and halted at a quarter past three in the afternoon at the spot called *El Agua Escondida* (Hidden Water) which lies before the spot called *El Triunfo* where we (had) hoped to arrive today. We traveled nine leagues on a westward course with some veering" (Brown 2011:215).

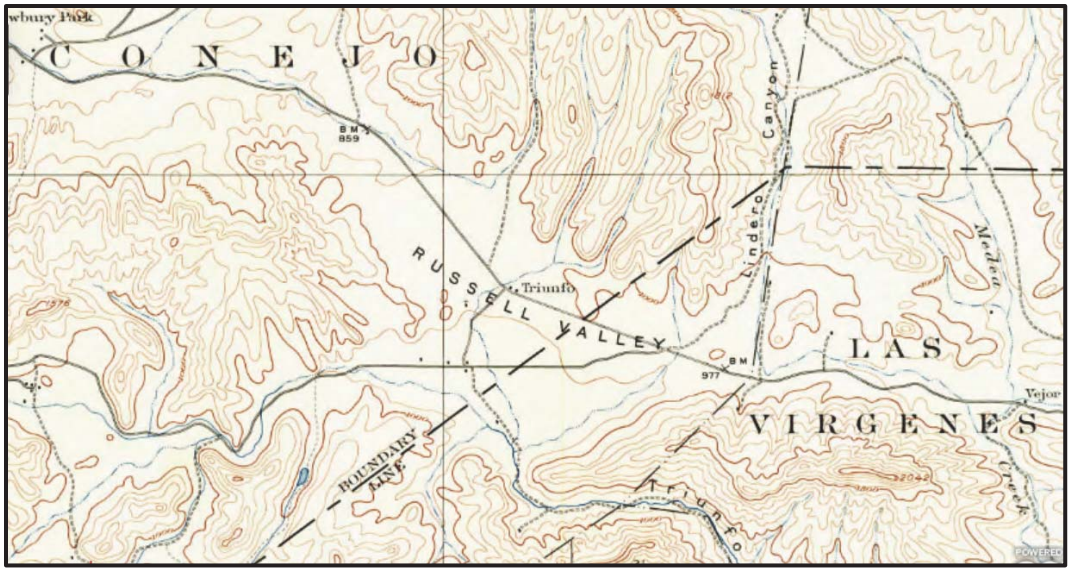

Figure 4: The 1900 USGS Triunfo Pass map shows the small community of Triunfo (center), and the opening to Triunfo Canyon (center-bottom) (facing north).

Figure 5: The 1928 aerial photo of the Triunfo Pass area, where de Anza probably camped in 1774 and 1776 (facing north).

The landmarks mentioned are somewhat difficult to identify on a modern map. El Portezuelo is most likely located at the east end of the San Fernando Valley, based on the work of past historians. El Agua Escondida is harder to place, and has not been identified in the historical literature. Most likely, this watering and camping spot was located between El Triunfo and Calabasas; possibly at Medea Creek in Agoura Hills, since watering their large herds of cows and horses was of primary concern for the expedition. Since Father Font notes that they did not make it to El Triunfo, the Medea Creek area is the closest good source of water along the traveled route from the east.

Since the Spanish expeditions always included large numbers of settlers, soldiers, livestock, wagons, and horses, they needed to camp at wide, open areas, with much dependable water. It also appears that some trips resulted in slower travel than others, especially if the livestock and baggage wagons got delayed, hence the need for alternative stopping points, such as El Agua Escondida. Following this logic, any description of the area between El Auga Escondida and El Triunfo would include the project site.

> "[February] 23, Friday. I said Mass. We set out from El Agua Escondida at eight o-clock in the morning, and by traveling a westward course with a good amount of veering to the southward and as far around as north-northwestward we reached the Santa Clara River after nightfall, later than a quarter past six, having traveled fourteen leagues. At the start of the way consisted of a good many hills and grades, there then followed a level route for some leagues, ending with a very steep grade (the Conejo Grade), the big grade from which the sea and the first islands of the Santa Barbara Channel can be seen...
>
> "The mountains hold a great many white oaks, live oaks and other trees, and also some watering places, such as the ones at El Triunfo and at Los Conejos, and we saw four small-sized villages in the range. At a little over a league on the way is the place of El Triunfo and an Indian village, and afterward we came upon three other villages at intervals. Each of them has the qualities for a stopping place, with water, grass, and a great deal of firewood from live oak and white oak trees with large acorns. At a little over eight leagues, we came to the steep grade. At its foot there is another village that has a spring…" (Brown 2011:216).

None of this part of Father Font's diary gives any additional information on the region around the project site, however, it does indicate that the entire linear length of the Conejo Valley had eight "small" villages, always located near good sources of water. Four of these villages were located east of El Triunfo. The El Triunfo village was then counted, as well as three more villages toward the Conejo Grade.

On the way back from Northern California, de Anza and Father Font again travelled through the Conejo Valley region. The Father noted that the three villages closest to the grade had been abandoned, due to a lack of water. They stopped again at El Agua Escondida where they camped previously, before heading northeast out of the Conejo Valley; a route that supports El Agua Escondida being the location where Medea Creek and Lindero Creek meet. There is no mention of why El Triunfo was avoided, however, it may also have been dried up that year, given that the Father mentions El Agua Escondida having little water as well (Brown 2011:365-366).

As mentioned above, starting in 1769, the Spanish government began establishing religious missions along the coast of California, as well as presidios (fortified garrison), and pueblos (ranch houses), in order to advance the colonization of the California region. One of the main goals of these early expeditions was to reinforce the California development efforts, both with settlers, but also with livestock and materials. The missions were established to act as outposts on the California frontier, with a goal of educating and converting Native Americans to Christianity, but also to serve as Spanish government centers for the local regions, acting as the political representatives of the Spanish colonization program. Missions also

periodically housed Spanish soldiers, especially when no presidio was nearby. Under the leadership of the Franciscan Father Junipero Serra, a total of 21 coastal missions were built, between 1769 and 1823 (Chartkoff and Chartkoff 1984:251-270).

Many of the Native Americans then living in California were later "Missionized;" forcibly settled to local mission lands to serve as support labor. In the project area, Chumash people were forced to move to either the San Buenaventura Mission (founded in 1782 at Ventura), the San Fernando Mission (established in 1798 in the San Fernando Valley), or to the Santa Barbara mission (founded in 1786 near Santa Barbara) (McCall and Perry 1990:13-17). Often, villages located equally between missions would have individuals resettle at different villages, suggesting resettlement may have had a lineage or family basis.

Missionization also destroyed the traditional social subsistence system, disrupted regional trade networks, and transformed the Native American material culture into a mixture of surviving ethnographic artifacts and European goods. Disease, the loss of a lifestyle that had been adapted to the California environment for generations, and the predation of the Spanish all led to a rapid decline in Native American population numbers (Chartkoff and Chartkoff 1984:258-270, and Erlandson et. al. 2008:25). As Elias Castillo has stated:

> "(Father) Serra was single-minded in his goal. His attitude was that he was there to save souls for God, and it didn't matter what type of life [the Indians] had in the missions. If they died soon, then that's more souls to heaven. That's what was in his mind. To keep the Indians free from sin" (2017).

The result was local genocide of Native American groups around the Spanish missions.

> "Missionization all but extinguished the traditional cultures of the coastal Indians in the 600 miles (965 km) between Tomales Bay and San Diego… In the area of the missions, Indian populations… were reduced by 90 percent or more, or even completely wiped out, and mission populations were maintained only by drawing from the surviving surrounding populations" (Chartkoff and Chartkoff 1984:269).

Missionization became, unfortunately, only the first of the European genocides to be suffered by the California Native Americans, with later Mexican and United States governments being no less cruel to the original inhabitants of California.

Known Regional Ethnographic/Contact-Era Villages

The project area is equidistant between two historic Chumash villages; *Hipuk* in the Westlake area and *Yihiwi* in Calabasas (King 2011: 167-169). Also nearby was the major village of *Talepop* to the southeast. All three locations have been determined from historic accounts from the Spanish, with at least *Talepop* and *Yihiwi* being confirmed through archaeology.

***Yihiwi (Yegeu) (Agua Amarga)* (Medea Creek) (CA-LAN-243)**

In 1969, a large Chumash cemetery was uncovered at the corner of Kanan Road and Thousand Oaks Boulevard in Agoura Hills, along what once was Medea Creek. This cemetery had over 400 individual burials, which was used from 1600 to 1785 by the local Chumash (Gamble 2008:211). This site (CA-LAN-243) was roughly 1.3-miles east-northeast of the project site. Many of the excavated artifacts are now located at the Chumash Indian Museum in Thousand Oaks (Pascal 2013:11-17). The excavation noted a large structural area as well as the cemetery area, which may have been the village site.

King (2011:168) identifies this archaeological site as the remains of *Yihiwi*, and summarizes the known historical and ethnographic information on *Yihiwi* as follows:

> "On January 15, 1770, Costanso reported a village a league and a half from El Triunfo that was probably the Medea Creek village… Portolá says he met a village of about sixty people between Triunfo and Encino, this was probably the same village (Company's 1983:291, 388). On April 28, 1770, Crespí noted a village of twelve grass roofed houses in the vicinity of Medea Creek (Brown 2001:691). The Medea Creek village was probably occupied until at least 1776, since the Anza Expedition reported seeing four small villages in the inland Santa Monica Mountains (Bolton 1930:247).
>
> "The village was apparently abandoned by 1792, for in that year José Longinos Martinez listed Agua Amarga (Bitter Water) as a place located halfway between Las Virgenes and El Triunfo. Martinez noted that it was a place with water and not an Indian village (Simpson 1939:79). There was at least a nine-year hiatus between the abandonment of the village and the recruitment of converts from adjacent villages. Agua Amarga was probably renamed Medea Creek in the 1830s with the regranting of Rancho Las Virgenes. Medea Creek bisected this new grant in half (*media*) (Edberg 1982).
>
> "The Medea Creek residential area (LAn-243) was destroyed in 1969 by the channelization of Medea Creek. Later the remainder of the site was paved over for a shopping center. Prior to its destruction, an approximate four-percent excavation sample of large artifacts was obtained from the house area. The cemetery of over 400 burials was completely excavated (Singer and Gibson 1970, L. King 1969, 1982) and contained several burials with historic glass trade beads that indicate it was utilized after 1770."

Hipuk (Ypuc) (Ipuc) (El Triunfo) **(CA-LAN-186 and CA-LAN-242)**

Hipuk was a recorded Chumash Village within the modern boundaries of Westlake Village, California, roughly 1.3-miles to the west of the project site. King (2011:167) summarizes the known historic and ethnographic information on *Hipuk* as follows:

> "El Triunfo… appears in the San Buenaventura (Vb 439, Vb 1524) and San Fernando (Fb 1299, Fb 2412) Mission registers as the alias of hi'puk' (Hipuc, Ypuc, and Ipuc). Thirty-eight people were baptized at Ventura and San Fernando Missions from the village of Hipuk.
>
> "A settlement on a bend in the Santa Inez River east of Lompoc was named Sipuc. The Hipuk in Westlake Lake is at a bend in Triunfo Creek where it flows south through the mountain.
>
> "Harrington noted that a song of a Barbareño Chumash woman Martina went "I am from hipuk', I am from minimol (north), I am from mitshumásh (Santa Cruz Island)" (n.d.).
>
> "The village of El Triunfo was mentioned in the diaries of several early expeditions. On January 14, 1770, Crespí described the village as having ten grass houses, and Portolá described the village as having 30 people (Brown 2001:661, Smith and Teggart 1909:49, Boneu Companys 1983:388). In 1792, José Longinos Martínez traveled from Calabasas to El Triunfo. He rode three leagues from Calabasas to Las Virgenes, three leagues to Agua Amarga, and four leagues to El Triunfo (Simpson 1939:79). Longinos Martínez's leagues were much less than the true Spanish league; however, if one compares the relative distances traveled, El Triunfo lies the expected distance from Medea Creek. El Triunfo Valley or Russell Valley is now the site of Westlake Village, a housing development constructed in the late 1960's.

> "Apparently the entire site of *Hipuk* (LAn-186 and LAn-242) was destroyed by the construction of Westlake in 1966."

The project site is, therefore, exactly equidistant between *Yehiwi* and *Hipuk*, and would have been on the regional trade route that linked the two villages, as well as the rest of the Conejo Valley region, including *Talepop*, located farther to the southeast, and *S'aptuhuy*, the next village west of *Hipuk*.

***Talepop (Ta'lopop*) (Las Virgenes) (CA-LAN-229)**

Talepop was a recorded Chumash Village in the Calabasas area, roughly 9-miles southeast of the project site. This site was partially excavated during the construction of the Santa Monica Mountains Visitors Center. King (2011:169) summarizes the known historic and ethnographic information on *Talepop* as follows:

> "The village of Talepop is identified with Las Virgenes in the mission registers, and it had close ties to the large coastal village of Humaliwu. Marriages are also documented with people from Hipuk and Huama. One child from Talepop had parents from the villages of Sumo and Lojostogni. Twenty-seven people were baptized at San Fernando Mission as natives of Talepop. No diary entries have been found describing this settlement, which was south of the main route taken through the mountains. Since the Portolá expedition, the valley from Malibu Creek State Park north, up past Brents Junction and onto the Ahmanson Ranch, has been known as Las Virgenes Canyon…
>
> "Archeological investigations at LAn-229 indicate it is the historic village of Talepop (King et al. 1982). Raab has questioned the attribution but has not identified alternative sites (1993). This is the most intact historic village in the interior of the Santa Monica Mountains."

Located at modern day Gillette Ranch and operated by the California Parks Department, data recovery at *Talepop* has taken place for several projects, most notably in 2011 for planned road work and restroom modification. Artifacts recovered and C-14 dating indicate an occupation period of A.D. 1100 through A.D. 1805, which is well into the early historic period of Southern California (King 2006:1).

4.9 THE MEXICAN STATEHOOD PERIOD THROUGH THE U.S. PERIOD (A.D. 1822 – PRESENT)

When Mexico won independence from Spain in 1822 the political system in California changed dramatically. Mexican land grants were awarded to soldiers, friends, and relatives of Spanish governors who ruled California between 1823 and 1846. During that time, the land holdings and influence of the religious missions were greatly diminished.

The Mexican Revolution and the later dismantling of the mission system led to great disruptions in the lives of the remaining Native Americans, as mission lands were incorporated into the rancho system. Tensions between Native Americans and Mexican settlers and soldiers led to the Chumash Revolt of 1824, when the Chumash successfully occupied Mission La Purisma, Mission Santa Ines, and Mission Santa Barbara. The occupation was short-lived, but guerrilla warfare and raiding would continue throughout the Mexican period, and into the later United States territorial period (Chartkoff and Chartkoff 1984:270-278).

The missions and the mission lands were secularized in 1834, with the lands dispersed to individuals loyal to the new Mexican government. These land grants, both the original Spanish crown grants and the Mexican national grants, were primarily used as cattle and sheep ranches, which dominated most of Southern California (including the project area) up through the early 1900s (McCall and Perry 1990, Maulhardt 2010, Chartkoff and Chartkoff 1984:270-278, and Erlandson 2008:105).

During the Mexican-American War, the territory known in Mexico as Alta California officially became a United States territory with the signing the Treaty of Guadalupe Hidalgo between Mexico and the United States in 1848. American ownership of California did not reduce the decline in Native American population numbers. From 1848 to 1900, California Native Americans were reduced in number from 150,000 to 20,000; most of this decline came from the continued marginalization of Native Americans into the worst land and lowest economic positions in the new state. Other factors were the abuse of the European settlers, disease, and the impacts of government laws and policies that did not favor native populations (Chartkoff and Chartkoff 1984:296-297).

The American exploitation of California Native Americans culminated in the 1850 state legislation that essentially legalized the slavery of many native people:

> "This law declared that any Indian, on the word of a White man, could be declared a vagrant, thrown in jail, and have his labor sold at auction for up to four months with no pay. This indenture law further said any Indian adult or child with the consent of his parents could be legally bound over to a White citizen for a period of years, laboring for subsistence only. These laws marked the transition of the Indian from peonage to virtual slavery; they gave free vent to an exploitative ethos of Americans who soon took advantage of the situation" (Castillo 1978:108).

At the same time, the United States government began a decades-long process of determining the fate of the original Mexican land grants in California, several of which were located within in the Conejo Valley. This process left ownership of many parcels and ranches in question for long periods of time. The project site was once part of the 17,000-acre lands granted to Miguel Ortega as El Rancho de Nuestra Senora La Reina de Las Virgenes.

Much of the surrounding Conejo Valley was included in another large land grant of 48-thousand acres to Jose Polanco and Ignacio Rodriquez in 1803 by the Spanish Government. These land grants changed hands several times, especially after Mexican independence, until land ownership legal issues were finally settled in the 1870s. After this time, the original Spanish-heritage families began selling off smaller parcels to American investors, which expanded the ranching of cattle and sheep in the area (Maulhardt 2010:7-8).

Limited subdivision took place through the 1920s, but most of the Conejo Valley remained focused on ranching and hay-production until after World War II. The construction of the modern highway system and the increase of the Southern California Euro-American population finally led to the urban development in the Agoura Hills region, with infilling accelerating during the 1960s and 70s (Maulhardt 2010).

4.10 THE MODERN HISTORY OF THE PROJECT SITE

USGS topographic maps and other regional historic maps for the project site region date back to 1900, and were updated regularly through the end of the 20th Century. Examination of seventeen (17) historic USGS and other government maps of the region provided a modern development history of the project site. These maps began in 1900 and concluded in 1981, at which point, historic Google Earth satellite images were examined to record modern development or impacts to the project area.

The 1900 Triunfo Pass USGS map shows no development on the project site, with minimal regional development to the north (**Figure 6**). The 1903 Camulos USGS map shows similar conditions. The 1921 Triunfo Pass USGS map again shows the same conditions. The 1929 Vejor USGS map shows much more detailed topographic elevations, but again shows no site development and minimal regional development (**Figure 7**). The 1932 Seminol USGS map shows the same conditions as does the 1943 Triunfo Pass USGS map.

The 1950 Thousand Oaks USGS map shows Agoura Road for the first time, as well as the 101 Highway, which was under construction at the time (**Figure 8**). No development is located on the project site and minimal development is located between the project and the 101 Highway. The 1952 Thousand Oaks USGS map shows the same conditions. The 1967 Thousand Oaks USGS map, which updates the 1950 map, shows new structures in the more remote parts of the project region, however, little has changed in the immediate project area. The 1976 Thousand Oaks USGS aerial photographic map shows the same general conditions, as does the 1981 Thousand Oaks USGS map, which again updated the 1950 map with new construction, including the extension of Agoura Road to the west of the Rancho Adobe freeway exit.

Google Earth satellite images date back to 1985, however clear images only start in 1989. In the 1989 Google Earth image, many of the modern development projects found currently between the project site and Agoura Road are shown under construction, including much of the cement V-ditches found to the north of the project area (**Figure 9**). Also visible are some older dirt roads or firebreaks that extend southward into the Santa Monica Mountain foothills. Some of these firebreaks may be related to the 1978 Agoura-Malibu Firestorm event, though it is unclear how old they are from the image.

Additional buildings are shown on the 2002 Google Earth image as the developed area began to fill up more with commercial structures. Later in 2002, the eastern flood control basin is shown under construction for the first time, and additional improvements associated with the commercial development between the project site and Agoura Road are visible. The western flood control basin is shown on a 2005 satellite image as commercial structures north of the deep ravine located at the center of the project are shown for the first time. All buildings and modern features currently shown between the project site and Agoura Road were in place by 2007. Many of the Google Earth images show older modern firebreaks that cross the landscape mostly from east to west. These are most visible on satellite images with green vegetation and angled sunlight (**Figure 10**). It is unknown what these firebreaks date to, however, they were probably constructed in the early 2000s.

The conclusions of the historic map and satellite image record search is that the project site has not been subject to previous residential or commercial development with no evidence of previous historical structures being on the property. The project site is also not in a region that should be considered as sensitive for older historical cultural resources as the area around the project was not developed until very recently. Finally, visible firebreak, landscaping, flood control, and slope development impacts found within and immediately to the north of the project site are modern and recent additions to the regional landscape, and should also not be considered as potential older historical landscape features.

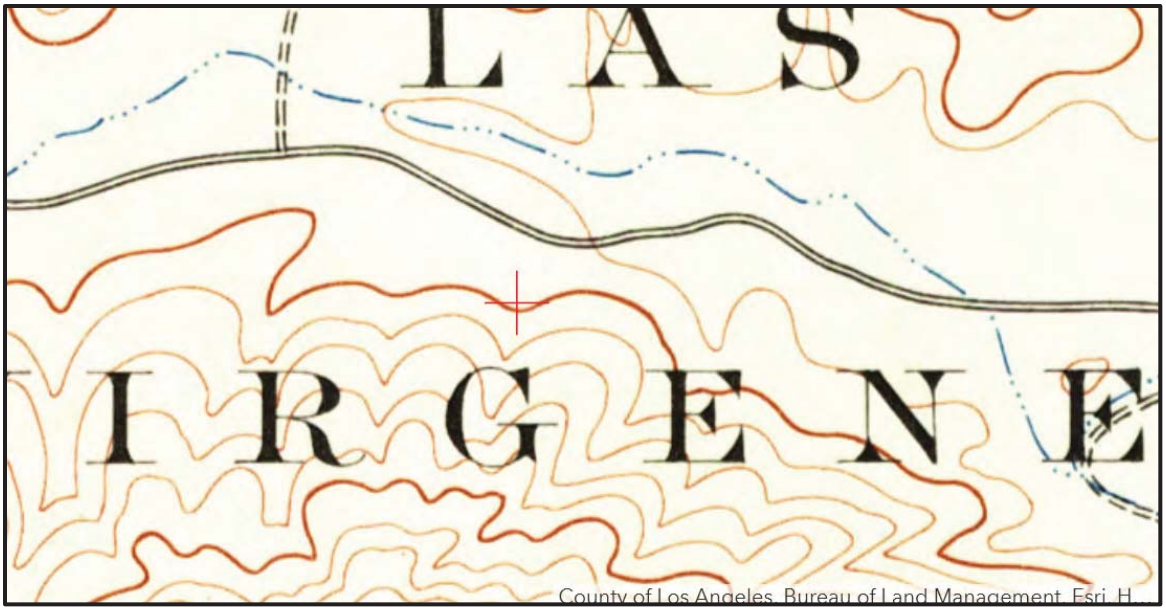

Figure 6: The 1900 Triunfo Pass USGS Map shows no development on the project site (red cross marks the center of the project).

Figure 7: The 1929 Vejor USGS Map also shows no development on the project site (red cross marks the center of the project).

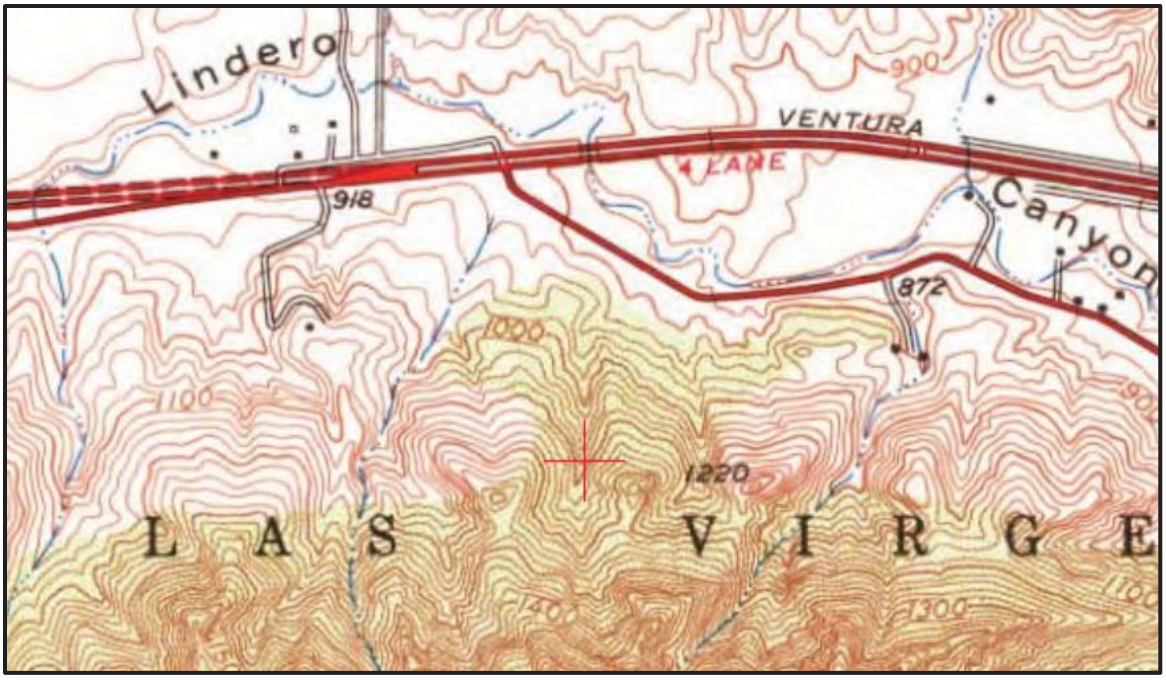

Figure 8: The 1950 Thousand Oaks USGS Map showing no development in the project site, but some new development in the local region to the north (red cross marks the center of the project).

Figure 9: The 1989 Google Earth satellite image, showing many of the modern development projects found currently between the project site and Agoura Road.

Figure 10: A 2008 Google Earth satellite image, showing the many firebreaks that cross the project area landscape.

5.0 CHUMASH ETHNOGRAPHY AND CULTURE

When historic contact first took place with the Spanish in 1542, the Chumash people inhabited California's Channel Islands (San Miguel, Santa Rosa, Santa Cruz, and Anacapa), and the coastal mainland between San Luis Obispo and Malibu Canyon in southern California. Interior Chumash boundaries are less defined, with some studies placing the Chumash as far north as the Chorizo Plains in Kern County and as far east as Topanga Canyon. Ethnographic records of the Chumash people and Chumash-identified archaeological site data provide information on the Chumash culture back several hundred years before contact. As Glassow et al. note, Chumash cultural and sociopolitical organization were established and in place by A.D. 1300 (2007:205-210). Before this date, recreation of the Chumash society relies on archaeological data primarily.

Most of the understanding of Chumash culture and social organization, from a time before the Spanish influence on the Chumash people began to profoundly change their way of life, comes from historical first person accounts of Europeans that visited Chumash villages, and from later ethnographic interviews with Chumash after Misionization and the disruptions of the Mexican and American Periods that followed. Both sets of information should also be placed within the context of the authors of the information. The diaries and accounts of European explorers and missionaries were often interpreting the Chumash people they observed through a filter of perceived European exceptionalism, western cultural bias, and Catholic religious teachings. Whereas later ethnographers, who were also bound by their own Euro-American experience, were recording lifestyles that existed sometimes decades in the past, from observers who had their own reasons for being either cautious in what they revealed, or who were recounting their memories through their own personal filters. With these limitations in mind, the next section describes Chumash culture, religion, economics, and social interactions before Spanish influence profoundly impacted Chumash village organization.

De Anza (1774) provides an excellent example of a first-person account of a European visiting Chumash settlements along the Santa Barbara Channel in the Carpinteria area. De Anza was traveling north as part of the initial Spanish settlement of California, with the purpose of supporting the construction of missions, forts, and infrastructure between the Mexico border and the San Francisco area.

> "Day 14 Thursday. From Tubac to the end of the (Santa Barbara) channel, tip of the Conception and surroundings of the Rio de Santa Rosa; 333 leagues (traveled). On the way to the west, I walked four leagues along the said channel, and as far as it ends, which is the tip of the Conception, where the Rio de Santa Roas also joins the one noted…
>
> "All the mentioned channel is well populated with Indigenous as much as it is the most that I have seen from the Colorado River to here; they go like most of the Gentiles, naked. They are robust, large people, reasonably armed with bow and arrow; but one and another small… they live in union, because each town is made up of forty houses or more, which are made of round roofs like half an orange. It is very given to commerce, and to work, in which they will not be found equal in their kind by other Gentiles.
>
> "Many are occupied in making their boats and the things necessary for them. They make them (with) two bows, thirty six to forty palms long, and the corresponding widths are all of more than twelve pieces, but so well joined, built, and tarred, that they don't leak any water. They take them out so light that among all they load it with little work. The instruments with which they carve them are from flint with what I saw them being made, and I even bought some, and I had to admire, both for their ingenuity, as well as their patience. There were fifteen to twenty useful boats in each Rancheria, and there were no more than seven to ten in each Rancheria being manufactured again. "Many others are engaged in carving stones, from which kitchen pots and pans are made, which

> they carve out with such perfection that it looks like a lathe, and this is not only in small pieces, but large ones, and made in different ways, of which I also bought some; as well as other wooden ones made out of hardwoods such as Oak and Madrone. Their women cooperate equally doing this work, and much more to the manufacture of what we call coritas ("wine carrier," meaning asphalt-lined water baskets), which serve them for various purposes whose type I had not seen more finely made than these until now, being that all the Indians make them; it is well, that the materials, of which they are made of are not found elsewhere.
>
> "In their boats that the sea is populated with most of the day, they are busy fishing with shell hooks, built as perfect as the iron ones. They pass to the islands, which are to the south… These habitants of the channel, (amount) to eight and ten thousand souls, (not including) those that exist in the aforementioned islands, and those that were seen on dry land (interior areas)… All the land they occupy is as fertile, and beautiful, as the others independent of this channel… they are touching the waters of the sea, (with) fields as green and flowery" (de Anza 1774:105-106).

It is from these rare accounts, written down during a brief time period of Spanish contact before European culture dominated Chumash indigenous lifeways, that much of the information provided below originates. As mentioned above, the other major source of Chumash cultural information comes from ethnographers who visited with the Chumash long after their original villages were impacted by the Spanish, the Mexicans, and/or the later Americans settling their traditional lands in California. Of this later group, the most important is John Peabody Harrington, who spent over 40 years in the early 19th Century studying traditional Native American life and culture; mostly by interviewing surviving members of California Native American tribal groups. His work, and the writings of other ethnographers who visited California for the purpose of exploring the Native American people, also add greatly to this section.

Chumash Village Organization

Historic accounts placed the population of Chumash per village at between 50 and 200 individuals (Kennett et. al. 2000:213). The Chumash lived in villages that were located near permanent water sources and food resources. Population numbers are very difficult to determine from early Spanish expedition and explorer writings. The interior villages were often referred to by the Spanish as having 40 to 50 people, with de Anza's description of the Santa Barbara Channel area noted many more people. Portolá's account of the Santa Barbara channel villages listed hundreds of Native Americans, with single villages having eight hundred people (1769:27).

A simple conclusion from reading all of the early Spanish accounts, which describe much different experiences and observed population numbers if not actual house numbers per village, is that population counts were very dependent on the experience of the writer. Additionally, descriptions of Chumash villages were very subjective and dependent upon the observer's personal experience at the time of the visit. This effect is seen in all of the diaries where a Spanish expedition would pass through an area, which was revisited later in the year on the return journey. The descriptions on the outward trip were always much more detailed, with more described activity, commerce, and information on the Native Americans provided.

Another factor at work was that the Spanish observers only captured a single moment in time as they passed through a region. The time of day of the visit to a village, or the time of year, would influence the number of people observed and counted, the activities of the people, and even the mood or attitudes of the people. Also, the Native American villages were ever changing, living communities, where most of the inhabitants could have been elsewhere doing other things – hunting, trading, gathering, or visiting – which would have been outside of the observers view. This was especially true during times of drought, where entire villages would move elsewhere to be close to alternative water sources.

Finally, Spanish expeditions often followed the best route from Point A to Point B, and most likely never saw many of the villages that had spread out into other valleys or water sources. Simi Valley and the Las Virgenes area below Calabasas are good examples of such areas, which were not on major travel routes, and were, therefore, affected by the Spanish at a much later time, long after the influences of the Spanish were felt in the region.

The extended family round house was the basic element of the Chumash village. Kroeber (1925:557) describes Chumash round houses as being:

> "According to all accounts, the Chumash house was large – up to 30-feet or more in diameter – and harbored a community of inmates; as many as 50 individuals by one report, 40 by another, three or four families according to a third. The structure was hemispherical, made by planting willows or other poles in a circle and bending and tying them together at the top. Other sticks extended across these, and to them was fastened a layer of tule mats, or sometimes, perhaps, thatch. There was no earth covering except for a few feet from the ground, the frame being too light to support a burden of soil".

Anthony P. Graesch (2004:136-138) defines a typical late-period Chumash house construction as being circular and between 4 and 12-meters in diameter (roughly 13 to 40-feet), with up to 6-meters (20-feet) between houses. Extended families lived in each house, with a minimum of 2-meters (6-feet) between each dwelling. A normal village consisted of 9 to 16 individual houses. McCall and Perry (1990:25) add to this that a Chumash house had a ventilation hole in the top, which could be covered in inclement weather with an animal skin, and that "each house had a fire pit in the center for heat or for cooking in bad weather. In fine weather, cooking was done outside."

Chumash structures commonly used rammed-earth processes to create inside hard-surface work areas. Graesch (2004:136-137) provides a detailed description of how interior earth floors were made:

> "*Floors.* House floors are packed-earth surfaces that were constructed from locally available soils and hardened by wetting and pounding with rocks… Most floors are built following the construction of a pole-and-thatch house frame, and house floors may have been rebuilt during episodes of house maintenance and structural repair… Although the types of soil (clay and sand are common) used for floor construction vary with site location, all floor deposits tend to be highly consolidated and relatively barren with respect to household artifacts and refuse. Artifacts and subsistence refuse that are occasionally recovered in floor deposits tend to be very small and/or highly fragmented… floor deposits are typically no more than 4 to 5 cm thick."

He later goes on by describing the accretion of floor midden over time, found within habitation structures:

> "*Floor accretion.* Floor accretion deposits result from the accumulation of debris generated by daily household activities, wind, foot traffic, and slow organic deterioration of both thatch architecture and sea-grass mats. Despite efforts to keep house floors free of general clutter and refuse, residents appear to have regularly (and inadvertently) trampled debris on and into house floors. Over the course of house occupation, accumulated debris formed a discrete layer or layers of cultural remains that can be distinguished from constructed floor deposits. Deposits interpreted as floor accretion in Island Chumash houses are best characterized as moderately consolidated soil matrices containing low to moderate densities of highly fragmented subsistence remains and moderate to high densities of small craft-related artifacts, particularly shell-working goods…"

Other common structures and features at a Chumash village included a sweathouse, a dance floor (public ceremonial area), a ceremonial ground (private ceremonial area), a chief's hut, a menstrual hut, a playing field (for sporting events), storage features, an enclosed cemetery, a male puberty hut, and feathered banners or totems. Hudson and Blackburn (1983 and 1986) have detailed descriptions of all these buildings and the features that characterize them in the archaeological record.

Other than archaeological features, the accumulated artifacts found in the floor soil can be helpful in correctly classifying the purpose of identified structures. For example, Morin (2002:5) notes that non-residential houses should have a lower density of artifacts associated with domestic activities than those found within residential structures. Even though Morin's study involved the Northwest Coast Native Americans on Keatley Creek in British Columbia, his study group is considered a complex hunter-gatherer society, with similar village organization to that of the Chumash. In his study, prepared silt floors devoid of debitage or artifacts were characteristic indicators of ritual structures (*Ibid*.: 910). Other characteristics included: structures were less than 11-meters in diameters, had intensively used hearths, were located on terraces, and were spatially associated with the largest and highest concentrations of feasting features on the site.

Spatial organization of the village also reflected the hierarchy of Chumash social organization, with smaller, separate structures for the village elite. As King (2011:2) notes:

> "Chumash society was hierarchically organized and the most important positions were ascribed. The hereditary chief (*wot*) was the central authority of the political system. There was sometimes more than one chief at a village… The most important duty of chiefs was the management of stores containing food and wealth. These were used to maintain the chief and his family, to feed visitors, to aid the needy, and to give fiestas. Stores under the chief's control were filled by donations from families that could afford to make them. Additionally, chiefs managed the territories under the control of their villages and decided if trespassing should be punished by attacking other villages... Chiefs' houses were often larger than those of other families. The size of chiefs' houses reflected status; the chief's house was used as a meeting space, and was also used to store wealth and food. At some settlements, house size also indicated family size and some large Chumash houses contained many families."

Ceremonial grounds and dance areas are often associated with permanent villages, and were the location for ceremonial dances, meetings, communal activates, and a variety of group tasks. They are described as being flat, open areas within or adjacent to settlements (Hudson and Blackburn 1986:50 and 56-59). Ceremonial grounds, often oval in shape, were defined by windbreaks of poles and mats or interwoven branches, surrounding a public ceremonial and dance area, and a much smaller sacred enclosure at the middle for private ceremonies.

Harrington's informants also described dance areas, with family fireplaces from which the ceremonies and dances would be watched by different groups. The fireplaces would be 25-feet from each other around the perimeter of the dance floor to give each family enough room for observation. Visiting groups would be distinguished with banners (Hudson and Blackburn 1986:51). Other ethnographic accounts agreed upon this pattern of a large enclosed common area, with fireplaces for different groups at the margin of the open area, with a feathered enclosure at the middle, which the Spanish called a "temple" or "idol" (*Ibid*.:50-54 and 56-59).

McCall and Perry (1990:19) provide a very good summary of a typical Chumash dance area:

> "Another feature of the Chumash village was the ceremonial dance ground in which was located the *siliyik* or sacred enclosure. This was a semicircular area surrounded by a high fence of *tule* mats in which religious rituals were conducted by the priests and shamans. The audience sat outside the *siliyik*, around campfires, sheltered by a large windbreak enclosure of *tule* mats."

