MIOSSI OPEN SPACE CONSERVATION PLAN

City of San Luis Obispo
City Administration
Office of Sustainability
Natural Resources Protection Program

January 2020

Miossi Open Space Conservation Plan

City Council:

Heidi Harmon, Mayor
Aaron Gomez, Vice Mayor
Carlyn Christianson
Andy Pease
Erica A. Stewart

City Manager:

Derek Johnson

Prepared by:

Robert Hill
Sustainability & Natural Resources Official
(805) 781-7211

Dylan Stafforini
Sustainability & Natural Resources Intern III
(805) 781-7119

City of San Luis Obispo
City Administration
Office of Sustainability
Natural Resources Protection Program
990 Palm Street
San Luis Obispo, CA 93401

Technical Assistance:

Terra Verde Environmental Consulting
Applied Earthworks
Rincon Consultants

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Maps and Photos by City of San Luis Obispo staff, Terra Verde Environmental, Applied EarthWorks, or open source.

Executive Summary

The *Miossi Open Space Conservation Plan* ("the Conservation Plan") is intended to guide the conservation and stewardship of this property long into the future as part of a larger mosaic of open lands owned by the City, Cal Poly and the United States Forest Service. This process also formally designates Miossi Open Space as a City Open Space property in accordance with the City's Open Space Regulations (1996), the *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* (2002), and the Conservation and Open Space Element of the City's General Plan (2006).

Miossi Open Space is teeming with biodiverse environments nestled between US Highway 101 freeway and Poly Canyon within the lands of California Polytechnic State University, San Luis Obispo. This open space is located in a secluded setting at the base of Cuesta Ridge at the northeastern boundary of the City of San Luis Obispo. The upper extents of the property feature panoramic views of the City to the south and the Pacific Ocean to the west, as well as the surrounding region. Miossi Open Space also hosts exceptional plant and wildlife diversity, an interesting cultural resource legacy, and is well-suited to offer pleasant hiking, biking, and passive recreational opportunities. Miossi Open Space is proximate to the City's existing Reservoir Canyon Natural Reserve and Stenner Springs Natural Reserve, as well as Poly Canyon, Los Padres National Forest, and the neighboring Santa Lucia Wilderness. This property represents a key piece of a long-standing conservation vision to establish permanent land protection within the Cuesta Canyon and Cuesta Grade areas of the San Luis Obispo Greenbelt due to outstanding natural resource values including the upper watershed of San Luis Obispo Creek, artesian springs, and important wildlife habitat. The acquisition of the property will also allow for the creation of a trail linking the new Miossi Open Space between Poly Canyon and Los Padres National Forest where outstanding views of the City of San Luis Obispo and the valley it rests in can be gained and enjoyed.

Site Description

Miossi Open Space offers high value for natural resource conservation, as well for passive recreational uses on this 266-acre site. The site has an existing trail network that is also connected to a wider dirt road. Perpendicular to one of the trails is a railroad crossing with an underlying culvert previously used for the movement of grazing animals and serves as a crucial corridor for species cited in the Terra Verde wildlife survey report (2019). At the base of the site near US Highway 101 is an approximately ½ mile portion of the Old Stagecoach Road, which runs between the Highway and San Luis Obispo Creek. Miossi Open Space ranges from a base elevation of 640 feet to its highest point along the upper ridge at 1,486 feet. Miossi Open Space offers a full host of both natural landscape features and vegetative assemblages across a site of 266 acres. The site is comprised of a diverse assemblage of soil and rock. In the early part of the 20th century the Southern Pacific Railroad was constructed, ostensibly bifurcating the site but for a culvert undercrossing. The site has historically been grazed by livestock. Miossi Open Space features oak woodlands, riparian areas, springs, and steep chaparral hillsides in compliment to the grassland pastures and rock outcrop features of the site.

Figure 1: Panoramic Photo of Miossi Open Space and Poly Canyon

Management Considerations

The *Miossi Open Space Conservation Plan* provides a framework for a mix of management approaches to natural resources protection, scenic resources, cultural resources, erosion and drainage, fire protection, trails and passive recreation:

- Natural Resources Protection. The Conservation Plan places priority on maintaining the natural ecosystem, while allowing passive public recreation as appropriate and compatible. The Miossi Open Space provides habitat for seven special status wildlife species and seven special status plant species, identified by the firm Terra Verde Environmental (2019) and City staff, that shall be protected and monitored over the long-term. Protective status is also given to all native plant communities and habitats that persist or are establishing within the open space area for the functions and values that they provide.
- Scenic Resources. The upper ridgeline and easterly side of Miossi Open Space represents a scenic and prominent backdrop along US Highway 101 corridor, as well as being more distantly visible on the northeast side of the San Luis Obispo Greenbelt from various vantage points with the City.
- Cultural Resources. A Phase I Cultural Resources studied was undertaken by the firm Applied EarthWorks (2019) that included records research, field surveys and documentation, and outreach to historically and culturally affiliated Native American tribal representatives. Applied EarthWorks identified several historic-era resources and recorded the historic dam and associated infrastructure that was part of the initial water system supplying water to the City of San Luis Obispo. Tribal representatives requested a site visit and cultural sensitivity training for staff prior to the start of any construction. Improved trailhead signs and a new kiosk will provide the opportunity to present an educational panel to the public that broadly details the cultural and historic nature of the property.
- Erosion and Drainage. A Custom Soil Resource Report was prepared for Miossi Open Space using the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) website application. The report reveals that Miossi Open Space is comprised mostlyof heavy clay soils known as the Gazos-Lodo clay loams (unit 144) and Los Osos-Lodo complex (unit 167). This soil is excessively well drained and characterized as having severe erosion potential, especially given the presence of steep slopes. Accordingly, ongoing erosion control and water management strategies are necessarily a part of the Conservation Plan.
- Fire Protection. Miossi Open Space is entirely surrounded by open land uses comprised of the public lands and other larger ranch holdings. The Cuesta Ridge landscape, in general, represents a significant wildland fire hazard and there has been significant recorded fire history in this system, as well as recent smaller events. A key component of the Conservation Plan is to address fire hazard that could result in unacceptable safety risk, property loss, and impacts to the environment. This is due to prevailing and seasonal winds; presence of annual grassland, chaparral, oak woodland, and other vegetation; and adjacency to US 101and the Los Padres National Forest landscape.
- Trails and Passive Recreation. An existing system of old jeep trails provide passive recreational access through the Miossi Open Space. In the lower extents of the property located "below the tracks" the existing roads are also of utility for maintenance and site stewardship activities, Ranger Service patrol, and emergency purposes. A culvert undercrossing provides trail access between the lower and upper portions of the site, although it is not large enough to accommodate a vehicle. New multi-use trails (hiking and biking) are proposed as part of the Conservation Plan in three locations – at the easterly portion of the site proximate to the Old Stagecoach Road trailhead access; on the westerly portion of the site leading towards and providing a possible trail connection to Poly Canyon, as well as a brief "hiking only" spur to a summit feature within the property; and, a stacked loop system within the upper portion of the property. Proposed new trails are based on field reconnaissance, as well as slope, elevation, and aerial photography analysis using Geographic Information Systems (GIS) software, in order to approximately map out trail alignments that can be sustainably constructed with moderate slopes and avoidance of sensitive site features. The new trails are also planned so as to feature attractive, scenic, or interesting site features, as well as both on- and off-site views.

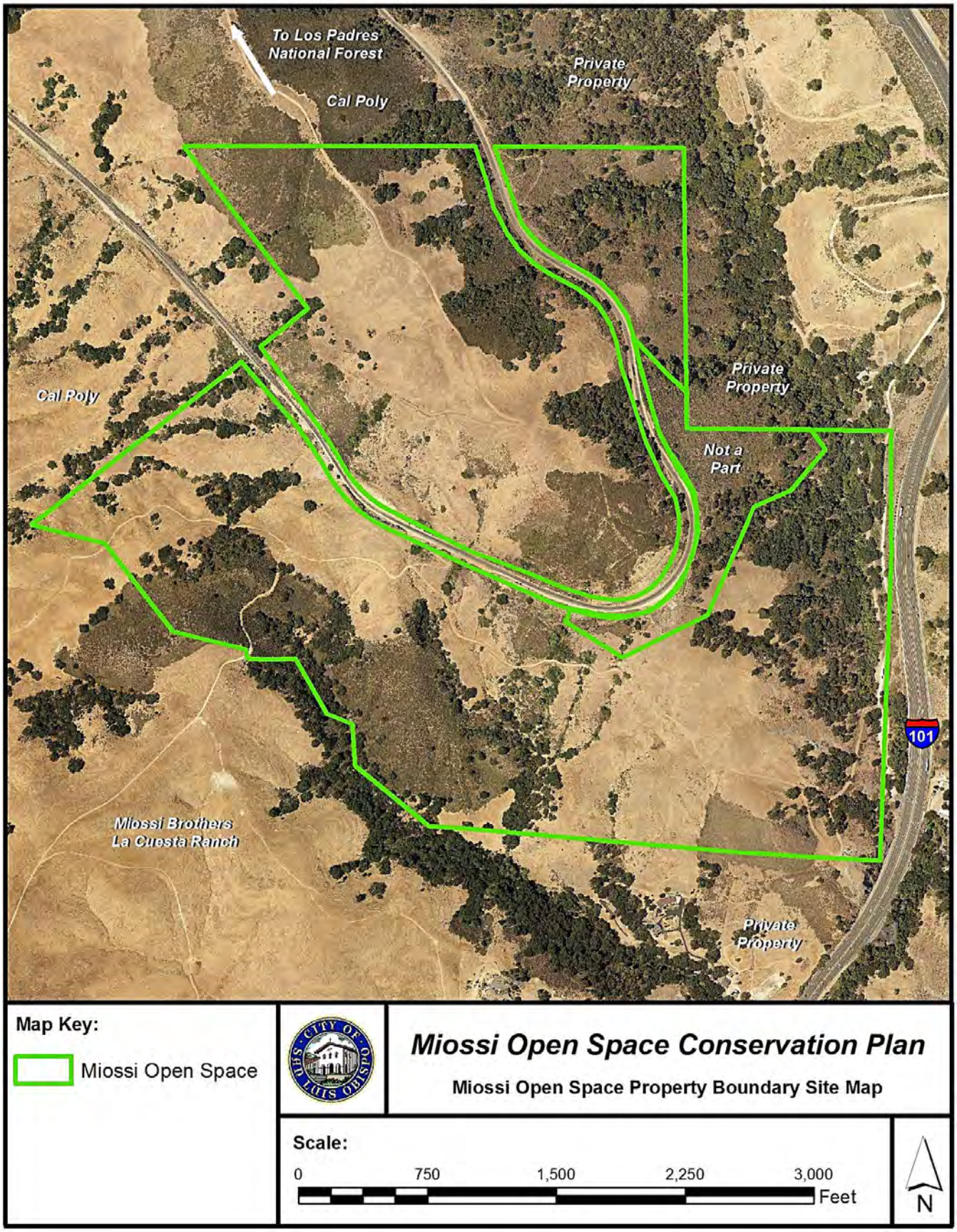

Figure 2: Miossi Open Space Property Boundary Site Map

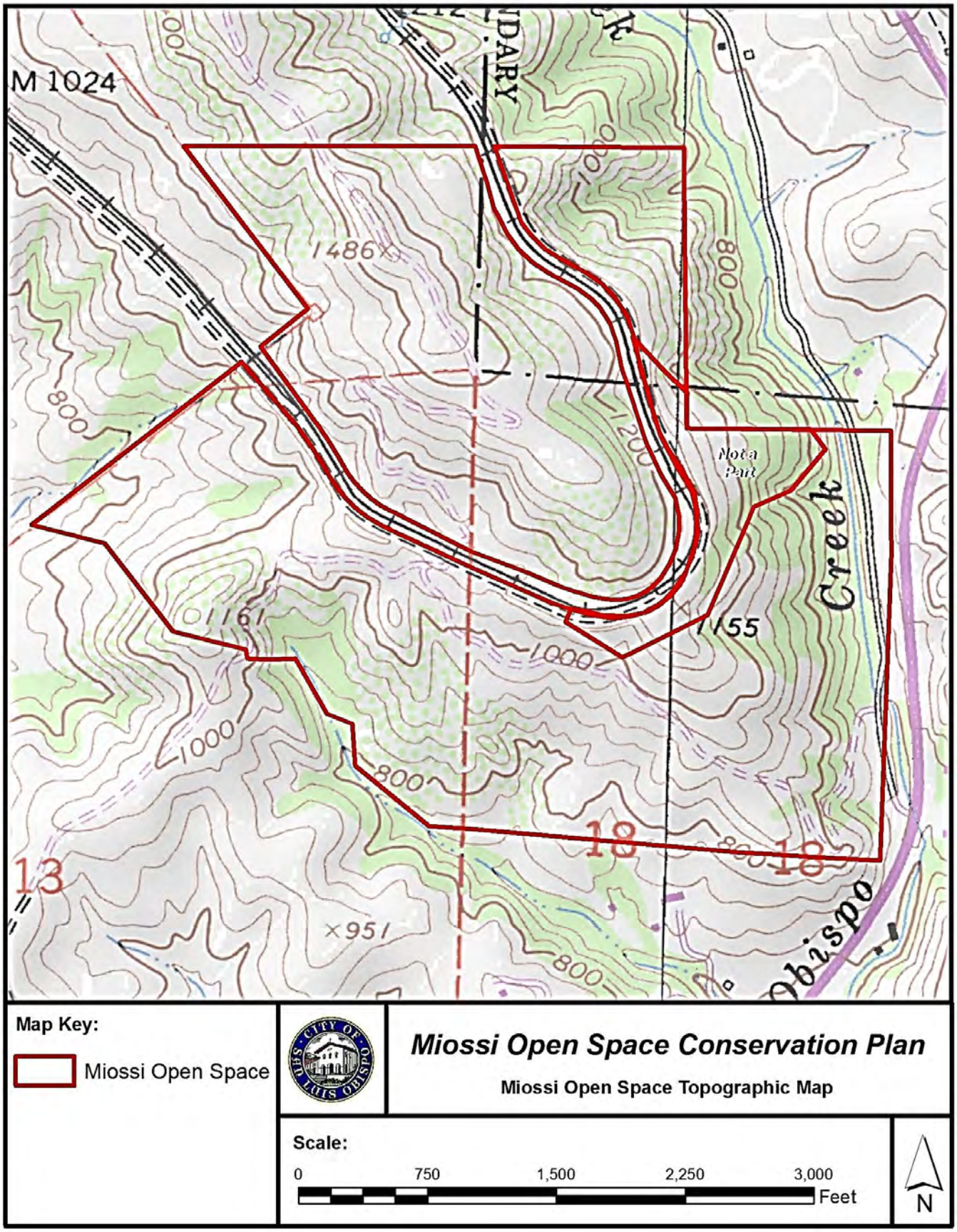

Figure 3: Miossi Open Space Topographic Map

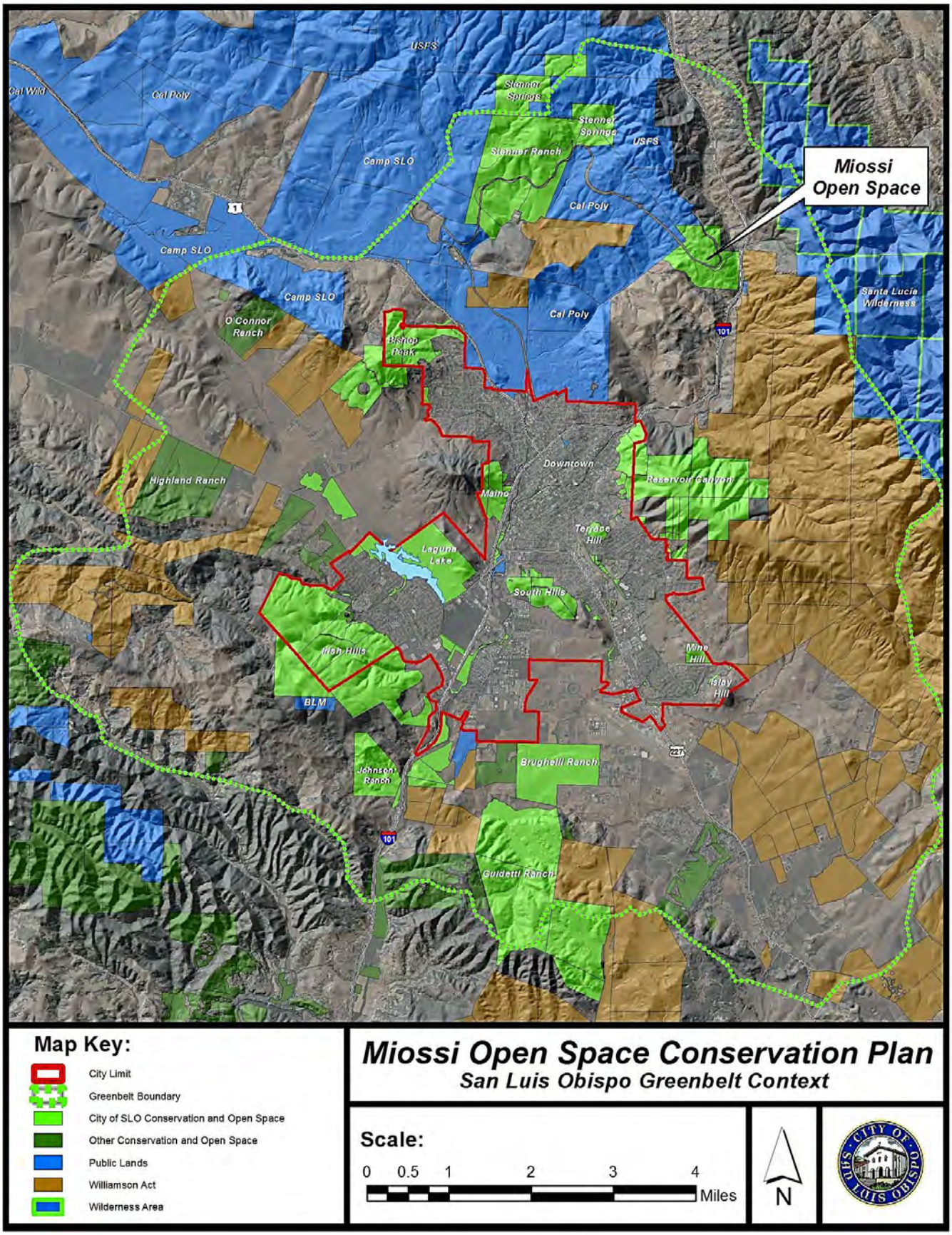

Figure 4: Miossi Open Space and the San Luis Obispo Greenbelt

1. Property History

Archaeological evidence suggests that Native American use of this region of the Central Coast began as early as 8000 B.C., or 10,000 year before present, across six distinct periods of pre-history. Miossi Open Space lies within the ethnographic territory of the Chumash, in an area historically occupied by the Northern (Obispeño) Chumash (Applied EarthWorks, 2019). Although proximate to several of the Mexican land grants distributed in the early to mid-1840s, the immediate area later became part of the township and range system of United States Government land patents following California's statehood.