Cemeteries were often related to ceremonial areas, and were also defined by fences of wooden posts or stone slabs. Several ethnographic accounts place cemeteries near the ceremonial dance areas and enclosures; sometimes there being a single cemetery, and sometimes two (male and female). These cemeteries were usually within the boundary of the village, but could also be found outside the town boundary or at more remote locations. Since Chumash buried their dead, long-used cemeteries often had new internments excavated through older graves; all exposed bones being reburied in place (Hudson and Blackburn 1986: 69-70). Stone or wood grave markers were placed at individual grave sites, with grave poles sometimes being used, with hung feathers and other decorations. On the coast, whale bones were also sometimes used as grave markers (*Ibid.:*71-73).

Gamble (2008:126-148) provides an excellent account of the archaeological evidence for village structure and organization, much of which has already been provided from ethnographic accounts above. One of the more thorough archaeological examinations of village structure took place at Pitas Point (CA-VEN-27) in Ventura County, where a number of house pits with interior hearths were identified, as well as several external pits for trash/midden, and exterior rock-oven features, fire pits, and cooking areas (Ibid.:132-133).

McCall and Perry (1990:19) note that Chumash settlements had designated task areas:

> "There were also special activity areas within the village where tools and artifacts were made. There would be an area where men would make chipped stone tools, such as knives and arrowheads. Sometimes a place would be set aside for the manufacture of canoes, or of shell beads. Often, there was a large outcropping of rock nearby – a bedrock mortar – on which the women cracked and pounded acorns."

A wide diversity of tools and implements were employed by the Chumash to gather and collect food resources. These included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks (Moratto 2004). Artifacts uncovered at archaeological sites, therefore, can directly relate to past prehistoric activities that took place at a location.

Within a given region, the village acted as the center of a territory from which resources were gathered. Small groups left the village for short periods to hunt, fish, and gather plant foods, as well as to collect raw materials for tools, housing, and other utilitarian needs. While away from the village, they established temporary camps and resource-processing locations. These remote sites are identified in the archaeological record by the presence of bedrock mortars for acorn processing, manos and metates for seed processing, and flaked lithic scatters indicating the manufacturing or maintenance of stone tools or butchering. Overnight stays in these field camps can be inferred from the presence of fire-affected rocks or from visible hearth features (Grant 1978).

Chumash Diet and Subsistence

The fundamental economy of the Chumash was subsistence hunting and gathering. Like the majority of native Californians, acorns were a staple food source. Gathered from oak groves in canyons, drainages, and foothills, the tree nuts were pounded into flour using stone mortars and pestles, leached in water, and then cooked as a soup, gruel, or flatbread. Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora, including islay, *Opuntia*, yucca, wild hyacinth, sages, soap root, and agave. The

Chumash also made gruel out of cattail pollen, ate raw the shoots of cattail and bulrush, gathered piñon nuts from pines in the mountains, and toasted the seeds of the *chia* sage and grasses. In early spring, the Chumash ate green shoots, fruits, prickly pear cactus, manzanita fruit, and roasted edible bulbs and yucca in rock-ovens (McCall and Perry 1990:20). Fresh and saltwater fish, shellfish, birds, reptiles and insects, as well as large and small mammals, were also consumed (McCall and Perry 1990:20).

Feasting occurred at specific seasonal times, when visitors were being honored, and when specific important events, such as the ascendance of a new village chief, occurred. Feasts drew upon stored food, and were highly organized events. King (2011:2) provides a summary of the complexity surrounding feasting in Chumash society:

> "Another individual important in the Chumash village was the *paxa*. He was the official responsible for training and initiating members of the secret men's *'antap* society. It was his duty to organize ceremonies at the request of his chief and his responsibility to choose new chiefs from legitimate candidates when necessary. *'Antap* membership was based on relationship to a sponsor who paid a large sum of money to the society… Chiefs and their assistants were initiates of the *'antap* society… The *'antap* helped the *paxa* and the chief sponsor fiestas and were also dancers and musicians at the fiestas. They collected contributions for the chief and pointed out those who did not make adequate contributions. Events such as fiestas integrated all the major institutions of Chumash society. Fiestas usually celebrated events, such as solstices, that were important in the belief system, and they brought people together for economic activity."

Chumash Trade and Regional Relationships

Trading was an important village activity, and the Chumash had extensive trading relationships with all the surrounding Native American groups. The Chumash of the project site region would have been on trade routes to the east, where the Tongva were located, and to the north, where the Yokuts and Mojave tribes were located. The Chumash traded asphaltum, shell beads, steatite, and fish for piñon nuts, antelope and elk skins, obsidian, salt, and seeds (Grant 1978b:517).

King (2011:2) summarizes the regional system of Chumash trade and the social relationships that were foundational to that system:

> "It appears that most manufacturing specialization was regional. For example the beads that served as the medium of exchange were primarily produced on the Santa Barbara Channel Islands. Some manufacturing specialists were members of brotherhood organizations that maintained members within different villages. Evidence for extensive manufacture of arrow points at Chumash village sites and presence of points at Tongva sites of the materials used by the Chumash, indicate that the Santa Monica Mountains Chumash specialized in the manufacture of arrows for trade to the Tongva who lived east and south of them. They may also have specialized in the manufacture of stone mortars…"

Much of the trade relationships centered on marriage ties between families, villages, and regions. As King (2011:5) notes, "Prior to recruitment into Spanish missions, marriages between important families served to link villages up to 80 kilometers (50 miles) apart. Within Chumash territory, there were no boundaries across which marriages were prohibited."

Chumash Sacred Sites

Perry has examined Chumash sites from Santa Cruz Island that may be religious shrines or temples. She notes that each Chumash village had its own sacred shrine within the boundary of the village, however, she also notes that religious expression took place at remote locations or involved portable religious objects

that were not tied to the village boundary (Perry 2007:103-104). She notes that approximately 20 remote rock features have been identified which have been interpreted as being Chumash ritual sites. She adds that "Though their conditions vary, they share several significant characteristics, including their relatively consistent positioning on ridgetop saddles" (*Ibid*.:104).

One ritual site on El Montañon was equidistant to the Chumash villages of *Swaxil* and *Nanawani*, and may have been used by both for ceremonies (Perry (2007:104). Haley and Wilcoxon speculate that a shrine at Point Conception on the mainland was "established and used by the neighboring villages at *'Upop* and *Shisholop*" (1999:229). It appears from both Perry's writing and that of Haley and Wilcoxon that shrines commonly served as sacred locations for multiple villages.

Both Perry (2007:106) and Blackburn (1974:104) make a distinction between mountain side shrines, which were small, individualized ritual locations, and village ceremonial enclosures, which included dancing grounds and cemeteries. Perry defines shrines as being "often places on hill-tops and promontories, or in other remote spots… in which sacrifices of money, seeds, or down were made or ceremonies were held" and that they were "located in elevated areas because of their significance to Chumash sacred geography" (Perry 2007:106). She continues that "Mountains were sacred and powerful places because of their proximity to and connection with the upper world, and they were regarded as gateways of power" (*Ibid*.:106). Likewise, Haley and Wilcoxon note that "it seems likely that every Chumash-speaking village or cluster of villages had its own shrine…" (Haley and Wilcoxon 1999:215).

Perry notes that mountain shrines were used for private and public rituals, and where offerings were given in hopes of gaining future abundance or boons (Perry 2007:106). Another remote-location event was the winter solstice ceremonies at mountain shrines, which were centered on ensuring that drought or bad conditions would not take place in the following year. At this ceremony, feathered poles were erected, and "underscored how the Chumash connected themselves to the intrinsic power of mountains and how these locals functioned as focal points of supernatural action" (Perry 2007:106-107). Perry continues that the major material remains that can be used to identify shrine locations would be feathered poles, rock piles used to secure them upright, and gift offerings surrounding the poles (*Ibid*.:107).

The replacement of sacred poles would be part of a public project, where poles were prepared, transported, erected, and replaced at shrine locations. Poles were 4 to 5.5-feet in height above the ground, 1 to 3-inches in diameter, and were set in holes lined with stone that were 0.5 to 1-feet in depth. In some cases, the poles would be burned at the end of the winter solstice ceremony (Perry 2007:107-108). Shrines would be made up of individual poles or multiple poles together, with seeds and shell beads as offerings. Another variation was to have a formal procession from the foot of a mountain to a high place, with individual poles erected along the route. In this case, four or five poles would be placed along the path of procession (*Ibid*.:108).

Often, ritual locations were combined with engravings in sandstone, rock art on hard, flat stone surface, or cupule or geometric engravings markings on other suitable rocks. Volcanic stone, however, provides a poor medium for such religious expressions as it is hard to engrave and takes pigment poorly due to its rough and vesicular surface. Perry hypothesizes that portable stones, such as soapstones or steatite, were used as substitutions when the geology did not allow for permanent artwork on stone panels or boulders (Perry 2007:109). In this case, common ceremonial items included "incised stones, charm stones, bone whistles, quartz crystals, talismans such as raptor claws, and other shamanic regalia" (*Ibid*.:109).

The rock features identified on Santa Cruz Island as shrine sites often involve raised stone platforms of roughly 2 to 3-meter in size. Midden soil is often present, and the ground surface is cleared. Few artifacts are found, with notably no shellfish or fish remains. In several cases, postholes, fire-affected rocks, or rock

piles were associated with the platforms or shrine areas (Perry 2007:112). Often, the shrines were placed in the saddles of ridgelines and above 1000-feet on mountain ranges (*Ibid*.:113).

Perry also states that, "Following mission secularization, the Chumash continued to maintain shrines as centers of traditional ceremonial practices through the 1870s" (Perry 2007:105). She recounts an example from the Santa Barbara mainland area, where village members "continued to build and use traditional houses, sweathouses, shrines, and other ceremonial features" after Missionization (*Ibid*.:105).

Another account from Hudson and Blackburn is of the Chumash near San Cayetano Mountains erecting a sacred feathered pole shrines near Ventura, which took place as late as 1914, to celebrate the winter solstice. Harrington accounts similar practices near Ventura (Hudson and Blackburn 1986:94-98). The above accounts point to the continued use of Chumash sacred shrines and sites, both during the Spanish Mission-Period, and also afterward during the Mexican and American-Periods.

The Chumash in the Contact-Period

Major changes occurred within the Chumash culture as the Chumash people responded to Spanish occupation and Missionization. Many of the traditional lifeways of the Chumash were modified to reflect European cultural norms, as European goods were adopted for functional reasons. After European contact, the area historically occupied by the Chumash Tribal Group passed through several periods of political ownership. The remaining Chumash adapted to Spanish rule and Missionization, then Mexican rule, and finally became incorporated into the United States political, economic, and reservation system.

An example of functional change to reflect European expectations is provided by Hudson and Blackburn (1983:346-347), who note that, during the Missionization Period and afterward, Chumash round houses were replaced by rectangular-shaped dwellings known as a "Gabled Tule House." These structures were of rectangular wood framing, covered by tule thatch, plastered over with mud. Foundation stones were not mentioned, but a photo of a tule house in Hudson and Blackburn (*Ibid*.:347) shows stones supporting the base of the stick and tule walls. Such a structure was used by a single extended family or related group. Hudson and Blackburn (*Ibid*.:347) conclude that "such structures were probably used along the mainland coast and in parts of the interior during and after the mission period."

A similar trend from round houses to rectangular houses, often of thatch or tule, took place throughout the mission lands of southern California. Images of such houses can be found among the Chumash, Morongo, Cahuilla, and the Luiseno Tribal Groups after the Missionization period, and was probably a social response to Spanish pressure to abandon traditional lifeways. However, as found among occupied people throughout time, the outward changes in response to acculturation did not reflect the abandonment of cultural and religious practices away from the public view; practices which continued long after the round house form was abandoned by the Chumash of Southern California.

Later Ethnographic Accounts

By far, the most prolific historian and ethnographer of Chumash Native American culture and history was John Peabody Harrington, who amassed a huge collection of interviews, objects, notes, and writings related to the Chumash people. Harrington, unfortunately, never published his work, but later scholars made great use of his extensive notes and personal writings (Hudson and Blackburn 1982:22-23).

Through the 1970s, various California scholars attempted to collate, interpret, organize, and link Harrington's field notes and object descriptions with actual artifacts found in museums and collections throughout California. The work of Hudson and Blackburn, working with the Santa Barbara Museum of Natural History collection and other repositories produced a 5-volume set in 1979 that synthesized much of this work in an organized collection. From their work, came the concept of the Chumash Interaction

Sphere; a region that included the Chumash villages of the coast and interior, as well as the Tongva, Kitanemuk, and Tataviam people. With this concept, they were describing a regional network of material, social, ideological, and genetic exchange that linked these diverse groups together (Hudson and Blackburn 1982:24).

Much work has taken place since the 1970s, which has added new archaeological data, interpretations, and refinements to create a more comprehensive understanding of the Chumash of California. However, Hudson and Blackburn's original concept of the Chumash being a people within a connected region of diverse Native American Tribal Groups is fundamental for understanding prehistoric archaeology within the traditional Chumash area; the material culture expressed through artifacts and features is an amalgam of the Chumash society interacting with other groups through trade, social ties, language, and cultural relationships. Research questions regarding the Chumash, therefore, need to be framed within this larger understanding to avoid conclusions that are too narrow in scope or interpretation.

Hudson and Blackburn concluded from the vast amount of ethnographic and material evidence they examined that the Chumash as a people had a "high level of material achievement reached by Chumash artisans, and to their very evident concern for craftsmanship in every activity in which they engaged." They also concluded that "the Chumash took an essentially conservative approach toward the manufacture of various items of material culture, although innovation was certainly not precluded." They further note that "special attention should be paid to the brotherhoods, associations, or guilds… to which Chumash artisans apparently belonged… (that were) kinship-based corporate groups in which an individual profit motive operated in accordance with the law of supply and demand." Finally, every item made or used by the Chumash was more than just a functional, physical object – it usually had a supernatural dimension as well (1982:25). These observations should be kept in mind as prehistoric or ethnographic artifacts are uncovered and analyzed.

Tongva Ethnography and History

At the time of European contact, Takic speakers of the Uto-Aztecan language stock occupied the territory south of Malibu, including large parts of Los Angeles County and Orange County, as well as the southern Channel Islands of Santa Catalina, San Clemente, and San Nicolas (Ezzo et al. 2002; Titus 1987; Walker 2006). The Tongva people mostly lived within the Los Angeles Basin, the San Fernando Valley, San Gabriel Valley, San Bernardino Valley, and along the coast from Topanga Canyon to Newport Beach (California Parks and Recreation Department 2011:5). The Tongva were later migrants to the area, who probably first entered Southern California about 3500 years ago (Sutton 2009).

Dietler and Treffers (2012:7) summarize this migration as:

> "The seemingly abrupt introduction of cremation, pottery, and small triangular arrow points in parts of modern-day Los Angeles, Orange, and western Riverside Counties at the beginning of the Late Prehistoric period is thought to be the result of a Takic migration to the coast from inland desert regions. Modern Gabrieleño/Tongva, Juaneño, and Luiseño people in this region are considered to be the descendants of the Uto-Aztecan, Takic-speaking populations that settled along the California coast during this period."

Tongva villages housed from 50 to 500 people, and followed lifestyles very similar to that of the Chumash. Welch (2006:6-7) notes that the Spanish missions recorded the names of many of the Tongva villages, as they did for the Chumash. Later scholars, however, have had difficulties matching many of the villages with actual archaeological sites. This process has been hindered greatly by the urbanization of the traditional Tongva area.

Each Tongva village was ruled by a chief or leader based on blood lineage, and was further stratified into a small group of respected individuals, followed by the rest of the community. All inhabitants had economic, family, and religious ties that cemented the social organization (Welch 2006:7). Houses were domed, circular in shape with thatched roofs of *tule*, fern, or Carrizo. Other structures included sweathouses, menstrual huts, and ceremonial huts (California Department of Parks and Recreation 2011:9). For the most part, the Tongva material culture mirrored that of the Chumash described above.

Acorns, pine nuts, and other plant food were the staples of village diet, with hunted meats and marine resources being important supplements. The trough metate was adopted from farther south first by the Tongva, with the Chumash taking it up later and in lesser numbers. Pottery use was also more common among the Tongva, with "Tizon brownware" being introduced from their eastern neighbors.

King (2011:6) states that:

> "(Tongva) political organization was similar to Chumash political organization. Chieftainship was hereditary. There was separation of political and religious authority, and ceremonial managers (*paha)* were in charge of secret dancing societies. *Paha* was the term used by the Central Chumash to the west and the Serrano and Cahuilla to the east. Among all these groups, the *paha* was the manager of ceremonies and the leader of the men's secret dancing society."

Work was organized along gender lines, with certain tasks, such as basket-making, being assigned specifically to one gender or the other. Shamans placed an important role for providing medical care, and for providing spiritual guidance. Sacred songs and dances honored great events or people, including mortuary ceremonies (Welch 2006:10). This way of life persisted through the contact period up to the Missionization forced relocation efforts by the Spanish in the 1770s.

Like the Chumash, the Tongva developed a trade network, which included the Channel Islands, the desert lands, and especially with their coastal neighbors to the north and south. Seeds, hides, rabbit skins, steatite, and other goods flowed throughout the Southern California regions (Miller 1991:3-4). Goods from more remote areas were in turn traded to different neighbors, with the Tongva acting as middle-men in a vast prehistoric and ethnographic-era trade network.

During the contact-period, the Tongva acquired more European goods, including metal items, cloth, and glass beads, and began to be integrated into the Spanish colonial system as Spanish regional dominance increased. The Tongva, like the Chumash farther north, were also forcibly relocated by the Spanish to regional missions in the late 1700s; with most of the Tongva population being sent to either the San Fernando Mission in the San Fernando Valley or to the San Gabriel Mission in Los Angeles.

Differences Between Chumash and Tongva Peoples

Since the project is located in the border region between the Chumash and Tongva Tribal Groups, it is important to identify the historic differences between the two as represented in material remains. Several sources note that the Tongva and the Chumash were very similar in technology, craftsmanship, wealth, influence, and in population size. Both groups appear to have had equally complex social systems, with village chieftains who headed lineage groups, and who had political authority over the group, control over resources, organized trade networks (California Department of Parks and Recreation 2011:6-7 lists several sources; Glassow et al. 2007:210 is another good source).

Hardy (2000:79, 91) and Glassow et al. (2007:210) state that cremation practices are often cited as the main difference between the Chumash and Tongva groups; with Chumash concentrating on internment and the Tongva favoring cremation. Kroeber (1925: 556) notes that:

> "The Chumash, alone among their neighbors, buried the dead. The Salinans cremated; so did the Shoshoneans eastward; the Yokuts both buried and burned. Only the inhabitants of the three Shoshonean islands followed the Chumash practice. The custom must have been very ancient, since skeletons are as abundant in most of the Chumash areas as they are rare in adjoining territory; and there is no clear record of calcined human bones."

Tongva cremation ceremonies took place at a designated location. However, a common practice was to re-intern bones that had not been totally consumed after cremation at a separate location with offering goods (Frazier 2000:174). Tongva mortuary practices, therefore, often had two different locations; a crematorium, and a burial ground for burying fragmentary bones with grave offerings. Often broken metates and manos were added over this secondary burial location (Sutton 2010:15).

Dietler and Treffers (2012:10) provide a synthesis of recent publications on this subject as follows:

> "Deceased Gabrieleño/Tongva were either buried or cremated, with inhumation reportedly being more common on the Channel Islands and the neighboring mainland coast, and cremation predominating on the remainder of the coast and in the interior… Remains were buried in distinct burial areas, either associated with villages… or without apparent village association… Cremation ashes have been found in archaeological contexts buried within stone bowls and in shell dishes, as well as scattered among broken groundstone implements… Archaeological data such as these correspond with ethnographic descriptions… of an elaborate mourning ceremony that included a wide variety of offerings, including seeds, stone grinding tools, otter skins, baskets, wood tools, shell beads, bone and shell ornaments, and projectile points and knives. Offerings varied with the sex and status of the deceased."

An early ethnographic account of a Luiseño (also a Takic people) cremation ceremony was recorded by Edward H. Davis in 1921. He states:

> "On the death of an Indian, or when a death was imminent, a long, shallow pit was dug, about two feet deep and in the direction of north and south. The implements used in the digging were sticks of sycamore, sharpened at both ends and charred in fire to harden them. These, together with flat stones, were used to pick the earth loose, which was then scooped out with the hands and laid to one side. As soon as a person was dead, the ceremony was begun. The pit which had been prepared was filled with dried grass and brush, upon which dried logs were placed and built up about three feet. The body of the deceased was then carried out and laid upon the funeral pyre, head to the north and face upward…
>
> "When the flesh had been consumed and only the calcined bones remained, the fire was allowed to die, then the bones were gathered by the relatives, the larger ones being broken, and (among the Diegueños only) placed in a small olla (ceramic jar); the other ashes and charcoal were put in until the olla was filled, then a small, bowl-shaped vessel was placed over it as a cover, and the filled jar placed in the deepest part of the pit. The remaining ashes and charcoal were scraped into the pit, and the whole leveled with the ground, so that all traces of the cremation were obliterated. Sometimes a broken metate was inverted over the spot where the olla had been deposited, as a marker. It should her be mentioned that the custom of depositing the incinerated remains in ollas is confined to the Diegueños – among the Luiseños they were merely placed in the pit and covered."

It is this practice of cremation and destruction of grave goods and offerings that has resulted in the Tongva being much less represented in the museum and archaeological record as to whole objects in contrast with the Chumash. As previously stated, the dense urban development of traditional Tongva lands has also led

to less Tongva artifacts and archaeological information being available for research and public interpretation.

Tongva ceremonies were also complex and organized along political and social specialization. King (2011:10) notes that, "Tongva festivals required many participants: chiefs to obtain contributions and provide food for the ceremonies; keepers of sacred bundles to direct the ceremonies; singers who knew the clan histories, the bird songs, and all of the other content of multiple day ceremonies to perform; and specialist *tobet* or *'antap* dancers."

Another difference between the Tongva and Chumash was a long annual mourning ceremony and elaborate temples at villages or sacred enclosures (California Department of Parks and Recreation 2011:7). The Tongva also were more inclined to use pottery, first introduced by neighboring groups to the south, east, and northeast, whereas pottery on Chumash sites is a very rare discovery.

King (2011:11) adds:

> "There were many similarities in the organization of Chumash and Tongva societies, in the plant and animal resources they used, and in their material culture. However, there were significant differences. Tongva society was organized into patrilineal and patrilocal lineages, women most often resided at their husband's settlements. Chumash society was probably not organized on the basis of lineages and Chumash men most often lived at their wife's settlements. Some Tongva settlements were paired by extensive kin ties, others had diffused and distant ties… In Chumash cosmology, the importance of respect by other people maintained moral order and impersonal gods controlled fortune. For the Tongva, misfortune was the result of actions causing pollution or that are otherwise contrary to laws given by Tcangitngic. Tcangitngic sent avengers to enforce his moral authority."

King (2011:5) writes of the social, marriage, and trade relationships between the Chumash and Tongva at the border region in the Santa Monica Mountains:

> "The eastern boundary of the Chumash language, near the western edge of the San Fernando Valley, influenced the frequency of marriage between the Chumash of the Santa Monica Mountains and the Tongva of the San Fernando Valley. The Western Tongva and Chumash societies were somewhat integrated. Chumash personal men's name endings were used at Tongva villages as far east as Hahamonga and as far south as San Clemente Island. Possibly El Escorpion and Komikranga (probably Santa Monica) were multilingual settlements. There is evidence of kinship ties between Tongva and Chumash settlements, and there is reference to dominance by the chief of Humaliwo over both the Santa Monica Mountains Chumash and the Western Tongva."

King (*Ibid*.:5) continues:

> "The Santa Monica Mountains contained shrines, political centers, and a unique assemblage of artifacts compared with Santa Barbara Channel Chumash (Lulapin Chumash). Artifacts found in Santa Monica Mountains settlements include different beads and ornaments than those frequently found in the Channel. These include: earspools in late Middle period contexts, *Olivella dama* shell beads from Colorado River groups, and larger diameter Olivella wall and Mussel disc beads. Arrow points found in Western Tongva settlements were made by the Santa Monica Mountains Chumash. Archeological and ethnographic data indicate that the eastern boundary may have served as a place from which goods produced by Island Chumash, Channel Coast Chumash, Santa Monica Mountains Chumash, and Catalina Island Tongva were traded eastward to the Serrano, Cahuilla,

> and people of the Lower Colorado River. Colorado River groups traveled to the Chumash area to trade."

The border area, therefore, represented a region of integrated cultures and mixed populations that acted to pass trade goods between the core region of the Chumash territory and their distant neighboring groups; specifically the Tongva, but also the Tataviam and the desert tribal groups.

Prehistoric and Ethnographic Material Culture

Chumash material culture has been extensively examined in several scholarly works, most notably Hudson and Blackburn's 5-volume set of Chumash material culture (1982). Hudson and Blackburn provide a summary of ethnographic studies from the 19th and 20th Century that included discussions of material culture (1982:19), as well as descriptions of items from museums and archaeological collections. Hudson and Blackburn also provide accounts from the early Spanish travelers to the Chumash area that deal with material culture (1982:21).

As a whole, Europeans were impressed with the artistic quality of the Chumash material culture, making several statements to that regard (Hudson and Blackburn 1982:21). An interesting observation from Pedro Fages in 1769 was that Native Americans living in Chumash villages produce goods that were "more finished and artistic" than those living at the San Gabriel Mission. Father Boscana in the early 1800s made a similar comparison between Native Americans at the San Juan Capistrano Mission and the Chumash villages of the coast. These comparisons however, may be a product of the mission experience of Native Americans, which took place in the Tongva lands before those of the Chumash, rather than an actual difference in quality from region to region.

Prehistoric and Ethnographic Native Americans used a complex array of specialized tools, made entirely of natural materials, as part of their yearly life. Often, such tools had social, ceremonial, or religious elements, as well as functional purposes. Hudson and Blackburn (1982, 1983, 1985, 1986, and 1987) have described many of the material items used in Chumash life, collecting them in five volumes that took over five years to produce. It is well beyond the scope of this document to provide background summaries on all the items used in Chumash society, but a brief account of the most common materials can be provided.

Lithic Material Discussion

King (1994:54-60) provides an excellent summary of sources of lithic materials utilized by prehistoric Native Americans for stone tool production. He notes that local chalcedony and metachert deposits are to be found throughout the Conejo volcanic region. Chalcedony comes in many different colors, but most commonly in clear, opaque, or orange; often having several of these colors in the same stone. The project site has veins of chalcedony on site, but these are very narrow in width and of poor quality for tool-making, and any chalcedony used in tool manufacturing probably originated off-site.

Metachert – chert that has been metamorphosed by pressure, but still looks like sedimentary chert – appears throughout the Conejo volcanic outcrops. Metachert can adopt colors during re-pressuring from impurities in the original sedimentary chert, creating colors not found in sedimentary chert, such as green or variegated color forms. A beige chert is also found locally on the project site, and can be found in seams in the volcanic outcrops, but the chert fractures badly and most likely was not useful as a tool-stone source.

King (1994:54-60) also mentions the Simi Valley source for quartzite and sandstone, fused shale from the more distant Grimes Canyon area northwest of the site, and Monterey Chert from the Santa Barbara area. Fused shale came in a small number of variant forms, including red, gray, and variegated, but most often was a shiny-black color. Monterey Chert came in several different types, including black, brown, tan, beige

and banded. Monterey Chert and fused shale were very good material for tool manufacture, and were a common trade item between prehistoric groups.

Obsidian has also been found in the project region on other archaeological sites, however in very small quantities and sizes. Obsidian, or volcanic glass, was transported to the area from distant sources, including the Coso quarry in Owen's Valley and from the Inland Empire region to the east. Coso obsidian is known for being highly translucent and easy to work.

The last three materials mentioned (Fused Shale, Monterey Chert, and Obsidian) were favored by Native Americans for their ease of control and sharpness in tool-manufacturing. Quartzite was primarily used for hammerstones and other groundstone uses at archaeological sites in the project area, but was also made into blade tools. Sandstone cobbles found on site are attributed to metate manufacture or other groundstone tool manufacturing.

Hoot (1930: 125-126) notes that several granite intrusions occur throughout the Santa Monica range, exposed by volcanic uplifting, though his study concentrated on those of Topanga Canyon and northwest of Beverley Hills. Another study noted that, "In the region west of Edgemont and also along the flanks of the Santa Monica Mountains west of Sherman, the basal beds of the Puente consist of conglomerate and sandstone, with appreciable amounts of interbedded gray to drab shale. The pebbles and cobbles in the conglomerate consist of granite rocks, diorite porphyry, quartzite, etc., some attaining a diameter of 3-feet." Small numbers of granite artifacts have been found at archaeological sites in the project region, with most being interpreted as pestle fragments.

Other geological materials recovered from archaeological sites in the project region included siltstone and mudstone fragments. Koch et al. (2004:4-7) note that siltstone, sandstone, and mudstone are common marine sedimentary rock formations uplifted by faulting throughout the Santa Monica Mountains, and that the area of the Conejo volcanics is known for flows of andesite and basalt, conglomerate stones, siltstones, clay shale, and sandstones.

Basalt has been found abundantly at the site, but is of low quality and has noticeable cuboidal fracturing. This material would not have made good toolstone and is not found in large quantities on prehistoric sites in the project region. Non-local basalt fragments have been found on site, which may have been imported in to use as toolstone. Basalt is also used on site in construction as the dense weight seem to have been favored in certain paving and filling projects. Volcanic conglomerate stones are also present on the site, but were apparently not used by the prehistoric occupants for tool use, and are probably part of the eroding volcanic bedrock material. Pumice stones, which may have been used as abrading rocks, have been found at nearby archaeological sites, as have volcanic tuff stones in large quantities. The latter appear to have been used commonly for paving and filling projects due to their numbers and ease of transportation from eroded areas nearby to the south.

Groundstone Discussion

Groundstone tools are a common occurrence on prehistoric archaeological sites across North America, and are classified into several common types. The most common Native American groundstone combination was the "metate" slab and the "mano" handstone, with examples of both being found in abundance on archaeological sites in the project area. Kroeber (1925:563) mentions that the "grinding stone was more prevalent in California: an irregular slab on which a roundish or short stone was rubbed with a rotary motion." Plant material was placed on the metate surface and processed into a more useable form through constant grinding or pounding with the stone mano.

Metates were sometimes created locally out of non-moveable bedrock formations or boulders, where a flat surface was either used directly or shaped through pecking and grinding into a proper flat shape. More often, however, a stone slab was transported to a processing site to use as a grinding surface. These portable metates were often made of sandstone or local volcanic material, and were roughly 40 to 60-centimeters in size and 10-centimeters deep (15 to 20-inches by 4-inches deep). Larger versions could be found in villages and were not sized for easy transportation to and from processing locations.

The mano grinding element was often a smoothly round stone of granite, quartzite, or volcanic material, and often showed smoothing wear from the constant grinding motion on the metate. Sometimes, manos were used for multiple purposes, or were recycled into other tools. Mano fragments frequently show impact damage from use as a battering stone or hammerstone, and sometimes were further reduced into biface choppers, or were used as cores to produce tool flakes through percussion.

Hudson and Blackburn (1983:94-96) discuss metates as part of the Chumash material culture. They provide ethnographic accounts of oval metates being used by both the Chumash and Tongva peoples; being used as a flat grinding surface for processing manzanita berries and other plant material. If the metate became too smooth for grinding, it would be made rough again by pecking with another stone to refresh the surface.

Often, metates described in the ethnographic literature are trough-shaped, with a pecked or ground-out central grinding channel (trough). A mano, which was often wider shaped than the common round mano handstones, would then slide back and forth across the surface, grinding plant material. Many of Harrington's informants did not know a name for metate, and often stated that the Chumash did not use metates, preferring instead the pestle and mortar. However, one informant stated that they "had no regular metates here before, but had flat rocks which they used with a mano for grinding islay, and other things" (*Ibid*.:95). Harrington's conclusion was that "the metate was never fully replaced, though it was certainly far less popular than the mortar" (*Ibid*.:96).

Pestles and mortars were another common groundstone find on prehistoric sites in California. In this case, a bowl-shaped stone was used to hold nuts or other foods with a hard surface, while a stone pestle was then used to break the surface and further reduce the food material. Softer stones were used in making mortars for breaking up finer materials such as ochre or marine shell.

Mortar forms were also pecked and ground directly into flat bedrock surfaces, but also came in portable forms; either expedient forms, or formally-shaped stone bowls. Portable mortars were sometimes made of different material than metates, such as soapstone, steatite, or exotic volcanic materials. Pestles likewise came in different materials than manos, and have been found made of granite, basalt, and steatite.

Hammerstones were another a common groundstone artifact found on prehistoric sites, where stones of hard material were chosen for use in lithic (stone) tool production. Such stones rarely were modified, however shaping could take place in the creation of stones for more fine work. Hammerstones can be identified from battering surfaces on one or two ends, where impact damage is visible.

Other groundstone tools included abrading stones, used to breakdown plant materials or to take imperfections off of bone tools, arrow shafts, or other tools. Digging stick weights; which were often round circles of stone used with wooden shafts to create digging implements. Net weights, consisting of a round rock with a groove for attachment of cordage. Arrow shaft straighteners, which were small stones with a single deep groove for setting wetted wooden shafts.

Finally, pecking and grinding took place for creating ceremonial or ornamental stone items. Steatite or Soapstone were often modified by the Chumash to create more refined objects for personal adornment or ceremonial purposes, including pendants, beads, tablets, banner stones, or hand-held totems.

Another major groundstone feature classification identified at archaeological sites in the project region are expediently-used artifacts versus intentionally-formed artifacts. The abundance of hard, round cobbles and larger rocks with flat surfaces in the local area resulted in numerous artifacts being used as metates or manos without the classic shaping or preparation processes. Often, these expedient groundstone tools were made of volcanic andesite. Formally-shaped groundstone tools were commonly made from non-local material, such as sandstone, quartzite, or granite, and exhibited identifiable shaping of the surface.

Asphaltum Discussion

The primary use for asphaltum in prehistoric and contact-period Native American communities was for caulking watercraft and for tarring baskets and other woven containers to make them watertight (Hodgson 2004:1). Asphaltum, when exposed to air, hardens over time and can be applied to the interior of baskets or between canoe planks to make a water-tight seal.

Asphaltum was also used to cement feathers to arrow hafts, to insert shell fragments into larger vessels for decoration, or as a pigment to decorate baskets or as a body paint for ceremonies (Hodgson 2004:7). As previously mentioned, a number of local asphaltum sources were available within the project region. These included the most important Chumash source for natural asphalt at Carpinteria and lesser sources at the foot of the Conejo grade, in the Santa Clarita area, at La Brea in Los Angeles, and as tar balls on most of Southern California shores.

Asphaltum in prehistoric times was chosen for different tasks based on the properties of the asphaltum source. High-quality asphaltum, such as that found at Carpinteria on the coast, were used for repair, gluing, and waterproofing tasks, and was considered superior for canoe caulking purposes. Ocean seep material (tar balls) was utilized for less refined tasks (Arnold 1993; Hodgson 2004:2). Canoe asphaltum was first subject to heat to evaporate the water associated with terrestrial seep asphalt. Asphtalum was then mixed with either pine pitch, or a mixture of milkweed fibers and pine pitch, or with red ochre, depending on the canoe construction stage (Hodgson 2004:15-16). Native Americans near terrestrial asphaltum sources traded both the liquid oil and hardened hand-formed cakes of asphaltum with more distant groups.

Tempers were added to the asphaltum during the heating process to stiffen the material, and to make it more resistant to the heat of the sun when used. Mineral additives included gravel, sand, loam, lime, and clay. Sometimes plant material was added, such as straw, rushes, and reeds to make the asphaltum less likely to crack and to provide greater stability when cooled. When asphaltum was required to be more fluid, such as during canoe manufacturer, waxy substances created the opposite effect to hardening. Oils, resin, fish oil, and bee's wax were used to soften or thin asphaltum for use (Brown 2013:8-9).

Kaitlin Brown (2013) completed an intensive examination of over 900 artifacts related to asphaltum production or use on San Nicolas Island at CA-SNI-25, including an additional 1500 fragments of asphaltum detritus. Brown (2013:8-9) also provides an excellent summary of the asphaltum modification process after mining, utilizing a number of resources. She notes that raw asphaltum was first subject to heat treatment, which would condense the asphaltum by removing its water content. This heat-treatment enhanced its adhesive characteristics.

Brown (2013:56-57) found that many of the larger chunks of asphaltum, which she interpreted as cached pieces, had sandy inclusions. With some having botanical remains adhered to their surface and others having small shell fragments mixed in. All chunks were smooth, solid, and rounded, which is similar to the

standard storage/trade shape that Hodgson (2004:5) notes. Brown (2013:56-57) also states that collected fragments of asphaltum often contained the same sandy material, made of fine quartz grains adhered to the cortex surface. Other pieces had small vegetal debris and fragmented pieces of shell on the surface.

Glassow (1996:61) describes the asphalting process used by the Chumash to waterproof baskets:

> "Nodules of hard asphaltum obtained from tar seeps were placed in a basketry bottle along with pebbles heated in a fire. The asphaltum nodules and pebbles were shaken, which caused the hot pebbles to acquire a coating of melted asphaltum. This coating then rubbed off on the interior sides of the basketry bottle. Once the pebbles were poured out and the asphaltum allowed to cool, the basket's interior was covered with a durable, waterproof coating."

Glassow (1996:61) also identifies finding several of these tarring pebbles and asphaltum chunks at CA-SBA-539 in Santa Barbara. Several asphaltum chunks have been found at archaeological sites in the project region, as have asphaltum applicator stones, which often have asphaltum smears on one end only. The asphaltum pebbles mentioned by Glassow have not been found in large quantities, suggesting repair of material rather than the production of finished products.

Another interesting historical note related to asphaltum use comes from W. H. Delano's 1893 manuscript, which indicates that asphaltum proved to be a good material to discourage rodents due to its unique properties. He states that asphalt, "repels rats and mice, perhaps by its smell, but chiefly by clogging up their teeth… This quality renders asphalt excellent for stables, granaries, stores, warehouses, corn-mills…" (1893: 29-30). This conclusion makes sense as pine tar, camphor, and other strong-smelling materials are commonly recommended as rodent repellents. Asphaltum lined storage baskets, therefore, probably discouraged rodents with the asphalt as well as being a sealed container.

Personal Adornment and Body Painting

Personal adornment was a common element of Chumash lifestyle. Necklaces and pendants, sometimes of very ornate creation, were made from steatite, soapstone, bone, and marine shell. Incisions in geometric patterns were often added, as was paint coloration. Feathers, hide, wood, and other natural materials that do not preserve well were also often part of daily or ceremonial and social ornamentation. Asphaltum was commonly used as a glue to hold various decorative items together, and marine shell was often used with asphaltum to outline the rim of ceremonial items and personal artifacts (Hudson and Blackburn 1985).

Shell beads and pendants for necklaces were one of the more common personal adornments among the Chumash. Shell processing for necklaces is hard to distinguish in the archaeological record from shells processed as money, especially when shell fragments dominate a collection. Hudson and Blackburn (1985:269-310) provide a detailed account of the many types of shell beads and ornamentations produced by the Chumash. Since shell preserves well over time, many shell beads and fragments are found on archaeological sites, including on several regional sites, providing some understanding of whether the material was deposited as part of daily life, or whether specialized tasks were taking place.

Hudson and Blackburn (1987:179-186) note that a number of natural pigments were used as body colorings, with red often being related to dance paint. Ochre, which came in various hues from orange to red, was the favored pigment source as it did not need much processing to make paint. Hudson and Blackburn (*Ibid*.: 181-182) note that pigment rocks were often first burned in a fire before being ground into pigment. Evidence at nearby archaeological sites support the processing of red and orange volcanic tuff stone, which is a hardened volcanic ash, by this heating process to produce an ash-like material that may have been used for pigmentation. The site also had a purple tuff stones that were not hard, and would have made an excellent pigment after grinding.

Prehistoric and Ethnographic Features

Features are non-moveable, human-modified or created elements of an archaeological site. Features can be created using non-modified material and/or artifacts, are often more complex than individual artifacts, and normally have a three-dimensional shape when compared to site stratigraphy and spatial dimensions. Prehistoric and ethnographic Native Americans used a wide variety of features as part of their daily lives; however, a few general types of features were much more common than others.

By far, the most common features present at Native American prehistoric sites are related to functional heated-rock usage, including rock-ovens, yucca roasters, fire-affected rock (FAR) concentrations, and hearths. Other features include dance floors, cemeteries, burials, shrines, and cremation pits. This section will provide more detail on the most common feature encountered at prehistoric and ethnographic archaeological sites – the heated-rock feature – which, ironically, is one of the more difficult prehistoric features to identify and interpret once uncovered.

Heated-Rock Features in the Ethnographic Literature

Ethnographic researchers have made reference to heated-rock or cooking features attributed to historical accounts or interviewed Native Americans. These accounts provide some insights into prehistoric features, but should be placed within a temporal context. Often, the historic accounts examined were from a Euro-centric perspective, and representatives of remnant Native American groups interviewed by Europeans often had been living at least partly in a non-traditional lifestyle, which most likely influenced how they approached or described pre-European practices. Finally, difficulties can arise from the lack of perfect interpretation between the scholar and the subject; in this case, language, culture, social, and economic differences between Anglo interviewers and Native American informants probably led to some level of misinterpretation through the recordation process. In spite of the difficulties in ethnographic interpretation of prehistoric features and practices, a listing of the more relevant accounts has merit for this data recovery.

Hudson and Blackburn (1983:213-214) briefly describe pit ovens used by the Chumash, but their overall writing concentrates on artifacts much more than on features. Their definition of pit ovens as, "a shallow excavation in which foods are baked by means of hot coals, heated-rocks, and an insulating layer of soil" (*Ibid*.:213).

A number of ethnographic accounts describe heated-rock-ovens. Timbrook (2007:227-229) provides an early accounts of yucca roasting pits from Spanish observers. Yucca had long been an important staple food for California people, and ethnographic accounts dating back as far as the 1500s mention the roasting of yucca roots. Timbrook provides an early 1769 account by Pedro Fages from the San Luis Obispo area:

> "The mode of using (yucca) is as follows: they make a hole in the ground, fill it in compactly with large firewood which they set on fire, and then throw on top a number of stones until the entire fire is covered but not smothered. When the stones are red hot, the place among them the bud of the plant; this they protect with grass or moistened hay, throwing on top a large quantity of earth, leaving it so for the space of twenty-four hours. The next day they take out their (yucca) roasted… it is juicy, sweet, and of a certain vinous flavor; indeed a very good wine can be made from it."

Harrington briefly describes pits used to roast wild hyacinth bulbs, ground squirrel, yucca, and islay, but with few details. Timbrook (2007:227) provides Harrington's early 19th Century account of yucca roasting as follows:

> "A pit two feet wide and three feet long was the right size to roast six or eight yucca crowns; some roasting pits were eight feet across and four feet deep. A fire was built in the pit and when it had burned down to coals, the leaves were burned off in the flames of another fire beside the pit. This

> singeing left just the thick succulent base of the plant, variously called the body, head, crown, bulb, or cabbage of the yucca. Rather than being burned away, the leaves could be cut off the plant and cooked too, but first they had to be trimmed and singed to remove spines and sharp margins.
>
> "The yucca crowns were placed four inches apart between layers of branches on top of the coals in the pit. If leaves were to be cooked, they were put on before the crowns. The whole thing was covered with earth and left until the next day. It was important to let the roasted yucca cool completely (before eating)…"

She continues (2007: 154-155):

> "Braken (fern) fronds played a role in roasting food in earth ovens. For example, yucca hearts would be put on hot coals and stones in a pit, covered with a layer of bracken fern fronds and a layer of dirt, then left to cook overnight. The fern fronds protected the food from dirt."

Timbrook (2007:75-77) provides an early ethnographic description of wild hyacinth bulb roasting among the Chumash people. She summarizes early ethnographic descriptions by John Harrington, who was a prolific ethnographer of the Chumash in the early 19th Century. Wild hyacinths were often dug for their bulbs by hand or with a weighted digging stick. Bulbs were then roasted in the hot ashes of a cooking fire inside the house. She later adds (2007:75):

> "On the islands, several Chumash families would harvest large quantities of brodiaea bulbs and roast them together in a specially constructed oven about four feet long and three feet wide. They would build a fire in this pit, and after the coals had burned down, spread the bulbs out over the coals in a layer several inches thick. They placed more hot coals and ashes on top and covered the entire oven with earth, leaving no air to enter. After the bulbs were roasted, the oven was opened and a delegated person scooped them out with an abalone shell dish, putting them into receptacles for each of the families who had contributed to the harvest. Fernando Librado had seen or heard about at least four of these communal brodiaea roasting pits on Santa Cruz Island, some as large as six feet square. The bulbs may have been a particularly important terrestrial food resource for the island Chumash populations."

Timbrook (2007:143) also provides ethnographic accounts of piñon pinecone roasting:

> "Women collected the cones in basin-shaped baskets and piled them up to be roasted. This was done to eliminate the pitch and to facilitate removing the seeds from the cones. The men built an above-ground roasting oven by digging four post holes in a square and erecting sticks at the corners. They dug out the bottom slightly and filled the entire inside of this bin with piñon cones. Sometimes they merely placed the cones on a bed of piñon branches, without building any kind of pit or bin. Then they placed dry piñon sticks around the sides and top, and set the whole pile on fire. When it had burned for a while, they covered the cones with earth and ashes.
>
> "The resin burned and the cones would open. Each person would take one cone at a time from the pile and strike it against a rock or pressed it between the hands, twisting and shaking, which made the seeds fall out. They continued opening the cones in this way until all were done."

Heated-Rock Features in the Archaeological Literature

Several distinct types of heated-rock features (hearths, cooking ovens, roasting pits, and torched rock clusters) were identified at nearby archaeological sites, however, interpreting the features has proven difficult as the archaeological literature does not provide a concise and uniform definition of different

prehistoric heated-rock feature types, their purpose, or their construction methodology (Crawford 2011:1-2; Milburn et. al. 2009:3). A wide range of different terms are used in the archaeological literature for similar prehistoric features, with, in other cases, the same term being used to represent widely different heated-rock features.

Heated-rock features are commonly identified by what defining elements are present. FAR is by far the most common element of heated-rock features, followed by charcoal, ash, and burned food or faunal remnants (Crawford 2011; Milburn et. al. 2009; Alston 2009). Other distinct characteristics, including "basin shaped features contained a lining of rock, some of its fire-affected, oxidized soil under the rock layer, charcoal rich midden in the depression, and floral and faunal remains" (Crawford 2011:61).

Different temperatures also produce different material effects. For example, lower heats can cause uneven blackening of faunal remains, whereas much higher temperatures can create the white and blue coloration of bone and generate cracking and crazing on the bone fragment surface, with even higher temperatures causing disintegration and splintering of the bone itself.

Several attempts since 2000 have been made by researchers to produce a more descriptive summary of different prehistoric heated-rock feature types to provide uniformity on the subject for archaeological research. Two of the more comprehensive studies will be summarized briefly next.

Crawford (2011:67-69) provided a synthesis of the most common types of heated-rock features encountered on prehistoric sites in California and throughout the West.

> "**Earth Oven:** Earth ovens are depressions dug below the ground surface in which a fire is built and after an appropriate amount of firing time the coals and ash are removed and the food packages are put in place. The depression is then covered with a layer of earth, and sometimes a secondary fire may be started on top to heat the top layer. An earth oven would leave an ash lens and baked earth layer (discolored grey to red). The oven would be round to oval in shape, and a deposit of ash may be located next to the main feature from removal of fire/coals before placing of food into heated oven. The feature from the side would be basin shaped.
>
> "**Rock-oven:** Rock-ovens are often built in depressions dug below the ground surface and lined with rock. A fire is built on the rock and after an appropriate amount of firing time the coals and ash are removed and the food packages are put in place. The rock and food layers are then covered with a layer of heated-rock and/or earth, and sometimes a secondary fire may be started on top to heat the top layer. In the ethnographies… rock-ovens were used most commonly to bake acorn bread and assorted cakes. …ovens used to cook acorn bread would have a minimum diameter of approximately 40 centimeters. Archaeologically, these features would likely measure 50 to over 100 centimeters in diameter which would allow for the rock lining as well as the interior space for the food, and additional space for other foods… A rock-oven would leave baked earth layer, rock layer, ash intermixed in rock layer, ash lens, possibly a top rock layer, and a possibly rock and ash disposal area next to oven. The feature shape would be round to oval, with a possible "Figure 8" shape when including the rock/ ash disposal area.
>
> "**Stone-boiling:** Stone-boiling would leave FAR, ash, and a firepit. Stone-boiling would leave behind a FAR disposal area after the rocks are no longer useable, cached new stones, and a firepit indiscernible from firepits for heat. FAR stones are often rounded in shape in part to prevent the rock from catching on the basket or other material holding the food to be boiled. Broken FAR will retain some of the rounding on the original surface, and often exhibit cracking and sharp angles on the portions effected by the fire.

> "**Cook-Stone Grill:** A cook-stone grill would be a large flat stone, or a series of flattish stones, sometimes found in a hearth sometimes found in a depression similar to an earth oven. A grill would leave behind FAR, specifically flat stones broken up by the fire, as well as ash and firepits.
>
> "**Direct Heat Cooking (Hearth):** Direct cooking and cooking on coals would leave behind a firepit and ash. This category also contains direct heat cooking features with rock heat-retaining elements, for example a fire area with a large rock at the back that radiates heat back into the area (e.g., a fireplace), or a ring of stones to contain the fire and retain some heat after the fire has turned to coals.
>
> "**Fire Affected Rock:** In addition to the above features, the individual rocks involved in cooking that may not necessarily be associated with a feature due to site formation processes, such as bioturbation or cultural sanitation and disposal practices, offer another avenue of interpretation. FAR, any rock that has been thermally altered including rocks that are cracked or spalled due to the application of heat, and rocks that have had their chemical properties altered by heat, is one of the most common artifact types found in archaeological sites in California. …archaeologically there should be more FAR in sites occupied more recently than in sites that were occupied earlier. A bulk total of FAR recovered compared with the total volume excavated in a site would give a percentage that may indicate an increase in the use of rocks for stone-boiling or other cooking or heating purposes. If a site has two temporal components, attempts to separate the components are crucial for comparisons."

Milburn et al. (2009:2-3) also provided descriptions of more common prehistoric stone cooking and roasting features found in the nearby San Gabriel Mountains. They started by stating the preferred prehistoric location of roasting features, those being:

> "Landforms containing cook stone structures include alluvial creek terraces on valley floors, suspended (stream-abandoned) terraces at lower slopes, and saddles, benches, and knobs on ridgelines. Commonly shared landform attributes include relatively level surfaces, soil matrices with sufficient depth and horizontal extent to contain firing pits, proximity to desirable plant foods and sources of fuel wood, and availability of suitable stone for structural and/or heating elements."

Milburn et al. (2009:3-6) then goes on to define the various roasting features discussed in their paper:

> **"Earth Ovens: …**the term "earth oven" refers to heated-rock facilities that indirectly bake foods placed on rock "cooking platforms" constructed above fires in subsurface pits. Earth-oven structures share attributes of oxygen-reduced burning of fuel wood in firing pits, transfer of dry heat from the fires upward through overlying rock layer(s), and placement of earthen mounds over the cooking platforms to contain generated heat. Primary earth-oven subcategories found in the Transverse Mountain Ranges are described as "earthen pit ovens" and "stone-lined ovens."
>
> **"Earthen Firing Pit Ovens:** Earthen firing pit ovens are circular or oval-shaped structures with unlined lenticular firing pit sides and floors dug into native soil. Complexity of stone cooking platforms found in earthen pit ovens ranges from a few dozen stones arranged in a single layer to several hundred stones placed in multiple courses above two or more firing zones. The concavities of earthen pit structures typically range from about 1.5 m to 3.0 m in diameter and from 30 to 100 cm in depth (Milburn 2004:105). Ethnographic examples of earthen pit cooking facilities include yucca ovens that were described to J. P. Harrington by Eugenia Mendez (Kitanemuk) and Juan de Jesus Justo (Ventureño Chumash).

"Stone-Lined Firing Pit Ovens: Stone-lined ovens examined in the study area are typically characterized by firing pits lined with granitic cobbles, slabs, or small boulders, single-course cooking platforms, and firing concavities that range between 1.0 m and 1.5 m in diameter and about 30 to 50 cm in depth… Formal variations of the firing pits include unpatterned cobble linings, double-walled stone linings, concave basins ground into solid bedrock, and relatively elaborate structures that exhibit percussion-shaped single flat stone floors and angled slab sidewalls… Historic descriptions of stone-lined cooking structures include those used by the Cahuilla to cook agave (*Agave* sp.) and by the Kawaiisu to process yucca.

"Grills: Grill cooking structures examined in the Transverse Ranges are structurally similar to earthen pit ovens; however, grills contain mostly single-course stone cooking platforms and relatively shallow unlined firing depressions, and apparently lack earthen mound baking enclosures... Grill structures typically range in diameter from 0.5 m to 3 m and contain firing zones that are less than 40 cm in depth... Due to their relatively shallow firing depressions, amounts of heat generated by grill facilities are considerably less than the heat produced in earth-oven structures.

"Roasting Pits: We use the term "roasting pit," similar to most regional archaeologists, to designate earthen or stone-lined cooking facilities where foods, usually wrapped in greenery, are cooked amongst hot rocks and coals within firing pits covered with a layer of dirt… In contrast to earth ovens, roasting pits do not contain overlying stone cooking platforms and require digging into firing zones in order to retrieve the cooked foods. Despite the frequent reporting of "roasting pits" in regional archaeological literature, roasting pits have never actually been found, or at least adequately described, in the mid-Transverse Mountain Ranges… Historical references to roasting pits elsewhere in southwestern California include an account of an early 1900s agave cooking facility that was constructed by Antonio Cuevas in the Santa Rosa.

"Slab-Lined Cooking Ovens: "Slab-lined cooking oven" is a term that is used to describe a category of highly specialized heated-rock structures found at many Santa Barbara Channel-area village sites... These cooking facilities contain parabolic pits lined with sandstone slabs or cobbles and are similar to some stone-lined ovens found in the mid-Transverse Ranges; however, lack of evidence of high heating on the slab linings indicates that the cook stones were preheated in external fires prior to placement into pits with food… External preheating of cook stones has not yet been reported for any heated-rock structure in the mid-Transverse Mountain Ranges.

"Burnt-Rock Middens: Burnt-rock middens are cumulative features comprised of burnt rocks and darkened organic residues resulting from construction, firing, maintenance, and expansion of intersecting cook stone facilities over periods of time. Formed by use and re-use of heated stones, the relative sizes of the burnt rock deposits may be indicative of the durations and/or intensities of food cooking activities at specific locales. Burnt-rock middens may contain one or more embedded cooking facilities; however, centralized cooking features are often not discernible… The burnt-rock middens examined so far in the Transverse Mountain Ranges appear similar in structure and size to Archaic "domed burnt-rock middens" found in central Texas but do not resemble the distinctive later period annular "ring middens" found in the eastern Mojave Desert and across much of the Southwest."

Finally, Petraglia et al (2002:11-1 to 11-74) conducted a comprehensive study of fire-affected rock alteration during the stone-boiling process on a large Native American occupation site in Delaware. This study is relevant to the current project since much of the technology used by prehistoric Native Americans

was similar across geographic regions. Their findings are similar to that of Crawford (2011) above. Petraglia et al. state:

> "The use of heated stones to boil foods and liquids was a common practice among many traditional societies. It was a multi-staged process that used indirect heating methods to prepare food. Stones were heated in or near a fire until suitably hot, and then transferred and placed into water-tight containers that held the liquid and food being prepared. Stones would need to be added so that the liquid remained boiling for the necessary time to cook the food. This would vary according to the amount and type of food prepared. The duration of the stone-boiling process could be extended further for specialized needs, such as the preparation of bone grease, which could last from one to three days…
>
> "The process of stone-boiling would require a significant number of rocks, first to get the liquid boiling, and then to keep it boiling for the necessary time. Most ethnographic descriptions of the stone-boiling process failed to describe the type of stones most preferred, as to size and material, but careful selective choices were made…
>
> "Although dependent on variables such as duration of heating, amount of liquid and food being heated, and size of the stones, several experiments in stone heating have demonstrated that between 8-10 cobbles were necessary to bring water to a boil… The addition of more stones was needed to maintain the boiling.
>
> "Experimental studies have also demonstrated that stones that are heated more than once tend to fracture more easily… In addition, greater frequencies of fracture and smaller sized fragments were often the result of submersing heated stones in cold water as opposed to open air cooling…These results suggested that significant accumulations of stone debris could be generated during relatively short occupations by groups of people, if stone-boiling was used as a primary means of food preparation. Each round of stone-boiling would require the removal of spent stone, and the procurement of new stone. Increases in the number of individuals practicing stone-boiling and/or lengthening duration of occupation at a single site would result in larger piles of spent and fractured stone, which may require specific site maintenance strategies…
>
> "Typically, highly fractured and smaller fragment sizes are used as indicators of a stone-boiling association. In addition, a lack of charcoal and evidence of in situ burning are also commonly used as likely indicators of stone-boiling refuse, which as indirect heat sources would not be associated with these residues."

By closely examining the above literature, the reader can quickly grasp the difficulty described by Milburn et. al. (2009:3), that there is no consistent definition of different food-heating features within the archaeological literature. He further points out that different descriptions, terms, and definitions are used for similar features, and like-terms can be used to describe different features by different archaeologists.

To further complicate matters, most heated-rock features identified in the project region utilized igneous volcanic rocks in their construction. Since volcanic rocks were formed within super-heated geologic environments, many characteristics of heat-effect on rock material cannot be relied upon for this project. This includes reddish or orange discoloration, melting, and some types of disintegration damage or material degradation. Heat-effect characteristics that have been identified as authentic, given the regional volcanic base material context, include charcoal or soot discoloration, onion peel-like disintegration spalls, cracking along fissure lines, actual point-specific heat spalls where the cortex has lifted off or been modified in a specific location on the rock, and disintegration of a rock into base grit and matrix material. Such damage

can be attributed to a local, specific heat source, rather than to a wider, more evenly-applied geological heat source.

6.0 REGULATORY SETTING

This section provides a summary of all relevant laws and guidelines for this Project. Though this technical report primarily complies with the California Environmental Quality Act (CEQA), several other California public policy acts, codes, and bills that deal with cultural resources have direct or conditional influence on the completion of the proposed Project.

California Environmental Quality Act (PRC §21002(b), 21083.2, and 21084.1)

Cultural resources are recognized as part of the environment under CEQA. The CRHR is an inventory of the State's historical resources. Criteria have been developed for determining whether a property is significant enough to be placed on the CRHR, and therefore, evaluating whether a cultural resource is or can be considered significant for the purposes of CEQA.

CEQA requires that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to historical resources. It defines historical resources as "any object, building, structure, site, area, or place which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California," as cited in Division I, Public Resources Code, Section 5021.1[b].

The California Register includes resources listed in or formally determined to be eligible for listing in the National Register of Historic Places (NRHP), as well as some California State Landmarks and Points of Historical Interest that are not Federally-recognized. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may also be eligible for listing in the CRHR, and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1, 14 CCR § 4850). The State of California Office of Historic Preservation (OHP) also treats local and city landmarks as being NRHP eligible cultural resources.

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed Project's impacts to historical resources. CEQA rules of determining significance closely follow the criteria outlined by the NRHP, but which have been modified for state use in order to include a range of historical resources which better reflect the history of California (CCR §4852). The similarity between the two criteria allows for a known cultural resource to easily be evaluated for both registers at the same time. Often, therefore, a cultural resource narrative provides enough information to justify a suggested evaluation for the resource under both laws and a recommendation of significance under both criteria.

Under CEQA, a cultural resource must meet one of the four following criteria as per PRC §5024.1(c) to be included or eligible for the CRHR:

(1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) is associated with the lives of persons important in our past.
(3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) has yielded, or may be likely to yield, information important in prehistory or history. Archaeological sites are often determined to be significant under Criteria (4), with the argument being that impacts to the site would reduce the potential scientific research value of the resource. Built environment resources (standing structures, bridges, canals, etc.) are often evaluated under Criteria (3), with architectural style or artistic features being the evaluation focus. Less frequently, cultural resources are evaluated as to Criteria (1), events or historic patterns, or Criteria (2), significant important persons. Some cultural resources are determined to be significant under multiple Criteria, such as a building constructed in a unique artistic style {Criteria (3)} that was designed by a regionally-important master architect {Criteria (2)}.

The criteria for inclusion on the CRHR closely follow the federal criteria for inclusion on the NRHP, as outlined under the National Historic Preservation Act. Projects with a joint National Environmental Policy Act/CEQA component often evaluate a cultural resource for both listings simultaneously. It is important to note that a cultural resource is significant under CEQA if it is determined to be *eligible* for listing on the CRHR, not that it *has to be* listed on the CRHR. The formal listing process is a potentially time-consuming and lengthy procedure that often is never completed, and the determination of *eligibility* for the CRHR provides a cultural resource equal status and protection under CEQA to that of formally listed cultural resources.

It should also be noted that, even though cultural resource consultants often are the first professionals to evaluate newly-discovered or re-examined cultural resources for significance and eligibility for listing on the CRHR, the Lead Agency for a Project has the final determination of significance within the context of the Project that is triggering the evaluation of eligibility. The Lead Agency can either concur with the recommendation of a cultural resource consultant, object to the recommendation, or determine that more work must be done by the Project proponent.

California Penal Code (Section 622.5)

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner.

California Public Resources Code (Section 5097.5)

The unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands is defined as a misdemeanor by Public Resources Code Section 5097.5.

California Health and Safety Code Section 7050.5

This code section requires that further excavation or disturbance of land, upon discovery of human remains outside of a dedicated cemetery, cease until a county coroner makes a report. It requires a county coroner to contact the Native American Heritage Commission (NAHC) within 48 hours if the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the remains to be those of a Native American.

California Health and Safety Code (Section 7052)

Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains.

California Public Resources Code Section 5097.98

If a county coroner notifies the NAHC that human remains are Native American and outside the coroner's jurisdiction per Health and Safety Code Section 7050.5, the NAHC must determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (Health and Safety Code §§ 88010-8011) establishes a state repatriation policy intent that is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act. The law ensures that all California Indian human remains and cultural items are treated with dignity and respect, encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California, and states an intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

California Senate Bill-18 (SB-18)

SB-18 is a state-mandated program intended to establish between local city and county governments and Native American Tribal Groups, meaningful and ongoing government-to-government consultation as part of the planning process. The purpose of SB-18 is to protect and preserve the cultural places of California Native Americans, both on private and on public lands. Local city and county governments are required to consult with California Tribal Groups about proposed local land use planning decisions, and on the adoption or substantial amendment of general plans, specific plans, or the dedication of open spaces with the purpose of protecting cultural places. Negotiation can result in the development or modification of treatment and management plans for cultural resources.

For the purposes of Section 65351, 64352.3, and 65562.5, "consultation" means 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. SB-18 processes take place outside of the CEQA process.

California Assembly Bill-52 (AB-52)

AB-52 merges many elements of SB-18 with the standard State of California CEQA process, as well as giving voice to non-Federally-recognized tribal groups in the state.

AB-52 specifies that a Project with an effect that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is a Project that may have a significant effect on the environment under CEQA. AB-52 outlines lead agency consultation with all California Native American tribe that are traditionally and culturally affiliated with the geographic area of the proposed Project, defines what constitutes a TCR, provides examples of mitigation measures if the TCR will be impacted by the Project, and explains how AB-52 consultation fits into the larger CEQA process.

City of Agoura Hills General Plan (2009:4.4-1 through 4.4-13)

The Agoura Hills General Plan outlines the local regulations as to cultural resources. The General Plan Update (2009) provided goals and policies providing for the management and protection of significant archaeological resources.

The most important sections are Policy HR-3.1 (Recognition of Resources), which requires that the potential for the presence of significant archaeological resources be considered prior to the development of a property, and Policy HR-3.2 (Protection of Resources), which requires that "significant archaeological and paleontological resources be preserve in-situ, as feasible. When avoidance of impacts is not possible, require data recovery mitigation for all significant resources. Require that excavation of deposits of Native American origin be coordinated with and monitored by recognized Chumash representatives." (2009: 4.4-12).

Policy HR-3.2 also requires that excavation of cultural sites or deposits that have a real or potential Native American origin be monitored by recognized Chumash Tribal Group representatives. This local ordinance does not negate the rights of other tribal groups not of Chumash origin from being part of the formal SB-18 consultation, however, it gives monitoring preference to the local Chumash Tribal Group.

Finally, Policy HR-3.3 (Human Remains) also requires that "if human remains or funerary objects are discovered and unearthed during any soil disturbing activity, the discoveries shall be treated in compliance with applicable state and federal laws, including notifying the County Coroner and the California Native Heritage Commission, as appropriate, and following relevant procedures" (2009:4.4-12).

7.0 THE SCCIC RECORD SEARCH

Envicom in 2022 initially utilized a 2015 SCCIC record search conducted for a different recent project that was located roughly 0.25-miles to the west of the Agoura Hills Trail project. This older record search was completed in 2015 with a 1.5-mile search radius, which placed the entire scope of the current trail project within its search radius. The purpose of examining this record search was to determine before the project SCCIC record search was submitted whether any previously recorded sites had been recorded on or adjacent to the proposed trail route since SCCIC findings at the time were taking up to three (3) months to receive. Since the entire trail was already agreed upon by the City to be located within a region that is sensitive for prehistoric cultural resources, the record search findings were to determine if actual previously recorded sites were located on or near the trail route.

The 2015 SCCIC record search indicated that no previously recorded sites were located within or adjacent to the proposed route. The closest cultural resources to the project are located along Agoura Road to the north, where two prehistoric sites were encountered during past construction of various modern commercial buildings and roads. Cultural resource CA-LAN-1069 was a prehistoric lithic scatter with possible quarrying of local andesite boulders located on a small hill that was first recorded in 1967 by J. Brock. This site was noted as being "under study for commercial development" at the time. Cultural resource CA-LAN-1236 was a complex prehistoric habitation site that had a number of prehistoric tools and implements, including lithics, groundstone, a bowl fragments, hammerstones, and metate fragments. Bone and shell fragments were noted as being sparse. This site was recorded in 1950 by Robert Pence as a "prehistoric camp site," who also salvaged the site before it was destroyed for construction of the Holiday Inn that is currently located in Agoura Hills.

In addition to the above two sites, Dr. Wayne Bischoff of Envicom has been part of a large archaeological study involving a prehistoric Native American site located roughly 0.25-miles west of the current project on the south side of Agoura Road. The report for this work will be published in the next year. Dr. Bischoff has also recently located several smaller prehistoric lithic sites on the northern side of Agoura Road within the project region as part of Envicom monitoring projects within the City of Agoura Hills. All of the above findings underscore that the current project is definitely located within an area that should be considered as being sensitive for prehistoric cultural resources.

Envicom received the updated record search for the 2022 Phase I survey from the SCCIC in June of 2022. This record search was conducted to ensure that no additional cultural resources had been found within or adjacent to the proposed trail site since the 2015 record search. None were noted in the new search. The large archaeological site described by Dr. Bischoff to the west of the project has not yet been submitted to the SCCIC due to the lack of a completed project on the subject property, but had been taken into account for this project.

As previously mentioned, the 2022 pedestrian survey for the project discovered an additional five (5) prehistoric cultural resources and the 2023 survey of the western trail segment found an additional three (3) prehistoric cultural resources. These cultural resources are included in **Appendix C** of this report and will be submitted to the SCCIC at the conclusion of the project. However, the discovery of additional archaeological sites does underscore the sensitivity of the region for prehistoric cultural resources.

8.0 PHASE I SURVEY & PHASE II EVALUATION METHODOLOGY

The purpose of the cultural resource Phase I survey is to identify whether cultural resources are located on the surface of the project property that have not previously been identified or recorded by the SCCIC. Any previously recorded cultural resources are also revisited and assessed during the site visit. During the site survey, notation of the site conditions, disturbances, or modern features are also made. Visibility of the ground surface is noted, as are any other conditions that influenced the accuracy of the site survey, such as time of year, vegetation growth, or weather effects. Site soils, outcrops, vegetation, and natural impacts area also recorded. Other potential site development issues are also provided to either the property owner or to other technical study experts, such as if homeless encampments are encountered, if hazardous material is noted, or if suspected rare biological plants or animals are observed. If the systematic pedestrian survey is determined to be adequate to assess the site surface for evidence of cultural resources, then the findings are summarized in the Phase I report (this document). Any newly identified cultural resources or cultural resources that need updating will then be mapped USGS maps and recorded on state of California DPRs.

In the case of this project, Dr. Wayne Bischoff of Envicom completed a systematic linear pedestrian survey of the original proposed trail route in April of 2022. Dr. Bischoff completed a survey of the added western trail segment in April of 2023. Both surveys were conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological and Historic Preservation (48 FR 44716, Sept. 29, 1983). The systematic survey followed the trail route, with opportunistic examination of the landscape where interesting rock outcrops were observed or when the brush did not allow for linear observation. Opportunistic examination also took place of more open areas, or locations where rodent disturbance, deflation, or erosion could provide an understanding of the site subsurface conditions. When prehistoric sites were encountered, the area of the site was surveyed more intensively in order to better record artifact and features within the site area, and to provide the best boundary for the site given the surface conditions.

Phase II Evaluation methodology included more extensive site mapping and subsurface testing within each of the five (5) prehistoric cultural resources discovered during the Phase I surveys. The boundary of each archaeological site was modified from the initial survey based on a more thorough examination of the topography, surface features, and artifact concentrations. Since most of the Santa Monica Mountains can be defined as a "lithic landscape," where prehistoric andesite debitage can be encountered across most flat and moderately sloped terrain surfaces, the site boundaries were defined by the presence or absence of higher densities of lithic debitage, higher quality toolstone material, or more refined debitage presence, such as flakes or cores, as opposed to blocky fragments or blocks, or by prehistoric features. All five (5) prehistoric site boundaries were, therefore, determined using the above methodology. Since visitors to the archaeological sites in the future most likely will see lithic material located outside of these boundaries, this methodology provides the rational for the currently mapped site boundaries.

The above criteria was also used for quarried andesite rocks, stones, and boulders, which were often sporadically encountered outside of the defined site boundaries of each archaeological site. In the case of prehistoric Sites 1, 3, 5, and 7, site boundaries were defined primarily based on evidence of lithic reduction, heated rock features, or prepared surface construction, and were not expanded greatly past the noticeable drop off in such material and features. Spaced nearby quarried stones or low density lithics, therefore, were determined to be of secondary importance to the primary features that defined the sites and were not chased far past the location of the primary features. For prehistoric Sites 2, 4, 6, and 8, which were defined as surface andesite quarrying sites, the site boundaries were defined by observable clusters of quarried stones or boulders. Boundaries were marked when either stones with evidence of quarrying were no longer encountered on the local terrain for a notable distance, or when the distance from the proposed trail became

so great that chasing the site was determined to be excessive within the context of the project. In such cases, the continuation of observed quarried boulders were noted within the DPR site form.

Once each of the five (5) original 2022 prehistoric sites was fully mapped or examined, shovel test pits were excavated in either transects or at opportunistic locations that the project Principal determined would be representative of larger feature areas. All shovel test pits were hand sifted for artifacts, with any changes in stratigraphy or feature layers being noted and photographed. In some cases, artifacts recovered from the shovel test pit were also photographed to provide an understanding of encountered debitage density and artifact types. The three (3) prehistoric resources discovered in 2023 were determined to not require shovel test pits to provide a site evaluation as enough information was visible on the surface of each site to guide the evaluation process.

Additionally, since several large, heated rock features and prepared surfaces were encountered during the Phase II study, and the proposed project impacts were from trail construction, such features were not chased with shovel test pits except where feature boundaries could not be determined on the surface due to changes in soil type, compactness, or vegetation. In this way, minimal damage was done to site subsurface features while providing maximum interpretative information for the interpretation of the purpose of the site. During the Phase II study, encountered feature areas were photographed and measured using a meter tape, or estimated where slope or terrain proved dangerous or difficult to navigate.

The findings from the Phase II site mapping and subsurface testing were included in the final prehistoric site DPRs, as were the locations of all shovel test pits within tested sites. This information was also used to provide recommendations of site eligibility to the CRHR; the recommendations being provided later in this report. Finally, the findings were added to the Phase I study information and used for site management discussions with the City as to the final location of the proposed trail route.

9.0 2022 PHASE I FIELD SURVEY FINDINGS

The Phase I field survey of the various Agoura Hills Recreation Center Trail routes involved three major changes to the proposed trail route. Each of these three changes, from the original 2022 trail map to the current 2023 trail map, influenced later iterations of the trail project. Within this context, the actual findings of the field survey and the work related to the evaluation of the original five (5) discovered prehistoric sites will be approached chronologically instead of as a wholistic study, starting with the 2022 version of the trail plan that envisioned a loop south of the Agoura Hills Recreation Center, now discarded, and extra switchbacks along the western leg of the trail, also now discarded.

The original proposed route of the Agoura Hills Recreation Center Trail was pedestrian surveyed by Dr. Wayne Bischoff on May 3, 2022 as part of the initial Phase I assessment, starting on the western leg of the trail and moving south, then east (**Figure 11**). The trail has several parts that were difficult to access, especially where modern landscaping had added steep slopes, irrigation pipes, cement V-ditches, and dense rosemary thickets to the terrain. Overall, the surface visibility ranged from excellent to moderate, with no area having such dense brush that an understanding of whether artifacts or features were present on the surface could not be determined. The weather conditions were also excellent, with high visibility and moderate temperatures.

In several locations, especially near existing buildings, modern impacts were observed along the trail route. These impacts included grading associated with drainage and slope control, firebreak or road access grading, comment V-ditch construction, or slope cutting associated with modern flood control features (**Figure 12**). Farther from the modern buildings, several historical firebreak roads were observed that often cut across the proposed trail route. These firebreaks were constructed by mechanical means – probably a bulldozer – but also appear to have had hand-tooled sections; most likely where the rocky terrain did not allow the passage of mechanical machinery (**Figure 13** and **Figure 14**).

In almost all cases where these modern impacts were not present, prehistoric archaeological sites were encountered, with a total of five (5) being mapped in 2022 as part of the initial Phase I survey (**Figure 15**). The original five (5) recorded archaeological sites fell into two observable categories; either lithic reduction sites or lithic quarry sites. Though both activities were observed as taking place within every recorded prehistoric archaeological site, for four (4) of the archaeological sites it could be determined that one task was primary over other prehistoric activities. One site was interpreted as having both activities at equal intensity (Agoura Trail Site 3). This report section describes each of the five (5) prehistoric archaeological sites as originally recorded during the initial Phase I pedestrian survey, provides a general site boundary and prehistoric purpose for each of the sites, and gives a general understanding of the observed artifacts and features present. Later Phase II evaluation tasks within the five (5) archaeological sites modified these initial findings through more intensive surface mapping and subsurface testing.

Prehistoric Quarrying Evidence.

During the Phase I & Phase II site mapping tasks, determining whether suspected quarried andesite stones showed intentional cortex damage from prehistoric quarrying or whether the stones were damaged by brush fire heat, which caused spalling, cracking, and blackening of the andesite, was an important consideration. Many of the observed andesite surface stones had been subject to the 2018 Woolsey Fire, and most likely, multiple previous brush fires in the area. Prehistoric quarried stones and boulders can be differentiated from fire-affected rocks by the type of damage done to the cortex of the stone.