Miossi Open Space includes and is proximate to key transportation routes necessary to link San Luis Obispo to areas located to the north over Cuesta Grade, including the overland route known as Padre Road that originally served the Spanish explorers and connected the California missions, and was active in the 1860s and 1870s. Old Stagecoach Road began construction in 1876 and remained in service until 1915 when State Route 2 was constructed. State Route 2 remained active until US 101 was built in 1937. With the advent of the automobile and construction of US 101, several traveler-serving businesses sprang up at the foot of Cuesta Grande near Miossi Open Space. US 101 has since been widened and improved and now features a significant retaining wall at the eastern boundary of Miossi Open Space.

The Southern Pacific Railroad came to San Luis Obispo in 1894 and played a pivotal role not only in the the development of San Luis Obispo, but also in transforming the landscape of the La Cuesta Ranch which serves as a key portion of the winding alignment that climbs over Cuesta Grade. A tunnel was first constructed within the alignment through La Cuesta Ranch, but was later abandoned to accommodate the construction of a wider turn radius coming around the prominent ridgeline within the property between 1956 and 1963.

By the 1870's, the San Luis Obispo County economy was dominated by dairies, primarily owned by Swiss and Swiss-Italian farmers including the Miossi family, whom at one time had three separate ranches in San Luis Obispo County, including other properties in Price Canyon and near present-day Montaña de Oro. The Miossi family acquired the subject La Cuesta Ranch property in 1917 from Frank Tate and they report past use of the property for ranching and livestock grazing purposes by the family and also under lease of the property to a tenant who grazed the property up until the time of sale to the City of San Luis Obispo in 2018. Aerial photographs from 1949, 1956 and 1963 clearly depict grazing and pasturing uses of the property, as well as a series of jeep trails within both the lower and upper extents of the property.

2. Inventory

2.1 Physical Inventory and Existing Improvements

Miossi Open Space is comprised of San Luis Obispo County assessor parcels 070-271-033, 070-271-034, 073-341-040, and 073-341-041. It is 266 acres in size with an elevation ranging between 640 and 1480 feet above mean sea level (msl). The primary entry and public access to the site is via an existing dirt road behind a locked gate located off of Old Stagecoach Road leading up and into the property.

Figure 5: Culvert undercrossing

There is also physical access from Cal Poly via US Forest Service lands, although this route is not accessible by vehicle. A culvert undercrossing beneath the railroad tracks that was reserved by the Miossi family in the 1960s connects the lower and upper areas of the property, although the alignment of the tracks and some side area is owned separately by the Union Pacific Railroad. Other than the existing dirt road network, there are only a few improvements including perimeter fencing, the gate at Old Stagecoach Road, a developed spring and spring box, and cattle watering troughs. Portions of Old Stagecoach Road and Route 2 traverse the property adjacent to San Luis Obispo Creek. Within San Luis Obispo Creek, remnants of the old dam site and associated conveyance infrastructure remain that originally were in service as part of the City of San Luis Obipso's municipal water supply between 1911 and 1954. This location has been recorded as site AE-4087-01H and is recommended for further evaluation as an historic resource (Applied EarthWorks, 2019).

Figure 6: Site Map of AE-4087-01H and associated infrastructure (Applied EarthWorks, 2019)

2.2 Legal Agreements

There are numerous prior legal agreements for utility easements, right-of-way, reservations and long-term leases that affect the management and use of Miossi Open Space. Utility easements are for gas, electricity, and cellular communications. Right-of-way easements are for roads and railroad. Reservation and long-term leases include provision made with the Miossi family upon their sale of the property to the City of San Luis Obispo, including an easement for emergency and maintenance purposes consistent with historic levels of use, and easement reserving an existing cellular communications facility, and a reservation for a 10-year cattle grazing lease with option to renew. The City has secured an ALTA Owner's Policy of Title Insurane from First American Title Insurance Company, policy no. 5601869.

2.3 Soils

A Custom Soil Resource Report was prepared for Miossi Open Space using the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) website application. The report reveals that Miossi Open Space is comprised mostly of clay, but a variety of soils are present. This includes Gazos-Lodo clay loams (unit 144) and Los Osos-Lodo complex (unit 167), which are both clays. This soil is excessively well drained and characterized as having severe erosion potential, especially given the 30-50% (Gazos-Lodo Clay) and 30-75% (Los Osos-Lodo Complex) slopes. A soils map and complete listing of soils found within Miossi Open Space is included as Appendix B.

2.4 Wildlife Species Inventory

A total of 79 animals were observed during surveys, photographed on remote cameras, and/or recorded by a bat detector at the Miossi Open Space property. (see Attachment B: Botanical and Wildlife Species Lists for Miossi Open Space) The 79 species detected comprise six taxonomic Classes: Amphibia (3), Arachnida (3), Aves (39), Insecta (17), Mammalia (14), and Reptilia (3). Seven special status wildlife species were detected on the property: golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus*), white-tailed kite (*Elanus leucurus*), oak titmouse (*Baeolophus inornatus*), American badger (*Taxidea taxus*), California red-legged frog (*Rana draytonii*), and South-central California coast steelhead (*Onchorynchus mykiss*) (Table 1). California Native Species Field Survey Forms were completed and submitted to California Natural Diversity Database (CNDDB) for all new special-status species observations.

Table 1: Special Status Wildlife Species Observed at Miossi Open Space

American Badger

(Taxidea taxus)

Golden eagle

(Aquila chrysaetos)

Oak titmouse

(Baeolophus inornatus)

Peregrine falcon

(Falco peregrinus)

White-tailed kite

(Elanus leucurus)

California red-legged frog

(*Rana draytonii*)

South-central California coast steelhead

(*Onchorynchus mykiss*)

2.5 Vegetation Communities

The condition of habitats on the Miossi Open Space property is relatively pristine, particularly along the southern and eastern edges of the property where minimal anthropogenic intrusion has occurred. Ruderal, invasive, and noxious species are most abundant along the corridors of the railroad and the main unpaved access road that bisects the property, as well as within the historically and currently grazed grasslands on the western side of the property. Eleven distinct, natural vegetation communities were mapped and described by Terra Verde Environmental (2019). In general, slope, aspect, elevation, and substrate dictate the distribution of communities, but there are broad ecotones where one community transitions widely into adjacent communities. Therefore, the communities mapped in Figure 8 should not be considered sharp transition lines between communities. Additionally, the community descriptions provided below represent typical conditions, but these habitat types are highly variable throughout the site. Vegetation community classifications are mapped and described to follow the second edition of *A Manual of California Vegetation* (MCV) classification system(Sawyer et al. 2009), as well as updates included in the MCV Online (CNPS 2019b).

Annual Grasslands

The grassland habitat documented on site is highly variable, but is generally dominated by non-native annual grass species, with variable cover of forbs and perennial grasses. Bromes (*Bromus* spp.) and oats (*Avena* spp.) are the dominant grasses in most areas, with false brome (*Brachypodium distachyon*) occurring as a co-dominant in many areas. Non-native and invasive forbs are generally concentrated along the main unpaved access road, remnant trails, and the railroad corridor. However, a significant population of woolly distaff thistle (*Carthamus lanatus;* Cal-IPC 'High') is present throughout the grasslands, with the highest density observed on the western side of the property. Several patches of purple needlegrass 11(*Stipa pulchra)* were observed and mapped in relatively discrete areas within annual grassland habitat (see Figure 9). The community composition documented for all grassland habitats on the property most closely corresponds to the *Bromus* (*diandrus, hordeaceus*)–*Brachypodium distachyon* Semi-Natural Herbaceous Alliance (annual brome grassland) and the *Avena* (*barbata, fatua*) Semi-natural Herbaceous Alliance (wild oats grasslands) in the MCV classification system.

Buck Brush-Chamise Chaparral

Large patches of chaparral dominated by buck brush (*Ceanothus cuneatus)* and chamise (*Adenostoma fasciculatum)* occur in several areas on the property, primarily on steep slopes. This community generally forms a closed-canopy of dense shrub cover ranging from four to seven feet high. Common associated species include leather oak (*Quercus durata*), Bishop manzanita, black sage (*Salvia mellifera*), and chaparral currant (*Ribes malvaceum*). Birch-leaf mountain-mahogany (*Cercocarpus betuloides*) is a significant component of this community in one patch near the southwestern corner of the property, occasionally forming the dominant shrub cover in discrete, highly localized patches.

This community composition most closely corresponds to the *Ceanothus cuneatus* Shrubland Alliance (buck brush chaparral), and specifically the *Ceanothus cuneatus-Adenostoma fasciculatum* mixed association of this alliance in the MCV classification system.

Chamise-Black Sage Chaparral

Dense chaparral dominated by a distinct assemblage of chamise and black sage occurs in several areas of the property. This community forms diverse ecotones with the various scrub communities on site, and often includes California sagebrush (*Artemisia californica*), chaparral currant, bush monkeyflower (*Diplacus aurantiacus)*, and western poison oak (*Toxicodendron diversilobum)* at variable cover.

This community composition most closely corresponds to the *Adenostoma fasciculatum-Salvia mellifera* Shrubland Alliance (Chamise-black sage chaparral) in the MCV classification system.

Sagebrush, Black Sage, and Coyote Brush Scrub

Various associations of scrub habitat occur on site, including areas that are dominated by California sagebrush, black sage, and coyote brush. Some stands support nearly monotypic cover of either black sage or coyote brush, and others form a more typical coastal scrub community with a mix of these dominant species, along with California coffeeberry (*Frangula californica)*, western poison oak, bush monkeyflower, deerweed (*Acmispon glaber*), blue elderberry (*Sambucus caerulea* subsp*. nigra),* chaparral yucca (*Hesperoyucca whipplei*), and silver bush lupine (*Lupinus albifrons* var. *albifrons*). These communities form diverse 12 assemblages that often intergrade, as well as adjacent chaparral, oak woodland, and grassland habitats. The composition and cover of scrub habitats observed on site correspond with several alliances in the MCV classification system, including: *Artemisia californica* Shrubland Alliance (California sagebrush scrub), *Artemisia californica-Salvia mellifera* Shrubland Alliance (California sagebrush-black sage scrub), *Salvia mellifera* Shrubland Alliance (Black sage scrub), and *Baccharis pilularis* Shrubland Alliance (coyote brush scrub).

Coast Live Oak Woodland

Coast live oak (*Quercus agrifolia*) forms the dominant tree cover on east-facing slopes and in low-lying areas of the property, including along intermittent and ephemeral drainages that bisect the grasslands in the southern and western portions of the property. In upland areas, this community intergrades with adjacent chaparral and scrub communities, and supports a variable understory typically dominated by western poison oak, creeping snowberry (*Symphoricarpos mollis*), and western bracken fern (*Pteridium aquilinum* var. *pubescens*). In association with ephemeral drainages, California bay (*Umbellularia californica)* and western sycamore (*Platanus racemosa)* are common components of the tree canopy, with a variable understory that is similar in composition to that of upland woodland habitats on site. This community assemblage most closely corresponds to the *Quercus agrifolia* Woodland Alliance (coast live oak woodland) in the MCV classification system.

Mixed Riparian Woodland

The upper reaches of San Luis Obispo Creek border a portion of the eastern edge of the property. The riparian corridor associated with this creek is a diverse, mixed woodland dominated by coast live oak, California bay, and western sycamore, with arroyo willow (*Salix lasiolepis)* occurring commonly and a small population of big-leaf maple (*Acer macrophyllum*). The understory is a dense thicket of western poison oak, with California blackberry (*Rubus ursinus)*, giant horsetail (*Equisetum telmateia* subsp*. braunii)*, wood fern (*Dryopteris arguta)*, and giant chain fern (*Woodwardia fimbriata*) occurring in localized patches. In addition, a robust population of French broom (*Genista monspessulana)* was documented along San Luis Obispo Creek and Old Stage Coach Road. This community assemblage most closely corresponds to the *Quercus agrifolia-Platanus racemosa/Toxicodendron diversilobum* Association of the coast live oak woodland alliance in the MCV classification system.

Arroyo Willow Scrub

Limited patches of willow scrub were observed in association with the upper reaches of ephemeral drainages and seeps on the property. Arroyo willow is the dominant species, with red willow (*Salix laevigata)*, western sycamore, and cottonwood (*Populus trichocarpa, P. fremontii)* occurring infrequently. This community assemblage most closely corresponds to the *Salix lasiolepis* Shrubland Alliance (arroyo willow scrub) in the MCV classification system.

Serpentine Outcrop

A few expressions of serpentine outcrop were documented on site, which are characterized by exposed, ultramafic bedrock and low overall vegetative cover. Though limited in extent, serpentine outcrops form a highly specialized micro-habitat. On site, two of the special-status botanical species documented occur only in this micro-habitat: Brewer's spineflower and mouse-gray dudleya. Shrub cover is mostly absent, with deerweed, golden yarrow (*Eriophyllum confertiflorum)*, and narrowly leaved bedstraw (*Galium angustifolium* subsp*.*

angustifolium) occurring most commonly. A few unidentifiable individuals of mariposa lily (*Calochortus* sp.) were observed on the serpentine outcrops near the eastern edge of the site (see Figure 9). At the time of the surveys, these individuals appeared to have been recently browsed by deer or other herbivores and, therefore, the species at this location could not be confirmed; however, based on identifiable features, habitat, and range, it was most likely either club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*, found elsewhere on site) or San Luis mariposa lily (*C. obispoensis*) – a CRPR 1B.2 species that was not observed anywhere else on the property.

This habitat composition does not correspond to any of the community assemblages identified in MCV.

Freshwater Seeps
Several perennial or nearly perennial seeps were identified. These areas are generally surrounded by chaparral and scrub habitat but support a unique assemblage of plants due to the presence of perennial water. Dominant cover is mostly herbaceous, consisting of several species of rushes (*Juncus* spp.) and sedges (*Carex* spp.), along with sneezeweed (*Helenium puberulum)* and magnificent seep monkeyflower (*Erythranthe grandis)*. This unique habitat is infrequent and corresponds to the *Juncus* (*oxymeris, xiphioides*) Provisional Herbaceous Alliance (iris-leaf rush seeps) and the *Juncus patens* Provisional Herbaceous Alliance (western rush marshes) in the MCV classification system.

In addition to these natural community assemblages, limited anthropogenic and ruderal areas were identified and mapped, primarily along the railroad corridor, which supports some of the highest density of non-native, invasive, and/or noxious weeds on site. In particular, the railroad corridor, as well as historically disturbed habitats in close proximity to the railroad, support a high density of crimson fountain grass (*Pennisetum setaceum)*.

Figure 7: Representative transition zone between grassland and chaparral vegetation communities

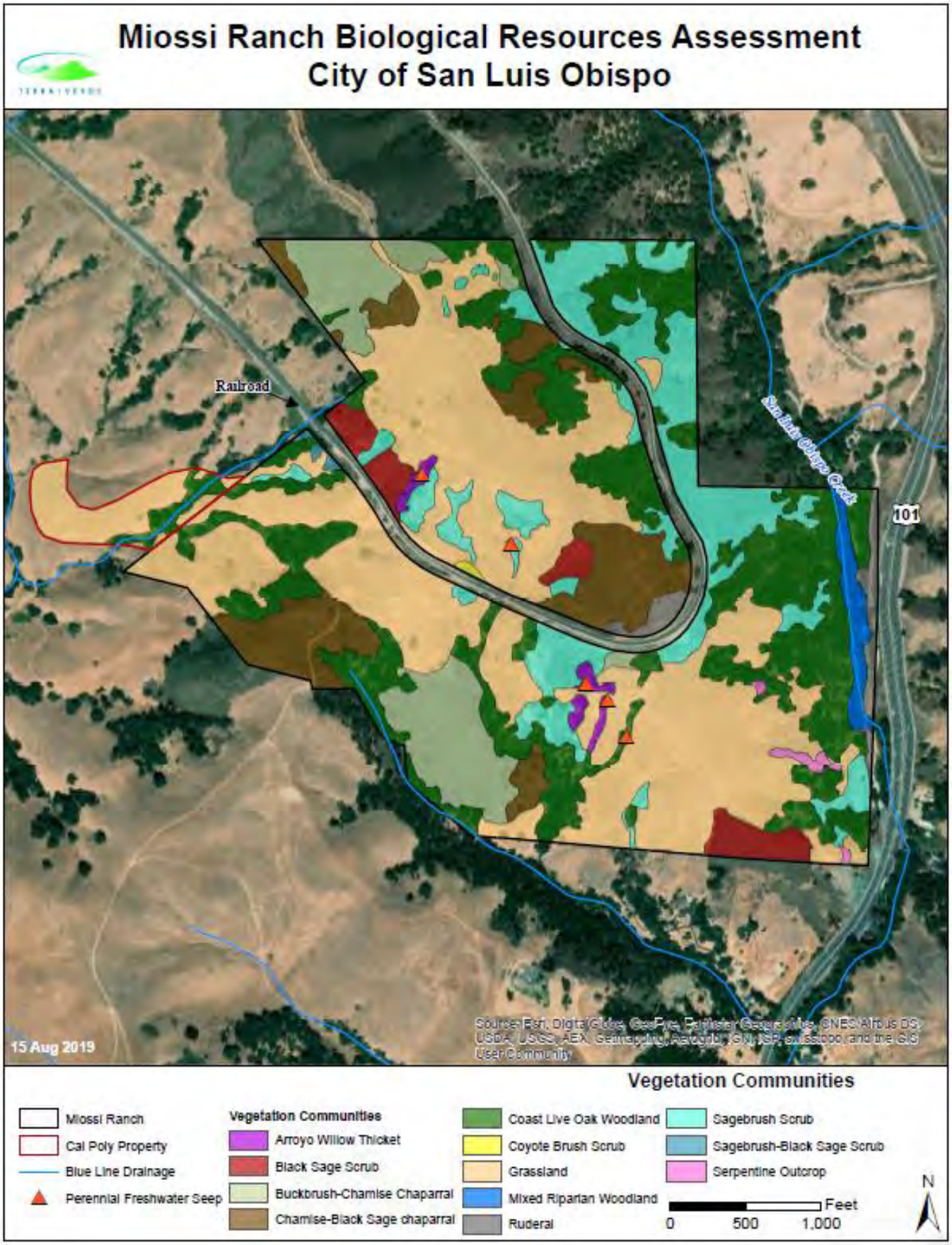

Figure 8: Vegetation Communities within Miossi Open Space (Terra Verde Environmental, 2019)

2.6 Rare Plants Inventory

Seven special-status botanical species were documented on site, of which six associated with serpentine and serpentine-derived soils. The one non-serpentine associated species, Santa Lucia manzanita (*Arctostaphylos luciana*), is also an edaphic specialist that typically occurs on shale soils. Santa Lucia manzanita and Bishop manzanita (*Arctostaphylos obispoensis)*were typically found in close proximity, reflecting the highly diverse, and mixed nature of substrates on the property.