Figure 11: The 2022 survey of the original proposed Agoura Hills trail path (red) began at the western flood control basin (center-top), proceeded to the south, including the overlook segment, then concluded to the northeast, ending at the eastern flood control basin.

Figure 12: Modern slope, landscaping, and fencing features associated with the western flood control basin (facing west).

Figure 13: A modern firebreak segment located between prehistoric sites along the western trail segment (facing south).

Figure 14: Another modern firebreak segment located along the eastern trail segment (facing west).

(Confidential Information Removed)

Figure 15: The location of the five (5) prehistoric archaeological sites discovered in 2022 along the original project trail route, with all Phase I & Phase II boundary updates (oriented north).

Fires spall off cortex layers from andesite in specific ways, leaving an exposed layer of stone that follows the original contour of the rock or boulder (**Figure 16**). This type of cortex removal is the result of evenly applied fire being placed across the surface of the stone, which spalls the cortex layer off at a uniform depth. Higher heat values, such as is found when a tree burns next to a boulder, can leave a noticeable "bubbling" or undulating pattern on the new stone surface as they cortex is fire-spalled (**Figure 17**). Both shown examples are from the project trail area explored during the pedestrian survey.

Intentional prehistoric lithic quarrying involved the use of force created from a hammerstone impacting a part of a rock that formed a shelf or other contour on the surface of the cortex, radiating the blow of force downward along the line of motion (**Figure 18**). Removal of rock cortex through forced blows creates a flatter removed surface, which can sometimes create waves of force emitting from the point of contact. A stone with multiple angular removed fragments is visibly different than stones with cortex damage from brush fires. Often, debitage or waste flakes are found associated with surface quarrying that are angular, with cones of force, strike platforms, and other characteristics that differentiate them from cortex fragments spalled off during brush fire events (**Figure 19**).

Brush fires also left large numbers of cortex fragments around fire-affected stones, whereas prehistoric quarrying often involved the transport from the site of cobbles or cores that had been removed from larger stones or boulders. The larger fragments would then be moved to better locations for additional reduction into more refined stone tools or traded as toolstone material. A quick examination around a suspected quarried stone, especially given the vegetation-sparse, exposed surface along much of the trail pathway, could easily determine whether fire-produced cortex fragments were present or whether the cortex material was intentionally removed by prehistoric Native Americans from the location of the impacted stone for further reduction. Finally, prehistoric quarrying selected andesite stone for color and fracture quality, favoring deep purple, blue-purple, and blue types of andesite with fine-grained interior matrices. Brush fires affected all grades and colors of andesite evenly in random patterns, whereas prehistoric quarrying of andesite had a high level of color and matrix grain-size selection.

By noting the above characteristics, a decorticated stone or boulder could be attributed with high confidence to either a brush fire, a more intense woody-fuel fire, or prehistoric quarrying and lithic reduction. This methodology was used for all the sites described in this report when stones or boulders are attributed to prehistoric quarrying activities.

A type of prehistoric decortication observed by the author at a nearby prehistoric ceremonial site (CA-LAN-320) involved the creation of large "marker stones or boulders" through decortication of the rough, brown-colored surface material of large andesite boulders. This decortication was also often on one side of the boulder only; normally the side facing the ceremonial site. In these cases, a combination of quarrying and possibly intentional brush burning over part of the boulder appears to have been used to create the observed decortication. In all cases of such "marker stones," the lithic material was entirely cleared around the boulder, which is one of the simplest tests to determine if a decorticated boulder may be an intentionally decorticated or not. After much study, it appears that such "marker stones" were used for prehistoric information purposes – perhaps to identify ownership – especially since andesite is not a good material for the creation of cupule marks or petroglyphs, which are more commonly found information marks on sandstone boulders or outcrops in nearby regions, such as Simi Valley or the Chatsworth area.

Figure 16: An example of a stone that has had the cortex removed due to brush fire damage; note how the cortex removal is even in depth and follows the curve of the rock.

Figure 17: An example of a stone with cortex removal due to a hotter brush fire, which has resulted in an undulating exposed surface.

Figure 18: An example of a heavily quarried andesite boulder from Agoura Trail Site 3, showing the angular damage caused by removing blocks and flakes using blunt force.

Figure 19: An example of andesite debitage (flakes and other stone tool-making waste material) generated during the quarrying and removal of toolstone blocks from larger andesite stones and boulders.

Additional Survey Considerations

One additional characteristic of the Santa Monica Mountains foothills is the duplication of land formations from one hill feature to the next where both are divided by natural ravines. In the case of the trail project, the terrain of Agoura Trail Site 1 and Agoura Trail Site 5 are very similar, including the stone outcrops found in the center of both sites. Agoura Trail Site 2 terrain is similar to that found at the northern end of Agoura Trail Site 4. The northern end of Agoura Trail Site 3 is very similar to that found in the lower half of Agoura Trail Site 4. This repetition of landforms can sometimes be found across several hill formations, and often led to similar prehistoric utilization of resources near the same elevation across all of the foothills.

Agoura Trail Site 1

Prehistoric cultural resource Agoura Trail Site 1 was discovered as part of the initial Phase I survey and was of roughly 32-meters x 72-meters (105-feet x 235-feet) along the northwest edge of the project area (**Figure 20**). The site overlooks the Conejo Valley and would have been an excellent observation or communication location for prehistoric occupiers of the site (**Figure 21**). Agoura Trail Site 1 is bounded to the north by modern impacts related to retaining slope construction, to the east by a natural shallow ravine, and to the south and west by a distinct drop off in archaeological artifacts and features.

The site has several prehistoric features, which include several areas where rocks were moved into circles or arcs on the landscape; possibly as lithic reduction rings or for clearing task areas (**Figure 22**). Lithic andesite debitage is found over the site area, with most material being from primary flake reduction activities. Andesite boulders that are located within the site boundary also have evidence of quarrying, however, lithic reduction appears to have been the primary use of the site (**Figure 23**). The northern third of the site contains the rock circle features associated with the site, and were first mapped during the Phase I survey. The site probably extended farther to the north at one time, but has been impacted by modern grading and construction associated with several buildings in that direction. However, Agoura Trail Site 5 also showed a distinct drop off to the north of materials away from the higher rock area, so there is a chance that not much of the site was lost to the north. To the west, a natural ravine prevented expansion of the site in that direction, and a drop in slope and a shallow ravine to the east discouraged expansion of the site much in that direction. The Agoura Trail Site 1 cultural resource was originally interpreted as being used by prehistoric people primarily for lithic reduction and local observation, with surface quarrying as a secondary and less important site activity.

Surface examination as part of the Phase I survey determined that Agoura Trail Site may have subsurface components that were recommended to be tested prior to final site management recommendations being made for the trail project. Site depth had been determined by the observed embedment of prehistoric artifacts, soils that appeared to have depth, and due to the embedment of larger stones and boulders within the site boundary, which appeared to be resting on a deeper supporting layer.

Evaluation of Agoura Trail Site 1

The Phase 2 evaluation of Agoura Trail Site 1 included additional detailed mapping of the site boundary and features, and the intensive examination of the larger stones and open areas found within the defined site area. It was soon discovered that lithic material extended farther to the south and east than originally mapped, and the site boundary was expanded somewhat in those directions to the current site boundary. The lithic material identified was mostly andesite, with a small amount of chalcedony. No other toolstone material was observed at the site, supporting that the lithic reduction concentrated on locally-sourced quarried material and not exotic material brought to the site.

(Confidential Information Removed)

Figure 20: From the 2022 Phase I Survey & Phase II Evaluation: Agoura Trail Site 1 showing the original proposed trail, the final recommended site boundary, and modern impacts (oriented north).

Figure 21: The rocks located at the north-center of Agoura Trail Site 1, showing the site terrain and cleared areas between the stones (facing southwest).

Figure 22: A circular cleared area surrounded by spaced rocks, suspected of being a prehistoric feature (facing north).

Figure 23: A heavily quarried purple andesite boulder located within Agoura Trail Site 1 (facing west).

Nineteen (19) shovel test pits were placed at 5-meter intervals between STPs within Agoura Trail Site 1 along several roughly north-south transects, which centered on prominent stone landmarks within the site boundary. Shovel test pits 1 through 4 were placed south of the center of the northern rock outcrop mapped during the Phase I survey at 5-meter intervals. All four of these STPs encountered alluvial rocks at between 0 and 15-centimeters in depth and only a small amount of lithic material.

Shovel test pits 5 thorough 8 were placed roughly southwest of the northern rock outcrop, also at 5-meter intervals. STP5 discovered a layer of size-sorted cobbles and a core at roughly 30-centimeters in depth that appeared to be a prepared surface. STP6 did not encounter this cobble surface feature, instead encountering an alluvial cobble and rock layer at 10-centimeters in depth. STP 7 and 8 both encountered rocks at between 10 and 15-centimeters in depth, with a small number of lithic artifacts in each shovel test pit. By further examining the prepared surface feature encountered in STP5, a circular cleared area of roughly 7-meters (23-feet) could be mapped from the absence of plant material and the clearing of larger rocks (**Figure 24**). This feature was interpreted as a prepared task area, and created a graded area behind the rock outcrops for currently unknown prehistoric task activities.

Shovel test pits 9 through 12 extended across a rocky area with less vegetation from roughly northeast to southwest at 5-meter intervals, ending at another elevated rock formation. STP9 and STP10 were ended at 10-centimeters where alluvial rocks were encountered, with no artifacts being found. STP 11 and STP12 encountered rocks at roughly 20-centimeters in depth, but also large quantities of cores, flakes, and other lithic debitage material (**Figure 25**). The lithic material was mixed in with the rocks, which appeared to be intentional, with the area closest to the stone formation appearing to be another graded prehistoric platform feature; most likely to support lithic reduction activities (**Figure 26**). Lithic density on the surface also increased in this area, which has been marked on the site map.

Shovel test pits 13 through 19 were placed due south of the large rock formation, with STPs placed at 5-meter intervals (**Figure 27**). This line of STPs crossed another large circular area which had low vegetation growth, and that was suspected of having subsurface features. STP13 encountered alluvial rocks at 20-centimeters in depth, but also had a high number of lithic debitage mixed with fire-affected rocks (FAR) material. This STP in the field was interpreted as being a transition area between the lithic reduction task area and another heated rock feature area. STP14 confirmed this hypothesis as a compacted layer of lithics was encountered over a burned soil and FAR layer at 20-centimeters in depth, which continued to at least 30-centimeters (**Figure 28**). STP15 encountered the same heated rock feature with FAR, burned soil, and less lithics. STP16 encountered the same heated rock feature at 10-centimeters, as did STP17. STP18 encountered a soil change to more tan-colored soil, with no evidence of the heated rock feature area. STP10 encountered tan volcanic tuff bedrock almost immediately. STP19 was determined to be outside of the site. The estimated final size of the heated rock feature area is 20-meters (65-feet) circular (**Figure 29**). (The circular area of prehistoric heated rock features encountered in Agoura Trail Site 5 was 10-meters (33-feet) circular).

The only other noted prehistoric feature was a compacted trail segment through the natural rock feature that divided the lithic reduction area from the heated rock feature area. This trail segment was similar in size and construction to that found at Agoura Trail Site 1 to the east. The rest of Agoura Trail Site 1 was covered with a light density of lithic materials, with such materials covering all prehistoric surface features, even those with heated rock features or that were cleared for task activities. The lithics examined included cores, blocky-fragments, and a large amount of flake debitage of better-quality andesite material, including colors of blue, purple, and gray.

Figure 24: A circular area cleared of stones proved to have a prehistoric prepared surface of size-sorted cobbles and silt just below the surface (facing west).

Figure 25: Lithic material recovered from Shovel Test 12, including a large number of cores, flakes, and blocky fragments that had been integrated into a graded prepared surface feature (facing west).

Figure 26: The flat lithic reduction area, which had a prepared surface feature that evened out the local landscape for task activities (facing north).

Figure 27: The elevated rock formation found in the southern part of the site divided the prehistoric lithic reduction area from the heated rock feature area (facing west).

Figure 28: STP14, showing the burned stone and soil layer encountered at 20-centimeters below the surface; charcoal and FAR were also present.

Figure 29: The Agoura Trail Site 1 prehistoric heated rock area as it looks on the surface, showing the distinct reduction in vegetation caused by the burned subsurface material (facing west).

The Phase II tasks determined Agoura Trail Site 1 was mainly used for two prehistoric tasks; lithic primary reduction of quarried material and the processing of some currently unknown plant material within shallow heated rock features. Supporting these activities were prepared surface features, which included the compacted trail and prepared stone and compacted silt floors that most likely filled in terrain undulations. This construction methodology produced simple flat task areas that covered over any embedded stones or depressions in the landscape at the task location. A secondary site task was the quarrying of the andesite stones and larger rocks found within the cultural resource site boundary.

Within the context of these findings, Envicom evaluated Agoura Trail Site 1 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features.

The Phase I & Phase II findings that Agoura Trail Site 1 was originally used by prehistoric people for both lithic reduction and for plant processing indicated a more complex prehistoric site for the region than is normally encountered. Since a number of prehistoric features, such as the prepared task area, the heated rock feature area, and the compacted trail segment, were present, as well as a large number of lithic artifacts, Agoura Trail Site 1 also has more feature complexity than is normally found at prehistoric sites in the Santa Monica Mountains foothills, where lithic scatters or lithic quarry sites dominate. Finally, since the site has a proven subsurface component that appears to be intact, the chance for more information being obtained from future scientific research is also high. For these reasons, Envicom recommends that Agoura Trail Site 1 is eligible for the CRHR under Criteria 4.

Agoura Trail Site 2

Cultural resource Agoura Trail Site 2 was discovered as part of the initial Phase I trail survey, with the site being interpreted as a prehistoric archaeological site of roughly 100-meters x 45-meters (350-feet x 150-feet) in the western center of the project area (**Figure 30** and **Figure 31**). The site is mostly rugged and covered with andesite cobbles, stones, and boulders, with sporadic vegetation and grasses covering the surface. Agoura Trail Site 2 is bounded to the north by a shallow escarpment where the landscape drops down roughly 10-feet, to the east by a deep natural drainage, to the south by a wide grass covered area with loam soil and less stones, and at an arbitrary point to the west beyond the project area. The transition to the south was defined less by quarrying activities, and more by the change in surface terrain, where near-surface exposed bedrock and cobbles transitioned to a deeper loam soil similar to that found on the surface of Site Area 4 to the east.

The site has no identifiable prehistoric features, but is covered with a low density of quarried andesite rocks and boulders, with some debitage found around these quarried stones (**Figure 32** and **Figure 33**). The loam coloration appeared to be tan-brown, suggesting a great deal of weathered bedrock in the matrix. Some of the debitage may have been caused by mechanical crushing of andesite stones within modern firebreaks, however, such activity creates an identifiable pattern that is separate from prehistoric lithic reduction. It was the field surveyor's conclusion that lithic material found within the identifiable firebreaks was probably associated with mechanical damage, however, the material found away from such modern features was prehistoric in origin. Overall, no differences could be seen in artifact density or use between the various parts of the site except where andesite stones were not present. One notable discover was a boulder metate, which was intact and had moderate wear within the basin element of the rock (**Figure 34** and **Figure 35**). However, andesite boulder quarrying appeared to be the primary use of the site, with lithic reduction and plant material processing being a secondary site use.

(Confidential Information Removed)

Figure 30: From the 2022 Phase I Survey & Phase II Evaluation: Agoura Trail Site 2 showing the proposed trail, the final site boundary, and modern impacts (oriented north).

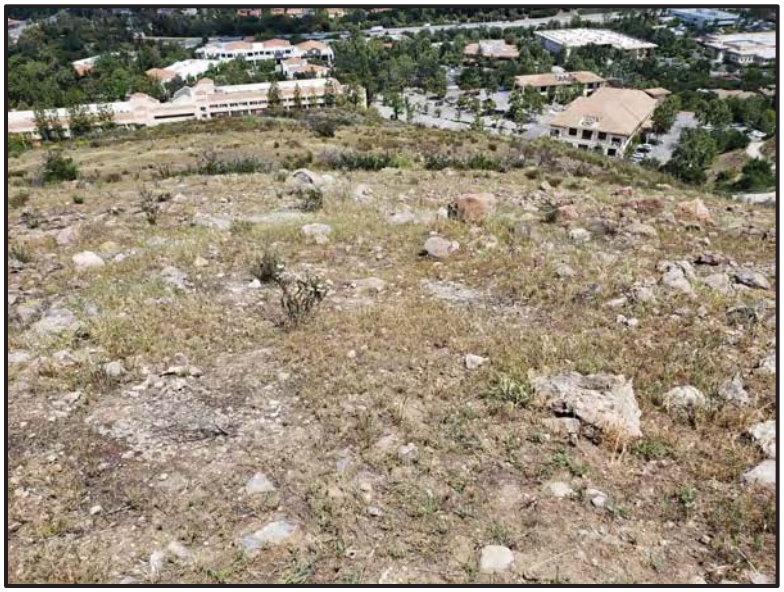

Figure 31: Agoura Trail Site 2 has a rugged terrain covered with andesite stones and cobbles, with sparse vegetation (facing north).

Figure 32: A heavily quarried purple andesite boulder located within Agoura Trail Site 2 (facing west).

Figure 33: A heavily quarried blue-gray andesite rock also located within Agoura Trail Site 2 (facing west).

Figure 34: The boulder metate located within Agoura Trail Site 2 (facing south).

Figure 35: Another view of the andesite boulder metate located within Agoura Trail Site 2 (facing west).

During the Phase I survey, Agoura Trail Site 2 did not appear to have a subsurface component. Artifacts and quarried stones and boulders within the site boundary appeared to be resting on or near a surface-depth supporting layer, which made substantial subsurface components within the site to be unlikely. For these reasons, it was not recommended after the Phase I survey that the site be further tested, however, more detailed mapping was advised to ensure that all major groundstone artifacts were recorded correctly within the site map.

Evaluation of Agoura Trail Site 2

The Phase 2 evaluation of Agoura Trail Site 2 was confined to more deliberate mapping of the site boundary and examination of the stones found within the site to assess whether more groundstone artifacts were present. The mapping involved Envicom staff walking the site and noting any unusual surface features other than the large number of quarried stones. At the same time, the boulder metate was relocated and added to the map. The map boundary was extended slightly to the south to include the metate area, and the western firebreaks were removed from the map as closer examination determined them to be natural erosional features.

Newly discovered features included a "balanced" andesite stone, balanced with a separate, smaller rock to provide quarrying access to the bottom of the stone (**Figure 36**). Two "marker" stones were also observed and mapped (**Figure 37** and **Figure 38**). Such stones were often large boulders, which had been heavily decorticated to reveal the brighter color of the subject rock. Since cupules could not easily be carved into andesite, decortication has been identified as the most common resource area visible marker encountered by Dr. Bischoff in the Santa Monica Mountains. The two large boulders in Agoura Trail Site 2 were excellent examples of such practices, where decortication was the goal rather than the removal of larger blocks of material to further reduce elsewhere. Finally, a single rock with a very rough cortex appeared to have been used as an abrading stone for wood implements and showed excessive grinding use-wear along one edge (**Figure 39**)

Within the context of these findings, Envicom evaluated Agoura Trail Site 2 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features.

The findings from the Phase I survey & Phase II evaluation of Agoura Trail Site 2 determined that the quarried stones and scant lithic debitage that define the site are non-unique site features and that Agoura Trail Site 2 is similar to large numbers of such small lithic quarrying and reduction sites found across the Santa Monica Mountain foothills. Since there is no subsurface component to the site that is different than what is expressed on the surface, the recordation of the quarried stones and scant lithic artifacts is sufficient to provide the majority of information available from this site for future scientific research. The recordation of the small number of more interesting features, such as the groundstone boulder and marker stones, also can be found on similar sites throughout the region, making them uncommon, but not unique site features, which can be recorded in detail from surface photography. The findings from the Phase II evaluation tasks, therefore, do not support a recommendation of Agoura Trail Site 2 as being eligible for the CRHR under any Criteria.

Figure 36: The "balanced" rock found in Agoura Trail Site 2, showing quarrying on the supported lower edge; elevating the stone allowed for better angles of hammerstone impact (facing north).

Figure 37: One of the two large "marker" stones that are found at the northwest edge of the surface quarry site; the decortication appears to be more informational than for the intentional removal of blocks for reduction (facing west).

Figure 38: The second large "marker" stone, located in the southwest of the quarry area, showing excessive decortication that cannot easily be explained by lithic quarrying (facing southeast).

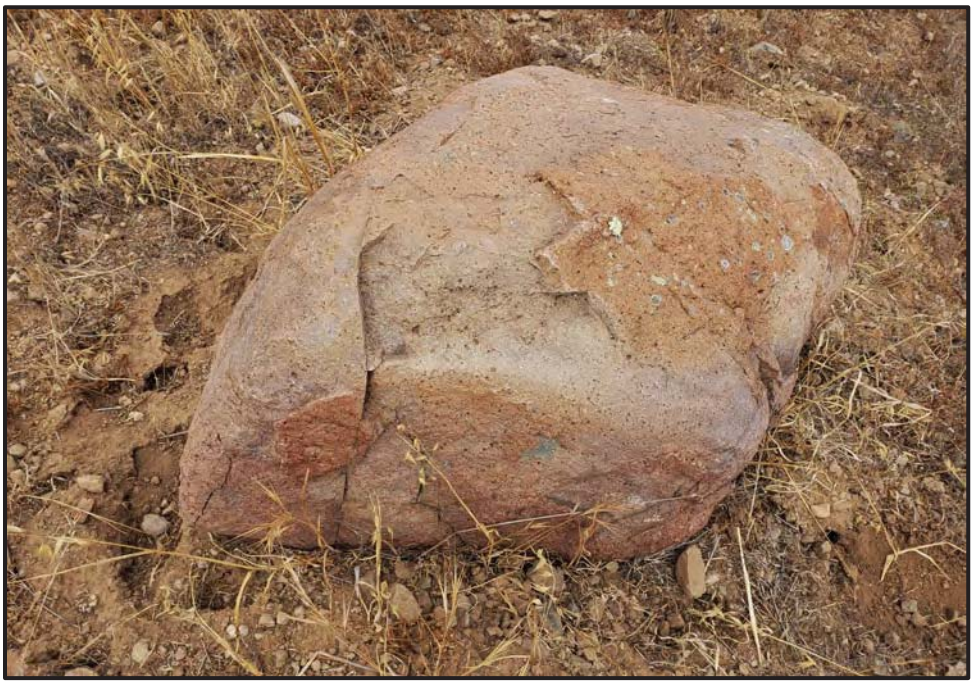

Figure 39: The abrading rock, showing the heavily worn edge (center) that appears to have been used to abrade wood implements (facing west).

Agoura Trail Site 3

Cultural resource Agoura Trail Site 3 was discovered as part of the initial Phase I pedestrian survey for the trail project, with the discovered site being eventually determined to be roughly 72-meters (235-feet) northeast-southwest x 156-meters (510-feet) northwest-southeast in size (**Figure 40** and **Figure 41**). The site is located in the southern part of the proposed trail project area and is mostly covered with sloped grassy terrain, rugged creek and escarpment formations, patches of scrub trees and bushes, and andesite cobbles, stones, and boulders.

The large natural bedrock escarpment dominates the middle of the site, dividing it into separate north and south areas spatially (**Figure 42**). The main escarpment drops in elevation about 3-meters (12-feet) from the north to the south. Additional drop offs along the creek ravines further divide the southern part of the site into additional landscape areas (**Figure 43**). These other natural ravine escarpments create drop offs of over two-meters (six-feet) or larger along the ravine paths. All of the ravine and escarpment features are variable in heigh, with less vertical sections being found randomly along all of the escarpment features, which appear to have been taken advantage of by the Native Americans as crossing points. Agoura Trail Site 3, therefore, is divided by these natural escarpments and ravines into three distinctly different areas, which were used for different purposes by the prehistoric occupants of the site.

The northern part of Agoura Trail Site 3 located north of the main escarpment feature is bounded to the north by a wide grass covered area with loam soil and less stones that lies between it an Agoura Trail Site 2, to the east by a deep natural drainage feature, to the west by modern firebreaks located on the top of the ridge in that direction, and to the south by the main escarpment. The southern part of Agoura Trail Site 3 is bounded to the north the main escarpment feature, to the east by the ending of prehistoric artifacts and the rising slope and by modern firebreaks, to the south by steep ravines and the constricted landscape created by the junction of several natural creek drainages, and to the west by a shallow natural creek drainage in that direction. The area to the southwest of Agoura Trail Site 3 was not explored past natural landscape features and the site may continue in that direction. It is unlikely due to slope issues that the site extended much to the east or south, however, the quarried part of the site north of the escarpment may have originally continued to the west past the modern firebreak impacts, though the quality of the igneous stone in that direction appeared to drop off abruptly.

The original Phase I survey noted that the Agoura Trail Site 3 site was divided into two main task areas. The larger northern part of the site is covered with numerous heavily quarried andesite stones and boulders, with limited amounts of debitage found between the quarried stones (**Figure 44**). The more intensively quarried stones included examples of purple, gray-blue, and gray-purple fine-grained andesite stones, which is common for prehistoric andesite quarrying sites (**Figure 45** and **Figure 46**). No prehistoric features were observed within the quarry area until near the escarpment formation. The number of quarried stones observed was exceptional, even for other Santa Monica Mountain quarry sites that the author has visited. Since several major prehistoric habitation and ceremonial sites are located within two miles of Agoura Trail Site 3, this quarry site may have been a major source of high-quality andesite for other habitation sites.

The southern part of Agoura Trail Site 3 was observed to be a large lithic reduction area that was divided by the main creek ravine (**Figure 47**). It appeared that Native Americans utilized the gentle slopes on either side of the main north-south ravine and creek feature to further reduce raw andesite material from the quarried parts of the site or from other quarry locations in the general area. The lithic reduction part of the site was observed to have few quarried stones, appeared to consist of a dense loam layer, and had a high number of lithic debitage artifacts on the surface in loam soil, including of small amount of chalcedony toolstone.

(Confidential Information Removed)

Figure 40: From the 2022 Phase I Survey & Phase II Evaluation: Agoura Trail Site 3 showing the proposed trail, the final site boundary, and modern impacts (oriented north).

Figure 41: Agoura Trail Site 3 is divided into a quarry area (right of center) and a lithic reduction area (lighter, grassy area at left of center) by a shallow volcanic escarpment (center) (facing west).

Figure 42: The shallow escarpment that bisected Agoura Trail Site 3 from east to west created an impediment to easy travel across the formation (the lithic reduction area is located below the escarpment (facing north).

Figure 43: The northern quarry part of Agoura Trail Site 3 (center to right) is bounded to the east by a steep ravine that drops abruptly to the ravine bottom (lower right) (facing west).

Figure 44: The northern part of Agoura Trail Site 3 is covered with large andesite stones and boulders that exhibit a great deal of prehistoric lithic quarrying (facing west).

Figure 45: A heavily quarried purple andesite boulder found within the northern quarry area of Agoura Trail Site 3 (facing west).

Figure 46: Another heavily quarried blue-gray andesite boulder found within the northern quarry area of Agoura Trail Site 3; note the fine graining of the andesite with few inclusions (facing west).

Figure 47: The southern lithic reduction area of Agoura Trail Site 3, separated by a shallow creek ravine (a modern firebreak located outside of the site to the east can be seen at center and above-right) (facing east).

The Phase I survey of the southern part of Agoura Trail Site 3 did not note any prehistoric features except for probable compacted trail segments along the shallow escarpment feature. The shallow escarpment between the north and south site areas is formed from a bedrock formation that is exposed on the surface, which drops the landscape down to the south by roughly 10-feet, and that consists of rough igneous stones and andesite cobbles and rocks embedded in volcanic tuff material. At one location along the formation, it appeared that a prehistoric trail across the escarpment was formed where the formation was less steep. Ironically, this is the same location chosen for the trail to cross over the escarpment.

The Phase I survey concluded that Agoura Trail Site 3 concentrated on andesite surface rock quarrying in the northern part of the site and andesite lithic reduction in the southern part of the site. Because of the observed depth of soil in the southern area, subsurface features or artifact concentrations were possible, which led to the recommendation of further testing during the Phase II evaluation of the site prior to a final site management and recommendation.

Evaluation of Agoura Trail Site 3

The Phase 2 evaluation of Agoura Trail Site 3 included additional intensive mapping of the site boundary and examination of the stones found within the defined site to determine if additional prehistoric features were present. The mapping task involved Envicom staff walking the site and noting any unusual surface features other than the large number of quarried stones. After the mapping task was completed, ten (10) shovel test pits were excavated at opportunistic locations within the southern half of the site to determine if subsurface features were present. The map boundary was then refined to better reflect the findings from the Phase II work, which included expanding the site to the east and retracting the site from the south.

Shovel test pit excavation began east of the ravine that bisects the southern part of the site. STP1 was placed within a large open area located along the east side of the creek channel, which appeared to be graded flat and gently sloped (**Figure 48**). STP1 encountered 10-centimeters of compacted loamy soil that was without stones, but contained some lithic material. This layer appeared to be a prepared surface due to the compaction and uniform consistency, and was similar to many such prepared surface features encountered by the author in nearby CA-LAN-320. At 10-centimeters, a hard, flat layer of reddish clay with volcanic sand aggregate was encountered, which extended downward to 20-centimeters in depth (**Figure 49**). At 20-centimeters, a sub-floor layer was encountered that consisted of cobbles and larger rocks covered and cemented with additional clay (**Figure 50**). The clay mortar between the stones and the later clay layer appeared to be from two separate events as the upper clay layer separated easily from the subfloor material. Most likely, this construction methodology was intentional and used by the prehistoric occupants of the site to fill in surface undulations, volcanic intrusions, and other surface features with subfloor material and clay in order to create a flat, uniform task area. Again, this construction methodology has also been observed by the author at nearby CA-LAN-320 and at CA-LAN-41.

STP2 was placed 5-meters south of STP1 near the edge of the flat surface area. This STP encountered 10 to 15-centimeers of loam with lithics, then a dense heated rock feature with highly fire-affected stones and soil at 15-centimeters (**Figure 51**). Closer examination of the surface confirmed that an area of heated rock features surrounded part of the central paved activity area on the southern side, which was marked by an increase in vegetation.

STP3 was placed 5-meters south of STP2 within denser vegetation. 25-centimeters of loam soil was discovered with lithics over a layer of loosely compacted cobbles that formed a rough floor feature in the area. It appears that a rough subfloor was created across much of the task area on the east side of the north-south creek, which was then modified to suite either task area pavement, heated rock features, or lithic reduction on compacted soft loam.

Figure 48: The Agoura Trail Site 3 paved surface, showing the uniform grading and gentle slope of the surface feature (facing southeast).

Figure 49: The STP1 hard clay pavement layer found beneath the later compacted soil layer(facing east).

Figure 50: The STP1 lower subfloor layer, showing the rock base material, the clay used to mortar the rocks, the later clay layer placed over the rocks, and the later compacted silty-loam pavement layer (facing southeast).

Figure 51: STP2 burned soil, disintegrated andesite, and charcoal/burned vegetative material from the revealed heated rock feature.

STP4 was placed 5-meters east of STP3 and encountered lithics in loam soil to 30-centimeters, at which point the stone subfloor was encountered. This STP appeared to again encounter a general lithic reduction area prepared surface. STP5 was placed roughly 5-meters east of STP2 and encountered a compacted soil layer to 35-centimeters, at which point a dense stone layer was encountered. This layer appears to be an edge of the more dense STP1 paved surface, with the deeper stone layer being part of the subfloor feature found across the lithic reduction area.

Additional site features discovered east of the north-south creek include a basalt bedrock formation located at the southern edge of the site, which appears to have been used as a location for more heated rock features. The prehistoric occupants at nearby CA-LAN-320 often placed heated rock features directly on exposed bedrock as the rock layer aided heat retention and the processing of plant material. It appears that the basalt formation was similarly used in this fashion due to the flat nature of the bedrock on the surface and the shallowness of the loam in the area. FAR and burned soil are found all around the basalt between the formation and the edge of the paved lithic area.

Another odd formation is found upslope from the lithic task area, where a large half-circle of highly compacted soil is found on the surface with little vegetation (**Figure 52**). The soil is exceptionally graded, which does not appear to be the construction of modern mechanical firebreak construction due to the smoothness of the soil surface, though mechanical machinery may have utilized the feature as part of a firebreak path (**Figure 53**). A slight cut and fill of the landscape appeared to have been used to make the half-circular area flat. This feature appears to be within both the lithic reduction area and within the end of a modern firebreak that entered the site from the east, but the true origin of the feature is currently unknown. The feature could be an additional paved surface for prehistoric task activity, however, some of the area could have been the product of a mechanical bulldozer cutting through the area.

A single shovel test pit (STP10) was placed within the cleared area to assess the subsurface stratigraphy. STP10 encountered 5-centimeters of loam soil with no lithics, followed by 3 to 5-centimeters of hard silty-loam pavement located directly over a compacted subfloor of cobbles and hard silt. The lower cobbles appeared to be mortared with hard silt matrix material. The final assessment of the excavation evidence was that this location was prehistoric in origin, though the nearby firebreak suggested that some of the topography of the feature may have been modified by modern blading.

Finally, the firebreak feature was easily visible on the surface away from the prehistoric site task areas as the machine had created a cut along the upslope side of the firebreak cut and a rough berm along the downslope side of the path (**Figure 54**). Tractor tread damage could also be seen farther up the slope, and the entire terrain around the firebreak has visible damage. It appears that the dozer, once close to the prehistoric task area, lifted its blade, possibly due to the lack of stones impeding the firebreak route; the prehistoric people having taken great care in smoothing the landscape at the bottom of the slope.

Surface mapping managed to identify a prehistoric ford constructed of interlocked and compacted rocks and cobbles, which once was the main transportation route across the north-south creek and ravine through the site (**Figure 55**). At all other locations, the creek banks are very steep and most likely would have been impractical for travel. It also appears that, from the ford location, a prehistoric trail was constructed along the creek to the south where the task area on the west side of the creek was accessed. The area immediately to the west and north of the ford is much too steep for easy climbing, so some pathway to the south where the slope is closer to the creek bottom is suspected, but not yet confirmed due to the dense vegetation along the creek path. Examination of the terrain south of the site did not find any easier crossing over the creek ravine due to steep cliffsides confirming that the ford location was the best natural route across the creek, which explains the effort invested in making the stone ford at that location.

Figure 52: The flat area on the extreme east edge of Agoura Trail Site 3, showing the graded half-circle on the landscape (facing north).

Figure 53: The surface of the flat half circle feature is exceptionally flat and graded, much more so than would be created from a mechanical dozer engaged with firebreak construction; a prehistoric origin is, therefore, suspected (facing northeast).

Figure 54: The modern firebreak, located just outside of the Agoura Trail Site 3 boundary to the east (facing south).

Figure 55: The ford (below center) across the creek that facilitated travel between the two lithic reduction areas of Agoura Trail Site 3; interlocked cobbles form a flat crossing point (facing southwest).

Surface mapping identified a large lithic reduction area in the middle of the sloped surface west of the north-south creek and south of the east-west escarpment formation (**Figure 56**). This open area, which was covered with grass, but had few larger shrubs or trees, was tested with a single shovel test pit (STP6) in the middle of the open area. STP6 encountered 10-centimeters of loam with lithics, then a hard silty-loam pavement at between 10 and 15-centimeters below surface (**Figure 57**). Subfloor feature stones were encountered from 10 to 30-centimeters in depth. It appeared, then, that the open area had a prehistoric pavement that was constructed of a cobble subfloor, which was the covered in a dense silty-loam layer that bonded and cemented the subfloor stones and created a flat task surface for lithic reduction. Over time, the hard surface was covered with natural loam and discarded lithic material.

STP7 was placed at the edge of a large shrub-covered area located on the same slope but farther southwest of the lithic reduction area. STP7 encountered 5-centimeters of loam with lithic material, followed by a compacted silty-loam layer with lithics. At 10 to 15-centimeters, a hard silt layer with cobbles was encountered, which was interpreted as another prehistoric prepared surface. All of the layers had some charcoal and disintegrated stone in the matrix, which suggested a nearby heated rock feature.

STP8 was placed in the middle of the shrubbery area, which encountered 5-centimeters of loam without lithic material, followed by compacted silty-loam (**Figure 58**). At 20-centimeters, a hard silty-loam layer was encountered, with a dense heated rock feature being found at 25-centimeters in depth. STP7 and STP8 most likely were defining the edge and the middle of a large episodically used heated rock feature area, which mixed somewhat with the lithic reduction area to the northeast.

Based on the surface morphology of the heated rock feature area and on surface evidence, another large, heated rock feature area was also identified north of the large lithic reduction area (**Figure 59**). STP9 was placed between the two suspected heated rock feature areas where little vegetation was growing. This STP encountered 5-centimeters of loam soil covering compacted alluvial stones; all of which may have been natural. No lithics were discovered. Most likely, this STP was placed in a secondary part of the site away from the actual task activities.

The escarpment area between the southern and northern site areas was also examined in detail. Several compacted trail segments were observed being constructed across the hard volcanic bedrock and embedded stones, which created smooth surfaces for crossing the formation (**Figure 60**). Most of these compacted paths were located in the middle of the southern site area where the escarpment was shallower, and the slope was less pronounced. A possible stone alignment was also observed along the escarpment, where seven (7) colorful, size-sorted andesite stones have been embedded in hard silt and loam along the face of the escarpment formation (**Figure 61**). Similar features have been found at nearby CA-LAN-320 and have been interpreted as message, ownership, or marker features, with the practice being interpreted as an alternative to petroglyphs and cupule marks, which cannot be carved easily into the local volcanic stone. The use of colorful, size-sorted stones, which express a great deal of decortication also follows similar construction methodology to similar features found at CA-LAN-320.

It also appears that a compacted trail was constructed along the top of the escarpment, which ran most of the length of the lithic reduction area to the south and that connected directly to the trails across the bedrock formation (**Figure 62**). This escarpment trail appears to have been constructed to facilitate movement up and down the large slope that bordered the quarry area, and probably aided travel out to targeted quarry spots and people with loads coming back to the lithic reduction area. The compacted trail extended roughly 4-meters (12-feet) away from the escarpment formation, at which point the terrain transitioned into softer natural and unprepared loamy soil (**Figure 63**). No shovel test pits were placed within the escarpment trail, however, a layer of subfloor stones followed by a layer of hard, compacted silt most likely was used in its construction.

Figure 56: The large lithic area just south of the escarpment that divides the north and south site areas, showing the flat, sloped terrain (facing north).

Figure 57: STP6 had a large number of andesite lithic artifacts recovered from the shovel test pit.

Figure 58: Agoura Trail Site 3, showing the southwest heated rock feature area within a patch of bushes burned by the 2018 Woolsey Fire (facing northwest).

Figure 59: The second patch of bushes (left of center) that mark the heated rock features located north of the lithic reduction area (facing northwest).

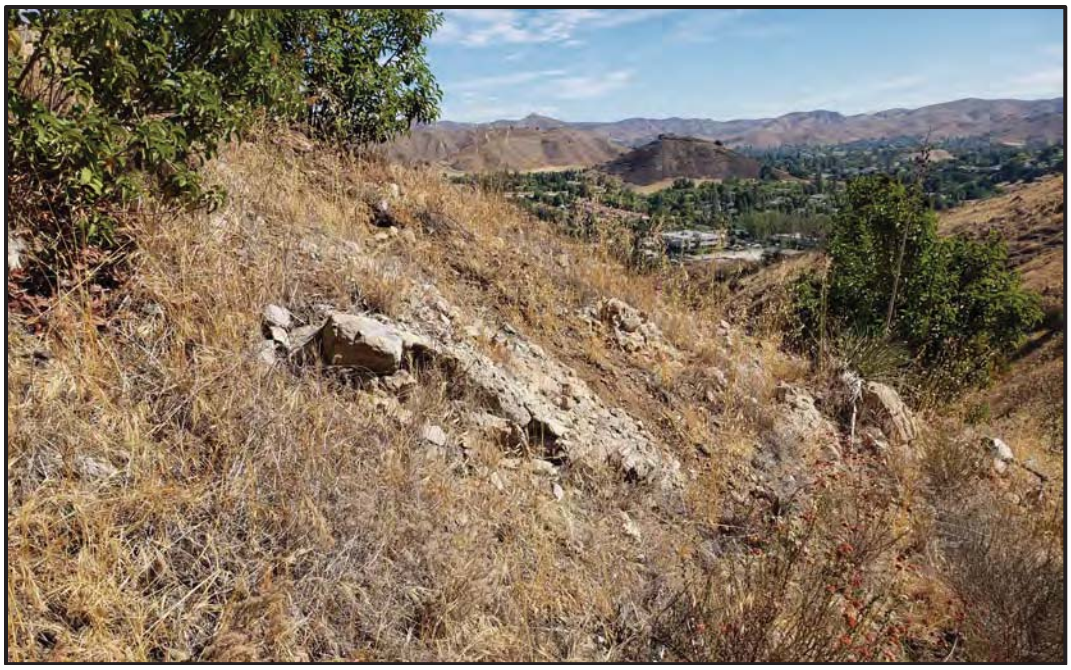

Figure 60: One of the compacted silt trails that crosses the rough volcanic bedrock formation that crosses the middle of Agoura Trail Site Area 3 (facing northeast).

Figure 61: The straight, embedded rock alignment found at the base of the escarpment above the lithic reduction area, showing the colorful, size-sorted, and decorticated andesite stones that make up the alignment (facing northeast).

Figure 62: The area along the top of the escarpment near the lithic reduction area has been graded flat with compacted silt; most likely to facilitate travel between the quarry area and the lithic reduction area (facing southwest).

Figure 63: The compacted soil (left of center) extends roughly 4-meters (12-feet) into the quarry area, then transitions abruptly (right of center) into the normal soft loam soil that is native to area (facing west).

Finally, examination of the large quarry area confirmed the presence of dozens of high-quality andesite boulders and rocks; many of which show evidence of quarrying. No complex features were noticed, which was not surprising as this part of the site was interpreted as a resource area only. The large area of quarried stones has been kept within the boundary of Agoura Trail Site 3 due to the noticeable prehistoric constructed features that connect the two areas, including the compacted paths through the bedrock escarpment and the compacted trail along the top of the escarpment. Since the prehistoric occupants of the site appear to have envisioned the two areas as being connected, Envicom has continued with this practice instead of separating the two regions into different cultural resources.

The Phase II tasks determined Agoura Trail Site 3 was mainly used for three prehistoric tasks; lithic quarrying in the northern half of the site, the primary reduction of quarried lithic material in the southern half of the site, and the processing of some currently unknown plant material within shallow heated rock features also within the southern half of the site. Supporting these activities were prepared surface features, which included paved task areas, compacted trail segments, and a number of subfloor features that most likely filled in terrain undulations. This construction methodology produced simple flat task areas and pathways that covered over harsh bedrock areas, depressions, and embedded surface stones on the landscape.

Within the context of these findings, Envicom evaluated Agoura Trail Site 3 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features.

The Phase I & Phase II findings that Agoura Trail Site 3 was originally used by prehistoric people for lithic quarrying, lithic reduction, and for plant processing indicated a more complex prehistoric site for the region than is normally encountered. Since a number of prehistoric features, such as the prepared task areas, the heated rock feature areas, and the compacted trail segments, were present, as well as a large number of lithic artifacts, Agoura Trail Site 3 also has more feature complexity than is normally found at prehistoric sites in the Santa Monica Mountains foothills, where lithic scatters or lithic quarry sites dominate. Finally, since the site has a proven subsurface component that appears to be intact and has only barely been explored, the chance for more information being obtained from future scientific research is also high. For these reasons, Envicom recommends that Agoura Trail Site 3 is eligible for the CRHR under Criteria 4 (scientific information).

Agoura Trail Site 4

Cultural resource Agoura Trail Site 4 was discovered as part of the initial Phase I survey, which interpreted the site as a prehistoric archaeological site of roughly 90-meters x 38-meters (300-feet x 125-feet) in the eastern center of the project area (**Figure 64**). The site is mostly rugged and covered with andesite cobbles, stones, and boulders, with sporadic vegetation and grasses covering the surface (**Figure 65**). Agoura Trail Site 4 is bounded to the north by a wide area with few quarried andesite boulders and a swath of vegetation without cultural material, to the east by the arbitrary edge of the survey area, to the south by a shallow escarpment that dropped the landscape roughly 10-feet abruptly toward the south, and to the west by a deep natural ravine. The andesite boulders are a continuation of the material found on the west side of the ravine in Agoura Trail Site 2 and in Agoura Trail Site 3. Surface observation identified that additional quarried boulders and stones are located farther east of the site, however, this area was determined to be outside of the project area. The site is entirely intact within the shown boundary with no known modern impacts.

(Confidential Information Removed)

Figure 64: From the 2022 Phase I Survey & Phase II Evaluation: Agoura Trail Site 4 showing the proposed trail, the final site boundary, and modern impacts (oriented north).

Figure 65: Agoura Trail Site 4 showing the site terrain (facing south).

Agoura Trail Site 4 has no prehistoric surface features, but is covered with a low to moderate density of quarried andesite rocks and boulders, with some debitage found around these quarried stones (**Figure 66**). The density of quarried stones was patchy, with larger clusters of andesite stones having a higher frequency of quarried material and associated debitage (**Figure 67**). Overall, the debitage noted was of a lower frequency than what was encountered in Agoura Trail Sites 2 and 3, though the quarried stone numbers were similar for all three sites. Exotic lithic material was not observed nor were prehistoric features.

During the Phase I survey, Agoura Trail Site 4 appeared to have a subsurface component that was recommended to be further tested prior to final site management recommendations being made for the trail project. Site depth was determined by the observed embedment of prehistoric artifacts, soils that appeared to have depth, and due to the embedment of larger stones and boulders within the site boundary, which appeared to be resting on a deeper supporting layer. The loam coloration appeared to be tan-brown, suggesting a great deal of weathered bedrock in the matrix without midden development. The Phase I survey concluded that andesite boulder quarrying was probably the primary use of the site, with lithic reduction being a distant secondary site use. No evidence of groundstone or plant material processing could be found, unlike that of Agoura Trail Site 2.

Evaluation of Agoura Trail Site 4

The Phase 2 evaluation of Agoura Trail Site 4 was confined to more intensive mapping of the site boundary and examination of the stones found within the defined site, mostly to assess whether any were used in plant material processing. The mapping task involved Envicom staff walking the site and noting any unusual surface features other than the large number of quarried stones. Agoura Trail Site 4 is heavily sloped to the west and does not contain naturally flat areas that would have supported prehistoric task areas, nor are there east access points to the steam at the ravine bottom to the west; all of which probably made the area unattractive for prehistoric tasks other than quarrying (**Figure 68**). The map boundary was extended at this time to the north to its present boundary as additional quarried stones were found in that direction that were not noticed during the Phase I survey.

Eight (8) shovel test pits were placed along the path of the proposed trail line within the expanded boundary of Agoura Trail Site 4 (**Figure 69**). These shovel test pits were placed roughly equidistant along the path at notable boulder locations or were placed where loam soil was observably thicker. Most of the shovel test pits encountered subsurface rocks that could not be moved at between 20 and 30-centimeters below surface. Only in one STP were two debitage artifacts recovered, supporting the original conclusion that only a light density of debitage was present on the surface of the site. No prehistoric features or evidence of groundstone artifacts were observed during the completion of the Phase II tasks.

Within the context of these findings, Envicom evaluated Agoura Trail Site 4 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features. The findings from the Phase I survey & Phase II evaluation of Agoura Trail Site 4 determined that the quarried stones and scant lithic debitage that define the site are non-unique site features and that Agoura Trail Site 4 is similar to large numbers of such small lithic quarrying and reduction sites found across the Santa Monica Mountain foothills. Since there is no subsurface component to the site that is different than what is expressed on the surface, the recordation of the quarried stones and scant lithic artifacts is sufficient to provide the majority of information available from this site for future scientific research. The findings from the Phase II evaluation tasks, therefore, do not support a recommendation of Agoura Trail Site 4 as being eligible for the CRHR under any Criteria.

Figure 66: A heavily quarried blue-gray andesite boulder from Agoura Trail Site 4 (facing northeast).

Figure 67: A heavily quarried purple andesite boulder found within Agoura Trail Site 4 (facing east).

Figure 68: The surface of Agoura Trail Site 4 is heavily sloped downward to the west (facing south).

Figure 69: A shovel test pit is excavated within quarried stones that cover the surface of Agoura Trail Site 4 (facing south).

Agoura Trail Site 5

Cultural resource Agoura Trail Site 5 was discovered as part of the initial Phase I survey, which interpreted the site as a prehistoric archaeological site of roughly 45-meters x 38-meters (150-feet x 125-feet) along the north-center edge of the project area (**Figure 70** and **Figure 71**). The site overlooks the Conejo Valley and would have been an excellent observation or communication location for the prehistoric occupiers of the site. Agoura Trail Site 5 is bounded to the north by modern impacts related to retaining slope construction or recent firebreak trail construction, to the east by a natural shallow ravine, to the west by a deep ravine and modern slope improvements, and to the south by a wide area without prehistoric artifacts, features, or quarried stones. Artifact density drops off toward the north and to the south. Due to the natural drop in slope to the north and west, it is unlikely that important site features were once located in those directions where modern impacts have heavily impacted the local terrain.

The Phase I survey identified a single prehistoric feature, which was an improved path or trail through a shallow volcanic bedrock formation (**Figure 72**). In this case, a narrow pathway of compacted silt was placed over the native volcanic stones to create an improved pathway between the lower and upper parts of the site. Such prehistoric features are common in the Santa Monica foothills, with the author recording numerous examples on other sites of prehistoric compacted earth trail segments being constructed through difficult volcanic formations and shallow landscape escarpment features. Artifacts present included a wide range of andesite debitage and quarried andesite stones. Lithic andesite debitage is found across the site area, with most of the material being from primary reduction activities (**Figure 73**). Andesite boulders that are located within the site boundary also have evidence of quarrying, however, lithic reduction appears to have been the primary use of the site. The original Phase I interpretation of the Agoura Trail Site 5 cultural resource was that it was used by prehistoric people primarily for lithic reduction and local observation, with surface quarrying as a secondary activity.

Agoura Trail Site 5 also appeared to have subsurface components that led to the recommendation for further testing as part of a Phase II evaluation prior to final site management recommendations being made as part of the trail project. Site depth was determined by the observed embedment of prehistoric artifacts, soils that appeared to have depth, and due to the embedment of larger stones and boulders within the site boundary, which appeared to be resting on a deeper supporting layer.

Evaluation of Agoura Trail Site 5

The Phase 2 evaluation of Agoura Trail Site 5 included additional detailed mapping of the site boundary and features, and the intensive examination of the stones found within the defined site area. It was soon discovered that lithic material extended farther to the east than originally mapped, and that the site did not extend as farther south as originally thought. The map boundary was changed at this time to show the current site boundary. At the same time, more detailed photography of the path through the rocky formation were also taken (**Figure 74**).

Eight (8) shovel test pits were placed at 5-meter intervals within Agoura Trail Site 5 along a north-south transect, with the center point being located at the center of the rock outcrop that dominates the center of the site. An additional two (2) STPs were later placed to the west off of STP 7 at 2.5-meter intervals. STP1, located near the prehistoric compacted pathway through the rocky area, encountered a moderate number of andesite lithic debitage. STP2, located 5-meters north of STP1, encountered a large amount of lithic debitage, including cores, blocky fragments, and flakes debitage of andesite and chalcedony (**Figure 75**). STP3 and STP4 encountered shallow rocks beneath the surface and no lithic debitage. All of the shovel test pits were ended at between 20 and 35-centimeters in depth due to subsurface rock impediments.

(Confidential Information Removed)

Figure 70: From the Phase I Survey & Phase II Evaluation: Agoura Trail Site 5 showing the proposed trail, the site boundary, and modern impacts (oriented north).

Figure 71: Agoura Trail Site 5 showing the site terrain (facing south).

Figure 72: Andesite debitage (waste flakes and other material) found on the surface of Agoura Trail Site 5.

Figure 73: A quarried purple andesite boulder found within Agoura Trail Site 5 (facing east).

Figure 74: The compacted prehistoric trail segment through the boulder formation at the center of Agoura Trail Site 5 (facing southwest).

Figure 75: The lithic artifacts found in STP, including debitage of andesite and chalcedony.

It was eventually determined from surface examination that a half-circle area of roughly 9-meters east-west and 5-meters north-south was located to the north of the middle of the rock feature in the middle of the site (**Figure 76**). It also appeared that this area had a prepared surface of stones covered with compacted silt and silty-loam as the half circle on the landscape was especially flat with a graded appearance. Since the author has found similar prehistoric features in several sites in the surrounding region (CA-LAN-320 and CA-LAN-41, for example), there is precedence for such prepared task areas to be encountered on Chumash sites. Most likely, this flat area was intentionally constructed and used for lithic reduction as well as for other utilitarian tasks.

STP5 was located just north of the rock area and encountered stones near the surface. STP6, located roughly 5-meters north of the rocky area encountered midden, FAR, a few lithics, and charcoal. STP7 encountered a definite prehistoric heated rock feature at 20 to 25-centimeters below surface, which consisted of disintegrated andesite stone fragments, FAR, burned soil, and charcoal fragments extending downward to an unknown depth (**Figure 77**). STP8 was placed 5-meters south of this feature, but encountered moderate lithics, less organic and burned-appearing soil, and natural rocks at 20-centimeters in depth. The soils farther to the south had much more tan degraded volcanic tuff bedrock in the soil, with no further evidence of heated rock features.

STP9 was placed 2.5-meters east of STP7 and encountered a prehistoric heated rock feature again at 15-centimeters. Present were reddish-colored burned soil, moderate lithics, charcoal fragments, FAR, and disintegrated andesite stone fragments (**Figure 78**). STP10 was placed 2.5-meters further to the east, and produced lithics, and some charcoal to a depth of 30-centimeters without encountering the prehistoric heated rock feature. The final determination was that the prehistoric heated rock feature was roughly 10.0-meters (33-feet) circular to the south of the rock formation in the middle of the site, extending downward to an unknown depth (**Figure 79**). The estimated circular feature aligned well with a notable area absent of plants located on the surface, which was used to confirm the overall circularity and size of the feature.

The lithics examined included cores, blocky-fragments, and a large amount of flake debitage of better-quality andesite material, including colors of blue, purple, and gray. The Phase II tasks determined Agoura Trail Site 5 was mainly used for two prehistoric tasks; lithic primary reduction of quarried material and the processing of some currently unknown plant material within shallow heated rock features. Supporting these activities were prepared surface features, which included the compacted trail and a subfloor of stones north of the trail that filled in terrain undulations, and that was later covered by a thick layer of compacted silt or silty-loam to create a prepared task surface. This construction methodology produced a simple flat task area that covered over any embedded stones or depressions in the landscape at the task location. A secondary site task was the quarrying of the andesite stones and larger rocks found within the cultural resource site boundary.

Within the context of these findings, Envicom evaluated Agoura Trail Site 5 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features.

Figure 76: The rocky formation that dominates Agoura Trail Site 5 (center) had a flat, semi-circular task area to the north (below center) where prehistoric lithic reduction took place (facing south).

Figure 77: STP7 encountered burned soil and disintegrated andesite just below surface (above trowel), which were the first indicators that a large, heated rock feature area had been discovered in Agoura Trail Site 5 (facing west).

Figure 78: STP9 encountered more prehistoric heated rock material, including burned soil, FAR, disintegrated andesite, and charcoal (facing east).

Figure 79: The flat prehistoric heated rock feature area located on the south side of Agoura Trail Site 5; note the absence of vegetation (facing west).

The Phase I & Phase II findings that Agoura Trail Site 1 was originally used by prehistoric people for both lithic reduction and for plant processing indicated a more complex prehistoric site for the region than is normally encountered. Since a number of prehistoric features, such as the prepared task area, the heated rock feature area, and the compacted trail segment, were present as well as a large number of lithic artifacts, Agoura Trail Site 5 also has more feature complexity than is normally found at prehistoric sites in the Santa Monica Mountains foothills, where lithic scatters or lithic quarry sites dominate. Finally, since the site has a proven subsurface component that appears to be intact, the chance for more information being obtained from future scientific research is also high. For these reasons, Envicom recommends that Agoura Trail Site 5 is eligible for the CRHR under Criteria 4.

10.0 2023 PHASE I FIELD SURVEY FINDINGS

On August 15, 2022, in response to the Envicom Phase I & Phase II findings, the City decided to modify the original trail development plan, concentrating only on two trail segments that extended from existing City parking lots without the loop connection (**Figure 80**). This plan, therefore, was the final iteration of the trail project in 2023 and the plan that was then discussed with the Tatatviam tribal group representatives as well as the MRCA. During this same meeting, the City concurred with the recommended evaluation eligibilities for the five (5) sites evaluated by Envicom as part of the Phase II study.

The 2023 Phase I field survey involved a revisiting of the original five (5) prehistoric resources with a member of the Tataviam Tribal Group in January, followed by a survey of the western trail segment between the original proposed trail alignment and "The Ridge" office building located to the west in April (**Figure 81).** The revisit of the original five (5) sites did not change any of the 2022 site boundaries, but did identify two new features of note. For Agoura Trail Site 3, the prehistoric rock alignment of embedded stones near the top of the western task area slope appeared to intentionally continue to the west, which was not seen previously. Light colored stones continued the alignment made by the embedded colored stones previously described (**Figure 82**). The lighter colored stones were partially obscured by brush, and were more visible during the May site visit, hence their discovery at that time.

Between the colored stone alignment and the lighter colored stones appeared to be one of the trail segments over the shallow volcanic escarpment that separated the western quarry part of the site from the eastern task area part of the site. An additional trail segment was located after the lighter colored alignment to the west, which also crossed the shallow escarpment from north to south. The eastern side of the ravine should be examined at some time in the future when the vegetation is low to determine if an obscured rock alignment is located in that area as well. There is some evidence that a compacted trail once was located over the shallow volcanic escarpment on the east side of the ravine, however, since firebreak construction machinery appeared to also use this route, it is unclear whether the observed crossing point was prehistoric or modern in origin (**Figure 83**).

Examination of Agoura Trail Site 1 also discovered a very nice boulder metate within the east-center of the site, which has a well-formed grinding surface (**Figure 84** and **Figure 85**). The discovery of this groundstone feature supported the dual use of the site for plant material processing as well as for the lithic reduction of local andesite material. The revisit of the original five (5) prehistoric sites also involved the photographing of each site during the lowest vegetation growth period of the year, which enhanced some site feature imaging. Some of the modern firebreak features were especially noticeable. After the site visit, the Tataviam tribal group approved of the new trail plan as shown in Figure 80.

After the January site revisit, the City decided to see if the proposed trail could be further extended to the west to connect with "The Ridge" office complex, which would create a connection with existing trail segments located south and west of that facility. Envicom conducted a surface survey of the possible routes between the approved trail segments and "The Ridge," especially where fording of the ravine east of "The Ridge" was possible (**Figure 86**). The current proposed route is provided in **Figure 87**, which places the proposed western trail segment mostly within known modern firebreak routes. During the survey of the possible western trail segment location, Envicom discovered three (3) additional prehistoric cultural resources (Agoura Trail Site 6, Agoura Trail Site 7, and Agoura Trail Site 8), which will be described in detail next. Agoura Trail Site 7 will eventually be added to archaeological site CA-LAN-320 to the west of the project, but for now will contain the temporary designation provided.

(Confidential Information Removed)
Figure 80: The proposed trail route (red) at the end of 2022 (oriented north).

Figure 81: All five (5) of the original discovered prehistoric archaeological sites were revisited in early 2023 by Envicom and a representative of the Tataviam tribal group; shown is the center rock feature of Agoura Trail Site 5 (facing south).

Figure 82: Examination of Agoura Trail Site 3 in January of 2023 noted that the embedded rock alignment of colored stones (below center) extended to the west with additional embedded stones (center) (facing west).

Figure 83: A compacted trail segment (above center) may cross the shallow volcanic escarpment on the east side of the ravine in Agoura Trail Site 3, however, modern firebreak construction may be the origin of this feature (facing east).

Figure 84: The boulder metate discovered in the center-east of Site Area 1 in January of 2023.

Figure 85: Another view of the boulder metate discovered in Site Area 1 in 2023.

Figure 86: The area surveyed for the 2023 western trail extension (the existing approved trail is within the firebreak paths shown at the far right, and "The Ridge" office complex is shown at the far left) (oriented north) (2023 Google Earth image).

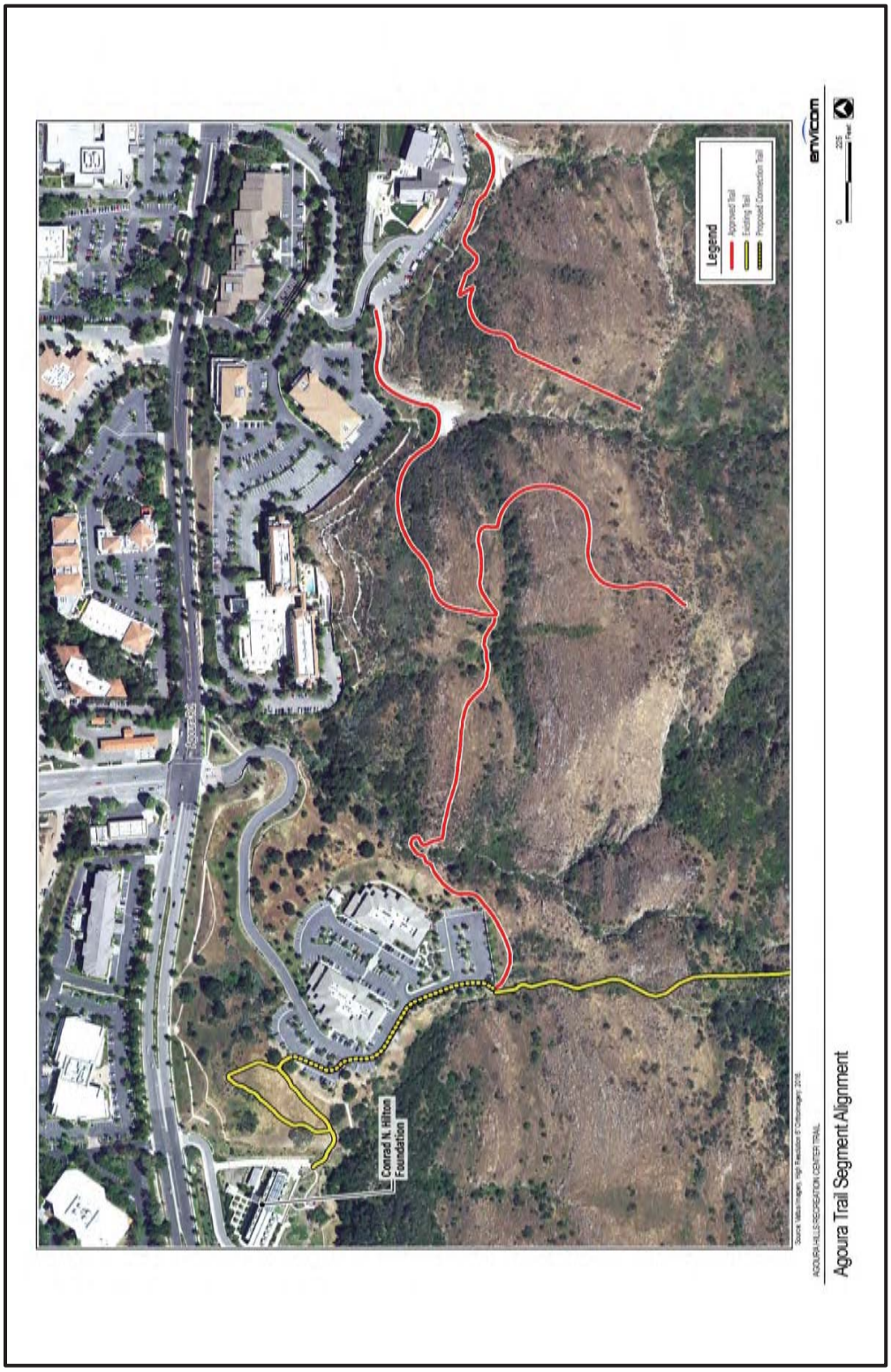

Figure 87: The proposed trail route (red) after all 2023 field studies and Tribal consultation.

Agoura Trail Site 6

Cultural resource Agoura Trail Site 6 was discovered as part of the 2023 Phase I survey of the western trail segment that connects the 2022 approved trail route with "The Ridge" office complex. The cultural resource is interpreted as being a prehistoric archaeological site of roughly 32-meters east-west x 30-meters north-south (105-feet x 98-feet), located to the north of the current proposed western trail segment route (**Figure 88**). This site was discovered during survey of a possible trail path closer to the exposed bedrock feature north of the trail route. The proposed western trail segment was instead placed farther to the south within modern firebreak impacts.

The site is mostly rugged and covered with andesite cobbles and stones, with sporadic vegetation and grasses covering the surface (**Figure 89**). Agoura Trail Site 6 is bounded to the north by rugged vegetation and a steep slope, which could not be easily entered, to the east by a wide modern firebreak disturbance, to the south by dense grass and loam, and to the west by a steep slope that drops down to a natural ravine. The site boundary was defined by a light scatter of lithic material and some limited quarrying of the local andesite rocks and boulders. Two modern firebreak impacts were observed within the site, which had created additional broken andesite material and that had damaged the site surface extensively (**Figure 90**). Firebreak andesite material could easily be differentiated from prehistoric lithic material due to stone breakage differences and from the whitening of the stone that mechanical impacts cause.

Agoura Trail Site 6 has no prehistoric surface features, but is covered with a low density of andesite lithic debitage and some quarried andesite rocks and boulders (**Figure 91**). Exotic lithic material was not observed nor were prehistoric features. No evidence of a subsurface element was observed from examination of the site surface. There was also no evidence of groundstone material or evidence of plant material processing, leading to the conclusion that the site was used for sporadic lithic quarrying and lithic reduction only.

Evaluation of Agoura Trail Site 6

The Phase II evaluation of Agoura Trail Site 6 was confined to more intensive mapping of the site boundary and examination of the stones found within the defined site, mostly to assess whether any were used in plant material processing. The mapping task involved Envicom staff walking the site, however, little additional information was obtained during this task, especially since most of the site rests on exposed or near-surface bedrock. Due to the lack of subsurface complexity, no shovel test pits were placed in the site. During the Phase II mapping task, it was noticed that the site had been impacted by mechanical firebreak construction equipment in at least two places, which entered the site from the south, crossed the site, then turned around and exited the site back toward the south.

Within the context of these findings, Envicom evaluated Agoura Trail Site 6 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features. The findings from the Phase I survey & Phase II evaluation of Agoura Trail Site 6 determined that the quarried stones and scant lithic debitage that define the site are non-unique site features and that Agoura Trail Site 6 is similar to large numbers of such small lithic quarrying and reduction sites found across the Santa Monica Mountain foothills. Since there is no subsurface component to the site that is different than what is expressed on the surface, the recordation of the quarried stones and scant lithic artifacts is sufficient to provide the majority of information available from this site for future scientific research. The findings from the Phase II evaluation tasks, therefore, do not support a recommendation of Agoura Trail Site 6 as being eligible for the CRHR under any Criteria.

(Confidential Information Removed)

Figure 88: From the 2023 Phase I Survey of the Agoura Trail western extension: Agoura Trail Site 6 showing the final site boundary and modern firebreak impacts (oriented north).

Figure 89: The landscape of Agoura Trail Site 6 consists of thing soil over volcanic bedrock, with andesite rocks and larger stones, some of which have been quarried (facing south).

Figure 90: One of the two modern firebreaks that have impacted Agoura Trail Site 6 (facing south).

Figure 91: Some of the andesite lithic debitage found at Agoura Trail Site 6 (facing northeast).

Agoura Trail Site 7

Cultural resource Agoura Trail Site 7 was discovered as part of the 2023 Phase I survey of the western trail segment that connects the 2022 approved Agoura Hills Recreation Center Trail route with "The Ridge" office complex parking lot. One of the possible trail routes dropped below the shallow bedrock escarpment that crosses the project region from east to west, then connected with "The Ridge" property north of the bedrock formation. Due to the discovery of extensive prehistoric features and artifacts, this route was abandoned, and the proposed western trail segment was instead placed farther to the south within modern firebreak impacts. The Agoura Trail Site 7 is interpreted as being a complex prehistoric archaeological site of roughly 120-meters northwest-southeast x 84-meters southwest-northeast (393-feet x 275-feet), located to the north of the current proposed western trail segment route (**Figure 92**).

Agoura Trail Site 7 is covered in chapparal and sparse oak groves, with some riparian habitat along the western creek ravine (**Figure 93** and **Figure 94**). To the south, the shallow volcanic bedrock escarpment forms a notable landscape feature. Major slope drops can also be found to the east, northeast, north, and southwest. Two seasonal creeks are located to the east and west of the site, which are found in deep ravines that have cut through layers of volcanic alluvial material and bedrock. The landscape slopes are much less pronounced to the southeast, south, and west, with some of the slope modification being due to prehistoric grading of the terrain. The overall site boundary is marked by steep slopes to the north and east, by the western ravine margins to the west, and by bedrock formation to the south.

Agoura Trail Site 7 also contains four distinct site sub-areas (A, B, C, and D), which are defined by changes in slope, prehistoric features present, vegetation present that may indicate subsurface development or heated rock features, landscape elevation, and proximity to the western creek ravine. Due to the prehistoric features and artifacts found in each site sub-area being notably different, each sub-area will next be described separately. Additionally, since Agoura Trail Site 7 is recommended as being eligible to the CRHR as a prehistoric cultural resource under Criteria 4 (scientific information), each sub-area will be further assessed as to the strength of contribution to that recommendation.

Agoura Trail Site 7: Site Area A

Site Area A is located along the southern edge of the Agoura Trail Site 7 cultural resource and is dominated by the northern margins of the shallow volcanic bedrock feature that runs east-west through the region (**Figure 95**). Site Area A has several prehistoric trail features, both along the lower side of the volcanic bedrock formation and heading down slope within the site (**Figure 96** and **Figure 97**). The vegetation is also denser than that found in Site Area B to the north, but sparser than is found to the east and north along the base of the volcanic escarpment, most likely due to prehistoric slope compaction or subsurface grading; both of which can hinder certain plant growth.

Site Area A also has a semi-graded slope downward that connects the southern bedrock formation with Site Area B to the north. A low density of embedded rock features and lithic reduction debitage is visible on the surface of Site Area A, mostly along the trails located at the base of the bedrock formation and within the central slope down to Site Area B (**Figure 98**, **Figure 99**, and **Figure 100**). Some of these features appear to have been retention for shallow terraces or platforms. There may at one time have been task activity locations throughout Site Area A due to the compacted soil and suspected terracing, but the primary purpose of the site area features appear to have been for simplifying travel through Agoura Trail Site 7 between the Conejo Valley and the upper foothills.

(Confidential Information Removed)

Figure 92: From the 2023 Phase I Survey of the Agoura Trail western extension: Agoura Trail Site 7 showing the final site boundary and individual site sub-areas (oriented north).

Figure 93: Agoura Trail Site 7 from above (facing north).

Figure 94: Agoura Trail Site 7 from the west side of the ravine (facing east).

Figure 95: Site Area A of Agoura Trail Site 7, showing the bedrock formation and embedded andesite boulders that dominates the southern site area (facing northeast).

Figure 96: A compacted trail segment runs along the bottom of the bedrock formation through much of Agoura Trail Site 7, Site Area A (facing west).

Figure 97: Another trail segment at the base of the bedrock formation (facing northeast).

Figure 98 (left): A size-sorted embedded rock feature found in Site Area A, which may be retaining for a terrace (facing east).

Figure 99 (right): Another size-sorted embedded rock feature found in Site Area A, which may again be for supporting a terrace (facing northwest).

Figure 100: A suspicious rock formation found in a Site Area A clearing, with a larger rock placed over a larger number of smaller size-sorted stones (facing north).

The artifact types observed on the surface were exclusively of andesite debitage, with some larger stones possibly being quarried in place. The entire surface has a low density of andesite cobbles and other alluvial volcanic material, but the quality is poor and it appears that most of the andesite found in the site area was sourced elsewhere and reduced at the location. No groundstone material was observed.

The current interpretation is that Site Area A represents a functional part of Agoura Trail Site 7, with most prehistoric modification of the landscape being to improve slope conditions, either through compaction, grading of undulations, or by the formation of shallow terraces or trail paths to facilitate travel. Though some lithic reduction and possibly quarrying of local materials took place, the primary purpose of the site sub-area was to facilitate access from the Conejo Valley to the foothill uplands. Site Area A should, therefore, be considered as a moderately-contributing element to the eligibility of Agoura Trail Site 7 for the CRHR due to the functional prehistoric features present. Since no subsurface testing has been done in Site Area A yet, such studies may find more complex prehistoric feature development than is currently observed on the surface, which may change the final contribution classification of the site area.

Agoura Trail Site 7: Site Area B

Site Area B is located in the middle of the Agoura Trail Site 7 cultural resource and is dominated by more open, flat, and graded terrain that is more or less horizontal (**Figure 101** and **Figure 102**). Numerous prehistoric features, and dozens of prehistoric andesite, chalcedony, and geode (fused chalcedony and quartz) artifacts can be found on the surface. The vegetation is sparse, which often is an indicator of dense subsurface features; either subsurface subfloor development under prehistoric pavement or heated-rock features. Chaparral shrubs and short trees can be found across the site, however, the density of these taller plants is low in Site Area B. Where the Site Area B edge meets steeper slopes, vegetation density and plant size increases dramatically, which acts as an excellent marker for the site area boundary.

A single rodent burrow was noted on site, which suggested deep, dense loam soil. This soil was not produced from introduced oatgrass as is found elsewhere in the region, but most likely originated from the prehistoric occupation and use of the site area. The soil is not classic midden material, which often has micro-artifacts, charcoal, and organic material, but the density is an unusual site element that should be explored further in the future. Present in the soil was a small number of andesite lithics and some heated rocks, similar in type to the heated-rock features found elsewhere at Agoura Trail sites. It is, therefore, highly probable that some of the clearings contain extensive subsurface heated-rock features.

Site Area B is dominated by a short platform or terrace feature, which is artificial and probably prehistoric in origin (**Figure 103** and **Figure 104**). As previously noted, subsurface grading features probably exist across the site sub-area due to the flat terrain and lack of vegetation. The subfloor features would have originally supported a graded, paved, or compacted surface covering, which may still be present just beneath the surface in some parts of the site area. The platform has few artifacts and the general area surrounding the feature is also mostly clear of lithic material. The platform feature is roughly in the shape of a rounded rectangle, being elongated somewhat from east to west.

Several linear embedded stone alignments are also found in Site Area B, which are made up of larger stones than those in Site Area A to the south. These features may also have been used for retaining for terrace or activity areas, though the spacing of the stones suggests a different purpose may have been planned (**Figure 105**). Additional cleared areas are present away from the platform, as are other embedded stone features of unknown purpose (**Figure 106**). Again, subsurface testing may discover additional prehistoric site features, including subfloor layers, pavements, or heated-rock features.

Figure 101: Agoura Trail Site 7, Site Area B (right of center) is much more open and graded flat than other parts of the cultural resource (oriented north) (2020 Google Earth image).

Figure 102: The flat, open terrain of Site Area B at ground level (facing northwest).

Figure 103: The small platform feature that dominates the middle of Site Area B is of unknown purpose (facing east).

Figure 104: Another view of the small platform feature in the middle of Site Area B (facing northeast).