Species	Listing Status[1]	Estimated Population Size[2]	Location(s) / Habitat[2]
Arctostaphylos luciana Santa Lucia manzanita	CRPR 1B.2	<5	Observed at the edge of chaparral and oak woodland habitats on the eastern side of the property.
Arctostaphylos obispoensis Bishop manzanita	CRPR 4.3	<25	Occurs in association with scrub and chaparral habitats on the eastern side of the property.
Calochortus clavatus var. *clavatus* Club-haired mariposa lily	CRPR 4.3	Several hundred	Observed growing within and at the edges of scrub and chaparral habitats throughout the property.
Chorizanthe breweri Brewer's spineflower	CRPR 1B.3	Several hundred	Observed on a single serpentine outcrop near the southeastern corner of the property.
Chorizanthe palmeri Palmer's spineflower	CRPR 4.2	Several thousand	Abundant in association with grasslands and at the edges of scrub/chaparral habitat throughout the property.
Dudleya abramsii subsp. *murina* Mouse-gray dudleya	CRPR 1B.3	Several hundred	Observed on a single serpentine outcrop near the southeastern corner of the property.
Lomatium parvifolium Small-leaved lomatium	CRPR 4.2	Several hundred	Observed commonly in various habitats, mostly on the eastern side of the property.

[1]Listing Status: Indicates listing status for rare and endangered (i.e., special-status) taxa. No state or federal-listed special-status species were observed; taxa included on the California Rare Plant Rank (CRPR) are assigned listing status based on the degree of rarity (Lists 1A through 4) and threat level (0.1, 0.2, and 0.3) (CNPS 2019c).
[2]Population estimates and documentation of locations/habitats where special-status plants were observed are based on direct observations of individuals and populations. Additional occurrences may be present in areas where access was not possible.

Table 2: Special Status Botanical Species Observed at Miossi Open Space

Santa Lucia manzanita

(Arctostaphylos luciana)

Bishop manzanita

(Arctostaphylos obispoensis)

Club-haired mariposa lily

(Calochortus clavatus var. clavatus)

Brewer's spineflower

(Chorizanthe brewerii)

Palmer's spineflower

(Chorizanthe palmeri)

Mouse-grey dudleya

(Dudleya abramsii sbsp. murina)

Small-leaved lomatium

(Lomatium parvifolium)

2.7 Miossi Open Space Invasive Weed Species

There are a number of invasive weeds on-site that pose an on-going threat to the diversity of this sites ecology. Terra Verde Environmental identified and mapped four species of invasive weeds: Distaff thistle, Purple star-thistle, Skeleton weed, and Yellow star-thistle. Highlighted in the map, below, there are three levels of density to distinguish the concentrations of Distaff thistle; low, medium, and high density. The invasive weeds on site are localized to the existing on-site roads and trails with the highest densities along the road. Nearly all of the high density observed areas are to the south of the railroad with isolated pockets to the north of the railroad tracks. These classifications serve as a guide for management of these weeds and require actions to be taken as part of the City's efforts for conservation and habitat protection. Recommended management actions include selective herbicide application, livestock grazing, and tilling [in accordance with Integrated Pest Management (IPM)practice, as called for in the City's Conservation and Open Space Element (2006)].

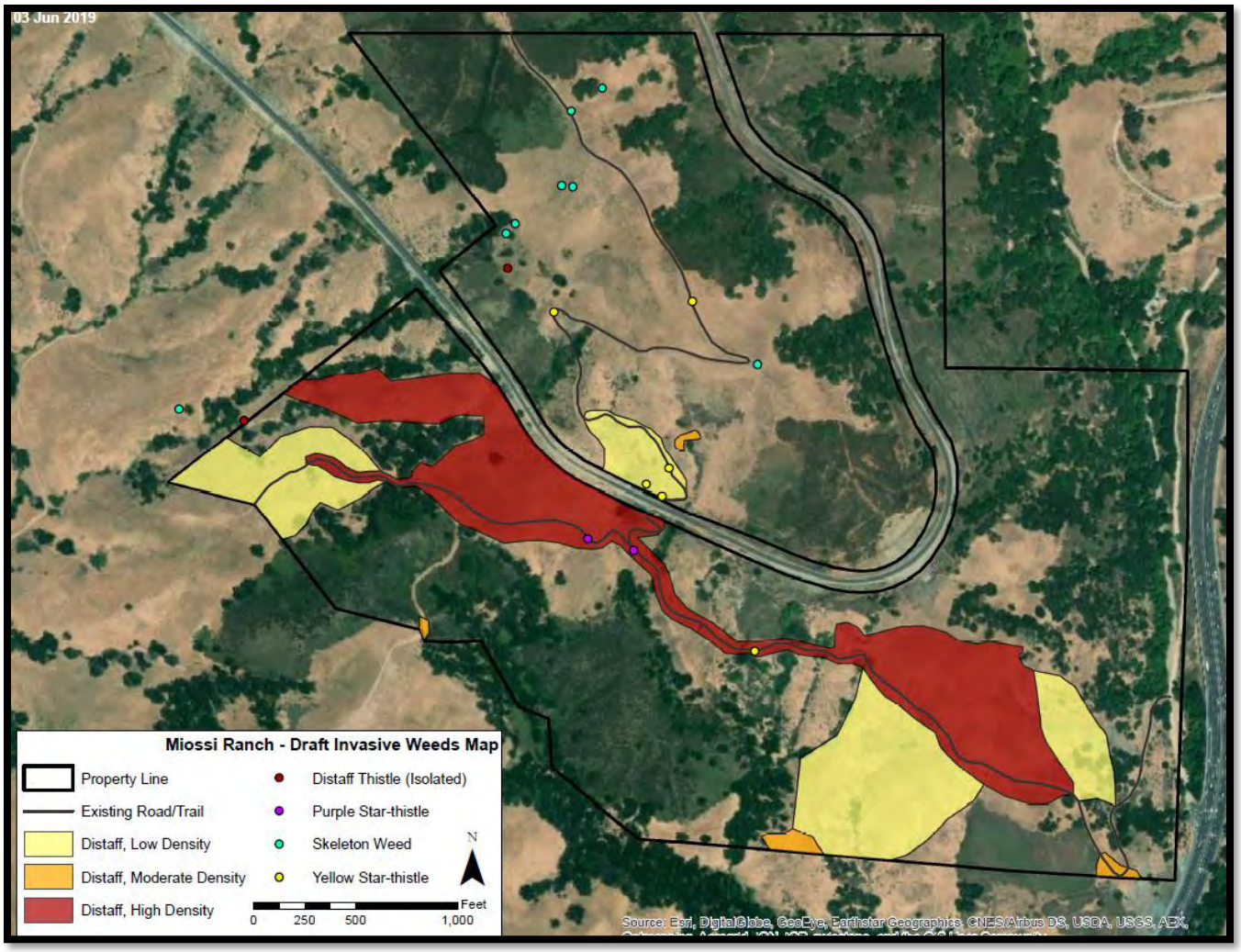

Figure 9: Miossi Open Space – Invasive Weed Species Map (Terra Verde Environmental, 2019)

2.8 Carbon Farming Pilot Program Site Potential

The Miossi Open Space may be suitable in a limited capacity for future "carbon farming" efforts in furtherance of the City's climate action goals and the objectice of achieving local carbon sequestration. When conducted, this entails application of a quarter-inch (1/4") layer of compost to grassland/rangeland, which has the proven capability of sequestering carbon in the soil, as well as enhancing soil moisture content. An important decision-making and evaluative criteria for including this site will be understanding and monitoring any potential impacts to species diversity and native grasslands. In this regard, areas that are currently experiencing high densities of invasive Distaff thistle may be the most suitable in consideration of the dual goals of restoration and carbon sequestration.

3. Goals and Policies

The Conservation and Open Space Element of the City's General Plan and the document *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* (2002) describes management guidelines and policies for all City open space properties, and is incorporated by reference into the Conservation and Open Space Element of the City's General Plan.

The *Miossi Open Space Conservation Plan* has as its overarching goal to achieve sustainable conservation of habitat, while also allowing for passive recreational elements. The plan will accomplish this goal, and address the management issues described, above, through the following goals and policies.

Goals

The City will manage Miossi Open Space with the following goals:

3.1 Conserve, enhance, and restore natural plant and wildlife communities by protecting their habitats in order to maintain viable wildlife populations within balanced ecosystems.

3.2 Provide the public with an opportunity for greater understanding and appreciation for the cultural and historic resources values associated with Miossi Open Space.

3.3 Provide the public with a safe, accessible, and pleasing natural environment in which to pursue passive recreational activities, including hiking and biking, while maintaining the integrity of natural resources and minimizingthe impacts on the wildlife and habitats present in Miossi Open Space.

3.4 Actively address sedimentation sources and erosion both within and originating from Miossi Open Space.

3.5 Minimize the impacts of harmful activities, such as off-trail hiking and biking use or catastrophic wildfire, while maintaining natural drainage systems as a means of conveying stormwater into downstream urban areas.

3.6 Provide signage and interpretive features to enhance user safety, prevent unauthorized entrance at neighboring private property, and for educational purposes.

3.7 Maintain, protect, and improve aesthetic views as seen from various locations throughout the City of San Luis Obispo and along US 101.

3.8 Protect and consider officially designating, as appropriate, the important historic and cultural resources associated with Miossi Open Space.

3.9 Regularly monitor and patrol Miossi Open Space, establish Levels of Acceptable Change (LAC), and take action to correct areas or problems that exceed LAC.

3.11 Identify potetntial opportunities for conducting a carbon farming pilot program in a low-sensitivity and low-impact area of the site.

3.12 Identify and protect migratory corridors for wildlife species found on-site and that are moving through the site.

3.13 Explore natural solutions to invasive weed species and habitat restoration through the use of livestock grazing and browsing; minimize use of synthetic methods that often have detrimental impacts to the comprehensive ecological footprint in accordance with IPM practices.

Policies

The City will manage Miossi Open Space in accordance with the City's adopted *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* (2002), as well as the following policies that elaborate upon, or are in addition to, those found in the *Conservation Guidelines*:

3.14 Public Comment and Input
This Conservation Plan seeks to accommodate community preferences while addressing the City's goals in the Conservation and Open Space Element. A public meeting was held on December 11, 2019 in order to gather community input following staff's presentation of the draft Conservation Plan. Both written comments and public testimony received during the review process will be considered in the final version of the document.

3.15 Natural Resources Protection
The 266-acre Miossi Open Space property supports a diverse assemblage of species and habitats. Purchase of this parcel by the City for permanent conservation was a critical acquisition for the establishment of a continuous corridor of publicly accessible open space that connects the City of San Luis Obispo to the Los Padres National Forest on West Cuesta Ridge.

To aid the City in preparing to open the property for public recreational use, the following protective management considerations were offered by Terra Verde Environmental and are incorporated herein:

1. Wherever possible, the City should avoid constructing new trails near or within mapped populations of special-status species, serpentine outcrops, needlegrass populations, or through oak woodland habitats.

2. Several remnant firebreaks, wildlife trails, and/or pedestrian trails were observed through areas of dense chaparral and scrub habitat. Where appropriate, incorporating these existing trails with new trails will minimize disturbance and impact.

3. Trails and roads at stream crossings should be constructed in a manner that avoids downstream sedimentation or discharges of soil or other materials.

4. Maintaining existing roads and fire breaks, including culvert repair or replacement, will reduce erosion and prevent sediment from entering nearby streams.

5. Vehicles, hand tools, and other equipment brought on site should be cleaned of all soil/mud and other debris to avoid the spread of non-native or invasive plants to the site.

Further, all tools and equipment should be cleaned after use at the site to avoid the spread of invasive species from Miossi Open Space to other City-owned open space areas.

6. Install interpretive trail signs to inform the public of the sensitivity of resources on the property and important ways in which those resources can be protected (e.g., stay on trail, pack-in/pack-out trash, don't pick wildflowers).

7. Invasive species management efforts should be implemented under the guidance of a licensed herbicide applicator, particularly for the control of woolly distaff thistle and French broom on site.

8. Ensure that all fencing on the property allows for safe passage of wildlife.

9. To avoid disturbances to nocturnal wildlife, limit site access to the hours between dawn and dusk [or in accordance with San Luis Obispo Municipal Code 12.22].

10. If trash receptacles are installed, ensure they are wildlife-proof and are emptied frequently enough to prevent overflow.

11. Require that dog owners bag and remove their dog's feces from the site to prevent the spread of disease to wildlife populations [in accordance with San Luis Obispo Municipal Code 12.22].

Implementing these recommendations on the Miossi Open Space will support passive recreation while ensuring the persistence of pristine native habitats and diverse species assemblages, including robust special-status plant and wildlife populations.

3.16 Vegetation Management

1. The City will monitor and manage vegetation to meet prescribed goals for the land. Management strategies such as the following will be implemented where necessary: physical pruning/removal of unwanted or problematic vegetation – especially dead, dying, diseased, or non-native species; controlled, seasonal grazing; erosion and sediment control or removal strategies; and, application of Integrated Pest Management (IPM) practices.

2. Restoration and/or re-vegetation techniques will be utilized when necessary to restore a degraded vegetative community to a fully functioning ecosystem. All restoration activities will utilize site or region-specific native grasses, herbs, shrubs, and trees. Planting of invasive, non-native species will be prohibited. Adjacent landowners are encouraged to undertake efforts to control target non-native vegetation on their land.

3. All existing native trees will be protected wherever possible, and new native trees planted to enhance wildlife habitat. Where possible, vegetation will be left to follow its natural course of succession; however hazardous trees and fire protection will necessitate active management in some areas and instances. The ultimate goal will be to re-establish, or preserve, a self-sustaining ecosystem.

3.17 Cultural Resources Management

Miossi Open Space contains and represents an interesting and diverse cultural resource legacy. "All natural and cultural resources are protected…" under the City's Open Space Regulations (Municipal Code 12.22.050). Accordingly, a Phase I Cultural Resources studied was undertaken by the firm Applied EarthWorks (2019) that included records research, field surveys and documentation, and outreach to historically and culturally affiliated Native American tribal representatives. Applied EarthWorks identified several historic-era resources and recorded the historic dam and associated infrastructure that was part of the initial water system supplying water to the City of San Luis Obispo. Tribal representatives requested a site visit and cultural sensitivity training for staff prior to the start of any construction. Improved trailhead signs and a new kiosk will provide the opportunity to present an educational panel to the public that broadly details the cultural and historic nature of the property. Applied Earthworks' recommendations, incorporated here as policy, are as follows:

1. Conduct an evaluation of the dam and associated infrastructure (AE-4087-01H) to determine if this resource is eligible for the CRHR. Currently this resource will not be affected by the Project; however, due to the potential for this resource to be significant under CEQA, the City may need to assess the level any impacts on this resource in the future.

2. Several potentially historic isolated resources were noted (i.e. power poles, old road segments, a cattle trough) in the Project area. These miscellaneous features and AE-4087-01H have the potential of being vandalized by the public when the trails open. The power poles contain glass insulators both within the Project area and directly adjacent to the Project area. Glass insulators are considered collector items and there is high potential that individuals will take them. Additionally, AE-4087-01H (dam on San Luis Creek) is directly west of Stage Coach Road and can be viewed from the road. The City will consider and implement ways to protect these resources from vandalism and theft.

3. There is potential for encountering prehistoric or historic-period materials not identified during the current study. Prehistoric materials may include chert flaked stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing fire-altered rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones). Historic-period materials might include stone, concrete, wood or adobe building foundations, corrals, and walls; filled wells or privies; mining features; and deposits of metal, glass, and/or ceramic refuse. If any of these materials are found during the course of construction, ground-disturbing activities should be halted, and a qualified archaeologist should be contacted to determine if materials are isolated finds or part of a larger archaeological deposit. If an archaeological site is identified, then the resource should be evaluated for significance under CEQA and further treatment measures may be required.

4. If human remains are discovered during Project construction, work must stop at the discovery location and any nearby area suspected to contain human remains (PRC 7050.5). The San Luis Obispo Coroner must be contacted to determine whether the cause of death should be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC 5097). The coroner will contact the NAHC. The NAHC will contact the most likely descendant(s) who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in PRC 5097.98.

3.18 Passive Recreation

Common passive recreational activities that are anticipated to take place within Miossi Open Space include wildlife viewing, hiking, and biking. All recreational uses will be monitored and patrolled in accordance with the City of San Luis Obispo's Open Space Regulations, Municipal Code, Chapter 12.22, in general. Active recreational uses are considered more intrusive to the local natural environment and include activities such as high intensity events, horseback riding, discharge of weapons, paintball, and hunting that will be prohibited. All passive recreation uses will be monitored for potential impacts to plant species and wildlife habitat that occur within Miossi Open Space.

3.19 Scientific Research

Non-destructive scientific study and research will be permitted with prior, written approval from the City's Natural Resources Manager. A condition of approval will be that the applicant provides the City with a written report of the findings of the study. This will assist the City in compiling a detailed inventory of natural and biological resources located within Miossi Open Space. Numerous research projects could arise from this Conservation Plan. Issues such as successional vegetation planning for climate change or post-fire circumstances, non-native species control, species population monitoring, and drainage and sedimentation analysis projects could easily be developed with students to further the collective knowledge base of Miossi Open Space, as well as assist in adaptive management strategies.

4. Conservation Plan

4.1 Naming

Miossi Open Space shall be the name of the plan area. The property is comprised of a single holding acquired at one time from one party. It is therefore an "Open Space," according to the City's Open Space Regulations (Municipal Code, 12.22.030).

4.2 Land Use Designations

The property is within the land use jurisdiction of the County of San Luis Obispo and is zoned for agriculture and rural lands. Internal land uses of Miossi Open Space are explained below, and depicted in the following map, Figure 11.

4.2.1 Management Areas

a. Habitat Area – Land areas where the primary objective will be to protect natural resources by maintaining intact native plant communities and habitat for both resident and migratory wildlife. This is by far the largest share of the land uses within Miossi Open Space.

b. Maintained Trails – Active management of land in these areas will be required to facilitate approved activities while protecting valuable natural resources. These trails are generally kept clear and receive maintenance as needed to prevent erosion, pooling of water, and instability. Slopes range generally from 10% or less to as much as 30%. Both hiking and biking is allowable on maintained trails.

c. Dirt Road **–** A vehicular access road provides access through the lower portion of the property, and also through the upper portion of the property if accessed through Los Padres National Forest and Cal Poly lands. These areas will be managed primarily as a trail corridor, and will require periodic maintenance of rolling dips and tranverse trenches in order to direct water drainage to the inlet facility at the bottom. Both hiking and biking is allowed on dirt roads. Vehicular use shall be restricted to authorized City personnel for management and maintenance purposes only, for emergency services, and in accordance with the Miossi family's reserved access rights.

d. Drainage and culverts – Drainage facilities consisting of a small concrete channel and culvert outlets are located along the access road and will require short-term repair, as well as periodic maintenance and soil removal in order to remain functional.

e. Viewing Benches – One viewing benches be installed in the upper portion of the property to honor a significant gift made by the Forbes Family to help the City acquire Miossi Open Space.

f. Grazing – The grassland portions of Miossi Open Space were historically grazed by cattle. Secure perimeter fencing and a steady supply of stock water will require periodic maintenance; controlled seasonal grazing is a valuable management strategy for reducing hazardous fuel loads, while the recruitment of native bunchgrasses and annual forbs that are adapted to a disturbance regime is also a desired management goal. Successful implementation may require the use of electric "hot wire" fence, portable watering facilities, and close supervision.

g. Gates, Kiosks, Signs, and Fencing **–** The entry gate at Old Stagecoach Road shall be replaced and maintained in functional condition to ensure readily available access for emergency and maintenance purposes. A new trailhead entry will be installed at this location to inlcuide split rail fencing, informational kiosk, and signs within Miossi Open Space, all of which will require ongoing maintenance to remain in functional condition. As fencing is repaired or replaced, five-strand fencing should be installed that is barbless on the top and bottom strand, with the bottom strand being located 18" off the ground in order to allow for safe wildlife passage both over and under the fence.

h. Restoration Areas – Several areas of Miossi Open Space warrant restoration activities. These include the mapped invasive weed species population mapped, as well as two areas of erosion proximate to the access road in both the lower and upper portions of the property.

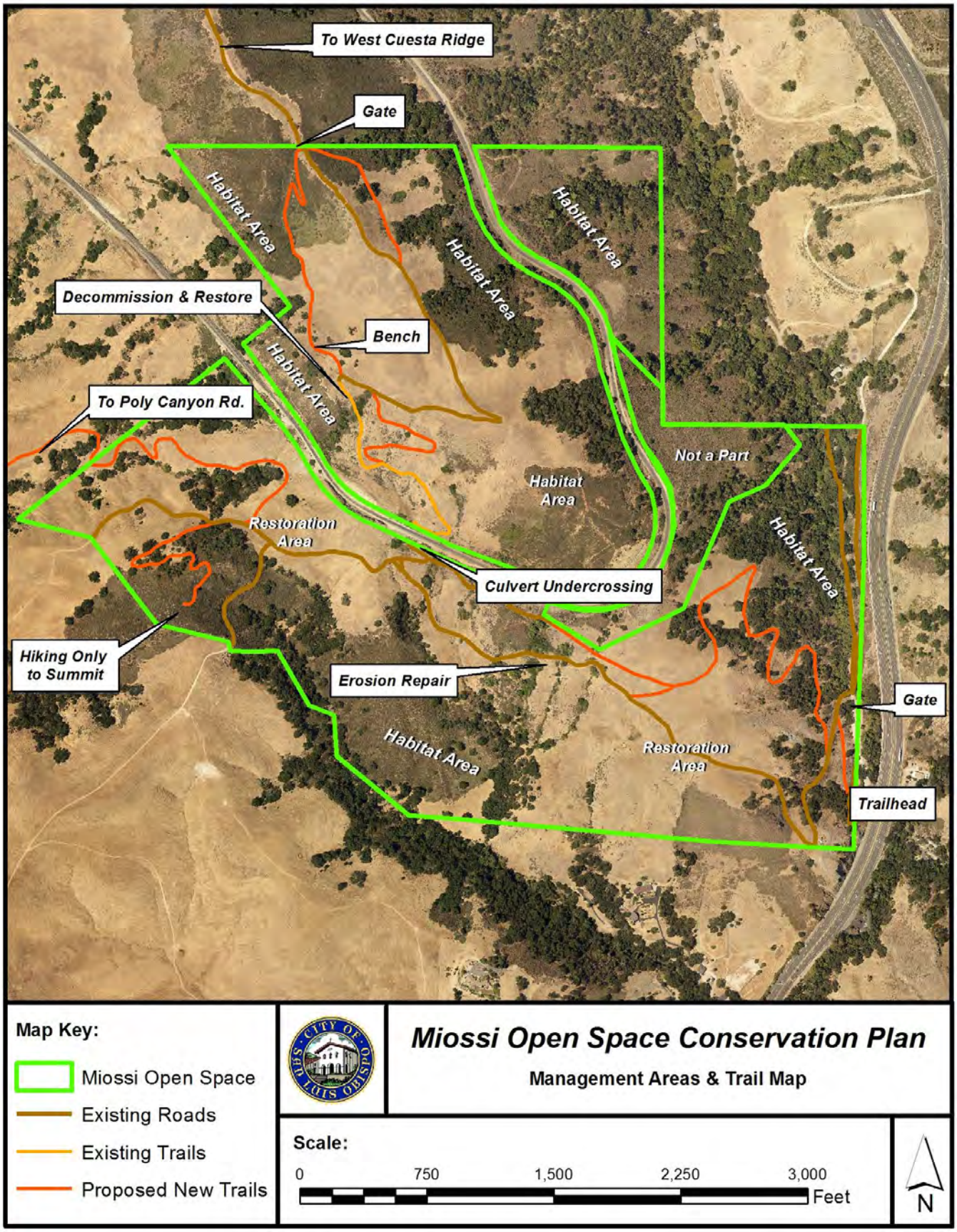

Figure 10: Miossi Open Space Management Areas and Trail Map

4.3 Photo Monitoring Points

Photo-monitoring points throughout Miossi Open Space have been established in order to document baseline conditions and periodically observe changes. Photo points include property corners, areas of heavy public traffic, areas likely to suffer erosion damage, and habitats with sensitive plant and wildlife species.

The photo points will be used to establish baseline conditions. Additional points may be added as necessary if conditions change or new issues arise. Photos points are included as Appendix A.

4.4 Needs Analysis

The *Miossi Open Space Conservation Plan* contemplates the need for a variety of projects and initiatives in order provide long-term stewardship, restoration, and proper management of the land.

4.4.1 Resource Management and Protection

Biological surveys are the basis for natural resource management in Miossi Open Space. After the initial surveys conducted for the creation of this Conservation Plan, the City will need to monitor and protect the habitat areas and sensitive species identified, as well as update species inventories from time to time.

4.4.2 Resource Enhancement

Enhancement of natural resources will focus on restoration of two areas, as described in 4.2.1(h), above.

4.4.3 Signage

Signage for Miossi Open Space will a three-panel kiosk at the main trailhead at Old Stagecoach Road and will highlight natural and historic resources with interpretive features, as well as provide a trail map graphic. Signs located at the trailhead and throughout the property ill be used to provide directions and location for safety purposes, apprise users of open space regulations, and identify adjacent private property ownership to discourage trepass.

4.4.4 Trailhead Amenities and New Trails

All new trailhead amenities and trails will be constructed in accordance with City's Open Space Maintenance Plan (2015). A new entry gate at the main trailhead at Old Stagecoach Road, split rail fencing, and a wildlife-friendly garbage receptacle and "mutt mitt" dispenser will be installed. These trails will be constructed by City staff to contemporary standards for slope and drainage, and shall be designed to minimize any potential impacts to sensitive resources or nearby neighbors.

4.4.5 Site Stewardship and "Pride of Ownership"

Additional needs at Miossi Open Space include the following items:

- Regular ranger and sheriff patrols due to the remote location of the trailhead
- Promptly attend to and abate graffiti
- Remove trash, refuse, broken bottles
- Maintain drainage facilities
- Protect against off-trail use and pilferage or defacement of cultural resource values identified by Applied EarthWorks (2019).

6. Wildfire Preparedness Plan

Miossi Open Space is designated as a Very High Fire Hazard Severity Zone by Cal Fire. Miossi Open Space is entirely surrounded by other open land uses comprised of private ranches and other conservation lands. Significant wildland fire hazard risk exists due to prevailing westerly and seasonal winds; presence of annual grassland, chaparral, oak woodland, other mixed trees and vegetation, and adjacency to US 101and the Los Padres National Forest landscape. The Cuesta Ridge landscape, in general, has a significant recorded fire history in this system, as well as recent smaller events. A key

component of the Conservation Plan is to address fire hazard that could result in unacceptable safety risk, property loss, and impacts to the environment.

Accordingly, City Open Space Regulations prohibit fires, smoking, discharge of weapons, and fireworks or any kind, and also allow for closure if hazardous conditions warrant such action (12.22.050). Important pre-fire activity includes the use of controlled and seasonal grazing (as described in 4.2.1(f), above). The access roads throughout the property have historically been regularly graded by Cal Fire to provide firefighting access, as well as to serve as a fuel break along the top of the ridge in the upper portion of the property

Miossi Open Space is accessible to wildland fire fighting apparatus (Type III or similar), and primary responsibility is with Cal Fire due to the property being located in County of San Luis Obispo jurisdiction. Driving access into Miossi Open Space is through the access road located off of Old Stagecoach Road, which can be opened with a Parks Master key (marked PM on the lock itself). There are several other access points that provide emergency ingress and egress to open space users from the westerly and northerly portions of the property. Aerial wildland fire fighting apparatus would also likely be called for in the event of any fire on or near the property. The City does not maintain any critical, at-risk infrastructure within the property itself.

7. Implementation

General maintenance activities in accordance with the adopted policies described in *Conservation Guidelines for Open Space Lands of the City of San Luis Obispo* and the *Conservation and Open Space Element* shall be implemented on a regular or as-needed basis.

Specific Tasks are anticipated as follows, subject to available funding:

Prior to Opening the Property to the Public

- Provide tribal representative site visits; arrange and attend cultural resources sensitivity training with Ranger Service and Natural Resources staff, as well as volunteer trail crew members
- Install "wildlife friendly" perimeter fence along the southerly property boundary
- Install new signage at trailheads and along trails
- Install entry gate, kiosk, parking and fencing, and trailhead amenities (trash can and mutt mitts)
- Maintain and repair erosion and drainage areas along existing access routes
- Install new trail bypass around erosive landslip area in the upper area of the property
- Begin ongoing invasive weed species treatment

Years 1-3

- Install new trail sections
- Implement and monitor grazing strategy
- Evaluate potential for carbon farming activities
- Futher evaluate the historic dam and associated infrastructure to determine eligibility for the California Register of Historic Resources

Ongoing Specific Tasks

- Maintain drainage systems, road, and trails
- Monitor ecosystem health
- Monitor non-native, dead, or dying vegetation and remove as appropriate
- Regularly patrol the property and interact with users
- Weed whacking, mowing, and grazing for hazardous fuel reduction
- Site stewardship and "pride of ownership" tasks
- Work with local universities to contiunue resource inventories and research opportunities

8. Fiscal Statement

Day-to-day management of Miossi Open Space will continue to be supported through the operating budgets within the Natural Resources Program and Ranger Service. City staff has developed an ongoing Capital Improvement Plan (CIP) program for major maintenance activities and improvements that is considered as part of the City's bi-annual Financial Plan. The program will include signage, trail work, and trailhead amenities. City staff will also pursue grants and volunteers to augment funding for this plan's identified projects. Overall, the fiscal impact of the conservation plan and its implementation is considered relatively minor given opportunities to phase projects and leverage modest investments of City funds.

9. Updates and Amendment

This Conservation Plan is intended to guide management actions over the course of the next ten years, after which time staff should consider the need for an update. Any portion of the plan may be considered for amendment upon request. Any citizen or other interested party may initiate such a request, and shall be directed to the City Manager or designee. Such a request will include the nature of the requested amendment and rationale for the request. If appropriate, the amendment will be processed in the same manner as the original Conservation Plan.

Figure 11: Panoramic Photo from "Above the Tracks" on Miossi Open Space

Appendix A: Photo Monitoring Points

Photo monitoring points for Miossi Open Space, as discussed in Section 4.3. These locations may be modified, or new locations may be added, as conditions warrant.

Table 3: Photo Monitoring Points:

(All photos established by Terra Verde Environmental between April and June 2019)

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2.			

3.		
4.		
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9.		
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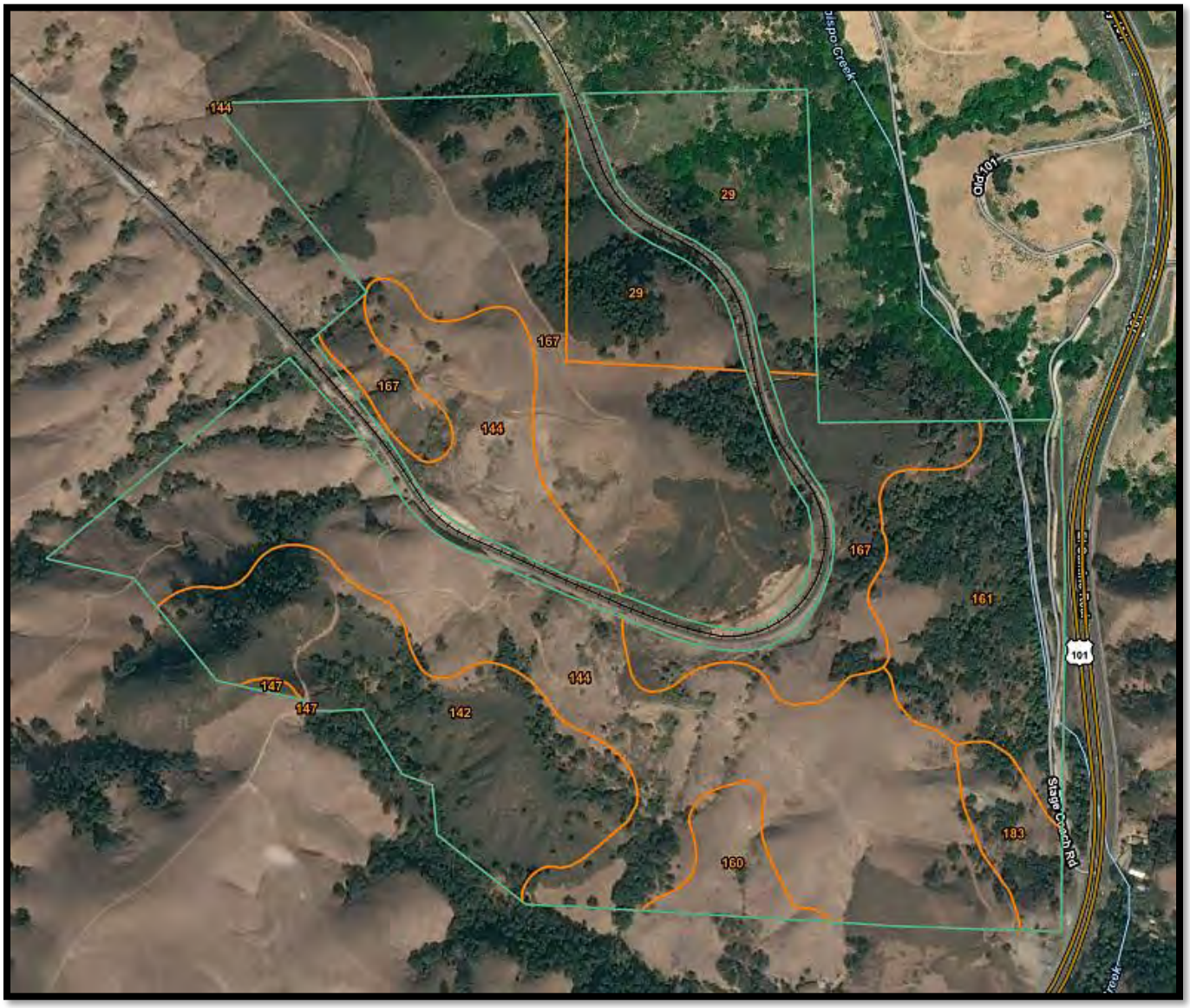
11.		

Appendix B: Soils Map for Miossi Open Space



TERRA • VERDE
Environmental Consulting

August 15, 2019

Mr. Bob Hill
Natural Resources Manager
City of San Luis Obispo
990 Palm Street
San Luis Obispo, California 93401

RE: Results of Botanical Inventory and Wildlife Surveys Completed on the Miossi Ranch Property, San Luis Obispo, California

Dear Mr. Hill,

This document is being provided to summarize the results of botanical and wildlife surveys completed by Terra Verde Environmental Consulting, LLC (Terra Verde) at the City of San Luis Obispo's (City) newly acquired Miossi Ranch property. Specifically, 266 acres of the Miossi family's historic La Cuesta Ranch property were recently acquired as part of the City's Greenbelt Preservation Program. To support the City in adding Miossi Ranch to the existing network of publicly accessible open space lands, Terra Verde completed an inventory and assessment of biological resources present on the property. Surveys included a botanical inventory, wildlife surveys, vegetation community classification and mapping, a habitat assessment, and an evaluation of management considerations.

Miossi Ranch is located north of the City of San Luis Obispo, on the southern flank of West Cuesta Ridge in the southern Santa Lucia Range. The property is bordered by Old Stage Coach Road and U.S. Highway 101 on the east, California Polytechnic State University (Cal Poly)-owned public recreation lands on the west, U.S. Forest Service land on the north, and La Cuesta Ranch on the south. The addition of the Miossi Ranch property to the City's open space will create an uninterrupted corridor of protected public land between Cal Poly and the Los Padres National Forest along West Cuesta Ridge.

Survey Methods

Terra Verde botanists and wildlife biologists conducted surveys on the Miossi Ranch property from April through July 2019 to capture a range of seasonal conditions through spring and early summer (Table 1).