Figure 105: Agoura Trail 7, Site Area B has a small number of embedded rock alignments and features, including this line of spaced larger stones (facing east).

Figure 106: Agoura Trail 7, Site Area B also contained the shown embedded rock feature of unknown purpose (facing southwest).

A notable feature at the western edge of the site area is a large andesite boulder that has been decorticated and most likely moved to its present location (**Figure 107** and **Figure 108**). Such stones were often used as "marker stones" by the prehistoric people of the area; providing simple, visual cues that noted ownership or provided a message that an important area was being entered. The large ceremonial site of CA-LAN-320 located just west of the Agoura Trail 7 site is covered with similar marker stone features. In the case of Agoura Trail Site 7, the location of the andesite boulder is exactly at the transition from the flat Site Area B sub-area to the sloped Site Area C sub-area and would have been along the main travel corridor from the Conejo Valley into the foothill uplands. Alternatively, since the stone is in the middle of the chalcedony and geode artifacts and cobbles found on the surface of the site, the marker stone may have noted ownership of the quarry resource.

Across the surface of Site Area B are a moderate scattering of andesite, chalcedony, and geode debitage artifacts (**Figure 109** and **Figure 110**). Surface mapping of the chalcedony and geode artifacts found that this material was concentrated in a large oval area (shown on master site map), which included part of Site Area B northwest of the central platform feature, but that mostly was found on the slope of Site Area C to the west. The chalcedony and geode artifacts most likely came from a patch of volcanic alluvial material that was eroding out of the surface of Site Area C, which included a number of unmodified chalcedony cobbles and larger stones. The artifacts found in Site Area B probably were deposited during lithic reduction of the quarried material as most of the chalcedony and geode artifacts exhibited knapping scars. Overall, the chalcedony and geode artifacts found in Site Area B only represented about a quarter of the entire amount of these artifacts found at Agoura Trail Site 7; the majority being located further to the west in Site Area C as shown on the site map.

Andesite debitage was also found evenly throughout the site area, including to the south, which was probably due to alluvial volcanic andesite cobbles being spread more widely across the Site Area B terrain (**Figure 111** and **Figure 112**). The andesite was of mixed quality, with most of the material being from primary lithic reduction. No formal tools were observed in the deposited material. Most likely, andesite reduction was a secondary task to the activities centered on the platform area and the chalcedony/geode quarrying as the density of such material was not great.

The discovery of the chalcedony and geode quarry at Agoura Trail Site 7 answered an important material sourcing question that came about from research work at nearby CA-LAN-320, which had large amounts of such material embedded in ceremonial prehistoric features on that site. Finding a source location for at least some of the chalcedony and geode material found deposited at CA-LAN-320 in a ceremonial context can now be added to similar quarry sites discovered locally for meta-chalcedony, andesite, basalt, and sandstone. Through this work, a map of the procurement and initial reduction sites for most of the special stone material used at CA-LAN-320 for ceremonial purposes can now be created, which will greatly help in the analysis of the larger, ceremonial landscape for the site, rather than just where the feasting and dancing took place.

The current interpretation of Site Area B is that it was used for important, but currently unknown prehistoric activities that centered on the large platform in the middle of the site area. The cleared nature of the site suggests extensive subsurface feature creation, which most likely involves subfloor development, pavement, or heated-rock features. The site area was also important for the reduction of chalcedony and geode material quarried from Site Area C, and that was probably then used for ceremonial purposes at CA-LAN-320, located nearby to the west. Overall, Site Area B should be considered to be a contributing element to the eligibility of Agoura Trail Site 7 for the CRHR and most likely a contributing element to the site being a TCR.

Figure 107: This large round decorticated stone marked the middle of the chalcedony/geode quarry and reduction area as well as the transition in slope from Site Area B to Site Area C (facing north).

Figure 108: Most likely the stone was a "marker stone" signifying ownership or messaging that an important area was being entered (facing north).

Figure 109: A chalcedony debitage artifact from Site Area B.

Figure 110: A geode debitage artifact from Site Area B.

Figure 111: A purple andesite debitage artifact from Site Area B.

Figure 112: Another purple andesite debitage artifact from Site Area B.

Agoura Trail Site 7: Site Area C

Site Area C is located in the center-west part of the Agoura Trail Site 7 cultural resource and is dominated by a gentle east-west slope from the complex features of Site Area B downward to the flat task areas located along the western creek ravine bottom in Site Area D (**Figure 113**). The vegetation is denser chapparal than that found in Site Area B, with scrub trees and shrubs surrounded by patches of oat grass and shorter vegetation, but not as dense as the oak groves found in nearby Site Area D. The slope contains a large amount of volcanic and andesite cobbles and larger rocks embedded in soil which appear to be marine-originating igneous alluvial material. Some cobbles and larger stones of chalcedony and quartzite are found within the volcanic material. The prehistoric quarry area in the center of the site contains denser shrubs and supports different species of plants, probably due to the volcanic material present, with more open grass being found in the southern part of the site sub-area (**Figure 114**).

Site Area C was dominated by a large prehistoric chalcedony and geode quarry, which is shown on the site master map. Debitage from prehistoric quarrying activity can be found throughout the area shown, with chalcedony and geode waste flakes from primary reduction being found as well as raw chalcedony rocks and cobbles with no evidence of prehistoric reduction (**Figure 115**, **Figure 116**, **Figure 117**, and **Figure 118**). Andesite debitage and one chert artifact were also found in the quarry area (**Figure 119**). The actual quarry part of the chalcedony and geode area is in the middle of the distribution oval shown on the map, and is located directly below the large, decorticated andesite boulder found at the border between Site Area B and Site Area C, supporting that this was a marker stone for the quarry resource; either showing ownership or the location of the quarry. The quarry area diminishes toward the bottom of the artifact oval, with most chalcedony and geode artifacts at the base of the slope probably being deposited due to gravity or during rain events.

Along the northern edge of the artifact area, both in the northern oval and just outside the oval, is a linear task area or trail path, which has extensive subsurface grading and compaction and surface paving (**Figure 120** and **Figure 121**). This notable prehistoric feature most likely provided ease of travel from the lower elevations to the work areas in Site Area B, but also provided a flat, graded task area for reducing chalcedony and geode nodules from the nearby quarry. The trail also appears to have been a prehistoric boundary feature for the quarry itself since the vast majority of chalcedony and geode material, especially the unworked stones, are found immediately south of this feature. Also present are andesite rocks, cobbles, and debitage, supporting that generalized surface quarrying and reduction of this material also took place in the site sub-area.

It appears that the actual quarry area of Site Area C appears to have been left untouched by prehistoric feature development, which probably indicated that the prehistoric occupants relied upon yearly rains to expose new geode and chalcedony cobbles and larger rocks for reduction, though some digging may have been undertaken as well. The pavement feature to the north allowed access from Site Area D to Site Area B and acted as a task area for the reduction of material from the chalcedony/geode quarry. Andesite appears to have been evenly distributed throughout the site, so the surface quarrying and reduction of this material does not appear to have been a main reason of feature creation in the site area. Finally, one possible groundstone artifact, a volcanic metate fragment, was found in Site Area C, which suggests that limited plant material processing may also have taken place at the site (**Figure 122**).

Figure 113: Site Area C of Agoura Trail Site 7, showing the quarry area, slope that dominates the site sub-area, and the dense vegetation (facing east).

Figure 114: The southern part of Site Area C, showing the slope and open grass areas, with the quarry located in the denser shrubs in the background (facing north).

Figure 115: A geode and chalcedony artifact showing extensive reduction found near the lower-middle part of the quarry location in Site Area C.

Figure 116: A large tested cobble of geode and chalcedony found in the prehistoric quarry in Site Area C.

Figure 117: Additional chalcedony and geode debitage and cores from the prehistoric quarry located in Site Area C.

Figure 118: An unmodified chalcedony cobble found in the south-middle part of the prehistoric quarry in Site Area C; spalling is from the 2018 Woolsey Fire.

Figure 119: Andesite and chert debitage artifacts found in the quarry location in Site Area C.

Figure 120: The prepared surface found along the northern edge of the prehistoric quarry location (facing northwest).

Figure 121: Another view of the prepared surface and path found along the northern edge of the prehistoric quarry location (facing east).

Figure 122: The suspected volcanic metate fragment found in the prehistoric quarry area of Site Area C.

Site Area C was an important prehistoric source of the chalcedony and geode material, which has been found in ceremonial context at nearby CA-LAN-320. The prehistoric construction of the trail and task area that links Site Area D at the base of the slope that dominates Site Area C with the task areas at the top of the slope in Site Area B was of high quality and durability when compared with other prepared surfaces, underscoring the importance of both the chalcedony/geode quarry and of Agoura Trail Site 7 as a part of the CA-LAN-320 ceremonial system. For these reasons, Site Area C should be considered to be a contributing element to the eligibility of Agoura Trail Site 7 for the CRHR and most likely a contributing element to the site being a TCR.

Agoura Trail Site 7: Site Area D

Site Area D is located in the western part of the Agoura Trail Site 7 cultural resource and is dominated by open, graded, and horizontal prehistoric task areas located along the margins of the western creek channel where it first opens out into the Conejo Valley (**Figure 123** and **Figure 124**). Due to tall grass, no artifacts were visible on the surface of Site Area D, however, similar creek side task areas found at CA-LAN-320 to the west had evidence of moderate andesite lithic reduction. Additionally, the compacted flat task area found in Agoura Trail Site 3 is similar to the task features found in Site Area D, which are always either on a flat, horizontal surface located along creek channels, or on gentle nearby slopes that lead to major paths or travel routes.

The current interpretation is that Site Area D represents a functional part of Agoura Trail Site 7, with most prehistoric modification of the landscape being to improve grading conditions, either through compaction or by the filling in and grading of surface undulations. This grading then supported task area use along the western ravine creek as well as transit from the Conejo Valley to the upper foothills through the middle of Agoura Trail Site 7. It is also possible that some lithic reduction and possibly plant material processing took place in Site Area D, but the tall grass prohibits the confirmation of these activities. Currently, Site Area D should, therefore, be considered as a moderately-contributing element to the eligibility of Agoura Trail Site 7 for the CRHR due to the functional prehistoric features present. Since no subsurface testing has been done in Site Area D yet, such studies may find more complex prehistoric feature development than is currently known, which may change the final contribution classification of the site area.

Evaluation of Agoura Trail Site 7

The Phase II evaluation of Agoura Trail Site 7 was confined to more intensive mapping of the site boundary and examination of the embedded stones and artifacts found within the defined site. The mapping task involved Envicom staff walking the site, which greatly expanded on the understanding of site organization, features, conditions, and artifact concentrations, especially the location and boundaries of the prehistoric quarry area and the paved and compacted site features.

Dr. Bischoff concluded that enough information was obtained from surface examination and mapping alone to determine that Agoura Trail Site 7 was eligible to the CRHR as a prehistoric cultural resource. The prehistoric site was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features. The findings from the Phase I survey and the Phase II evaluation of Agoura Trail Site 7 determined that the number of visible prehistoric features, the extensive prehistoric modification of the landscape, and the unexpected density of rare lithic types (chalcedony and geodes) all supported that the site was eligible to the CRHR. Envicom, therefore, recommends that Agoura Trail Site 7 is eligible for the CRHR under Criteria 4 (scientific information). Further, the site is probably eligible as a TCR under AB-52 and should be treated accordingly in any future management or construction projects.

Figure 123: The margins of the western creek within Site Area D appear to have been modified through the use of prehistoric grading and surface filling features to create horizontal task areas (facing northeast).

Figure 124: Both sides of the western creek in Site Area C have notably flat areas, which have been interpreted at other regional prehistoric sites as being intentionally constructed and used for lithic reduction, plant material processing, and as local trails (facing southwest).

Agoura Trail Site 8

Cultural resource Agoura Trail Site 8 was discovered as part of the 2023 Phase I survey of the western trail segment that connects the 2022 approved trail route with "The Ridge" office complex. The cultural resource is interpreted as being a prehistoric archaeological site of roughly 72-meters northeast-southwest x 36-meters southwest-northeast (236-feet x 118-feet), located to the north of the current proposed western trail segment route (**Figure 125**). This site was discovered during survey of a possible trail path closer to the exposed bedrock feature north of the trail route. The proposed western trail segment was instead placed farther to the south within modern firebreak impacts that terminate near several large boulders that have been placed within the boundary of Agoura Trail Site 8.

The site is mostly rugged and covered with andesite cobbles, stones and boulders, with sporadic vegetation and grasses covering the surface. The site area consists of an upper area that is dominated by the abovementioned boulders and a lower area near the bottom of the ravine and stream to the west (**Figure 126** and **Figure 127**). The mixed elevation between the two contains numerous additional rocks and boulders, as well as some riparian habitat (**Figure 128**). The creek itself was flowing at the time of the survey, with the site containing a well-formed natural ford over the creek that leads to a natural path up toward "The Ridge" office building. No modern impacts to the site landscape were observed.

Agoura Trail Site 8 is bounded to the north by rugged vegetation and a steep slope associated with the northern bedrock escarpment, to the east by a modern firebreak that cuts north-south across the landscape, to the south by dense grass and chapparal vegetation within thick loam, and to the west by the western ravine creek channel. The site boundary was defined by a light scatter of lithic material and some limited quarrying of the local andesite rocks and boulders, with such evidence notably dropping off in all directions from the site. The modern north-south firebreak was a notable modern impact on the landscape, which extended into the bedrock escarpment somewhat and that created a natural boundary for the site to the east.

Agoura Trail Site 8 has no prehistoric surface features, but is covered with a low density of andesite lithic debitage and some quarried andesite rocks and boulders (**Figure 129**, and **Figure 130**). Exotic lithic material was not observed nor were prehistoric features. No evidence of a subsurface element was observed from examination of the site terrain due to the presence of extensive subsurface volcanic bedrock beneath thin layer of loam within the site boundary. There was also no evidence of groundstone material or evidence of plant material processing, leading to the conclusion that the site was used for sporadic lithic quarrying and lithic reduction only.

Evaluation of Agoura Trail Site 8

The Phase II evaluation of Agoura Trail Site 8 was confined to more intensive mapping of the site boundary and examination of the stones and boulders found within the defined site, mostly to assess whether any were used in plant material processing. The mapping task involved Envicom staff walking the site, however, little additional information was obtained during this task, especially since most of the site rests on exposed or near-surface bedrock. Due to the lack of subsurface complexity, no shovel test pits were placed within the site boundary.

Within the context of these findings, Envicom evaluated Agoura Trail Site 8 to determine if it was eligible to the CRHR under Criteria 4 (scientific information). The prehistoric resource was not evaluated under CRHR Criteria 1 (important local events), Criteria 2 (important persons), or Criteria 3 (important architectural styles) as prehistoric resources are not associated with documentary records and the site had no observable architectural features.

(Confidential Information Removed)

Figure 125: From the 2023 Phase I Survey of the Agoura Trail western extension: Agoura Trail Site 8 showing the final site boundary (oriented north).

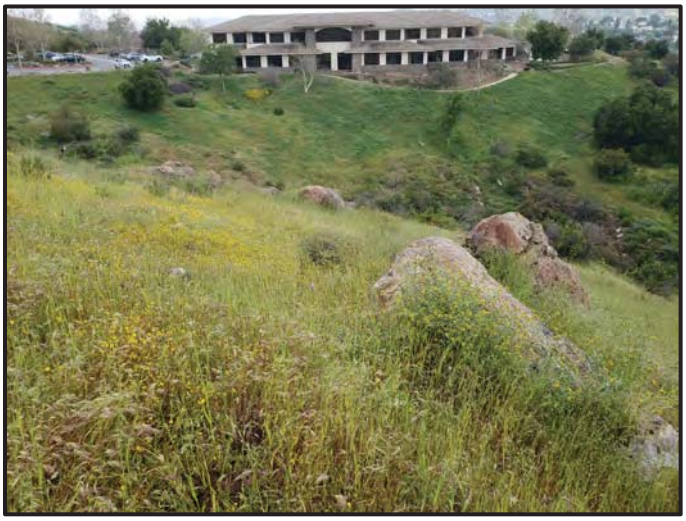

Figure 126: The large boulders found on the upper landscape of Agoura Trail Site 8, some of which have evidence of prehistoric quarrying (facing west).

Figure 127: The lower landscape of Agoura Trail Site 8, which also contains andesite boulders that have been quarried (facing north).

Figure 128: The middle landscape of Agoura Trail Site 8, which contains smaller andesite rocks, again with some that have been quarried (facing west).

Figure 129: A large blue-gray andesite boulder near the creek edge within Agoura Trail Site 8 that shows evidence of lithic quarrying (facing south).

Figure 130: A large purple andesite boulder near the creek edge within Agoura Trail Site 8 that shows extensive evidence of lithic quarrying (facing north).

The findings from the Phase I survey and the Phase II evaluation of Agoura Trail Site 8 determined that the quarried stones and scant lithic debitage that define the site are non-unique site features and that Agoura Trail Site 8 is similar to large numbers of such small lithic quarrying and reduction sites found across the Santa Monica Mountain foothills. Since there is no subsurface component to the site that is different than what is expressed on the surface, the recordation of the quarried stones and scant lithic artifacts is sufficient to provide the majority of information available from this site for future scientific research. The findings from the Phase II evaluation tasks, therefore, do not support a recommendation of Agoura Trail Site 8 as being eligible for the CRHR under any Criteria.

Western Trail Extension Summary

The 2023 Envicom survey of several proposed routes between the existing approved Agoura Hills Recreation Center Trail and "The Ridge" office complex located to the west narrowed down a trail path that was least impactful to cultural resources. During this survey work, three new prehistoric cultural resources were discovered (**Figure 131**). Agoura Trail Site 6 was a prehistoric lithic reduction area that had little integrity due to modern firebreak machinery impacts. This site was recommended by Envicom to not be eligible to the CRHR under any criteria. Agoura Trail Site 7 was an intact complex prehistoric site, with multiple identifiable features, activity areas, quarry locations, and ceremonially-important artifacts. Four site sub-areas were identifiable, which were each evaluated as to their weight in contribution to a final CRHR eligibility recommendation.

Envicom concluded that the site was eligible to the CRHR under Criteria 4 (scientific information), and that Site Areas B and C were fully contributing to this eligibility, but that Site Areas A and D were only moderately contributing to this eligibility. Envicom also recommended that the site is probably a TCR as defined by AB-52, with the same levels of contribution for the site sub-areas as was put forth under the CRHR evaluation. Using the survey information, the CRHR site evaluations, and the separate biology survey information, Envicom produced a final recommended trail route for the western trail extension that would have the least impacts to both cultural and biological resources (**Figure 132**).

(Confidential Information Removed)

Figure 131: The three cultural resources discovered between the approved Agoura Hills Recreation Center Trail (at far right) and "The Ridge" office complex (at far left) (oriented north).

(Confidential Information Removed)

Figure 132: The recommended route for the added western extension of the Agoura Hills Recreation Center Trail (oriented north).

11.0 RECOMMENDATIONS

Envicom recommends the following pre-construction and construction phase tasks and contingency actions to take place in the case of discovery situations.

Trail Construction-Phase Recommendation 1: Archaeological and Native American Monitoring

For the current City trail plan and for any future City or MRCA trail plans that are constructed within the recorded archaeological sites described in this report, or within 0.25-miles of such sites, the City or MRCA shall retain a professional archaeological monitor and a Native American monitor who has a cultural affiliation to the project region to observe all ground disturbing activities along the entire currently proposed or future proposed trail route.

If prehistoric artifacts are encountered that are similar to such materials described in this report, then such artifacts can be relocated to a safe and more hidden part of either the archaeological site that construction is located within, or to a place away from the trail if construction is not within or near a known archaeological site. If prehistoric exotic materials or features are encountered, such as a previously unknown prehistoric feature, burial, shell, or faunal material, then trail construction work will cease within 30-feet of the discovery and a principal archaeologist will be contacted to assess the find. If the principal archaeologist confirms that the find is of consequence and cannot easily be relocated, then the City or MRCA will be notified and a course of action will be discussed between the City or MRCA representative, the principal archaeologist, and the Native American monitor.

Trail Construction-Phase Recommendation 2: Reburial of Native American Artifacts

If consultation regarding the discovery of an additional prehistoric or ethnographic Native American cultural resource leads to an agreed upon course of action between the City or MRCA, the project principal archaeologist, and the Native American monitor, and if the discovery is determined to be a TCR, then the City or MRCA shall consult with all Native American Tribal Group representatives who have a cultural affiliation with the project region as to the disposition and treatment of any prehistoric or Native American ethnographic materials encountered during trail construction. Once all invited Native American groups have been consulted with, the City or MRCA will then select a course of action for the reburial of all uncovered artifacts or features determined to be "of importance" in a way that best matches the suggestions of the consultation group. It is preferred that all artifacts uncovered be placed at a secure location within the nearest of the known prehistoric sites discussed in this report, or at a location away from the proposed trail if the discovery is located outside of known sites.

Recommendation 3: The Inadvertent Discovery of Human Remains

State of California Health and Safety Code Section 7050.5 addresses the inadvertent discovery of human remains, which is always a possibility during ground disturbance. The first step is to call the County Coroner, who will determine whether the remains are Native American in origin or not. In the case of the discovery of prehistoric or ethnographic Native American remains, the Native American Heritage Commission of the State of California states that the following process should be followed:

> **"1. Call the County Coroner. (Health and Safety Code section 7050.5)**. The County Coroner, and not the NAHC, site archaeologists, monitors, or anyone else, determines that the remains are Native American for purposes of the NAHC's jurisdiction. If they are, the County Coroner will contact the NAHC. **The NAHC does not have jurisdiction to designate Most Likely Descendants until the County Coroner determines that the remains discovered are Native American.** The landowner shall ensure that the immediate vicinity of the remains, according to generally accepted cultural or archaeological standards or practices, is not damaged or disturbed

further by development activity until the landowner has discussed and conferred with the Most Likely Descendants regarding their recommendations. The coroner shall make his or her determination within two working days from the time when the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of human remains. If the coroner determines the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American or has reason to believe that there are those of a Native American, he or she shall contact the NAHC, by telephone, within 24 hours.

"2. The NAHC Environmental and Cultural Staff will designate which California Native American Tribe on its Most Likely Descendants list is the Most Likely Descendant of the Native American whose remains were discovered and contact that Tribe. (Public Resources Code sections 5097.94(a), 5097.98)

"3. The Tribe designated as MLD will have 48 hours from the point at which they are granted access by the landowner of the property to where the remains were discovered to inspect the site where the remains were discovered and make recommendations or preferences for treatment know to the landowner. The landowner shall discuss and confer with the MLDs all reasonable options regarding the MLDs preferences for treatment, which may include:

a. The nondestructive removal and analysis of human remains and items associated with the Native American human remains.

b. Preservation of the Native American human remains in place.

c. Relinquishment of the Native American human remains to the MLDS for treatment.

d. Other culturally appropriate treatment. (Public Resources Code section 5097.98).

"4. The parties may also agree to extend discussions, taking into account the possibility that additional or multiple Native American human remains are located in the project area, providing a basis for additional treatment. (Public Resources Code section 5097.98)

"5. If the NAHC is unable to identify MLDs, the identified MLDs fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendations of the MLDs and the mediation provided for under Public Resources Code section 5097.98, subdivision (k), if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. To protect these sites, the landowner shall do one or more of the following:

(1) Record the site with the commission or the appropriate Information Center.

(2) Utilize an open-space or conservation zoning designation or easement.

(3) Record a document with the county in which the property is located. The document shall be titled "Notice of Reinterment of Native American Remains" and shall include a legal description of the property, the name of the owner of the property, and the owner's acknowledged signature, in addition to any other information required by this section. The document shall be indexed as a notice under the name of the owner. (Public Resources Code section 5097.98)"

12.0 CONCLUSIONS

The City has proposed to construct a new trail system south of City property within the foothills of the Santa Monica Mountains. The proposed Agoura Hills Recreation Center Trail comprises the creation of new trail segments, overlook viewing spots, and connections to previously existing trail systems on currently undeveloped land. The project is located in the eastern Conejo Valley, between the Simi Hills to the north and the Santa Monica Mountains to the south, and within the northern foothills of the Santa Monica Mountains. The project is comprised of approximately 4800-feet of new dirt trail includes land mainly located land that is under the ownership of the MRCA, a small portion by private companies, and a small portion that is owned by the City.

Envicom was tasked with completing a Phase I cultural resource survey report for the proposed trail project in 2022 and of a proposed additional western extension of the trail system in 2023. The Phase I assessment included a cultural resource record search conducted at the SCCIC, a request to the NAHC to check their Sacred Lands files for possible TCR located within or near the project location, and the examination of historical USGS maps, historical aerial photographs, and historical Google Earth images. Additionally, the Phase I cultural resource assessment included a physical pedestrian survey of the original proposed trail route in 2022 and of a western extension segment of the trail in 2023.

The entire proposed trail route was surveyed by Dr. Wayne Bischoff of Envicom. In several locations, especially near modern buildings adjacent to the project, modern impacts were observed along the proposed trail route. These impacts included grading associated with drainage and slope control, road access gradings, slope cutting associated with modern flood control features, concrete V-ditches, fuel modification removal, landscape plantings and irrigation, and several historic firebreak roads that often cut across the proposed trail route. Dr. Bischoff also identified numerous locations where prehistoric archaeological artifacts and features were encountered, with a total of eight (8) prehistoric sites being newly recorded and mapped as part of the Phase I survey. No older historical cultural resources were recorded.

Dr. Bischoff and staff from Envicom further evaluated (Phase II) all of the prehistoric archaeological sites using a combination of refined mapping, extensive surface examination, and subsurface shovel test pits. The findings of the Phase II evaluation efforts were included in the Phase I survey report, with four prehistoric sites being recommended as eligible to the CRHR and four sites not being recommended as being eligible.

All of the prehistoric archaeological sites were interpreted as being involved with extensive prehistoric lithic quarrying and reduction tasks related to local andesite toolstone material, however, the four sites recommended as being eligible to the CRHR also had large, heated rock feature areas, suggesting plant material processing. The four recommended-eligible sites also had numerous embedded rock features, graded and compacted task areas, rock rings, compacted trail segments, and other prehistoric features, as well as some volcanic groundstone artifacts (metate fragments, boulder metates, and expedient manos) and exotic lithic material that included chert, chalcedony, and chalcedony/quartz geodes.

DPR archaeological site forms were completed for each of the eight (8) newly discovered prehistoric sites. Boundary maps of the archaeological sites were then compared to the proposed trail route and to mapped sensitive plant species for cultural site and project management purposes. Finally, the combined Phase I & Phase II report provided additional pre-construction and construction-phase recommendations to reduce impacts to the known prehistoric sites as well as several contingency recommendations in case of unexpected discoveries of previously unknown cultural material or burials during trail construction.

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Sutton, Elizabeth Anne
2014a *Household and Community Organization at Nimatlala, an Island Chumash Village on Limuw (Santa Cruz Island), California.* Dissertation for Doctor of Philosophy Degree in Anthropology, University of California, Santa Barbara.

2014b Digging Stick Weights and Doughnut Stones: An Analysis of Perforated Stones from the Santa Barbara Channel Region. *Journal of California and Great Basin Anthropology,* Volume 34, Number 1, pp. 17-42.

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2001 *California Office of Historic Preservation Technical Assistance Series #1 California Environmental Quality Act (CEQA) and Historical Resources.* State of California Publication, Sacramento, California.

1995 *Instructions for Recording Historical Resources.* State of California Publication, Sacramento, California.

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1990 *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format.* State of California Publication, Sacramento, California.

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2006 A Brief History of the Tongva Tribe: The Native Inhabitants of the Lands of the Puente Hills Preserve. Claremont University, California.

Wilmarth, M. Grace
1931 *Names and Definitions of the Geologic Units of California.* United States Department of the Interior, Bulletin 826.

APPENDIX A

List of 2022 SCCIC Previously Completed Cultural Resources Reports in the Study Area

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-00081		1975	Rosen, Martin D.	Evaluation of the Archaeological Resources for the Areawide Facilities Plan for the Las Virgenes Municipal District, (Malibu Coast, Western Santa Monica Mountains, Southern Simi Hills), Los Angeles and Ventura Counties.	University of California, Los Angeles Archaeological Survey	19-000018, 19-000019, 19-000028, 19-000029, 19-000031, 19-000032, 19-000093, 19-000129, 19-000133, 19-000187, 19-000189, 19-000190, 19-000195, 19-000215, 19-000246, 19-000265, 19-000266, 19-000268, 19-000269, 19-000314, 19-000331, 19-000352, 19-000450, 19-000505, 19-000506, 19-000517, 19-000707, 56-000008, 56-000012, 56-000123, 56-000176, 56-000177, 56-000180, 56-000181, 56-000267, 56-000270
LA-00241		1988	Singer, Clay A. and John E. Atwood	Archaeological Testing at CA-LAN-1021 in the City of Agoura Hills, Los Angeles County, California	C.A. Singer & Associates, Inc.	19-001021
LA-00392		1977	Hector, Susan M.	An Archaeological Resource Survey and Impact Assessment of Trailer Lifer Publishing Co., C.u.p. 1191, Los Angeles County	University of California, Los Angeles Archaeological Survey	
LA-00521		1979	Day, Donna A.	Cultural Resources Survey for Zone Change 6457,		19-001021
LA-00545		1979	Padon, Beth	An Archaeological Reconnaissance of a 30 Acre Parcel Along Agoura Road, Los Angeles County, Ca.		19-000320, 19-000321, 19-001024
LA-00556		1979	Singer, Clay A.	Cultural Resource Survey and Impact Assessment for a 1.6 Acre Parcel in Agoura, Los Angeles County, California.		19-001021
LA-00623		1979	Singer, Clay A.	Systematic Archaeological Testing at LAN-1021-- an Evaluation of Potential Impacts From the Proposed Construction of the Miller and Folse Office Complex in Agoura, Los Angeles County California. California		19-001021
LA-02409		1982	Stelle, Kenneth and Albert Galiardo	For Improvements of the Operational Characteristics of Route 101, the Ventura Freeway in Los Angeles and Ventura Counties, Between Route 405 in Los Angeles, and the Santa Clara River in Oxnard	Caltrans and Federal Highway Commission	56-000654

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-03546		1996	Wlodarski, Robert J.	A Phase 1 Archaeological Study Bikeway Gap Closure Project Cities of Calabasas, Agoura Hills, Westlake Village and Unincorporated Los Angeles County, California	Historical, Environmental, Archaeological, Research, Team	19-000041, 19-000042, 19-000229, 19-000238, 19-000243, 19-000315, 19-000320, 19-000413, 19-000420, 19-000463, 19-000467, 19-000669, 19-000842, 19-000862, 19-000890, 19-000972, 19-001021, 19-001027, 19-001099, 19-001352, 56-000071, 56-000095, 56-000096, 56-000179, 56-000186, 56-000242, 56-000261, 56-000341, 56-000342, 56-000737, 56-000865
LA-03589		1985	Van Horn, David M. and T.A. Freeman	Salvage Excavation at LAN-1236 in the City of Agoura Hills, Los Angeles County, Ca	Archaeological Associates, Ltd.	19-001069, 19-001236
LA-03674		1980	Brock, James P.	Cultural Resources Survey of a 27 Acre Parcel of Property in Agoura and Subsequent Test Excavation	Archaeological Associates, Ltd.	19-000041, 19-000320, 19-000671, 19-000776, 19-001024, 19-001027, 19-001069, 56-000065, 56-000261, 56-000535, 56-000536, 56-000537
LA-03742		1982	Romani, John F.	Archaeological Survey Report for the 07-la/ven 101 Project P.m. 17.1-38.2/0.0-22.7 07351 - 076620	California Department of Transportation	19-000041, 19-000042, 19-000044, 19-000111, 19-000133, 19-000238, 19-000315, 19-000320, 19-000321, 19-000345, 19-000420, 19-000461, 19-000462, 19-000463, 19-000464, 19-000466, 19-000642, 19-000669, 19-000776, 19-000862, 19-000890, 19-000964, 19-000970, 19-000972, 19-001027, 19-001064, 19-001099, 56-000271, 56-000565, 56-000620, 56-000654
LA-06584		2002	Wlodarski, Robert J.	Archaeological Survey Report (asr) for the Reyes Adobe Road Interchange Project City of Agoura Hills, County of Los Angeles, California	Historical, Environmental, Archaeological, Research, Team	
LA-06587		2003	Pletka, Nicole	Cultural Resource Assessment At&t Wireless Services Facility No. D019.2 Los Angeles County, California	LSA Associates, Inc.	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-06601		2000	King, Chester and Parsons, Jeff	Archaeological Record of Settlement and Activity in the Simi Hills Malu'liwini	Topanaga Anthropological Consultants	19-000129, 19-000238, 19-000243, 19-000249, 19-000250, 19-000314, 19-000315, 19-000424, 19-000466, 19-000669, 19-000712, 19-000807, 19-000867, 19-000973, 19-001060, 19-001236, 19-001352, 19-001521, 19-001580, 19-001581, 19-001883, 19-001914, 56-000043, 56-000044, 56-000045, 56-000069, 56-000078, 56-000079, 56-000122, 56-000123, 56-000124, 56-000125, 56-000180, 56-000181, 56-000220, 56-000221, 56-000271, 56-000536, 56-000537, 56-000556, 56-000561, 56-000607, 56-000608, 56-000622, 56-000624, 56-000628, 56-000629, 56-000632, 56-000640, 56-000682, 56-000759, 56-000803, 56-000927, 56-001020, 56-001153
LA-09152		2008	Wlodarski, Robert J.	A Phase I Archaeological Study for Proposed Improvements to APN#2061-033-015 The Proposed Gupta Corporate Offices (Tentative address: 29760 Agoura Road) City of Agoura Hills, County of Los Angeles, California	Historical, Environmental, Archaeological, Research, Team	19-000320, 19-000321, 19-000432, 19-000462, 19-000671, 19-000776, 19-000842, 19-000970, 19-000971, 19-001021, 19-001024, 19-001027, 19-001069, 19-001236
LA-10208		2001	Sylvia, Barbara	Negative Archaeological Survey Report: Metal Beam Guardrail (MBGR) Along Sections of Route 101 From Route 134 to the Ventura County Line.	Caltrans District 7	
LA-10390		2010	Schmidt, James and John F. Romani	Archaeological Reconnaissance Report: Gateway 2 (Por APN 2061-033-013), located within the City of Agoura Hills, Los Angeles County, California	Compass Rose Archaeological, Inc.	19-000467, 19-001027
LA-10475		2010	Toren, A. George and Gwen R. Romani	Phase I Archaeological Survey: The Las Virgenes municipal water district 1235 ft. backbone system improvement program: Agoura Hills pipeline alignment	Compass Rose Archaeological, Inc.	19-000041, 19-000467, 19-000671, 19-000726, 19-001069, 19-001352, 19-100207, 19-100208, 19-100209, 56-000040
LA-10578		2009	Fortier, Jana	TEA21 Rural Roadside Inventory: Native American Consultation and Ethnographic Study Caltrans District 7, County of Los Angeles	ICF Jones & Stokes	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
LA-10779		2010	McKenna, Jeanette A.	A Phase I Cultural Resources Investigation of Assessor Parcel No. 2061-005-031, 29900 Ladyface Court, In the city of Agoura Hills, Los Angeles County, California	McKenna, et al	19-000042, 19-000165, 19-000313, 19-000320, 19-000321, 19-000461, 19-000462, 19-000463, 19-000466, 19-000467, 19-000671, 19-000726, 19-000776, 19-000812, 19-000842, 19-000846, 19-000847, 19-000970, 19-000971, 19-001021, 19-001024, 19-001027, 19-001069, 19-001236, 19-001908, 19-001909, 19-001910, 19-001911, 19-001912, 19-001913, 19-002391, 19-100151, 19-100209, 19-100210
LA-11836		2012	unknown	Agoura Road Widening, Draft Initial Study and Mitigated Negative Declaration	GPA Environmental	19-000041, 19-000314, 19-000462, 19-000463, 19-000467, 19-000842, 19-001027, 19-001069, 19-001236, 19-001352, 19-100207, 19-100208, 19-100209, 19-100210
LA-12002		2012	Bonner, Wayne	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV00157A (VY157 Foursquare Agoura) 29646 Agoura Road, Agoura Hills, Los Angeles County, California	MBA	19-000320, 19-000321, 19-000467, 19-000671, 19-000776, 19-001021, 19-001024, 19-001027, 19-001069, 19-001236, 19-100209, 19-100210, 19-190308
LA-12308	Paleo -	2011	Harper, Caprice and Turner, Robin	Cultural Resources and Paleontological Resources Assessment for the Agoura Road Widening Project, Agoura Hills, Los Angeles County, California	ArchaeoPaleo Resource Management	19-000041, 19-000463, 19-000467, 19-000842
LA-12981		2014	Haas, Hannah, Duane Vander Pluym, and Robert Ramirez	Archaeological Monitoring for the Agoura Hills Recreation Center Project, Agoura Hills, Los Angeles County, California	Rincon Consultants, Inc.	