Table 1. Summary of Surveys Completed at Miossi Ranch in 2019

Date	Personnel	Survey Focus	Conditions[1]
April 24	Kristen Nelson Amy Golub Robyn Powers Bob Hill	• Preliminary site visit • Botanical inventory • Vegetation community mapping • Habitat assessment • Incidental wildlife observations	Clear skies, wind 3.4 mph, 50 to 77˚F
May 06	Kristen Nelson Sara Snyder	• Botanical inventory • Vegetation community mapping • Habitat assessment • General wildlife survey	100% overcast, wind 3.3 mph, 52 to 61˚F
May 23	Kristen Nelson Sara Snyder	• Botanical inventory • Vegetation community mapping • Habitat assessment • General wildlife survey	100% overcast, light rain, wind 3.4 mph, 53 to 64˚F
May 30	Kristen Nelson Sara Snyder	• Botanical inventory • Vegetation community mapping • Habitat assessment • General wildlife survey	Foggy until 1:00 pm, then clear skies, wind 3.8 mph, 52 to 73˚F
May 31	Robyn Powers Riley Chestnut Brooke Langle	• Deploy 4 remote, motion-sensing cameras (remote cameras) • Deploy acoustic bat detector • Incidental wildlife observations	Clear skies, wind 4.0 mph, 51 to 71˚F
June 07	Riley Chestnut	• Remove bat detector • Check remote cameras • Incidental wildlife observations	Clear skies, wind 5.2 mph, 47 to 69˚F
June 19	Robyn Powers	• Check/re-position remote cameras • Incidental wildlife observations	Clear skies, wind 4.1 mph, 57 to 73˚F
June 20	Kristen Nelson Lindsey Roddick[2]	• Botanical inventory • Vegetation community mapping • Habitat assessment	Clear skies, wind 3.5 mph, 57 to 66˚F
June 26	Kristen Nelson Lindsey Roddick	• Botanical inventory • Vegetation community mapping • Habitat assessment	Clear skies, wind 5.2 mph, 56 to 74˚F
July 11	Robyn Powers Giancarlo Napolitano	• Remove remote cameras • Incidental wildlife observations	Clear skies, wind 3.8 mph, 53 to 84˚F

[1]Cloud cover, average wind speed in miles per hour (mph), and temperature range in degrees Fahrenheit (F) acquired from Western Regional Climate Center (WRCC), San Luis Obispo station (WRCC 2019)
[2]Support staff from the Land Conservancy of San Luis Obispo County

Before conducting field surveys, several resources were consulted to identify geographic features and historically documented sensitive resources in the vicinity of Miossi Ranch. Resources consulted include:

- Aerial photographs of the property and adjacent areas (Google Earth 2019)
- Consortium of California Herbaria (CCH) online database of plant collections for the area surrounding Miossi Ranch (CCH 2019)
- California Natural Diversity Database (CNDDB) list of rare, threatened, and endangered species that have been recorded within two miles of Miossi Ranch (California Department of Fish and Wildlife 2019) (see Attachment A – Figure 1a: 2-mile CNDDB Botanical Occurrences Map and Figure 1b: 2-mile CNDDB Wildlife Occurrences Map)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for the San Luis Obispo 7.5-minute quadrangle (CNPS 2019a)

General wildlife surveys were completed by Terra Verde biologists Brooke Langle, Sara Snyder, Robyn Powers, and Riley Chestnut during eight site visits, as summarized in Table 1. Wildlife species observed directly and indirectly by sign (e.g., tracks, scat, vocalizations) during walking and driving surveys were documented. In addition, four remote, motion-sensing cameras (remote cameras) were in place for 49 days from May 31 to July 11. To maximize wildlife encounter rates, cameras were placed in areas likely to attract wildlife or serve as travel routes, such as unpaved roads, trails, and near water sources (see Attachment A – Figure 2: Sensitive Resources and Observation Points Map). The camera locations were named according to their placement:

- *Entrance Camera*: placed along the unpaved access road approximately 200 meters south of the property gate off Old Stage Coach Road
- *Underpass Camera*: placed south of the railroad near the corrugated steel culvert underpass that connects the unpaved access road south of the railroad with Roller Coaster Trail to the north
- *Seep Camera*: placed along Roller Coaster Trail near the pooled water that flows from northeast to southwest toward the railroad
- *Overlook Camera*: placed at a high point along Roller Coaster Trail on the northern portion of the property

All cameras were positioned approximately two feet above the ground in order to capture a range of small and large animals, and each was programmed to take a series of three photos with each motion-triggered event. Photos were reviewed and species were recorded by camera location, date, and time.

Additionally, acoustic monitoring equipment for bat detection (Pettersson D500x) was in place for seven consecutive nights between May 31 and June 07. To maximize the possibility of detecting bats, the equipment was positioned on the outside edge of riparian vegetation associated with the seep along Roller Coaster Trail, approximately 100 meters northeast of the railroad (see Attachment A – Figure 2). This site was chosen because its ecological characteristics would likely attract leaf-gleaning bat species as well as bat species that forage for insects in and near a water source. Acoustic data were analyzed using SonoBat US West (Szewczak) and a bat species list was compiled.

Botanical surveys were conducted over the course of six site visits between April 24 and June 26 by Terra Verde botanists Kristen Nelson and Amy Golub, with support from botanist Lindsey Roddick from the Land Conservancy of San Luis Obispo County. Surveys were timed to coincide with the peak blooming and/or fruiting period for mid- and late spring blooming annual species. To the extent feasible, all portions of the Miossi Ranch property were accessed on foot in order to complete the botanical species inventory and vegetation community mapping. In addition, an approximately 10-acre area of Cal Poly-owned land was surveyed to document resources and habitats along a proposed new trail. To maximize the detectability of plants and wildlife that may inhabit areas of largely impenetrable chaparral habitat, the team surveyed transects within the chaparral communities on site, as well as along the edges, where there is greatest potential for unique species to occur. Chaparral communities were also surveyed from a distance with binoculars, as needed. An area of dense shrub habitat in the northeastern-most corner of the property was inaccessible because of the density of vegetation, the steepness of the slope, and the presence of deep, eroded gullies bisecting the slope face. Habitats in this area were viewed from a distance with binoculars for the purpose of general vegetation community classification and mapping.

Botanical species identifications and taxonomic nomenclature followed *The Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al. 2012) as well as taxonomic updates provided in the Jepson eFlora (Jepson Flora Project 2019). Vegetation community classifications follow the second edition of *A Manual of California Vegetation* (MCV) classification system (Sawyer et al. 2009), as well as updates included in the MCV Online (CNPS 2019b), where applicable.

Sufficiency of Biological Data

Terra Verde used standard survey methods and specialized equipment to efficiently obtain high-quality data. The surveys were conducted during a single year in a single season and, because the natural history of plants and wildlife are often driven by seasonal changes, there are species that may occur on site that were not detected during the surveys. The presence of these species was

assessed through the identification of suitable habitat and an analysis of historical biological data in the region.

Spring and early summer is an ideal time to conduct surveys for plants and wildlife. The botanical surveys were timed to coincide with the typical peak blooming and/or fruiting period for species that were expected to occur on site, which aids in species identification and visibility. Therefore, numerous ephemeral, annually blooming species were observed in peak identifiable condition during the surveys. Spring is also an active period for wildlife when reproductive activities, such as nest-building, increased foraging, or increased den or burrow excavation provide improved visibility and more frequent sign. The botanists and wildlife biologists who surveyed the site have extensive experience with the region's species and ecology. They focused the surveys appropriately and surveyed with sufficient rigor to provide the City with a baseline list of natural resources.

Topographic and Geologic Setting

Miossi Ranch, situated on the southern flank of West Cuesta Ridge, receives significant coastal influence from frequent maritime fog that settles in Chorro Valley. The railroad bisects the property in an irregular "U" shape, with the highest elevation (454 meters) occurring above the railroad, near the northern boundary of the property (see Attachment A – Figure 2). From this high point, the eastern side of the property slopes steeply toward the headwaters of San Luis Obispo Creek, Old Stage Coach Road, and Highway 101. The southern and western portions of the property are moderately to steeply sloped, extending from the high point toward Cal Poly and La Cuesta Ranch, offering sweeping views of Chorro Valley and the volcanic range known locally as the Nine Sisters (i.e., Morro Rock, Black Hill, Cerro Cabrillo, Hollister, Cerro Romauldo, Chumash, Bishop, Cerro San Luis, and Islay Peaks).

Miossi Ranch is situated in a unique geological transition zone, which supports diverse habitats and opportunity for numerous rare and endangered plant species to occur. The geology of Miossi Ranch is highly varied and unique as a result of the Oceanic Fault, a northwest- to southeast-trending fault line situated just above and roughly parallel to the southern half of the U-shaped section of the railroad on site. South of the fault line, there is a large deposit of Franciscan Complex mélange, which is characterized as a 'chaotic mixture of fragmented rock masses' (Wiegers and Gutierrez 2010). This formation is interspersed with mixed deposits of sandstone and shale, diabase and basalt, and serpentinized ultramafic rock of varying age. Further, the steep slopes in this area are characterized by several landslide deposits, resulting in a highly diverse soil complex throughout. North of the fault line, large veins of basalt, serpentinite, and sandstone dominate the landscape, with smaller deposits of chert. This geologic setting is mirrored by equally diverse habitats, which are described in further detail below.

Wildlife Survey Results

A total of 79 animals were observed during surveys, photographed on remote cameras, and/or recorded by a bat detector at the Miossi Ranch property (see Attachment B: Botanical and Wildlife Species Lists for Miossi Ranch). The 79 species detected comprise six taxonomic Classes: Amphibia (3), Arachnida (3), Aves (39), Insecta (17), Mammalia (14), and Reptilia (3). Five special-status species were detected on the property: golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus*), white-tailed kite (*Elanus leucurus*), oak titmouse (*Baeolophus inornatus*), and American badger (*Taxidea taxus*) (Table 2). California Native Species Field Survey Forms were completed and submitted to CNDDB for all special-status species observations (see Attachment C: California Native Species Field Survey Forms).

Table 2. Special-status Wildlife Species Observed at Miossi Ranch

Common Name	Scientific Name	Status
Golden eagle	*Aquila chrysaetos*	California designated Fully Protected; Federally designated Bird of Conservation Concern
Peregrine falcon	*Falco peregrinus*	California designated Fully Protected; Federally designated Bird of Conservation Concern
White-tailed kite	*Elanus leucurus*	California designated Fully Protected
Oak titmouse	*Baeolophus inornatus*	Federally designated Bird of Conservation Concern
American badger	*Taxidea taxus*	California designated Species of Special Concern

Three non-native wildlife species were observed on site: wild turkey (*Meleagris gallopavo*), western honeybee (*Apis mellifera*), and cabbage white butterfly (*Pieris rapae*). It should be noted that, although they were detected, domestic dog (*Canis familiaris*) is not included in the wildlife species count – most dogs accompanied human hikers and bikers; however, one dog detected via remote camera appeared to be unaccompanied.

Sixteen animal species were detected by the remote cameras (Table 3), in addition to human hikers, mountain bikers, and motor-bikers. Coyotes (*Canis latrans*) and mule deer (*Odocoileus hemionus*) were detected on each of the four cameras and were detected with the most frequency (see Attachment D – Photos 17 and 18). One of the special-status species recorded, American badger, was photographed with the remote cameras.

Table 3. Summary of Species Detected by Remote Cameras

		Camera Location			
Common Name	**Scientific Name**	**Entrance**	**Underpass**	**Seep**	**Overlook**
Anise swallowtail	*Papilio zelicaon*				X
Western honeybee	*Apis mellifera*				X
California quail	*Callipepla californica*		X		
California scrub-jay	*Aphelocoma californica*		X	X	
California thrasher	*Toxostoma redivivum*		X	X	
California towhee	*Melozone crissalis*		X		
Woodrat	*Neotoma* sp.		X	X	
California ground squirrel	*Otospermophilus beecheyi*	X			
Cottontail rabbit	*Sylvilagus* sp.	X	X	X	
Striped skunk	*Mephitis mephitis*	X	X	X	
Mule deer	*Odocoileus hemionus*	X	X	X	X
American badger	*Taxidea taxus*	X			
Bobcat	*Lynx rufus*	X		X	X
Gray fox	*Urocyon cinereoargenteus*				X
Coyote	*Canis latrans*	X	X	X	X
Domestic dog	*Canis familiaris*	X		X	X

The calls of two bat species, Mexican free-tailed bat (*Tadarida brasiliensis*) and big brown bat (*Eptesicus fuscus*), were recorded by the bat detector.

Several wildlife species are likely or known to occur on the Miossi property that were not observed during the surveys. For example, four species not observed during surveys were recorded in the CNDDB within the last 30 years and within two miles of the center of the Miossi Ranch property: California red-legged frog (*Rana draytonii*), San Luis Obispo pyrg (*Pyrgulopsis taylori*), western mastiff bat (*Eumops perotis californicus*), and southwestern pond turtle (*Actinemys pallida*). Focused surveys for California red-legged frog, a species federally designated as threatened and California-designated as a Species of Special Concern, were not conducted because the City has recently confirmed their presence on the property (Robert Hill, City of San Luis Obispo, pers. comm., April 24, 2019). Furthermore, Miossi Ranch is within federally designated critical habitat for California red-legged frog. The San Luis Obispo pyrg, a freshwater mollusk, was found on or near the property in 1994 and 2000. Miossi Ranch contains habitat for

this species in and adjacent to seeps and drainages and is expected to be extant. A western mastiff bat was collected in the general area of Miossi Ranch in 1991. The open grassland areas of the property provide suitable foraging habitat for western mastiff bats as they hunt for night-flying insects. Southwestern pond turtles were recorded in nearby drainages, such as Stenner Creek and Brizzolara Creek in 1995 and 1998 and have potential to occupy San Luis Obispo Creek or use upland habitat on the Miossi property. The southwestern pond turtle is a California-designated Species of Special Concern. Additional species were recorded in the CNDDB, but are extirpated (i.e., foothill yellow-legged frog [*Rana boylii*]), have an exceptionally large non-specific location (e.g., prairie falcon [*Falco mexicanus*]), or have outdated records (e.g., 1956 record of an Atascadero June beetle [*Polyphylla nubile*]). As depicted on Figure 1b in Appendix A, a historical record of steelhead trout (*Oncorhynchus mykiss*) in San Luis Obispo Creek was recorded in the CNDDB in 1939. However, recent surveys in 2019 have indicated a viable population remains in the reaches of the creek that border Miossi Ranch (Freddy Otte, City of San Luis Obispo, pers. comm., August 7, 2019).

The wildlife surveys were limited to daytime encounters, remote cameras, and a bat detector. The list of species provided here should not be considered comprehensive, but rather an overview of the most common species using the property. Small, elusive, and nocturnal species that require more intensive survey techniques likely use the property and surrounding protected lands. During survey work on nearby sites in 2012 and 2013, Terra Verde biologists directly observed American black bears (*Ursus americanus*) on the slopes directly across Highway 101 to the east, and mountain lions (*Puma concolor*) were recorded on remote cameras in the City's Reservoir Canyon Natural Reserve to the southeast. Several additional mountain lion sightings have been reported on Cal Poly campus, southwest of Miossi Ranch, since 2012. Based on these sightings, the contiguous open space in the adjacent Santa Lucia Range, and the results of the remote camera surveys, which indicate an abundant prey base for large carnivores on the property, black bears and mountain lions can be expected to occur on site. More intensive, species-focused surveys would likely also reveal several additional species of invertebrates, reptiles, amphibians, and small mammals using the site.

Botanical Inventory and Vegetation Community Mapping Results

A total of 275 vascular plant taxa were documented on the property, of which 207 (75%) are native, 68 are naturalized (25%), and 30 (11%) are considered invasive or noxious. Seven of the native species identified are special-status taxa. Habitats on site are highly diverse, including a mosaic of open annual grasslands, dense chaparral, various scrub communities, freshwater seeps, willow scrub, serpentine outcrops, and mixed riparian and upland woodlands (see Attachment A – Figure 3: Vegetation Communities Map).

Special-status Botanical Species

Of the seven special-status botanical species documented on site, six are weakly to strongly associated with serpentine and serpentine-derived soils. The one non-serpentine associated species, Santa Lucia manzanita (*Arctostaphylos luciana*), is also an edaphic specialist that typically occurs on shale soils. Santa Lucia manzanita and Bishop manzanita (*Arctostaphylos obispoensis)* were typically found in close proximity, reflecting the highly diverse, and mixed nature of substrates on the property. Table 4 provides a summary of special-status species observation details and Figure 2 in Attachment A depicts these special-status species observations.

Table 4. Occurrence Details for Special-status Plant Taxa Observed

Species	Listing Status[1]	Estimated Population Size[2]	Location(s) / Habitat[2]
Arctostaphylos luciana Santa Lucia manzanita	CRPR 1B.2	<5	Observed at the edge of chaparral and oak woodland habitats on the eastern side of the property.
Arctostaphylos obispoensis Bishop manzanita	CRPR 4.3	<25	Occurs in association with scrub and chaparral habitats on the eastern side of the property.
Calochortus clavatus var. *clavatus* Club-haired mariposa lily	CRPR 4.3	Several hundred	Observed growing within and at the edges of scrub and chaparral habitats throughout the property.
Chorizanthe breweri Brewer's spineflower	CRPR 1B.3	Several hundred	Observed on a single serpentine outcrop near the southeastern corner of the property.
Chorizanthe palmeri Palmer's spineflower	CRPR 4.2	Several thousand	Abundant in association with grasslands and at the edges of scrub/chaparral habitat throughout the property.
Dudleya abramsii subsp. *murina* Mouse-gray dudleya	CRPR 1B.3	Several hundred	Observed on a single serpentine outcrop near the southeastern corner of the property.
Lomatium parvifolium Small-leaved lomatium	CRPR 4.2	Several hundred	Observed commonly in various habitats, mostly on the eastern side of the property.

[1]Listing Status: Indicates listing status for rare and endangered (i.e., special-status) taxa. No state or federal-listed special-status species were observed; taxa included on the California Rare Plant Rank (CRPR) are assigned listing status based on the degree of rarity (Lists 1A through 4) and threat level (0.1, 0.2, and 0.3) (CNPS 2019c).

[2]Population estimates and documentation of locations/habitats where special-status plants were observed are based on direct observations of individuals and populations. Additional occurrences may be present in areas where access was not possible.

Invasive and Noxious Species

In addition to documenting special-status species, taxa that are included on the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory (Inventory) (Cal-IPC 2019) were documented. The Cal-IPC Inventory ranks species based on their degree of invasiveness and ecological impacts, as follows:

- Limited: invasive but with minor statewide ecological impacts, or insufficient information to justify a higher score
- Moderate: substantial and apparent, but generally not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure
- High: severe ecological impacts on physical processes, plant and animal communities, and vegetation structure

A total of 30 taxa considered noxious or invasive were observed on the property; invasive rankings are indicated on the Botanical Species List included in Attachment B.

Vegetation Communities

The condition of habitats on the Miossi Ranch property is relatively pristine, particularly along the southern and eastern edges of the property where minimal anthropogenic intrusion has occurred. Ruderal, invasive, and noxious species are most abundant along the corridors of the railroad and the main unpaved access road that bisects the property, as well as within the historically and currently grazed grasslands on the western side of the property. Eleven distinct, natural vegetation communities were mapped. In general, slope, aspect, elevation, and substrate dictate the distribution of communities, but there are broad ecotones where one community transitions widely into adjacent communities. Therefore, the communities mapped in Figure 3 of Attachment A should not be considered sharp transition lines between communities. Additionally, the community descriptions provided below represent typical conditions, but these habitat types are highly variable throughout the site. Representative site photographs are included as Attachment D.

Annual Grasslands

The grassland habitat documented on site is highly variable, but is generally dominated by non-native annual grass species, with variable cover of forbs and perennial grasses. Bromes (*Bromus* spp.) and oats (*Avena* spp.) are the dominant grasses in most areas, with false brome (*Brachypodium distachyon*) occurring as a co-dominant in many areas. Non-native and invasive forbs are generally concentrated along the main unpaved access road, remnant trails, and the railroad corridor. However, a significant population of woolly distaff thistle (*Carthamus lanatus;* Cal-IPC 'High') is present throughout the grasslands, with the highest density observed on the western side of the property. Several patches of purple needlegrass

(*Stipa pulchra)* were observed and mapped in relatively discrete areas within annual grassland habitat (see Attachment A – Figure 3). The community composition documented for all grassland habitats on the property most closely corresponds to the *Bromus* (*diandrus, hordeaceus*)–*Brachypodium distachyon* Semi-Natural Herbaceous Alliance (annual brome grassland) and the *Avena* (*barbata, fatua*) Semi-natural Herbaceous Alliance (wild oats grasslands) in the MCV classification system.

Buck Brush-Chamise Chaparral

Large patches of chaparral dominated by buck brush (*Ceanothus cuneatus)* and chamise (*Adenostoma fasciculatum)* occur in several areas on the property, primarily on steep slopes. This community generally forms a closed-canopy of dense shrub cover ranging from four to seven feet high. Common associated species include leather oak (*Quercus durata*), Bishop manzanita, black sage (*Salvia mellifera*), and chaparral currant (*Ribes malvaceum*). Birch-leaf mountain-mahogany (*Cercocarpus betuloides*) is a significant component of this community in one patch near the southwestern corner of the property, occasionally forming the dominant shrub cover in discrete, highly localized patches.

This community composition most closely corresponds to the *Ceanothus cuneatus* Shrubland Alliance (buck brush chaparral), and specifically the *Ceanothus cuneatus-Adenostoma fasciculatum* mixed association of this alliance in the MCV classification system.

Chamise-Black Sage Chaparral

Dense chaparral dominated by a distinct assemblage of chamise and black sage occurs in several areas of the property. This community forms diverse ecotones with the various scrub communities on site, and often includes California sagebrush (*Artemisia californica*), chaparral currant, bush monkeyflower (*Diplacus aurantiacus)*, and western poison oak (*Toxicodendron diversilobum)* at variable cover.

This community composition most closely corresponds to the *Adenostoma fasciculatum-Salvia mellifera* Shrubland Alliance (Chamise-black sage chaparral) in the MCV classification system.

Sagebrush, Black Sage, and Coyote Brush Scrub

Various associations of scrub habitat occur on site, including areas that are dominated by California sagebrush, black sage, and coyote brush. Some stands support nearly monotypic cover of either black sage or coyote brush, and others form a more typical coastal scrub community with a mix of these dominant species, along with California coffeeberry (*Frangula californica)*, western poison oak, bush monkeyflower, deerweed (*Acmispon glaber*), blue elderberry (*Sambucus caerulea* subsp*. nigra),* chaparral yucca (*Hesperoyucca whipplei*), and silver bush lupine (*Lupinus albifrons* var. *albifrons*). These communities form diverse

assemblages that often intergrade, as well as adjacent chaparral, oak woodland, and grassland habitats. The composition and cover of scrub habitats observed on site correspond with several alliances in the MCV classification system, including: *Artemisia californica* Shrubland Alliance (California sagebrush scrub), *Artemisia californica-Salvia mellifera* Shrubland Alliance (California sagebrush-black sage scrub), *Salvia mellifera* Shrubland Alliance (Black sage scrub), and *Baccharis pilularis* Shrubland Alliance (coyote brush scrub).

Coast Live Oak Woodland

Coast live oak (*Quercus agrifolia*) forms the dominant tree cover on east-facing slopes and in low-lying areas of the property, including along intermittent and ephemeral drainages that bisect the grasslands in the southern and western portions of the property. In upland areas, this community intergrades with adjacent chaparral and scrub communities, and supports a variable understory typically dominated by western poison oak, creeping snowberry (*Symphoricarpos mollis*), and western bracken fern (*Pteridium aquilinum* var. *pubescens*). In association with ephemeral drainages, California bay (*Umbellularia californica)* and western sycamore (*Platanus racemosa)* are common components of the tree canopy, with a variable understory that is similar in composition to that of upland woodland habitats on site. This community assemblage most closely corresponds to the *Quercus agrifolia* Woodland Alliance (coast live oak woodland) in the MCV classification system.

Mixed Riparian Woodland

The upper reaches of San Luis Obispo Creek border a portion of the eastern edge of the property. The riparian corridor associated with this creek is a diverse, mixed woodland dominated by coast live oak, California bay, and western sycamore, with arroyo willow (*Salix lasiolepis)* occurring commonly and a small population of big-leaf maple (*Acer macrophyllum*). The understory is a dense thicket of western poison oak, with California blackberry (*Rubus ursinus)*, giant horsetail (*Equisetum telmateia* subsp*. braunii)*, wood fern (*Dryopteris arguta)*, and giant chain fern (*Woodwardia fimbriata*) occurring in localized patches. In addition, a robust population of French broom (*Genista monspessulana)* was documented along San Luis Obispo Creek and Old Stage Coach Road. This community assemblage most closely corresponds to the *Quercus agrifolia-Platanus racemosa/Toxicodendron diversilobum* Association of the coast live oak woodland alliance in the MCV classification system.

Arroyo Willow Scrub

Limited patches of willow scrub were observed in association with the upper reaches of ephemeral drainages and seeps on the property. Arroyo willow is the dominant species, with red willow (*Salix laevigata)*, western sycamore, and cottonwood (*Populus trichocarpa, P.*

fremontii) occurring infrequently. This community assemblage most closely corresponds to the *Salix lasiolepis* Shrubland Alliance (arroyo willow scrub) in the MCV classification system.

Serpentine Outcrop

A few expressions of serpentine outcrop were documented on site, which are characterized by exposed, ultramafic bedrock and low overall vegetative cover. Though limited in extent, serpentine outcrops form a highly specialized micro-habitat. On site, two of the special-status botanical species documented occur only in this micro-habitat: Brewer's spineflower and mouse-gray dudleya. Shrub cover is mostly absent, with deerweed, golden yarrow (*Eriophyllum confertiflorum)*, and narrowly leaved bedstraw (*Galium angustifolium* subsp. *angustifolium)* occurring most commonly. A few unidentifiable individuals of mariposa lily (*Calochortus* sp.) were observed on the serpentine outcrops near the eastern edge of the site (see Attachment B – Figure 3). At the time of the surveys, these individuals appeared to have been recently browsed by deer or other herbivores and, therefore, the species at this location could not be confirmed; however, based on identifiable features, habitat, and range, it was most likely either club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*, found elsewhere on site) or San Luis mariposa lily (*C. obispoensis*) – a CRPR 1B.2 species that was not observed anywhere else on the property.

This habitat composition does not correspond to any of the community assemblages identified in MCV.

Freshwater Seeps

Several perennial or nearly perennial seeps were identified. These areas are generally surrounded by chaparral and scrub habitat but support a unique assemblage of plants due to the presence of perennial water. Dominant cover is mostly herbaceous, consisting of several species of rushes (*Juncus* spp.) and sedges (*Carex* spp.), along with sneezeweed (*Helenium puberulum)* and magnificent seep monkeyflower (*Erythranthe grandis)*. This unique habitat is infrequent and corresponds to the *Juncus* (*oxymeris, xiphioides*) Provisional Herbaceous Alliance (iris-leaf rush seeps) and the *Juncus patens* Provisional Herbaceous Alliance (western rush marshes) in the MCV classification system.

In addition to these natural community assemblages, limited anthropogenic and ruderal areas were identified and mapped, primarily along the railroad corridor, which supports some of the highest density of non-native, invasive, and/or noxious weeds on site. In particular, the railroad corridor, as well as historically disturbed habitats in close proximity to the railroad, support a high density of crimson fountain grass (*Pennisetum setaceum)*.

Discussion and Management Considerations

The 266-acre Miossi Ranch property supports a diverse assemblage of species and habitats. Purchase of this parcel by the City for permanent conservation was a critical acquisition for the establishment of a continuous corridor of publicly accessible open space that connects the City of San Luis Obispo to the Los Padres National Forest on West Cuesta Ridge.

To aid the City in preparing to open the property for public recreational use, the following management considerations are offered:

- Wherever possible, the City should avoid constructing new trails near or within mapped populations of special-status species, serpentine outcrops, needlegrass populations, or through oak woodland habitats.
- Several remnant firebreaks, wildlife trails, and/or pedestrian trails were observed through areas of dense chaparral and scrub habitat. Where appropriate, incorporating these existing trails with new trails will minimize disturbance and impact.
- Trails and roads at stream crossings should be constructed in a manner that avoids downstream sedimentation or discharges of soil or other materials.
- Maintaining existing roads and fire breaks, including culvert repair or replacement, will reduce erosion and prevent sediment from entering nearby streams.
- Vehicles, hand tools, and other equipment brought on site should be cleaned of all soil/mud and other debris to avoid the spread of non-native or invasive plants to the site. Further, all tools and equipment should be cleaned after use at the site to avoid the spread of invasive species from Miossi Ranch to other City-owned open space areas.
- Install interpretive trail signs to inform the public of the sensitivity of resources on the property and important ways in which those resources can be protected (e.g., stay on trail, pack-in/pack-out trash, don't pick wildflowers).
- Invasive species management efforts should be implemented under the guidance of a licensed herbicide applicator, particularly for the control of woolly distaff thistle and French broom on site.
- Ensure that all fencing on the property allows for safe passage of wildlife.
- To avoid disturbances to nocturnal wildlife, limit site access to the hours between dawn and dusk.
- If trash receptacles are installed, ensure they are wildlife-proof and are emptied frequently enough to prevent overflow.
- Require that dog owners bag and remove their dog's feces from the site to prevent the spread of disease to wildlife populations.

Implementing these recommendations on the Miossi Ranch property will support public recreation while ensuring the persistence of pristine native habitats and diverse species assemblages, including robust special-status plant and wildlife populations.

If you have any questions or require additional information, please contact me at knelson@terraverdeweb.com or at (702) 596-5038.

Sincerely,

Kristen Nelson
Botanist

Attachments

A – Maps
- Figure 1: 2-mile CNDDB Occurrences
- Figure 2: Sensitive Resources and Observation Points
- Figure 3: Vegetation Communities

B – Botanical and Wildlife Species Lists for Miossi Ranch
C – California Native Species Field Survey Forms for Miossi Ranch
D – Representative Site Photographs

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ATTACHMENT A – Figures

Figure 1a: 2-mile CNDDB Botanical Occurrences
Figure 1b: 2-mile CNDDB Wildlife Occurrences
Figure 2: Sensitive Resources and Observations Points
Figure 3: Vegetation Communities

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Miossi Ranch Biological Resources Assessment
City of San Luis Obispo

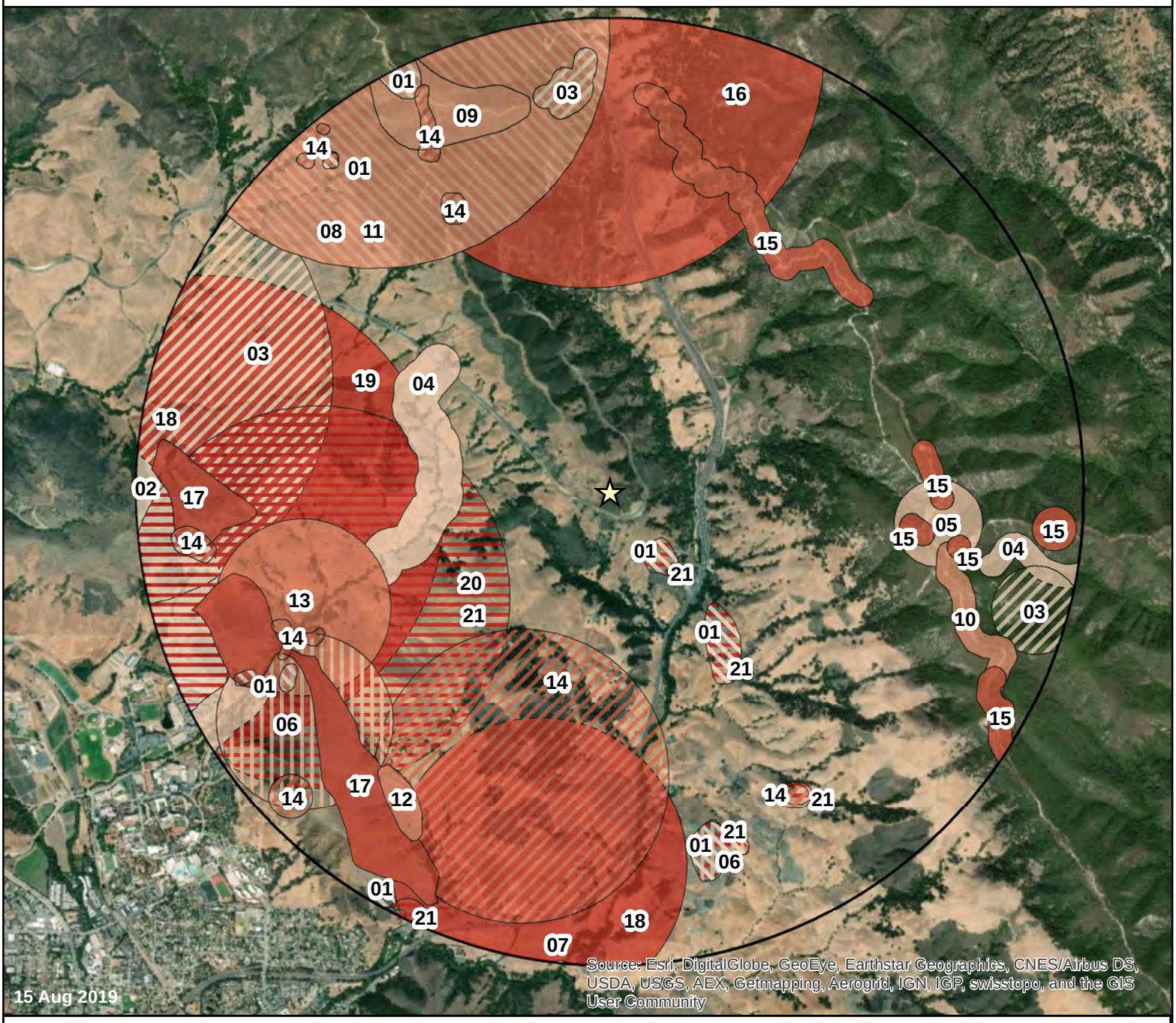

Figure 1a: 2-mile CNDDB Botanical Occurrences

☆ Approximate Property Center

Botanical

- 01 - Brewer's Spineflower
- 02 - Congdon's Tarplant
- 03 - Cuesta Ridge Thistle
- 04 - Eastwood's Larkspur
- 05 - Hoover's Bent Grass
- 06 - Jones' Layia
- 07 - La Panza Mariposa-lily
- 08 - Ojai Fritillary
- 09 - Palmer's Monardella
- 10 - Pecho Manzanita
- 11 - San Benito Fritillary
- 12 - San Luis Obispo Fountain Thistle
- 13 - San Luis Obispo Owl's-clover
- 14 - San Luis Mariposa-lily
- 15 - Santa Lucia Manzanita
- 16 - Santa Margarita Manzanita
- 17 - Serpentine Bunchgrass
- 18 - Chaparral Ragwort
- 19 - Dwarf Soaproot
- 20 - Mouse-gray Dudleya

0 0.5 1 Miles

N

Miossi Ranch Biological Resources Assessment
City of San Luis Obispo

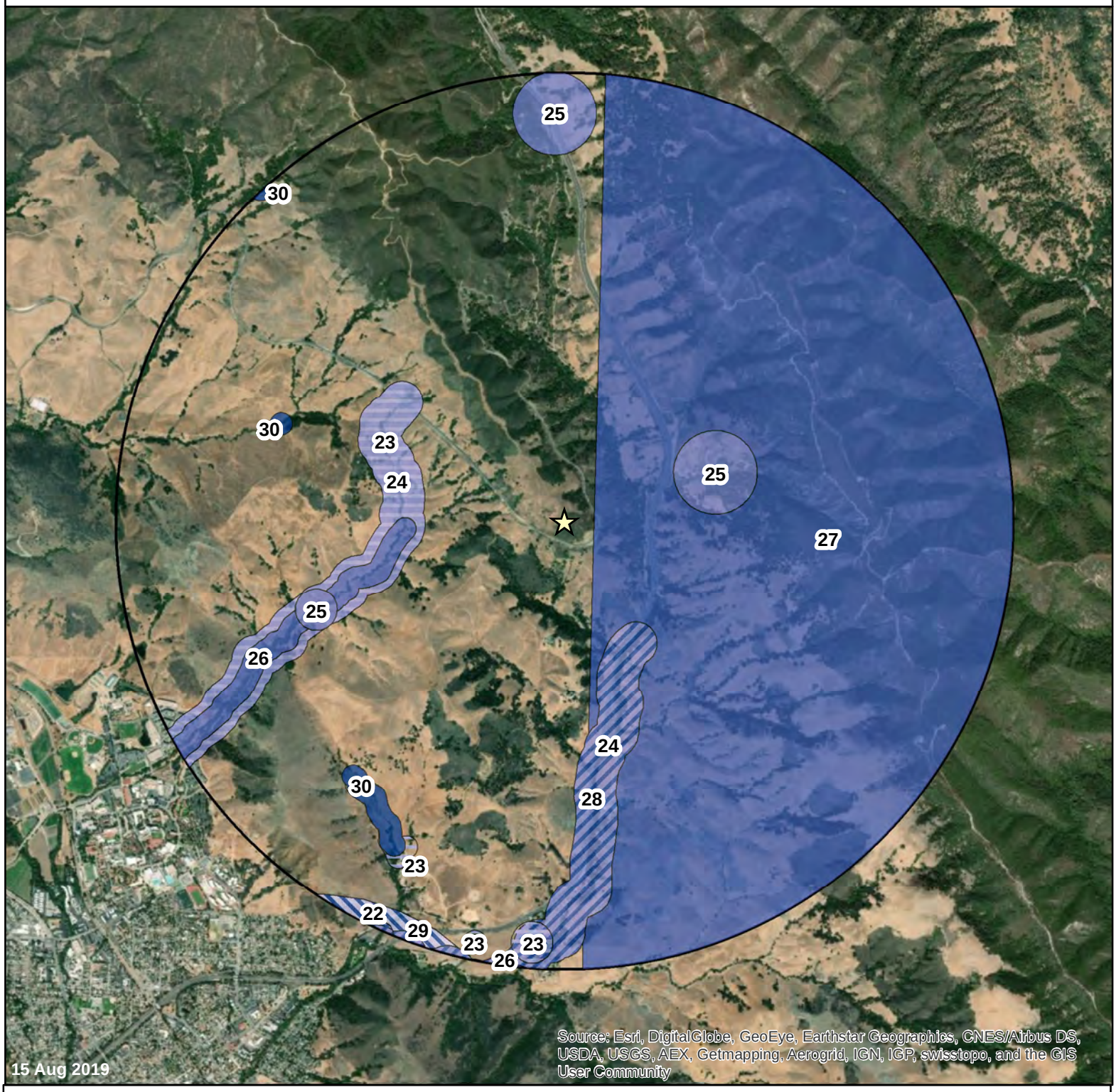

Figure 1b: 2-mile CNDDB Wildlife Occurrences

Approximate Property Center

Special-status Wildlife Occurrences

- 21 - Atascadero June Beetle
- 22 - California Red-legged Frog
- 23 - Coast Range Newt
- 24 - San Luis Obispo Pyrg
- 25 - Foothill Yellow-legged Frog
- 26 - Prairie Falcon
- 27 - Steelhead - SCCC DPS
- 28 - Western Mastiff Bat
- 30 - Western Pond Turtle