APPENDIX B

Request Letters to SCCIC, the NAHC and Response Letters From the NAHC

California Historical Resources Information System

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: _____ **IC FILE NO.:** _____

To: Information Center

Print Name: Samantha Renta Date: 4/27/22

Affiliation: Envicom Corporation

Address: 4165 E. Thousand Oaks Blvd

City: Westlake Village State: CA Zip: 91362

Phone: 818-879-4700 Fax: _____ Email: srenta@envicomcorporation.com

Billing Address (if different than above): _____

Billing Email: wbischoff@envicomcorporation.com Billing Phone: 818-879-4700

Project Name / Reference: Agoura Hills Recreation Center Trail Project, #2020-185-01

Project Street Address: _____

County or Counties: Los Angeles

Township/Range/UTMs: T 1N, R 18W, 34.8'28.14"N, 118.46'40.16"W

USGS 7.5' Quad(s): Thousand Oaks

PRIORITY RESPONSE (Additional Fee): yes ☐ / no ☐

TOTAL FEE NOT TO EXCEED: $_____
(If blank, the Information Center will contact you if the fee is expected to exceed $1,000.00)

Special Instructions:

Information Center Use Only

Date of CHRIS Data Provided for this Request: _____

Confidential Data Included in Response: yes ☐ / no ☐

Notes: _____

CHRIS Data Request Form

Mark the request form as needed. Attach a PDF of your project area (with the radius if applicable) mapped on a 7.5' USGS topographic quadrangle to scale 1:24000 ratio 1:1 neither enlarged nor reduced and include a shapefile of your project area, if available. Shapefiles are the current CHRIS standard for submitting digital spatial data for your project area or radius. **Check with the appropriate IC for current availability of digital data products.**

- Documents will be provided in PDF format. Paper copies will only be provided if PDFs are not available at the time of the request or under specially arranged circumstances.
- Location information will be provided as a digital map product (Custom Maps or GIS data) unless the area has not yet been digitized. In such circumstances, the IC may provide hand drawn maps.
- In addition to the $150/hr. staff time fee, client will be charged the Custom Map fee when GIS is required to complete the request [e.g., a map printout or map image/PDF is requested and no GIS Data is requested, or an electronic product is requested (derived from GIS data) but no mapping is requested].

For product fees, see the CHRIS IC Fee Structure on the OHP website.

1. Map Format Choice:

Select One: Custom GIS Maps ☐ GIS Data ☑ Custom GIS Maps **and** GIS Data ☐ No Maps ☐

Any selection below left unmarked will be considered a "no. "

Location Information:

	Within project area	Within 0.25 mi. radius
ARCHAEOLOGICAL Resource Locations[1]	yes ☑ / no ☐	yes ☑ / no ☐
NON-ARCHAEOLOGICAL Resource Locations	yes ☑ / no ☐	yes ☑ / no ☐
Report Locations[1]	yes ☑ / no ☐	yes ☑ / no ☐
"Other" Report Locations[2]	yes ☐ / no ☐	yes ☐ / no ☐

3. Database Information:
(contact the IC for product examples, or visit the SSJVIC website for examples)

	Within project area	Within 0.25 mi. radius
ARCHAEOLOGICAL Resource Database[1]		
List (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Detail (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Excel Spreadsheet	yes ☐ / no ☑	yes ☐ / no ☑
NON-ARCHAEOLOGICAL Resource Database		
List (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Detail (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Excel Spreadsheet	yes ☐ / no ☑	yes ☐ / no ☑
Report Database[1]		
List (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Detail (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Excel Spreadsheet	yes ☐ / no ☑	yes ☐ / no ☑
Include "Other" Reports [2]	yes ☐ / no ☑	yes ☐ / no ☑

4. Document PDFs (paper copy only upon request)**:**

	Within project area	Within 0.25 mi. radius
ARCHAEOLOGICAL Resource Records[1]	yes ☑ / no ☐	yes ☑ / no ☐
NON-ARCHAEOLOGICAL Resource Records	yes ☑ / no ☐	yes ☐ / no ☑
Reports[1]	yes ☑ / no ☐	yes ☐ / no ☑
"Other" Reports[2]	yes ☑ / no ☐	yes ☐ / no ☑

CHRIS Data Request Form

5. Eligibility Listings and Documentation:

	Within project area	Within 0.25 mi. radius
OHP Built Environment Resources Directory[3]:		
Directory listing only (Excel format)	yes ☐ / no ☑	yes ☑ / no ☐
Associated documentation[4]	yes ☐ / no ☑	yes ☐ / no ☑
OHP Archaeological Resources Directory[1,5]:		
Directory listing only (Excel format)	yes ☑ / no ☐	yes ☐ / no ☑
Associated documentation[4]	yes ☑ / no ☐	yes ☐ / no ☑
***California Inventory of Historic Resources* (1976):**		
Directory listing only (PDF format)	yes ☑ / no ☐	yes ☑ / no ☐
Associated documentation[4]	yes ☑ / no ☐	yes ☑ / no ☐

6. Additional Information:

The following sources of information may be available through the Information Center. However, several of these sources are now available on the OHP website and can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through these sources. Indicate below if the Information Center should review and provide documentation (if available) of any of the following sources as part of this request.

Caltrans Bridge Survey	yes ☑ / no ☐
Ethnographic Information	yes ☑ / no ☐
Historical Literature	yes ☑ / no ☐
Historical Maps	yes ☐ / no ☑
Local Inventories	yes ☑ / no ☐
GLO and/or Rancho Plat Maps	yes ☑ / no ☐
Shipwreck Inventory	yes ☐ / no ☑
Soil Survey Maps	yes ☐ / no ☑

---

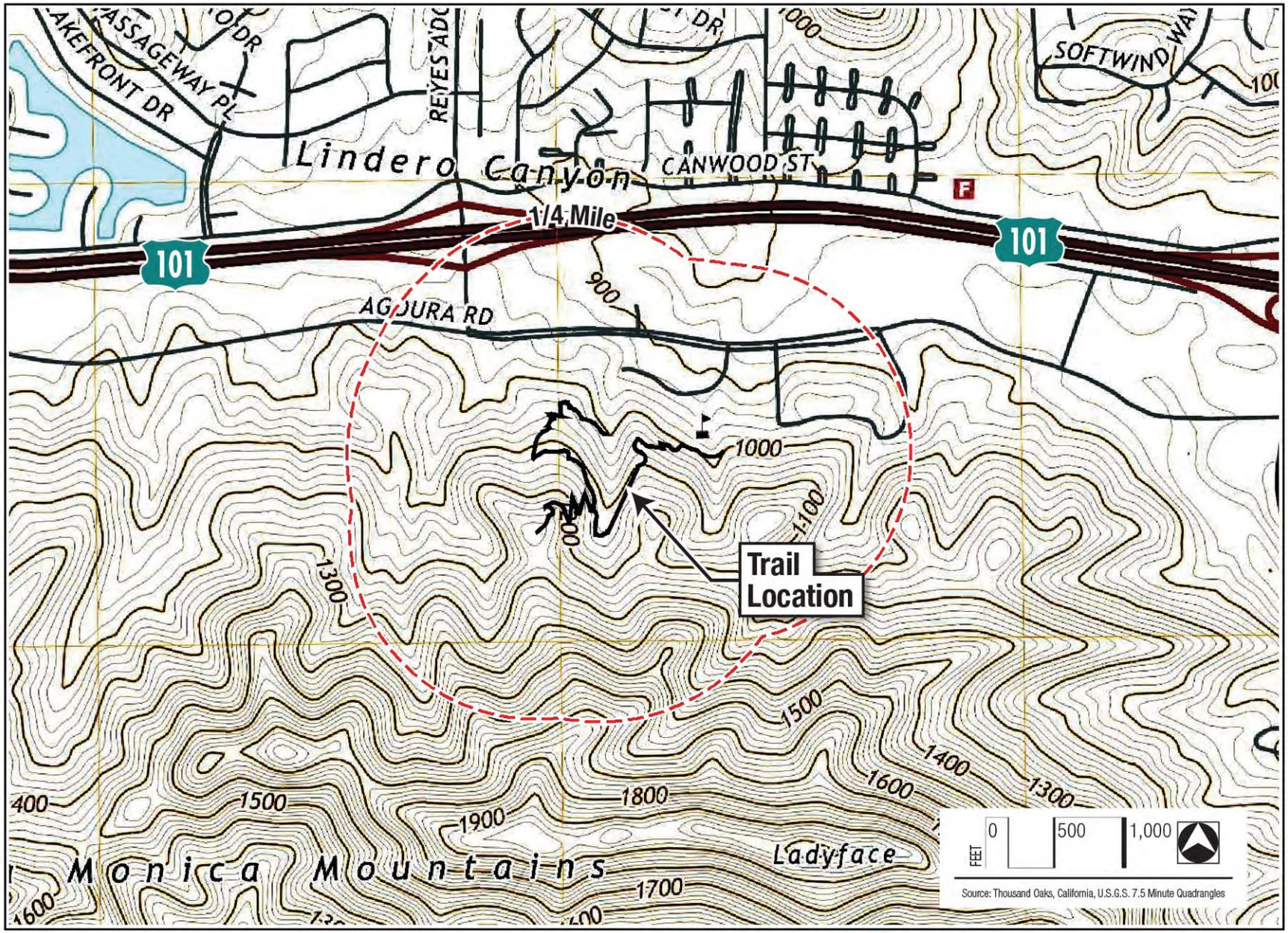
[1] In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User or Conditional User under an active CHRIS Access and Use Agreement.

[2] "Other" Reports GIS layer consists of report study areas for which the report content is almost entirely non-fieldwork related (e.g., local/regional history, or overview) and/or for which the presentation of the study area boundary may or may not add value to a record search.

[3] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Includes, but not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys. Previously known as the HRI and then as the HPD, it is now known as the Built Environment Resources Directory (BERD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

[4] Associated documentation will vary by resource. Contact the IC for further details.

[5] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Previously known as the Archaeological Determinations of Eligibility, now it is known as the Archaeological Resources Directory (ARD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.


LAKEFRONT DR
PASSAGEWAY PL
REYES ADO
SOFTWIND WAY
Lindero Canyon
CANWOOD ST
1/4 Mile
101
101
AGOURA RD
900
1000
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1300
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1900
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Trail Location
Monica Mountains
Ladyface
FEET
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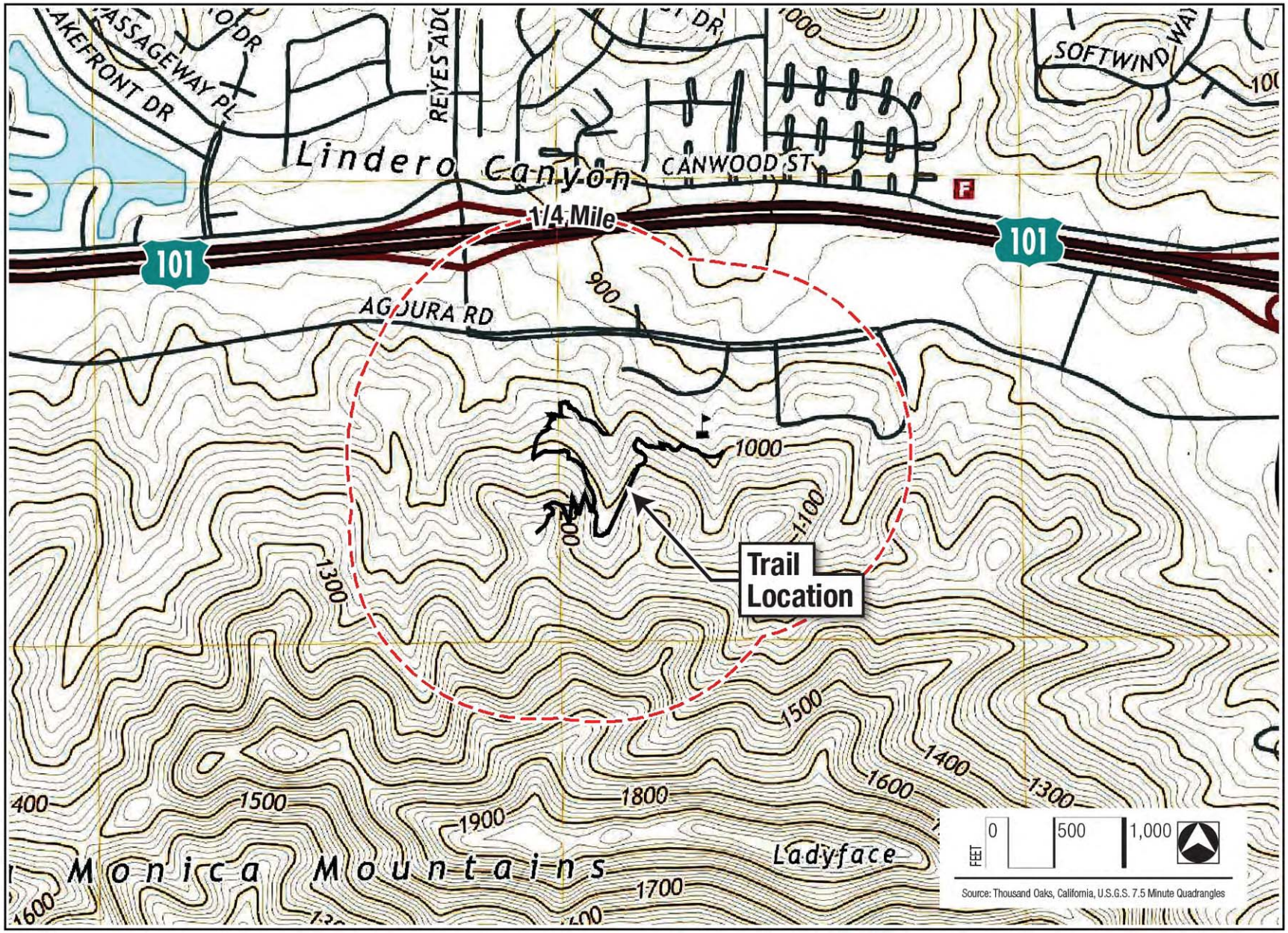
1,000
Source: Thousand Oaks, California, U.S.G.S. 7.5 Minute Quadrangles


LAKEFRONT DR
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Trail Location
Monica Mountains
Ladyface
FEET
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1,000
Source: Thousand Oaks, California, U.S.G.S. 7.5 Minute Quadrangles

April 27, 2021

Native American Heritage Commission
1550 Harbor Boulevard, Room 100
West Sacramento, CA 95691

Subj: Cultural Resources Phase I Assessment for Agoura Hills Recreation Center Trail Project *(Envicom Project #2020-185-01)*

To Whom It May Concern,

Envicom Corporation (Envicom) is requesting a record review of the Native American Heritage Commission (NAHC) records of cultural resources for the Project site, plus a **0.25-mile study area**. We also request a list of Tribal Group representatives for the area in the event we need to contact their offices. The Project site is located at:

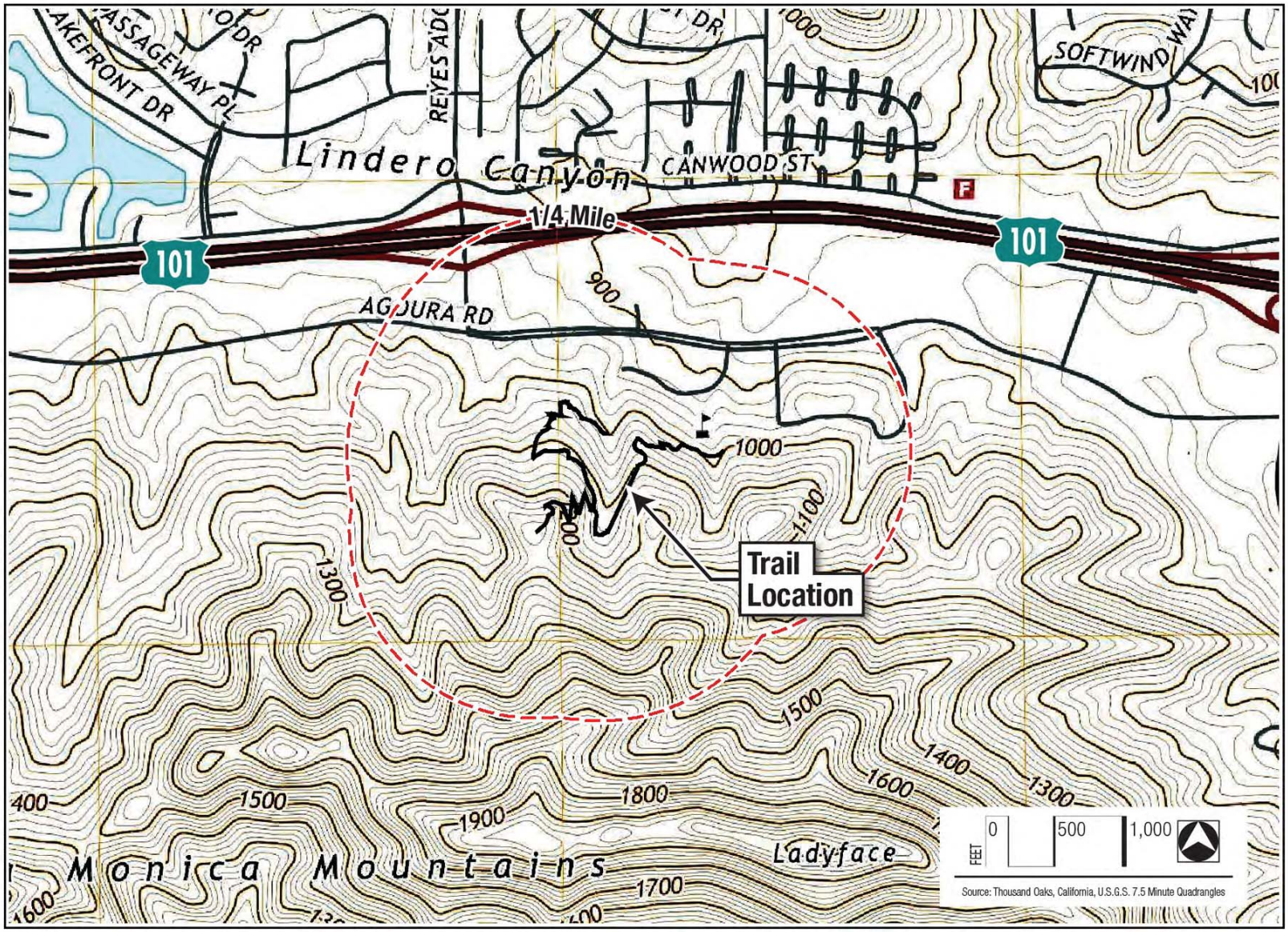
United States Geological Survey 7.5' Quadrangles: Thousand Oaks, CA
Township: 1 North Range: 18 West
Latitude: 34°8'28.14"North Longitude: 118°46'40.16"West
County: Los Angeles

Envicom appreciates the NAHC's help with this request. For correspondence or questions regarding this Project, please contact Wayne Bischoff at 818-879-4700 (wbischoff@envicomcorporation.com).

Sincerely,

Wayne Bischoff
Director of Cultural Resources

Attachment:
Project vicinity map on 1:24,000 topographic map


LAKEFRONT DR
PASSAGEWAY PL
REYES ADO
Lindero Canyon
CANWOOD ST
SOFTWIND WAY
1/4 Mile
101
101
AGOURA RD
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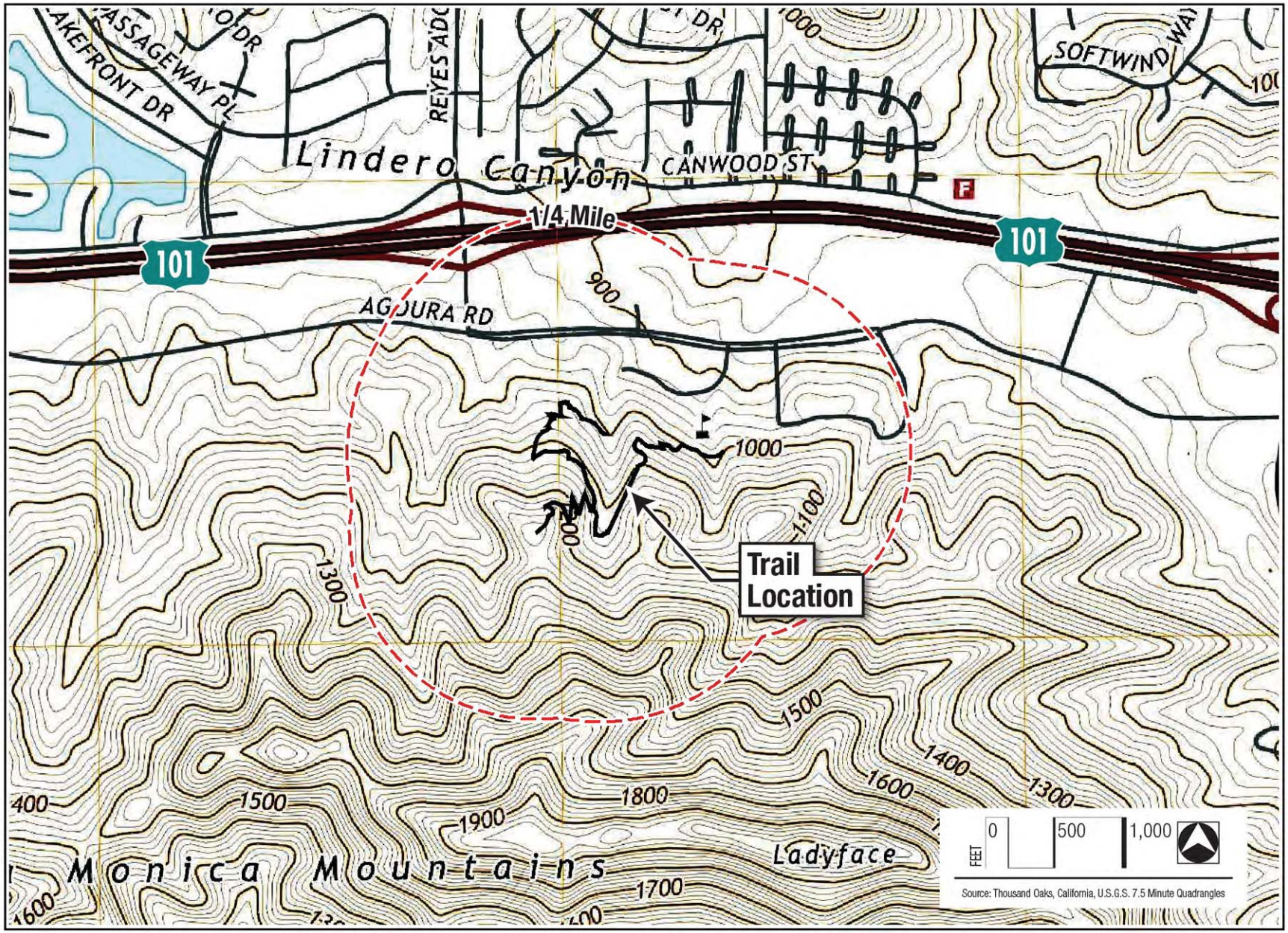
1300
1500
1400
1600
1800
1900
1700
400
Trail Location
Monica Mountains
Ladyface
FEET
0
500
1,000
Source: Thousand Oaks, California, U.S.G.S. 7.5 Minute Quadrangles


LAKEFRONT DR
PASSAGEWAY PL
REYES ADO
SOFTWIND WAY
Lindero Canyon
CANWOOD ST
1/4 Mile
101
101
AGOURA RD
900
1000
1100
1300
1500
1400
1600
1800
1900
1700
400
1600
Trail Location
Monica Mountains
Ladyface
FEET
0
500
1,000
Source: Thousand Oaks, California, U.S.G.S. 7.5 Minute Quadrangles

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

May 27, 2022

Dr. Wayne Bischoff
Envicom Corporation

Via Email to: wbischoff@envicomcorporation.com

Re: Agoura Hills Recreation Center Trail Project, Los Angeles County

Dear Dr. Bischoff:

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

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

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

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

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Los Angeles County
5/27/2022

Barbareno/Ventureno Band of Mission Indians
Julie Tumamait-Stenslie, Chairperson
365 North Poli Ave — Chumash
Ojai, CA, 93023
Phone: (805) 646 - 6214
jtumamait@hotmail.com

Barbareno/ Ventureno Band of Mission Indians
Annette Ayala,
188 S. Santa Rosa Street — Chumash
Ventura, CA, 93001
Phone: (805) 515 - 9844
annetteayala78@yahoo.com

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Brenda Guzman,
58 N. Ann Street, #8 — Chumash
Ventura, CA, 93001
Phone: (209) 601 - 4676
brendamguzman@gmail.com

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

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

Northern Chumash Tribal Council
Violet Walker, Chairperson
P.O. Box 6533 — Chumash
Los Osos, CA, 93412
Phone: (760) 549 - 3532
violetsagewalker@gmail.com

San Luis Obispo County Chumash Council
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433

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

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Agoura Hills Recreation Center Trail Project, Los Angeles County.

APPENDIX C
(Confidential Information Removed)
State of California Archaeological Site Records for all Prehistoric Archaeological Sites Surveyed and Evaluated as Part of This Project

APPENDIX D

Resume of Dr. Wayne Bischoff
(Author and Principal)

DR. WAYNE BISCHOFF
Director of Cultural Resources

Years of Experience
Over 25 years

Education
Ph.D. Anthropology,
Michigan State University

B.A. Anthropology, Purdue University

Certifications
Registry of Professional Archaeologists (RPA)

Hazwoper 24-hour

Professional Affiliations
Society for California Archaeology

Southern California Paleontological Society

Specialized Training
Built Environment Assessments

Paleontological Assessments

Ethnographic Reports

AB-52/Tribal Consultation

Dr. Bischoff has over 25 years of experience in managing cultural resource projects and ensuring compliance with the California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Protection Act (NEPA), and state, county, city, and local government cultural laws, guidelines, and procedures. He is experienced with the City of Los Angeles, having completed dozens of cultural resource projects within the City and surrounding municipalities. He has also completed numerous cultural, paleontological, and built environment projects throughout Los Angeles County. Dr. Bischoff has worked with all Tribal Groups of the Greater Los Angeles area and has provided expert consultation, including Assembly Bill (AB) 52 consultation, writing support, and coordination. He has also written, planned, and enforced cultural resource components of many forms of CEQA and NEPA documents and been a part of Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), and Programmatic Agreement (PA) development teams.

Dr. Bischoff's experience includes residential and commercial development, public works, storm and sewer projects, environmental restoration, water resources, energy and transmission line, highway and bridge, telecommunication, educational facility, and park and trail project. Dr. Bischoff has been the principal or project manager for hundreds of cultural projects in California, including Phase I literature searches and surveys, Phase I(b) subsurface surveys, Phase II evaluations, and Phase III data recoveries.

Dr. Bischoff also has extensive experience consulting with state and federal agencies, including the State Historic Preservation Office (SHPO), California Department of Transportation (Caltrans), the Department of Defense, the General Services Agency (GSA), California Department of Parks and Recreation, the U.S. Department of Agriculture (USDA), many U.S. Army Corps of Engineers (ACOE) districts, Fish and Wildlife, the California Public Utilities Commission (CPUC), and the National Park Service, among others.

REPRESENTATIVE PROJECT EXPERIENCE

1413 Michigan Avenue Archaeological and Native American Monitoring and SHPO Reporting Coordination for a HUD housing project located in Santa Monica, California

Envicom will be managing the archaeological and Native American monitoring tasks for this large HUD housing project. The project will also involve periodic reporting to SHPO and the creation of a final monitoring report (Upcoming).

Phase I Survey of the Pepperdine University Alumni Park Development Project, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this university development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (Upcoming).

Archaeological Monitoring for the 623 South La Brea Affordable Housing Project, Los Angeles, Los Angeles County, California

Principal and Project Manager for this large archaeological monitoring project. (Upcoming).

Paleontological Monitoring of 15353 Camarillo, Sherman Oaks, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this paleontological monitoring project. (Upcoming).

Phase I Survey of 3555 Chaney, Altadena, Los Angeles County, California (with Samantha Renta)

Principal and Field Director for this 40-acre survey project, which included SCCIC, NHM, and NAHC record searches (April 2022 – Current).

Phase I Survey of the Princeton Road Mixed-Use Project, Moorpark, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this large 21-acre commercial project, which included SCCIC, NHM, and NAHC record searches and a site survey. (April 2022 – Current).

Phase I Survey of the Canwood Mixed-Use Development Project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this large mixed-use project, which included SCCIC and NAHC record searches and a site survey. The site survey discovered an early 20th Century older historical site, which will require recordation (January 2022 – Current).

Phase I Survey of the Oxnard Landing Commercial Development Project, Oxnard, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this small commercial development project, which included a site survey and archaeological monitoring. (March 2022 – Current).

Phase I Survey of the Paramount Senior Assisted Living Center, Paramount, Los Angeles County, California (with Samantha Renta)

Principal and Field Director for this survey project, which includes SCCIC, NHM, and NAHC record searches. This project also required the recordation of a 1950s church, which would be demolished as part of the project (November 2021 – Current).

Phase I Survey of 6500 Sunset Boulevard, Los Angeles, Los Angeles County, California (with Samantha Renta)

Principal and Field Director for this survey project, which includes SCCIC, NHM, and NAHC record searches (October 2021 – Current).

Paleontological Monitoring of the Citrus Commons Project, Sherman Oaks, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this paleontological monitoring project. (October 2021 – Current).

Archaeological and Paleontological Monitoring for the San Pedro High School Upgrade Project for LAUSD, Long Beach, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this large archaeological and paleontological monitoring project. (June 2021 – Current).

Los Angeles Unified Schools Department (LAUSD) Environmental On-Call (including cultural resources), Los Angeles, Los Angeles County, California

Principal, Project Manager, and cultural resource consultant as needed. Envicom was one of 15 companies to be awarded this large on-call contract. (February 2017 – Current).

Los Angeles Community College District Environmental On-Call (including cultural resources), Los Angeles County, California

Principal, Project Manager, and cultural resource consultant as needed. (February 2018 – Current).

Phase I Survey of the Agoura Recreational Trail Project, Agoura Hills, Los Angeles County, California

Principal and Field Director for this public trail survey project, which included SCCIC, and NAHC record searches as well as a project survey. The discovery of five (5) prehistoric quarrying and lithic reduction sites resulted in an extensive Phase I report (April 2022 – May 2022).

Phase I Survey of the Rancho Santa Susana Park Phase 4 Development, Simi Valley, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this 4-acre commercial project, which included SCCIC and NAHC record searches and a site survey. (March 2022 – May 2022).

Phase I(b) Survey of APN 673-0-460-190, Newbury Park, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included subsurface shovel test pits as part of the surface survey as well as construction phase monitoring (April 2022 – April 2022).

Peer Review of the Cultural Phase I Report for the Eternal Valley Cemetery Expansion, Santa Clarita, Los Angeles County, California

Peer review was conducted on behalf of the City for this project (February 2022 – April 2022).

Phase I Survey of the Rolling Oaks Proposed Open Space, Thousand Oaks, Ventura, California (with Samantha Renta). Principal and Project Manager for this proposed park property for the Conejo Recreation and Parks District, which included SCCIC and NAHC record searches. (December 2021 – April 2022).

Phase I Survey of 4303 Ocean View Drive, Malibu, Los Angeles County, California (with Samantha Renta)
Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – April 2022).

Phase I Survey of 3948 Las Flores Canyon Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – April 2022).

Phase I Survey of 3942 Las Flores Canyon Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – April 2022).

Phase I Survey of 21373 Rambla Vista Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – April 2022).

Phase I Survey of 21425 Rambla Vista Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – April 2022).

Phase II Evaluation of the "Lancaster 3" site, Lancaster Tract 72534, Lancaster, Los Angeles County, California

Principal and Project manager for this evaluation report, which evaluated an older historical archaeological site as per CRHR Criteria 1, 2, and 4. Two temporal elements were identified; one from the early 20th Century, and another from the 1950s/1960s. Neither was recommended as eligible (December 2021 – April 2022).

1413 Michigan Avenue, NEPA Environmental Assessment (EA) for a HUD housing project located in Santa Monica, California

Cultural Resource consultant for the project, which involved potential impacts to a City historic landmark – the Nikkei Hall – and authoring a "No Impact" letter to SHPO for the Client. Tasks also included consultation with SHPO and Tribal Groups, and support of an architectural evaluation of the structure as per the NRHP and CRHR. A final DPR for the local landmark was also produced by the project team (October 2021 – April 2022).

Phase I Survey of the Palmdale 70 Affordable Housing Project, Palmdale, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this affordable housing residential development project, which included SCCIC, NHM, and NAHC record searches (January 2022 – March 2022).

Phase I Survey of 400 Gorham Road, Ojai, Ventura County, California

This was a NEPA/Section 106 project. Principal and Project Manager for this affordable housing project, which included an SCCIC and NAHC record searches. (January 2022 – March 2022).

Archaeological and Paleontological Monitoring of the Twin Lakes Water Tank Construction for the Las Virgenes Water District, Porter Ranch, California

Principal and Project Manager for this archaeological and paleontological monitoring project. (November 2021 – March 2022).

Oakmont Senior Living Historic and Archaeological Display Production, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Project Manager for this historical interpretation display project (October 2020 – March 2022).

Phase I Survey of 5809 Trancas Canyon Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included SCCIC and NAHC record searches (December 2021 – February 2022).

Phase I Survey of a Parcel at 30th Street and Avenue I in Lancaster, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. Additional tasks included a paleontological survey of the property and the recordation of a large 1930s/1940s residential archaeological site (September 2021 – February 2022).

Phase I Survey of 325 and 391 Hampshire, Thousand Oaks, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this mixed-use development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. This project also included an architectural assessment and evaluation of the utilitarian commercial building (August 2021 – February 2022).

Phase I Survey of the 2301 Santiago Court, Oxnard, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this 4-acre commercial project, which included a record search and a site survey. (October 2021 – January 2022).

Phase I Survey of 5868 Deerhead Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included a SCCIC and NAHC record search and a site visit (October 2021 – January 2022).

Oakmont Senior Housing Archaeological, Paleontological, and Native American Monitoring Project, Agoura Hills, California (with Samantha Renta)

Principal and Project Manager for this archaeological, paleontological, and Native American monitoring project. (January 2020 – January 2022).

Phase I Survey of a Parcel at 40th Street and Avenue L in Lancaster, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. Additional tasks included a paleontological survey of the property (September 2021 – December 2021).

Phase I Survey of the Sagebrush II Battery Storage Project, Terra Gen Windfarms, Kern County, California (with Samantha Renta)

Principal and Project Manager for this project, which included a record search and a site survey. (October 2021 – December 2021).

Phase I Survey of the Rob's Acre Battery Storage Project, Terra Gen Windfarms, Kern County, CA (with Samantha Renta)

Principal and Project Manager for this project, which included a record search and a site survey. (October 2021 – December 2021).

Phase I Survey of the Sagebrush I (extended) Battery Storage Project, Terra Gen Windfarms, Kern County, CA (with Samantha Renta)

Principal and Project Manager for this project, which included a Bakersfield record search and a site survey. (October 2021 – December 2021).

Phase I Survey of the Barrera Hacienda Heights Residential Project, Unincorporated Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this 12-acre residential development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (August 2021 – December 2021).

CA-LAN-320 Phased Evaluation Project, Agoura Hills, Los Angeles County, California

Principal and Project Manager for the phased evaluation (Phase II) of CA-LAN-320 in response to potential impacts from the construction of the Conrad N. Hilton Foundation Phase 2 Campus Building. The site is a prehistoric Chumash residential and ceremonial center of over 80-acres in size and that was used by prehistoric Native Americans from 300 B.C. to the late 1700s. Dozens of test units, hundreds of shovel test pits, surface collection, and surface feature mapping have been completed to date planned. (August 2015 – December 2021).

Phase I Survey of 11480 Sulphur Mountain Road, Unincorporated Ventura County, California

Principal and Project Manager for this commercial development project, which included a SCCIC and NAHC record search and a site visit (September 2021 – November 2021).

Phase I Survey of 710 West Harvard, Santa Paula, Ventura County, California

This is a NEPA/Section 106 project. Principal and Project Manager for this mixed-use development project, which included an SCCIC and NAHC record searches and a site visit. This project also included later consultation with the Client and City on the discovery of a previously unknown historic well (August 2021 – November 2021).

Phase I Survey of the Bixby Villas Development Project, Long Beach, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this residential development project, which included an SCCIC and NAHC record searches and a site visit. (July 2021 – November 2021).

Phase I Survey of the Dorothy Drive Residential Development Project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this 9-acre residential development project, which included an SCCIC, NHM, and NAHC record searches and a site visit. (August 2021 – September 2021).

Archaeological, Paleontological, and Native American Monitoring for the JPA/Las Virgenes Water District Solar Farm Expansion, Calabasas, California

Principal and Project Manager for this monitoring project. This project encountered a prehistoric lithic scatter at depth, which included lithic material, a point fragment, and groundstone artifacts. An older historic hearth was also discovered. The project concluded with a prehistoric site form and a small display at the Las Virgenes Water District headquarters (April 2020 – September 2021).

Phase I Survey of the Agoura Yard Development Project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this mixed-use development project, which included an SCCIC and NAHC record searches and a site visit. (July 2021 – September 2021).

Cultural Resource Monitoring for the Oasis Windmill Farm Phase II, Kern County, California (with Samantha Renta)

Project manager for the monitoring of impacts to cultural resources as part of the Oasis Windmill Farm Phase II upgrade. Project including updating numerous cultural resources and the recordation of one new prehistoric site with bedrock milling and other surface features (March 2021 – August 2021).

Archaeological Monitoring at the Sakioka Business Park, Oxnard, Ventura County, California (with Samantha Renta)

Project Manager for this large archaeological monitoring project, which included the recordation of a significant early historic cultural resource (1860s through 1920s) and the processing of hundreds of older historic artifacts. (October 2020 – August 2021).

Phase I Survey of the Sagebrush Battery Storage Project, Terra Gen Windfarms, Kern County, California (with Samantha Renta)

Principal and Project Manager for this project, which included a Bakersfield record search and a site survey. (July 2021 – August 2021).

Ferro Ditch Biological and Archaeological Monitoring, County of Ventura Public Works Osteology, Somis, Ventura County, California

Principal Archaeologist and Project Osteologist for this public improvement project. This project also involved the field analysis of excavated bones as being non-human. (January 2021 – July 2021).

Phase I Survey of "The Malibu Club" Project, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this commercial development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (June 2021 – July 2021).

Phase I Survey of the Moorpark 67 Residential Development Project, Moorpark, Ventura County, California

Principal and Project Manager for this 67-acre project, which included an SCCIC, NAHC, and NHM record searches and a site visit, as well as responses to peer review. (May 2021 – July 2021).