0 0.5 1 Miles

N

Miossi Ranch Biological Resources Assessment
City of San Luis Obispo

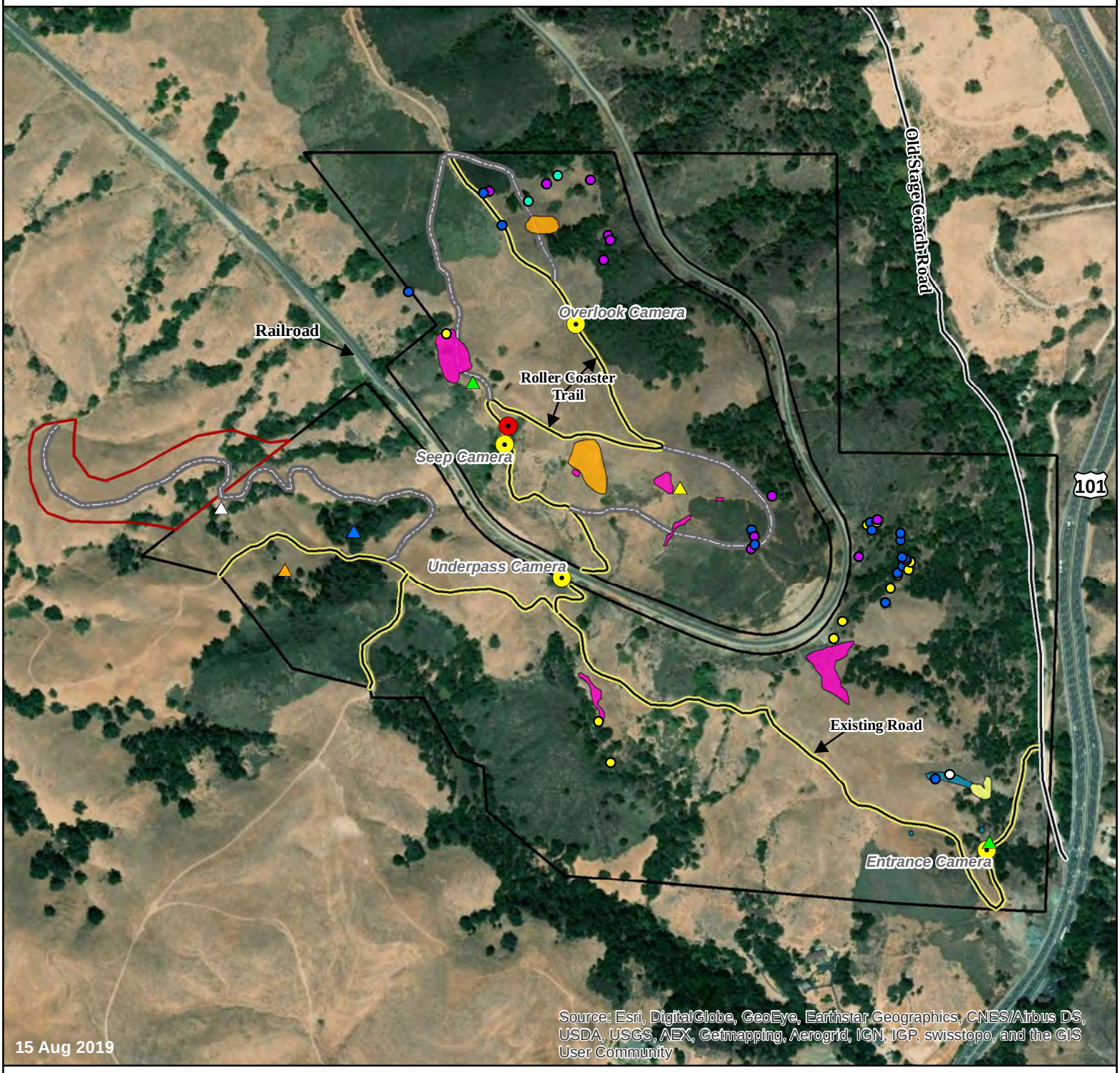

Figure 2: Sensitive Resources and Observation Points

- Miossi Ranch
- Cal Poly Property
- Proposed New Trail
- Remote Camera Station
- Bat Detector

Wildlife Species Observations

- American Badger
- Golden Eagle
- Oak Titmouse
- Peregrine Falcon
- White-tailed Kite

Botanical Species Observations

- Brewer's Spineflower
- Palmer's Spineflower
- Mouse-gray Dudleya
- Purple Needlegrass
- Santa Lucia Manzanita
- Bishop Manzanita
- Club-haired Mariposa Lily
- Small-leaved Lomatium
- Unknown Mariposa Lily

N

0 500 1,000 Feet

Miossi Ranch Biological Resources Assessment
City of San Luis Obispo

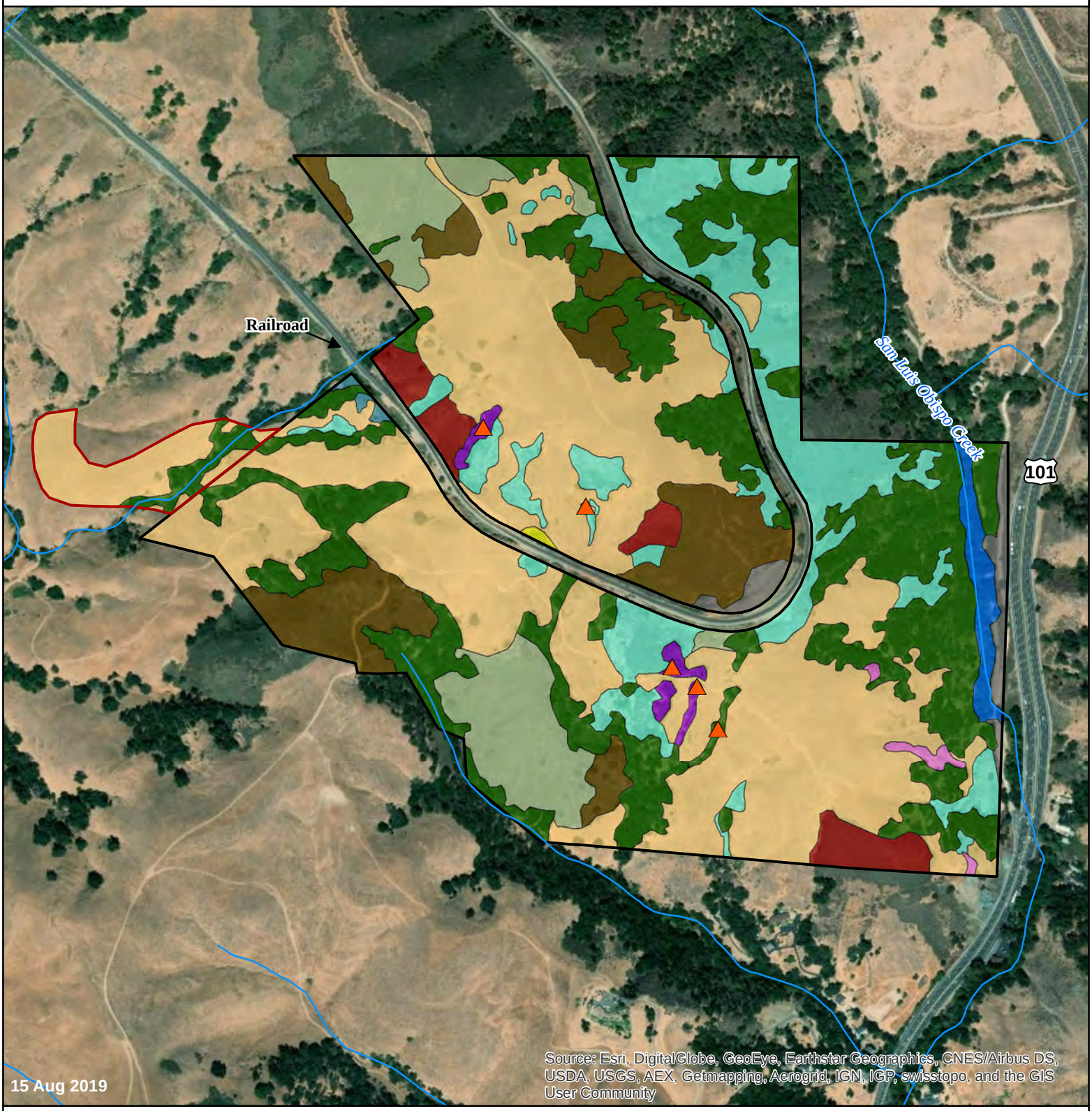

Figure 3: Vegetation Communities

Miossi Ranch
Cal Poly Property
Blue Line Drainage
Perennial Freshwater Seep

Vegetation Communities

Arroyo Willow Thicket
Black Sage Scrub
Buckbrush-Chamise Chaparral
Chamise-Black Sage chaparral
Coast Live Oak Woodland
Coyote Brush Scrub
Grassland
Mixed Riparian Woodland
Ruderal
Sagebrush Scrub
Sagebrush-Black Sage Scrub
Serpentine Outcrop

Feet
0 500 1,000

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TERRA • VERDE
Environmental Consulting

ATTACHMENT B – Botanical and Wildlife Species Lists for Miossi Ranch

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Botanical Species List for Miossi Ranch

Observed by Terra Verde on April 24; May 6, 23, and 30; and June 20 and 26, 2019

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Vascular Plants				
Adoxaceae, Muskroot Family	*Sambucus nigra* subsp. *caerulea*	Blue elderberry	--	Native
Agavaceae, Century Plant Family	*Chlorogalum pomeridianum* var. *pomeridianum*	Soap plant	--	Native
	Hesperoyucca whipplei	Chaparral yucca	--	Native
Anacardiaceae, Sumac Family	*Rhus integrifolia*	Lemonade berry	--	Native
	Schinus molle	Pepper tree	Lim	Naturalized
	Toxicodendron diversilobum	Western poison oak	--	Native
Apiaceae, Carrot Family	*Apiastrum angustifolium*	Wild celery	--	Native
	Conium maculatum	Poison hemlock	Mod	Naturalized
	Daucus pusillus	American wild carrot	--	Native
	Foeniculum vulgare	Fennel	High	Naturalized
	Lomatium caruifolium	Caraway leaved lomatium	--	Native
	Lomatium parvifolium	Small-leaved lomatium	CRPR 4.2	Native
	Sanicula arguta	Sharp toothed sanicle	--	Native
	Sanicula bipinnata	Poison sanicle	--	Native
	Sanicula bipinnatifida	Purple sanicle	--	Native
	Sanicula crassicaulis	Gamble weed	--	Native
	Torilis arvensis	Tall sock-destroyer	Mod	Naturalized
	Torilis nodosa	Short sock-destroyer	--	Naturalized
Apocynaceae, Dogbane Family	*Asclepias eriocarpa*	Kotolo	--	Native
	Asclepias fascicularis	Narrow-leaf milkweed	--	Native
Asteraceae, Sunflower Family	*Achillea millefolium*	Common yarrow	--	Native
	Achyrachaena mollis	Soft blow wives	--	Native
	Acourtia microcephala	Sacapellote	--	Native
	Agoseris grandiflora	Giant mountain dandelion	--	Native
	Agoseris heterophylla	Annual mountain dandelion	--	Native
	Artemisia californica	California sagebrush	--	Native
	Artemisia douglasiana	Mugwort	--	Native
	Baccharis pilularis subsp. *consanguinea*	Coyote brush	--	Native
	Baccharis salicifolia	Mule fat	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Asteraceae, Sunflower Family (cont.)	*Carduus pycnocephalus*	Italian thistle	Mod	Naturalized
	Carthamus lanatus	Woolly distaff thistle	High	Naturalized
	Centaurea calcitrapa	Purple star-thistle	Mod	Naturalized
	Centaurea melitensis	Maltese star-thistle	Mod	Naturalized
	Centaurea solstitialis	Yellow star-thistle	High	Naturalized
	Chondrilla juncea	Skeleton weed	Mod	Naturalized
	Cirsium vulgare	Bull thistle	Mod	Naturalized
	Corethrogyne filaginifolia	Common sandaster	--	Native
	Ericameria arborescens	Golden-fleece	--	Native
	Erigeron foliosus var. *foliosus*	Leafy fleabane	--	Native
	Erigeron philadelphicus var. *philadelphicus*	Philadelphia fleabane	--	Native
	Eriophyllum confertiflorum	Golden-yarrow	--	Native
	Eurybia radulina	Roughleaf aster	--	Native
	Gamochaeta ustulata	Featherweed	--	Native
	Grindelia camporum	Gumweed	--	Native
	Hazardia squarrosa	Saw-toothed goldenbush	--	Native
	Hedypnois rhagadioloides	Crete weed	--	Native
	Helenium puberulum	Sneezeweed		Native
	Helminthotheca echioides	Bristly ox-tongue	Lim	Naturalized
	Hemizonia congesta subsp. *luzulifolia*	Hayfield tarweed	--	Native
	Hesperevax sparsiflora var. *sparsiflora*	Erect dwarf cudweed	--	Native
	Heterotheca sessiliflora	Sessileflower goldenaster	--	Native
	Hypochaeris glabra	Smooth cat's ear	Lim	Naturalized
	Hypochaeris radicata	Rough cat's ear	Mod	Naturalized
	Lactuca serriola	Prickly lettuce	--	Naturalized
	Lasthenia gracilis	Common goldfields	--	Native
	Logfia filaginoides	California cottonrose	--	Native
	Logfia gallica	Daggerleaf cottonrose	--	Naturalized
	Madia gracilis	Gumweed	--	Native
	Micropus californicus var. *californicus*	Cottontop	--	Native
	Microseris douglasii subsp. *douglasii*	Douglas' silverpuffs	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Asteraceae, Sunflower Family (cont.)	*Pseudognaphalium californicum*	Ladies' tobacco	--	Native
	Pseudognaphalium luteoalbum	Jersey cudweed	--	Naturalized
	Pseudognaphalium microcephalum	Wright's cudweed	--	Native
	Psilocarphus tenellus	Slender woolly-marbles	--	Native
	Rafinesquia californica	California chicory	--	Native
	Silybum marianum	Milk thistle	--	Naturalized
	Sonchus asper subsp. *asper*	Prickly sow thistle	--	Naturalized
	Sonchus oleraceus	Common sow thistle	--	Naturalized
	Stebbinsoseris heterocarpa	Grassland silverpuffs	--	Native
	Stephanomeria cichoriacea	Silver rock-lettuce	--	Native
	Stephanomeria exigua	Small wirelettuce	--	Native
	Uropappus lindleyi	Silver puffs	--	Native
	Xanthium strumarium	Cocklebur	--	Native
Blechnaceae, Deer Fern Family	*Woodwardia fimbriata*	Giant chain fern	--	Native
Boraginaceae, Borage Family	*Amsinckia intermedia*	Common fiddleneck	--	Native
	Cryptantha clevelandii var. *clevelandii*	Cleveland's cryptantha	--	Native
	Cryptantha flaccida	Beaked cryptantha	--	Native
	Cryptantha intermedia var. *intermedia*	Common cryptantha	--	Native
	Cryptantha muricata var. *muricata*	Showy prickly-nut cryptantha	--	Native
	Eucrypta chrysanthemifolia	Spotted eucrypta	--	Native
	Phacelia imbricata	Imbricate phacelia	--	Native
	Plagiobothrys nothofulvus	Rusty popcornflower	--	Native
Brassicaceae, Mustard Family	*Brassica nigra*	Black mustard	Mod	Naturalized
	Hirschfeldia incana	Mediterranean hoary mustard	Mod	Naturalized
	Thysanocarpus curvipes	Common fringe pod	--	Native
Caprifoliaceae, Honeysuckle Family	*Symphoricarpos albus* var. *laevigatus*	Snowberry	--	Native
	Symphoricarpos mollis	Creeping snowberry	--	Native
Caryophyllaceae, Pink Family	*Cerastium glomeratum*	Sticky mouse-ear chickweed	--	Naturalized
	Silene gallica	Windmill pink	--	Naturalized