Review of Technical Documents, Cultural Resource Consultant for the City of Agoura Hills, and EIR Cultural Section Writing for "The Agoura Village Expansion" project, Agoura Hills, Los Angeles County, California

Professional review of project cultural resource documents and authoring of cultural resource section of MND for this large mixed-use project. The primary challenge is that the entire development is located on a CRHR-eligible prehistoric Native American cultural resource. (January 2018 – June 2021).

Archaeological Monitoring for 1055 North Signal, Ojai, Ventura County, California

Principal and Project Manager for this small archaeological monitoring project. (February 2021 – June 2021).

Phase I Survey of the Agoura Kanan Village Project; Additional Project Areas to be Impacted, Agoura Hills, Los Angeles County, California

Principal and Project Manager for this project, which involved the survey of additional project areas and the recordation and updating of two previously known prehistoric cultural resources. (April 2021 – May 2021).
Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. (April 2021 – May 2021).Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. The discovery of an older historic cultural resource also resulted in the recordation of a cultural resource on State of California DPR forms. A paleontological survey report was also completed by PaleoWest as per the NHM findings (March 2021 – May 2021).

Phase I Survey of a Property on Giles Road, Lake Sherwood, Ventura County, California (with Samantha Phase I Survey of the Dorothy Drive Residential Development Project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this 9-acre residential development project, which included an SCCIC, NHM, and NAHC record searches and a site visit. (August 2021 – September 2021).

Archaeological, Paleontological, and Native American Monitoring for the JPA/Las Virgenes Water District Solar Farm Expansion, Calabasas, California

Principal and Project Manager for this monitoring project. This project encountered a prehistoric lithic scatter at depth, which included lithic material, a point fragment, and groundstone artifacts. An older historic hearth was also discovered. The project concluded with a prehistoric site form and a small display at the Las Virgenes Water District headquarters (April 2020 – September 2021).

Phase I Survey of the Agoura Yard Development Project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this mixed-use development project, which included an SCCIC and NAHC record searches and a site visit. (July 2021 – September 2021).

Cultural Resource Monitoring for the Oasis Windmill Farm Phase II, Kern County, California (with Samantha Renta)

Project manager for the monitoring of impacts to cultural resources as part of the Oasis Windmill Farm Phase II upgrade. Project including updating numerous cultural resources and the recordation of one new prehistoric site with bedrock milling and other surface features (March 2021 – August 2021).

Archaeological Monitoring at the Sakioka Business Park, Oxnard, Ventura County, California (with Samantha Renta)

Project Manager for this large archaeological monitoring project, which included the recordation of a significant early historic cultural resource (1860s through 1920s) and the processing of hundreds of older historic artifacts. (October 2020 – August 2021).

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Principal and Project Manager for this project, which included a Bakersfield record search and a site survey. (July 2021 – August 2021).

Ferro Ditch Biological and Archaeological Monitoring, County of Ventura Public Works Osteology, Somis, Ventura County, California

Principal Archaeologist and Project Osteologist for this public improvement project. This project also involved the field analysis of excavated bones as being non-human. (January 2021 – July 2021).

Phase I Survey of "The Malibu Club" Project, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this commercial development project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (June 2021 – July 2021).

Phase I Survey of the Moorpark 67 Residential Development Project, Moorpark, Ventura County, California

Principal and Project Manager for this 67-acre project, which included an SCCIC, NAHC, and NHM record searches and a site visit, as well as responses to peer review. (May 2021 – July 2021).

Review of Technical Documents, Cultural Resource Consultant for the City of Agoura Hills, and EIR Cultural Section Writing for "The Agoura Village Expansion" project, Agoura Hills, Los Angeles County, California

Professional review of project cultural resource documents and authoring of cultural resource section of MND for this large mixed-use project. The primary challenge is that the entire development is located on a CRHR-eligible prehistoric Native American cultural resource. (January 2018 – June 2021).

Archaeological Monitoring for 1055 North Signal, Ojai, Ventura County, California

Principal and Project Manager for this small archaeological monitoring project. (February 2021 – June 2021).

Phase I Survey of the Agoura Kanan Village Project; Additional Project Areas to be Impacted, Agoura Hills, Los Angeles County, California

Principal and Project Manager for this project, which involved the survey of additional project areas and the recordation and updating of two previously known prehistoric cultural resources. (April 2021 – May 2021).
Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. (April 2021 – May 2021).Principal and Project Manager for this project, which included an SCCIC and NHAC record search and a site visit. Exploration of all rock shelters and cache openings on the property for historic artifacts was part of this project. A pre-construction survey was also completed for the project. (July 2020 – May 2021).

Phase I Survey of 12772 San Fernando Road, Sylmar, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. (March 2021 – May 2021).

Phase I Survey of a large parcel located off of West Avenue I, Antelope Valley, Lancaster, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC, NHM, and NAHC record searches and a site visit. The discovery of an older historic cultural resource also resulted in the recordation of a cultural resource on State of California DPR forms. A paleontological survey report was also completed by PaleoWest as per the NHM findings (March 2021 – April 2021).

Phase I Survey of 2140 Stunt Road, Unincorporated Los Angeles County, California

Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. (March 2021 – April 2021).

Arts District Archaeological Monitoring Project, Los Angeles, California
Principal and Project Manager for this archaeological monitoring project. (October 2020 – April 2021).

Phase I Survey of the Lynch Land and Cattle Property near Somis, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC and NAHC record searches and a site visit. (February 2021 – April 2021).

Phase I Survey of 3870 Puerco Canyon Road (Lot 1), Malibu, Los Angeles County, California with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (February 2021 – April 2021).

Phase I Survey of 3870 Puerco Canyon Road (Lot 2), Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (February 2021 – April 2021).

Phase I Survey of the Ladyface Vista project, Agoura Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included SCCIC, NAHC, and NHM record searches and a site visit. This large project had complex paleontological issues, which Envicom addressed with the NHM report and an excellent geotechnical report (February 2021 – March 2021).

Phase I Survey of the Central Plaza Shopping Center Project, Camarillo, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included SCCIC, NAHC, and NHM record searches and a site visit. (February 2021 – March 2021).

Phase I Survey of 3426 Serra Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (January 2021 – March 2021).

Oakmont Senior Living Historic and Archaeological Display Production, Simi Valley, Ventura County, California (with Samantha Renta)

Project Manager for this historical interpretation display project (with the Strathearn Historic Park and Museum) (September 2020 – February 2021).

Cultural Resource Monitoring for the Oasis Windmill Farm, Kern County, California

Project manager for the monitoring of impacts in six cultural resources as part of the Oasis Windmill Farm upgrade (August 2020 – February 2021).

Archaeological Monitoring at the Arctic Cold Industrial Project Site, Oxnard, Ventura County, California (with Samantha Renta)

Project Manager for this large archaeological and Native American monitoring project. (November 2020 – February 2021).

Phase Ib (subsurface) Survey 239 Oak Glen Avenue, Ojai, Ventura County, California

Principal and Project Manager for this City-requested Phase Ib survey, which included the excavation of six shovel test pits and a comprehensive site assessment to supplement work completed in 2020 as the "Rancho Ojai" project. (February 2021 – February 2021).

Entitlement Phase Cultural Resource Tasks, Arrowhead Estate Residential Development, Banning, Riverside County, California

Project Manager for all cultural tasks, which included HAER documentation of the Gilman House Channel, team meetings, and the development of a construction phase Monitoring Plan that incorporated the history of the St. Boniface Indian School. (January 2021 – February 2021).

Phase I Survey of a Proposed Little Rock Mobile Home Park, Unincorporated Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. The recordation of a large early 20th Century residential and farm complex on State of California DPR forms was

also completed as part of this project. A paleontological survey report was also completed by PaleoWest as per the NHM findings (November 2020 – February 2021).

Phase I survey of the Chadwick School Development Project, Palos Verdes, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (December 2020 – February 2021).

Phase I Survey of 3142 Subida Circle, Santa Rosa, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC and NAHC record search and a site survey. (August 2020 – February 2021).

Keyes Porsche Archaeological, Paleontological, and Native American Monitoring Project, Woodland Hills, California (with Samantha Renta)

Principal and Project Manager for this archaeological, paleontological, and Native American monitoring project. (August 2020 – February 2021).

Los Angeles Unified School District (LAUSD) Environmental On-Call for Archaeological and Paleontological tasks, Los Angeles County, California

Principal, Project Manager, and cultural resource task completion as needed. Envicom is one of three selected vendors for one year, with four potential renewable years in the contract (eventually rolled in with LAUSD environmental on-call contract) (February 2019 – February 2021).

Conrad N. Hilton Foundation Phase Ib of Proposed Phase II Building Locations, Agoura Hills, California

This project involved the excavation of 48 shovel test pits within the western periphery of cultural resource CA-LAN-320 on Foundation property. (January 2020 – January 2021).

Phase I Survey of the Sandefer Residential Project, Unincorporated Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC and NAHC record search and a site survey. (August 2020 – January 2021).

Phase I Survey of 122 acres of the Canyon Ostara residential development project, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC and NAHC record search and a site survey. (August 2020 – January 2021).

Summit View Apartments Project Paleontological Monitoring for this Veterans Housing Project, Los Angeles, California (with Samantha Renta)

Principal and Project Manager for this paleontological monitoring project. (February 2020 – January 2021).

Native American Monitoring at the Los Angeles International Airport (LAX), Los Angeles, Los Angeles County, California

Project Manager for this long term Native American monitoring project, which includes a Discovery Plan and a final Monitoring Report. (October 2020 – December 2020).

18800 Gale Avenue Archaeological, Biological, and Paleontological Monitoring Project, Rowland Heights, California

Principal and Project Manager for this archaeological, biological, and paleontological monitoring project. (November 2019 – December 2020).

Phase I survey of 410 Tico Road, Ojai, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (November 2020 – December 2020).

Phase I Survey of a property within the Rancho Ojai subdivision, Ojai, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2020 – November 2020).

Fillmore Terrace Phase I and Native American Consultation, Fillmore, Venture County, California (with Samantha Renta)

Principal and Project Manager for this large low-income housing project, which included an SCCIC record search, site visit, and Native American consultation on behalf of the City. (September 2020 – October 2020).

Phase I Survey of 730 South Vermont, City of Los Angeles, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC, NAHC, and NHM record searches and a site visit. (June 2020 – October 2020).

Phase I Survey of the Reconstruction of the Brookview Ranch Riding and Event Venue, School of Management Building, County of Los Angeles, California (with Samantha Renta)

Principal and Project Manager for this riding venue rebuild and expansion. Project included a SCCIC/NAHC record search and a site visit. One of the challenges has been integrating a prehistoric cultural resource immediately north of the project development, but on the project property, into the assessment recommendations (July 2019 – September 2020).

Phase I Survey of 715 Del Oro Drive, Ojai, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (June 2020 – August 2020).

Phase I Survey of 604 Gridley Road, Ojai, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (July 2020 – August 2020).

Phase I Survey of the 5041 Lankershim Hotel Property, North Hollywood, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC, NHM, NAHC record searches and a site visit. (May 2020 – July 2020).

Phase II Evaluation of CA-LAN-41 within the Boundary of the Agoura Village project, Agoura Hills, Los Angeles County, California.

Principal and Project Manager for the completion of an Evaluation (Phase II) of a complex prehistoric cultural resource within the boundary of the Agoura Village project. The Phase II involved the excavation of ten test units, dozens of shovel test pits, as well as more detailed mapping of the site. (January 2019 – July 2020).

Phase I Survey of 6544 Wandermere Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (June 2020 – July 2020).

Phase I Survey of 5841 Busch Drive, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (May 2020 – July 2020).

Archaeological and Paleontological Monitoring for the Agoura Landmark Development Project, Agoura, California

Principal and Project Manager for this monitoring project. A positive findings report was also completed and submitted to the City after the discovery of a small lithic scatter within the development footprint (January 2019 – July 2020).

Phase I Survey 505 Centre Street, Los Angeles, Los Angeles County, California (with Samantha Renta

Principal and Project Manager for this project, which included an SCCIC, NAHC, and NHM record searches and a site visit. This complex project had multiple built environment concerns, including the adjacent San Pedro Commercial Historic District (April 2020 – June 2020).

Paleontological Phase I Survey of an Agricultural Development Parcel in Balcom Canyon, Somis, Ventura County, California

Author for this project, which included a detailed geological and paleontological statement for the proposed project. (June 2020).

Cultural Resource Discovery Plan for the Oasis and Point Wind Windmill Farm, Kern County, California

Author of the discovery plan for upgrades to two large windmill farms for Terra Gen. (March – April 2020).

Phase II Evaluation of Six Native American Archaeological Sites for the Terra Gen Oasis Windmill Farm, Kern County, California

Principal and Project Manager for this archaeological evaluation project, which utilized shovel test pits and test units to evaluate six prehistoric Native American cultural resources that would be impacted by future windfarm development. (March 2020 – April 2020).

Phase I Survey of The Emerald Residential Project, Lancaster, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this approximately 5-acre housing project, which included an SCCIC/NAHC/NHM record searches and a site visit. (February 2020 – April 2020).

Phase I Survey of The West Palmdale Residential Complex Project, Palmdale, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this approximately 35-acre housing project, which included an SCCIC/NAHC/NHM record searches and a site visit. (February 2020 – April 2020).

Conrad N. Hilton Foundation Geotech Boring Archaeological and Paleontological Monitoring, Agoura Hills, California

This project involved the monitoring of geotech trench and drilling sites within Foundation and Las Virgenes Water District properties within the City of Agoura Hills. (January 2020 – April 2020).

Phase I Survey of 4510 Via Vienta, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (January 2020 – April 2020).

Phase I Survey of the Proposed California Lutheran University, School of Management Building, Thousand Oaks, California (with Samantha Renta)

Principal and Project Manager for this university project. Project included a SCCIC/NAHC record search and a site visit. (December 2019 – April 2020).

Phase I Survey of the Twin Lakes Water Tank Project, Porter Ranch, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Los Virgenes Municipal Water District. (October 2019 – April 2020).

Phase I Survey of the Castaic Apartments Project, Town of Castaic, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this large 105-acre mixed use development project, which included an SCCIC/NAHC record search, an NHM record search, and a site visit. The cultural survey discovered two complex older historic sites, which required extensive recordation and evaluation (July 2019 – April 2020).

Sierra West Assisted Living Project, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this group residential project. Project included NHM/SCCIC/NAHC record searches, and a site visit. A project challenge was addressing historic early 20th Century structures, including an early stagecoach station, which once were located on the property, as well as the proximity of the parcel to a historic (1880s) cemetery. (October 2019 – April 2020).

Phase I Survey of 1175 Camille Drive, Ojai, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (January 2020 – February 2020).

Vineland and Cleon Self Storage Project Phase I Cultural Survey, Burbank, California (with Samantha Renta)

Principal and Project Manager for this commercial project. Project included NHM/SCCIC/NAHC record searches, but no site visit due to extensive urbanization. (December 2019 – January 2020).

Phase I Survey of 5617 Busch Drive, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (December 2019 – January 2020).

Cultural Resource Monitoring of the 21110 Oxnard Hotel project, Woodland Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this monitoring project. (August 2019 – January 2020).

Phase I Survey of the Riverwalk II Mixed-Use Project, Santa Clarita, California

Principal and Project Manager for this commercial and Residential Project. Project included a SCCIC/NAHC record search and a site visit. (December 2019 – December 2019).

Phase I Survey of 5814 Philip Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2019 – December 2019).

Phase I Survey of Improvements to the Coronado Golf Course, San Diego, San Diego County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC record search only. (October 2019 – November 2019).

Phase I Survey of 6208 Tapia Drive, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (October 2019 – November 2019).

Phase I Survey of 6711 Wandermere Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (September 2019 – October 2019).

Phase I Survey of 5820 Foxview Drive, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for residential project, which included an SCCIC/NAHC record search, an NHM record search, and a site visit. (September 2019 – October 2019).

Phase I Survey of the new Keyes Porsche Auto Dealership, Woodland Hills, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and the production of a separate Ethnographic Assessment Report for the project. Envicom also supported the Lead Agency in AB-52 consultation with the Tataviam and Tongva Tribal Groups. (August 2019 – October 2019).

Cultural Resource Monitoring of the 21121 Van Owen Development Project, Canoga Park, Los Angeles County, California

Principal and Project Manager for this monitoring project. (September 2019).

Phase I Survey of the Avenue 34 Mixed-Use Development Project, Los Angeles, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (August 2019 – September 2019).

Phase I Survey of the Faith Lutheran Senior Living Project, Inglewood, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC record search and a site visit. (August 2019 – September 2019).

Phase II Evaluation of Cultural Resource CA-LAN-513 within the Boundary of 6282 Sea Star Estates Residential Development, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this Phase II evaluation, which involved surface examination only due to plowed field conditions. No evidence of a cultural resource was found. (September 2019).

Phase I Survey of an Agricultural Development Parcel in Balcom Canyon, Somis, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC record search, a site visit, and the recordation of a prehistoric site at the edge of the project boundary. (July 2019 – August 2019).

Phase I Survey of 31215 Bailard Road, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC record search and a site visit. (July 2019 – August 2019).

Phase II Evaluation of the Proposed Location of the Printz Colony House within the Strathearn Historic Park, Simi Hills, Ventura County, California (with Samantha Renta)

Principal and Project Manager for this Phase II evaluation of part of the 1880s Strathearn Farmstead. Evaluation tasks included the excavation of shovel test pits and a single test unit, construction monitoring, and a combined report for the Rancho Simi Recreation and Parks District (June 2019 – July 2019).

Phase I Survey of the Parks LA project, Los Angeles, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (June 2019 – July 2019).

Phase I Survey of the Rancho Malibu residential development project, Malibu, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (June 2019 – July 2019).

Phase I Survey of 380 South Rosemead, Los Angeles, Los Angeles County, California (with Samantha Renta)

Principal and Project Manager for this development project, which included an SCCIC/NAHC/NHM record search, a site visit, and a Natural History Museum paleontological assessment. (May 2019 – June 2019).

Phase II Evaluation of CA-LAN-129 and CA-LAN-129a, two prehistoric sites, and CA-LAN-4363H, an early historic site located in Calabasas, California

Principal and Project Manager for the evaluation of these three sites as part of permitting with the Corps of Engineers. The evaluation was written to NRHP/SHPO standards. (May 2019 – June 2019).

Phase I Survey of 1160 Sulphur Mountain Road, Ojai, Ventura County, California

Principal and Project Manager for this residential development project, which included a SCCIC/NAHC record search and a site visit (May 2019 – May 2019).

Phase I Survey of the Cal Grow Farms Project, Perris, Riverside County, California

Principal and Project Manager for this agricultural development project, which included a SCCIC/NAHC/NHM record search and a site visit. (March 2019 – May 2019).

Phase I Survey of the Riverwalk Mixed-Use Project, Santa Clarita, California

Principal and Project Manager for this commercial and Residential Project. Project included a SCCIC/NAHC record search and a site visit. (March 2019 – May 2019).

Phase I Survey of the West Village Project, Calabasas, California

Principal and Project Manager for this Army Corps of Engineers (ACOE) permitting project. Project included a SCCIC/NAHC/NHM record search and a site visit, as well as SHPO review of the final report. (March 2019 – May 2019).

Phase I Survey of the Belvedere Middle School Improvements Project, Los Angeles, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search and NAHC record search request for LAUSD. (November 2018 – April 2019).

Phase I Survey "The Angel" Project, Los Angeles County, California

Principal and Project Manager for this low-income housing project in the San Fernando Valley. Project included a SCCIC/NAHC record search and a site visit. (January 2019 – March 2019).

Fourth and Hewitt, City of Los Angeles, Los Angeles County, California

Principal and Project Manager for a cultural resource record search for the development of a new office building within a commercial urban environment. Project also included a paleontological assessment of the property due to an extensively deep planned parking garage and Native American concerns. Also completed with an Ethnographic Report to meet AB-52 criteria. Another key issue was determining whether a historic built environment assessment was needed. (February 2017 – March 2019).

Phase I Survey of the Deer Lake Water Tank Project, Porter Ranch, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Las Virgenes Municipal Water District. (November 2018 – March 2019).

Phase I Survey of the Sherwood Development Corporation, Tract 4409, Ventura County, California

Principal and Project Manager for this Army Corps of Engineers (ACOE) permitting project. Project included a SCCIC/NAHC record search and a site visit, as well as SHPO review. (January 2019 – February 2019).

City of Thousand Oaks Environmental On-Call (Including Cultural Resources), Los Angeles County, California

Envicom was selected as one of a limited number of on-call environmental firms for the City. (June 2015 – December 2018).

Phase II Evaluation of Cultural Resource CA-LAN-513 within the Boundary of 6361 Sea Star Estates Residential Development within the Malibu, Los Angeles County, California

Principal and Project Manager for this Phase II evaluation, which involved limited shovel test pits and surface examination. No evidence of a cultural resource was found. (November 2018 – December 2018).

Phase I Survey for the Massilia Spa Project, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Project also includes an inventory and initial assessment of over a dozen 1930 through 1990 structures on the property (June 2018 – December 2018).

Phase I Survey of the Conejo Creek Park, Thousand Oaks, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (August 2018 – November 2018).

Phase I Survey of the Butler Ranch, in Ventura County near West Simi Valley, California

Principal and Project Manager for the completion of a Phase I record search, NAHC record search request, and a site survey of this 332-acre low density residential development project. (May 2018 – October 2018).

Valencia Travel Village, Valencia, Los Angeles County, California

Principal and Project Manager for the completion of a Phase I for trailer park and recreation center. (August 2018 – October 2018).

Phase I Survey of the JPA Solar Farm, Calabasas, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for the Las Virgenes Municipal Water District. This 20-acre solar project also addressed a large prehistoric Native American site located next to and partially on the property. Project included Native American consultation with the Lead Agency and the Tatatviam and the recordation of two prehistoric petroglyphs (August 2018 – October 2018).

Simi BMX Course Phase I Survey, Simi Valley, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (July 2018 – August 2018).

Phase I Paleontological Survey of the 3467 Camino de la Cumbre Property in Sherman Oaks, Los Angeles County, California

Principal and Project Manager for the completion of a Natural History Museum record search and paleo report. (August 2018).

Phase I Survey of the proposed 113-133 West Plymouth Street multiple unit residential development, Inglewood, Los Angeles County, California (with Samantha Whittington, Debbie Balam, and Charlie Fazzone)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, paleontological record search, NAHC record search request, and a site survey. Additional tasks included writing for the cultural section of the MND document (April 2018 – August 2018).

Phase I Survey for the 17-acre Olivas Park Extension commercial development project in Ventura, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey, followed by limited monitoring. (January 2018 – June 2018).

Phase I(b) Survey of the proposed Forrest Club 50-acre private club development, Los Angeles County, California (with Samantha Whittington and Charlie Fazzone)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. In addition, 24 shovel test pits were excavated across the locations of two 1920s historic cabins. No further work was required. (April 2018 – June 2018).

Phase I Survey for the Ascension Lutheran Church Master Plan and MND, Thousand Oaks, California, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2018 – June 2018).

Cultural, Paleo, and Native American Monitoring for the Agoura Hills Marriott Development Project, Agoura Hills, California

Principal and Project Manager for this monitoring project. During monitoring, a prehistoric Chumash cultural resource was discovered (number not yet assigned), which led to artifact collection, analysis, and a final report of findings that was submitted to the City (January 2018 – June 2018).

Phase I Survey for the Mulholland Senior Living Project, Los Angeles County, *California*

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2018 – May 2018).

Phase I Survey of the proposed Tapo at Alamo EIR for a mixed-use development project, Simi Valley, Ventura County, California (with Samantha Whittington and Debbie Balam)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (March 2018 – May 2018).

Phase I Survey of the Upper Bailey Road tract, Sylmar, Los Angeles County, California (with Samantha Whittington and Debbie Balam)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – April 2018).

Phase I Survey of the Lower Bailey Road tract, Sylmar, Los Angeles County, California (with Samantha Whittington and Debbie Balam)

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – April 2018).

Historic Structure Evaluation of Blythe Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018).

Historic Structure Evaluation of Robert Hill Lane Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018).

Historic Structure Evaluation of James Madison Middle School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018).

Historic Structure Evaluation of 54th Street Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018).

Historic Structure Evaluation of Chapman Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018).

Historic Structure Evaluation of Dena Street Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018).

Historic Structure Evaluation of Patrick Henry Middle School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. School was found eligible for the CRHR. (February 2018 – April 2018).

Historic Structure Evaluation of Richland Avenue Elementary School for LAUSD

Project Manager for this project, with Chattel, Inc., being the historic preservation consultant. (February 2018 – April 2018).

Marinette Road Residential Development, Pacific Palisades, Los Angeles County, California

Principal and project manager for this development project, which included a SCCIC/NAHC record search, site survey, Tribal Group scoping letters, and agency consultation. The major challenge was that the project

property was within the Will Rogers State Monument and National Register site boundary. An update for this project was conducted in 2018 to include AB-52 compliance. (February 2015 – May 2015; January 2018 – April 2018).

Phase I Survey for 6956 Dume Drive, Malibu, California, Los Angeles County, California (with Samantha Whittington)

Principal and Project Manager for the completion of an SCCIC record search, and a site survey. (February 2018 – March 2018).

Phase I Survey of roughly 50-acres for Improvements on the Saddlerock Ranch/Malibu Wines Property, Santa Monica Mountains, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project involves upgrades to the winery existing structures and public buildings, as well as road and parking improvements. Part of this project is located near a National Register Chumash rock art site as well as other prehistoric resources (November 2016 – March 2018).

Phase I Survey for 28730 Grayfox, Malibu, Los Angeles County, California (with Samantha Whittington)

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (January 2018 – February 2018).

Phase I Survey for 11681 Foothill Boulevard, a multiple-unit residential project, Sylmar, California, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. This project also included a Native American Tribal Cultural Resource Assessment. (November 2017 – February 2018).

Phase I Survey for a single-family property development along Yerba Buena Road, Ventura County, California

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (December 2017 – January 2018).

Phase I Survey for 34134 Mulholland Highway, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (December 2017 – January 2018).

Faunal, Osteological, Archaeological, and Fossil Consultation for Citadel Environmental and Turner-Hunt for the Hollywood Park Development Project (new Rams NFL Stadium)

Osteological and paleontological consultant for Kiewit, Turner, and Citadel for the construction of the new Rams NFL stadium in Ingelwood. Project included discovery and recordation of modern and fossil mammal bones. We were the official on-call cultural/paleo resources team for the Rams Stadium project, being called in to deal with modern faunal and ancient fossil remains found during excavation. We worked closely with the construction team to get an expert on site within 24-hours of the discovery or quicker, with the goal of getting the discovery assessed and the construction team back to work as soon as possible. (December 2016 – January 2018).

Phase I Survey for 24600 Thousand Peaks Road, Calabasas, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (November 2017 – January 2018).

Phase I Survey for 28929 Grayfox, Malibu, California, Los Angeles County, California

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (November 2017 – January 2018).

Manzanita School Phase Ia Survey for a 20.27-acre private school development, Topanga Canyon, California, Los Angeles County, California

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. This project also assessed built environment resources, which included early 1900s buildings, early 1900s water control features, culverts, and bridges, and 1950s landscaping elements (May 2017 – January 2018).

Phase I Survey for the 181 to 187 Monterrey Road Condominium Project, a small residential development near South Pasadena, California, Los Angeles County, California

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (July 2017 – January 2018).

Phase I Survey for the Agoura Village project, a 7.37-acre Commercial Subdivision, Agoura Hills, Los Angeles County, California.

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a Phase Ia site survey. The Phase Ia survey was followed by a Phase Ib subsurface survey and an updated site form for a previously known prehistoric cultural resource that includes the entire project area. (October 2016 – December 2017).

Phase I survey for 22866 Beckledge Terrace, Malibu, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (September 2017 – November 2017).

Lynn Road Residential Development Project, Construction Monitoring, Newbury Park, California

Principal and Project Manager for the surface collection and construction monitoring for this 10-acre residential construction project. (October 2017 – November 2017.)

Phase II Evaluation of two cultural resources located on the Oakmont project property, Agoura Hills, Los Angeles County, California

Principal and Project Manager for the evaluation of a prehistoric cultural resource and a 1920s-1980s historic homestead cultural resource. Evaluation tasks included shovel test pits, and a test unit for the prehistoric cultural resource, and detailed mapping and documents research for the historic cultural resource. A combined report for both Oakmont projects was produced for the City. (August 2017 – October 2017).

City of Pomona Environmental On-Call (Including Cultural Resources), Los Angeles County, California

Envicom successful won inclusion as one of six on-call environmental firms for the City. (October 2014 – October 2017).

Phase I Survey for the Oakmont commercial project, a 5.75-acre development, Agoura Hills, Los Angeles County, California

Principal and Project Manager for the completion of NAHC record search, and a Phase Ia site survey. The Phase Ia survey identified two (2) cultural resources; a 1920s historic homestead foundation, and a large prehistoric archaeological site. (August 2017 – October 2017).

Phase I Assessment of the West Hills Crest 37-acre Residential Subdivision, West Hills, Los Angeles, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search and project area site survey. A key issue for this project was the record search being positive for a prehistoric cultural resource within the development area. This resource, CA-LAN-1223, was further investigated with 22 shovel test pits, and evaluated as not being a significant cultural resource. (February 2017 – October 2017).

San Bernardino County Cultural, Historic Architecture, and Paleontology On-Call, San Bernardino, California

Envicom successful won inclusion in the limited on-call pool. (October 2014 – October 2017).

Phase I Survey for 15498 LaPeyre Court, a residential development, Moorpark, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Project also included coordination with numerous biology tasks. (August 2017 – September 2017).

Canyon View Estates Paleontological Survey, Santa Clarita, Los Angeles County, California

Principal and Project Manager for this paleontological record search, site survey, and report. (August – September 2017).

North Canyon Ranch 170-acre Residential Subdivision, Simi Valley, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search and project area site survey. A key issue for this project was a previously disturbed cultural resource within the project area, the destruction of which needed to be addressed in the final report. (May 2017 – August 2017).

Phase I Survey for the 12300 Valley Boulevard Hotel, a commercial development, El Monte, Los Angeles, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (June 2017 – August 2017).

Phase Ia Survey for the Holiday Inn Express Hotel, a commercial development, El Monte, Los Angeles, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (July 2017 – August 2017).

Arcadia Town Homes MND Phase I Cultural Assessment for a multi-unit residential development, Arcadia, Los Angeles, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this multi-unit residential development. (May 2017 – August 2017).

Phase I Survey for 3800 Figueroa, an apartment complex development, Los Angeles, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for apartment complex development. (June 2017 – August 2017).

Phase I Survey for the Copper Canyon Project, a 5-acre residential development near Santa Clarita, California, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. Also part of the project was the resurvey of two previously recorded cultural resources within the project boundary. (May 2017 – July 2017).

Phase Ia Survey for the Oneonta Hillside Drive, a residential development, South Pasadena, Los Angeles County, California

Principal and Project Manager for the completion of an SCCIC and NAHC record search, and a site survey. (May 2017 – July 2017).

Construction Monitoring for Parcel 2058-003-010, Lobo Canyon, Los Angeles County, California

Principal and Project Manager for the surface collection and construction monitoring for this single-family residential construction project. (July 2017)**.**

Phase I Survey for the 6625 Bradley Road, a residential development, Somis, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey for this small residential development. (June 2017 – July 2017).

11172 Santa Paula Road Phase Ia Survey for a 5.5-acre Agricultural property, Ojai, California, Ventura County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (May 2017 – June 2017).

Pepperdine University Campus Life Project: Updated Cultural Resources Record Search.

Principal and Project Manager for an updated record search and letter report for the Pepperdine Campus Life housing, facilities, and trail development project. This update was part of an amended campus-wide EIR (December 2017 – June 2017).

Pepperdine University Campus Life Project: Phase I survey of new Baseball Field development.

Principal and Project Manager for the addition of the campus baseball field as part of the larger Pepperdine Campus Life housing, facilities, and trail development project. (February 2017 – June 2017).

6658 Reseda Boulevard, Reseda, Los Angeles County, California

Principal and Project Manager for a Phase 1 record search for this urban mixed-use project. (March 2017 – May 2017).

Paradise Valley Development Project Environmental Impact Report and Impact Statement, Riverside County, California

Author of the cultural section for this EIR for a housing and mixed-use development of over 2200-acres east of Indio, California. Also reviewed original technical documents, and incorporated legal and agency comments. Mitigation measures included the management and monitoring of dozens of cultural resources, sensitive soils, and paleontological resources. (October 2014 – March 2017).

Phase I Cultural Resources Survey for Parcel 2058-003-010, Lobo Canyon, Los Angeles County, California

Principal and Project Manager for completion of a Phase I and Army Corps of Engineers permit for the project (ACOE, Los Angeles District). Extensive communications and consultation with the ACOE and SHPO. (July 2016 – March 2017).

Phase I Survey for a 1.33-acre Mixed-Use development, Northridge at the corner of Nordoff and Darby Streets, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project included a built-environment assessment of existing historic structures (October 2016 – February 2017).

Phase I Survey for a 0.5-acre Residential Subdivision Los Angeles at the end of Crisler Way, Los Angeles County, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC record search request, and a site survey. (October 2016 – February 2017).

Deer Lake Residential Development Cultural Monitoring, Porter Ranch, Los Angeles, California

Principal and Project Manager for the cultural monitoring of eight cultural resources within the project development boundary. This project includes the writing of a final Monitoring Report. (May 2016 – February 2017).

Phase I Survey for a 0.5-acre Mixed Use Development Project on Camarillo Avenue, North Hollywood, Los Angeles County, California

Principal and Cultural Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project also included a historic built environment assessment (November 2016 – January 2017).

Phase I Survey for a 14-acre Residential Subdivision, Woodland Hills, California

Principal and Project Manager for the completion of a SCCIC/NAHC record search, NAHC scoping, and a site survey. This project involved consultation with the City of Los Angeles on AB-52 (July 2016 – January 2017).

Lynn Road Residential Development Project, Newbury Park, California

Principal and Project Manager for the Phase Ia and Phase Ib survey of this 10-acre parcel. A large prehistoric Middle-Period seasonal settlement was discovered, which required subsurface testing and extensive mapping of surface hearths, yucca roasters, and dwelling features. Project included public testimony before the Thousand Oaks Planning Commission. (September 2015 – December 2016).

Pepperdine University Campus Life Project: Debris Basin Excavation Cultural and Paleontological Resource Monitoring, Los Angeles, California

Principal and Project Manager for cultural resource monitoring of Phase I of the Pepperdine Campus Life housing, facilities, and trail development project. (August – October 2016).

Trail Construction Monitoring, Conrad N. Hilton Foundation.

Principal and Project Manager for the development of a pedestrian foot trail loop between the Foundation and the nearby "Ridge" professional building, including the excavation of dozens of shovel test pits and a major surface collection of prehistoric artifacts, including trail construction monitoring. (August – September 2016).

Conrad N. Hilton Foundation Trail Project Cultural Assessment, Agoura Hills, Los Angeles County, California

Project Manager for the Phase 1b survey of a new pedestrian access trail linking off-site office space with the Foundation campus buildings. Project included the excavation of over 30 shovel test pits and the recording of numerous prehistoric features. (May – August 2016).

32640 PCH Phase I Cultural Resource Survey, Santa Monica, California

Principal and Project Manager for the Phase I cultural resource assessment of a ravine rehabilitation project between the Pacific Coast Highway and the Pacific Ocean. Included a SCCIC/NAHC record search, site survey, and technical report. (May 2015 – June 2016).

CA-LAN-320 Project Compliance Plans, and Native American and Lead Agency Consultation, Agoura Hills, Los Angeles County, California

Tasks included the authoring of a cultural resource Treatment and Data Recovery Plan, a cultural resource Management Plan, and a Curation Plan for all artifacts, as well as the organization of meetings with the Chumash Tribal Groups and the Lead Agency. (April 2015 – June 2016).

Canyon Park Homes, Sylmar, Los Angeles County, California

Native American Tribal Group consultation and pre-construction monitoring for this 80-acre residential property development, as well as EIR section writing. (February 2015 – March 2016).

Oakwood Schools Built Environment and Archaeological Assessment, North Hollywood, Los Angeles County, California

Principal and Project Manager for the Phase I cultural resource assessment of the project property prior to the construction of a new middle and high school campus within the North Hollywood area. Challenging tasks included Native American ghost writing for the lead agency (City of Los Angeles) and addressing a modern human cremation garden in the report (November 2015 – February 2016).

Floral Canyon Residential Development Cultural Resource Survey, North Hollywood, California

Principal and Project Manager for this Phase Ia cultural resource survey of an 8-acrea property. The cultural resource parts of the CEQA checklist were also completed. (September – December 2015).

Hilton Property Phase 3 Construction Site Phase Ib Cultural Resources Survey, Agoura Hills, Los Angeles County, California

Principal and Project manager for this extensive preliminary survey project, including excavation of over 200 shovel test pits and 4 test units to define the boundaries of a prehistoric ceremonial site of over 80-acres in size, used by Chumash Native Americans from 400 A.D. to the late 1700s. Recordation of over 190-features and 11,500 artifacts. Second phase will include data recovery tasks and an amended Environmental Impact Report. (February 2014 – March 2015).

Blessed Theresa Church Construction, City of Winchester, Riverside County, California

Cultural consultation including cultural/paleo monitoring issues. (April 2014 – July 2014).

Village at Los Carneros, City of Goleta, Santa Barbara County, California

Reviewed all previous technical studies and wrote part of the cultural sections of the Environmental Impact Report for this residential house development project. (March 2014 – April 2014).

3121 Old Topanga Canyon Road Phase I Survey and Literature Search, Calabasas, Los Angeles County, California

Principal and Project manager for this residential development project, including NAHC letters, literature review, site survey, paleontological survey and literature search, final technical report, and the writing of the cultural resources section of the Environmental Impact Report. (March 2014 – April 2014).