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Caryophyllaceae, Pink Family (cont.)	*Spergula arvensis*	Stickwort	--	Naturalized
	Stellaria media	Common chickweed	--	Naturalized
Chenopodiaceae, Goosefoot Family	*Chenopodium californicum*	California goosefoot	--	Native
Convolvulaceae, Morning-glory Family	*Cuscuta californica* var. *californica*	Dodder	--	Native
Crassulaceae, Stonecrop Family	*Crassula connata*	Pygmy-weed	--	Native
	Dudleya abramsii subsp. *murina*	Mouse-gray dudleya	CRPR 1B.3	Native
	Dudleya lanceolata	Lance-leaved dudleya	--	Native
	Dudleya pulverulenta	Chalk dudleya	--	Native
Cucurbitaceae, Gourd Family	*Marah fabacea*	California man-root	--	Native
Cyperaceae, Sedge Family	*Carex triquetra*	Trigonous sedge	--	Native
	Cyperus eragrostis	Tall flatsedge	--	Native
	Cyperus niger	Brown cyperus	--	Native
	Eleocharis macrostachya	Common spikerush	--	Native
Dennstaedtiaceae, Bracken Family	*Pteridium aquilinum* var. *pubescens*	Western bracken fern	--	Native
Dryopteridaceae, Wood Fern Family	*Dryopteris arguta*	California wood fern	--	Native
Equisetaceae, Horsetail Family	*Equisetum telmateia* subsp. *braunii*	Giant horsetail	--	Native
Ericaceae, Heath Family	*Arctostaphylos glandulosa* subsp. *cushingiana*	Cushing manzanita	--	Native
	Arctostaphylos luciana	Santa Lucia manzanita	CRPR 1B.2	Native
	Arctostaphylos obispoensis	Bishop manzanita	CRPR 4.3	Native
Euphorbiaceae, Spurge Family	*Croton setiger*	Turkey-mullein	--	Native
	Ricinus communis	Castor bean	--	Naturalized
Fabaceae, Legume Family	*Acmispon americanus* var. *americanus*	Spanish lotus	--	Native
	Acmispon brachycarpus	Short podded lotus	--	Native
	Acmispon glaber	Deerweed	--	Native
	Acmispon junceus	Rush lotus	--	Native
	Acmispon parviflorus	Hill lotus	--	Native
	Acmispon strigosus	Strigose lotus	--	Native
	Acmispon wrangelianus	Chilean trefoil	--	Native
	Astragalus gambelianus	Little blue loco	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Fabaceae, Legume Family (cont.)	*Genista monspessulana*	French broom	High	Naturalized
	Lathyrus vestitus	Common pacific pea	--	Native
	Lupinus albifrons var. *albifrons*	Silver bush lupine	--	Native
	Lupinus bicolor	Miniature lupine	--	Native
	Lupinus concinnus	Bajada lupine	--	Native
	Lupinus nanus	Sky lupine	--	Native
	Lupinus succulentus	Arroyo lupine	--	Native
	Medicago polymorpha	California burclover	Lim	Naturalized
	Melilotus albus	White sweetclover	--	Naturalized
	Melilotus indicus	Sourclover	--	Naturalized
	Trifolium ciliolatum	Foothill clover	--	Native
	Trifolium depauperatum	Truncate sack clover	--	Native
	Trifolium fucatum	Bull clover	--	Native
	Trifolium hirtum	Rose clover	Lim	Naturalized
	Trifolium microcephalum	Small-head clover	--	Native
	Trifolium microdon	Thimble clover	--	Native
	Trifolium willdenovii	Tomcat clover	--	Native
	Vicia sativa	Spring vetch	--	Naturalized
	Vicia villosa	Hairy vetch	--	Naturalized
Fagaceae, Oak Family	*Quercus agrifolia* var. *agrifolia*	Coast live oak	--	Native
	Quercus berberidifolia	Scrub oak	--	Native
	Quercus douglasii	Blue oak	--	Native
	Quercus durata	Leather oak	--	Native
Geraniaceae, Geranium Family	*Erodium botrys*	Big heron bill	--	Naturalized
	Erodium brachycarpum	Foothill filaree	--	Naturalized
	Erodium cicutarium	Redstem filaree	Lim	Naturalized
	Geranium dissectum	Cut leaved geranium	Lim	Naturalized
	Geranium molle	Crane's bill geranium	--	Naturalized
Grossulariaceae, Gooseberry Family	*Ribes malvaceum*	Chaparral currant	--	Native
	Ribes speciosum	Fuchsia-flowered gooseberry	--	Native
Iridaceae, Iris Family	*Sisyrinchium bellum*	Western blue-eyed-grass	--	Native
Juncaceae, Rush Family	*Juncus balticus* subsp. *ater*	Baltic rush	--	Native
	Juncus bufonius var. *bufonius*	Toad rush	--	Native
	Juncus patens	Spreading rush	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Juncaceae, Rush Family (cont.)	*Juncus phaeocephalus* var. *phaeocephalus*	Brownheaded rush	--	Native
	Juncus xiphioides	Iris-leaved rush	--	Native
Lamiaceae, Mint Family	*Salvia columbariae*	Chia	--	Native
	Salvia mellifera	Black sage	--	Native
	Salvia spathacea	California hummingbird sage	--	Native
	Stachys bullata	California hedge nettle	--	Native
	Trichostema lanceolatum	Vinegar weed	--	Native
Lauraceae, Laurel Family	*Umbellularia californica*	California bay	--	Native
Liliaceae, Lily Family	*Calochortus albus*	Fairy-lantern	--	Native
	Calochortus clavatus var. *clavatus*	Club-haired mariposa lily	CRPR 4.3	Native
	Fritillaria biflora	Checker lily	--	Native
Linaceae, Flax Family	*Hesperolinon micranthum*	Common dwarf flax	--	Native
Lythraceae, Loosestrife Family	*Lythrum hyssopifolia*	Hyssop loosestrife	--	Naturalized
Malvaceae, Mallow Family	*Sidalcea malviflora* subsp. *malviflora*	Checkermallow	--	Native
Melanthiaceae, False-hellebore Family	*Toxicoscordion fremontii*	Death camas	--	Native
Montiaceae, Miner's Lettuce Family	*Calandrinia menziesii*	Red maids	--	Native
	Claytonia perfoliata	Miner's lettuce	--	Native
Myrsinaceae, Myrsine Family	*Lysimachia arvensis*	Scarlet pimpernel	--	Naturalized
Nyctaginaceae, Four O'clock Family	*Mirabilis laevis* var. *crassifolia*	Wishbone bush	--	Native
Onagraceae, Evening-primrose Family	*Clarkia affinis*	Chaparral fairyfan	--	Native
	Clarkia purpurea subsp. *quadrivulnera*	Four-spot	--	Native
	Epilobium brachycarpum	Annual fireweed	--	Native
	Epilobium canum	California fuchsia	--	Native
Orobanchaceae, Broomrape Family	*Bellardia trixago*	Mediterranean linseed	Lim	Naturalized
	Castilleja affinis subsp. *affinis*	Wright's Indian paint brush	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Orobanchaceae, Broomrape Family (cont.)	*Castilleja attenuata*	Valley tassels	--	Native
	Castilleja exserta	Purple owl's clover	--	Native
Oxalidaceae, Oxalis Family	*Oxalis pes-caprae*	Bermuda buttercup	--	Naturalized
Paeoniaceae, Peony Family	*Paeonia californica*	California peony	--	Native
Papaveraceae, Poppy Family	*Eschscholzia caespitosa*	Tufted eschscholzia	--	Native
	Eschscholzia californica	California poppy	--	Native
Phrymaceae, Lopseed Family	*Diplacus aurantiacus*	Bush monkeyflower	--	Native
	Erythranthe grandis	Magnificent seep monkeyflower	--	Native
Plantaginaceae, Plantain Family	*Keckiella cordifolia*	Heart leaved keckiella	--	Native
	Plantago erecta	California plantain	--	Native
	Plantago lanceolata	English plantain	Lim	Naturalized
	Plantago major	Common plantain	--	Naturalized
Platanaceae, Sycamore Family	*Platanus racemosa*	Western sycamore	--	Native
Poaceae, Grass Family	*Agrostis gigantea*	Redtop	--	Naturalized
	Avena barbata	Slender wild oat	Mod	Naturalized
	Avena fatua	Wild oat	Mod	Naturalized
	Brachypodium distachyon	False brome	Mod	Naturalized
	Bromus carinatus var. *carinatus*	California brome	--	Native
	Bromus catharticus	Rescue grass	--	Naturalized
	Bromus diandrus	Ripgut grass	Mod	Naturalized
	Bromus hordeaceus	Soft chess	Lim	Naturalized
	Bromus madritensis subsp. *rubens*	Red brome	High	Naturalized
	Cynodon dactylon	Bermuda grass	--	Naturalized
	Elymus condensatus	Giant wild-rye	--	Native
	Elymus glaucus	Blue wild-rye	--	Native
	Elymus multisetus	Big squirreltail	--	Native
	Festuca microstachys	Small fescue	--	Native
	Festuca myuros	Rattail sixweeks grass	Mod	Naturalized
	Festuca perennis	Rye grass	Mod	Naturalized
	Hainardia cylindrica	Thin tail	--	Naturalized
	Hordeum brachyantherum	Meadow barley	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Poaceae, Grass Family (cont.)	*Hordeum marinum* subsp. *gussoneanum*	Mediterranean barley	Mod	Naturalized
	Hordeum murinum	Wall barley	Mod	Naturalized
	Koeleria macrantha	June grass	--	Native
	Lamarckia aurea	Goldentop	--	Naturalized
	Melica californica	California melic	--	Native
	Melica imperfecta	Little California melica	--	Native
	Melica torreyana	Torrey's melic	--	Native
	Pennisetum setaceum	Crimson fountain grass	Mod	Naturalized
	Phalaris aquatica	Harding grass	--	Naturalized
	Poa secunda subsp. *secunda*	One-sided blue grass	--	Native
	Polypogon monspeliensis	Rabbitfoot grass	--	Native
	Stipa lepida	Foothill needle grass	--	Native
	Stipa miliacea var. *miliacea*	Smilo grass	--	Naturalized
	Stipa pulchra	Purple needle grass	--	Native
Polemoniaceae, Phlox Family	*Gilia clivorum*	Purplespot gilia	--	Native
	Navarretia atractyloides	Holly leaf navarretia	--	Native
Polygonaceae, Buckwheat Family	*Chorizanthe breweri*	Brewer's spineflower	CRPR 1B.3	Native
	Chorizanthe membranacea	Pink spineflower	--	Native
	Chorizanthe palmeri	Palmer's spineflower	CRPR 4.2	Native
	Chorizanthe staticoides	Turkish rugging	--	Native
	Eriogonum elongatum	Long-stem wild buckwheat	--	Native
	Eriogonum fasciculatum subsp. *foliolosum*	California buckwheat	--	Native
	Eriogonum nudum	Naked buckwheat	--	Native
	Pterostegia drymarioides	Fairy mist	--	Native
	Rumex conglomeratus	Green dock	--	Naturalized
	Rumex crispus	Curly dock	--	Naturalized
	Rumex pulcher	Fiddle dock	--	Naturalized
Polypodiaceae, Polypody Family	*Polypodium californicum*	California polypody	--	Native
Portulacaceae, Purslane Family	*Portulaca oleracea*	Purslane	--	Naturalized
Primulaceae, Primrose Family	*Primula clevelandii*	Padre's shooting star	--	Native
Pteridaceae, Brake Family	*Pellaea andromedifolia*	Coffee fern	--	Native
	Pellaea mucronata	Bird's-foot fern	--	Native
	Pentagramma triangularis	Goldback fern	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Ranunculaceae, Buttercup Family	*Clematis lasiantha*	Western virgin's bower	--	Native
	Delphinium hesperium subsp. *hesperium*	Western larkspur	--	Native
	Delphinium parryi subsp. *parryi*	Parry's larkspur	--	Native
	Ranunculus californicus	California buttercup	--	Native
Rhamnaceae, Buckthorn Family	*Ceanothus cuneatus*	Buck brush	--	Native
	Frangula californica	California coffee berry	--	Native
	Rhamnus crocea	Spiny redberry	--	Native
	Rhamnus ilicifolia	Hollyleaf redberry	--	Native
Rosaceae, Rose Family	*Adenostoma fasciculatum* var. *fasciculatum*	Chamise	--	Native
	Cercocarpus betuloides	Birch-leaf mountain-mahogany	--	Native
	Heteromeles arbutifolia	Toyon	--	Native
	Prunus ilicifolia subsp. *ilicifolia*	Holly-leafed cherry	--	Native
	Rosa spithamea	Coast ground rose	--	Native
	Rubus ursinus	California blackberry	--	Native
Rubiaceae, Madder Family	*Galium andrewsii* subsp. *andrewsii*	Phlox-leaved bedstraw	--	Native
	Galium andrewsii subsp. *intermedium*	Phlox-leaved bedstraw	--	Native
	Galium angustifolium subsp. *angustifolium*	Narrowly leaved bedstraw	--	Native
	Galium aparine	Goose grass	--	Native
	Galium californicum	California bedstraw	--	Native
	Galium porrigens	Climbing bedstraw	--	Native
Salicaceae, Willow Family	*Populus fremontii*	Fremont cottonwood	--	Native
	Populus trichocarpa	Black cottonwood	--	Native
	Salix laevigata	Red willow	--	Native
	Salix lasiolepis	Arroyo willow	--	Native
Sapindaceae, Soapberry Family	*Acer macrophyllum*	Big-leaf maple	--	Native
Scrophulariaceae, Figwort Family	*Scrophularia californica*	California figwort	--	Native
Solanaceae, Nightshade Family	*Solanum douglasii*	Douglas' nightshade	--	Native
	Solanum xanti	Purple nightshade	--	Native

Family	Scientific Name	Common Name	Listing Status[1]	Origin
Themidaceae, Brodiaea Family	*Bloomeria crocea* var. *crocea*	Common goldenstar	--	Native
	Dichelostemma capitatum subsp. *capitatum*	Blue dicks	--	Native
Typhaceae, Cattail Family	*Typha domingensis*	Southern cattail	--	Native
Verbenaceae, Vervain Family	*Verbena lasiostachys*	Western vervain	--	Native
Violaceae, Violet Family	*Viola pedunculata*	Johnny-jump-up	--	Native
Viscaceae, Mistletoe Family	*Phoradendron leucarpum*	Big leaf mistletoe	--	Native

[1]**Listing Status:** Indicates listing status for rare and endangered (i.e., special-status) taxa, as well as taxa considered noxious/invasive weeds in California and San Luis Obispo County. No state- or federal-listed special-status species were documented; taxa included on the California Rare Plant Rank (CRPR) are assigned listing status based on the degree of rarity (Lists 1A through 4) and threat level (0.1, 0.2, and 0.3), as follows (CNPS 2019c):

Rarity Ranks:

- **List 1A:** presumed extirpated in California, and rare or extinct elsewhere
- **List 1B:** rare, threatened, or endangered in California and elsewhere
- **List 2A:** presumed extirpated in California, but more common elsewhere
- **List 2B:** rare, threatened, or endangered in California, but more common elsewhere
- **List 3:** review list of plants about which more information is needed
- **List 4:** watch list of plants with limited distribution

Threat Ranks:

- **0.1:** seriously threatened in California (> 80% threatened / high degree and immediacy of threat)
- **0.2:** moderately threatened in California (20-80% threatened / moderate degree and immediacy of threat)
- **0.3:** not very threatened in California (< 20% threatened / low degree and immediacy or no current threats known)

Wildlife Species List for Miossi Ranch

Observed by Terra Verde on April 24; May 6, 23, 30, and 31; and June 7, 19, and 11, 2019

Taxonomic Class	Scientific Name[1]	Common Name	Listing Status	Origin
Amphibian	*Anaxyrus boreas halophilus*	California toad		Native
	Pseudacris sierra	Sierran tree frog		Native
	Taricha torosa	California newt		Native
Arachnid	*Aphonopelma* sp.	Tarantula		Native
	Araneus sp.	Orb weaver		Native
	Dermacentor occidentalis	Pacific coast tick		Native
Bird	*Aphelocoma californica*	California scrub-jay		Native
	Aquila chrysaetos	Golden eagle	California—FP Federal—BCC	Native
	Baeolophus inornatus	Oak titmouse	Federal—BCC	Native
	Buteo jamaicensis	Red-tailed hawk		Native
	Callipepla californica	California quail		Native
	Calypte anna	Anna's hummingbird		Native
	Cathartes aura	Turkey vulture		Native
	Chamaea fasciata	Wrentit		Native
	Chondestes grammacus	Lark sparrow		Native
	Colaptes auratus	Northern flicker		Native
	Corvus brachyrhynchos	American crow		Native
	Corvus corax	Common raven		Native
	Elanus leucurus	White-tailed kite	California—FP	Native
	Empidonax difficilis	Pacific-slope flycatcher		Native
	Falco peregrinus	Peregrine falcon	California—FP Federal—BCC	Native
	Falco sparverius	American kestrel		Native
	Haemorhous mexicanus	House finch		Native
	Hirundo rustica	Barn swallow		Native
	Melanerpes formicivorus	Acorn woodpecker		Native
	Meleagris gallopavo	Wild turkey		Naturalized
	Melozone crissalis	California towhee		Native
	Mimus polyglottos	Northern mockingbird		Native
	Myiarchus cinerascens	Ash-throated flycatcher		Native
	Patagioenas fasciata	Band-tailed pigeon		Native
	Polioptila caerulea	Blue-gray gnatcatcher		Native
	Psaltriparus minimus	Bushtit		Native
	Sayornis nigricans	Black phoebe		Native
	Sialia mexicana	Western bluebird		Native
	Sitta carolinensis	White-breasted nuthatch		Native

Taxonomic Class	Scientific Name[1]	Common Name	Listing Status	Origin
Bird (cont.)	*Spinus psaltria*	Lesser goldfinch		Native
	Sturnella neglecta	Western meadowlark		Native
	Tachycineta bicolor	Tree swallow		Native
	Tachycineta thalassina	Violet-green swallow		Native
	Thryomanes bewickii	Bewick's wren		Native
	Toxostoma redivivum	California thrasher		Native
	Turdus migratorius	American robin		Native
	Tyrannus verticalis	Western kingbird		Native
	Tyto alba	Barn owl		Native
	Zenaida macroura	Mourning dove		Native
Insect	*Apiomerus californicus*	California bee assassin		Native
	Apis mellifera	Western honeybee		Naturalized
	Autographa californica	Alfalfa looper		Native
	Bombus sp.	Bumble bee		Native
	Cephenemyia apicata	Deer nose bot fly		Native
	Chrysomela confluens	Leaf beetle		Native
	Coelocnemis californica	California broad-necked darkling beetle		Native
	Coenonympha tullia	Common ringlet		Native
	Dasymutilla californica	Velvet ant		Native
	Diabrotica undecimpunctata	Spotted cucumber beetle		Native
	Grammia ornata	Ornate tiger moth		Native
	Hyles lineata	White-lined sphinx moth		Native
	Icaricia acmon	Acmon blue		Native
	Papilio rutulus	Western tiger swallowtail		Native
	Papilio zelicaon	Anise swallowtail		Native
	Pieris rapae	Cabbage white		Naturalized
	Trirhabda flavolimbata	Coyote brush leaf beetle		Native
Mammal	*Canis latrans*	Coyote		Native
	Eptesicus fuscus	Big brown bat		Native
	Lynx rufus	Bobcat		Native
	Mephitis mephitis	Striped skunk		Native
	Neotoma sp.	Woodrat		Native
	Odocoileus hemionus	Mule deer		Native
	Otospermophilus beecheyi	California ground squirrel		Native
	Peromyscus maniculatus	Deer mouse		Native
	Procyon lotor	Raccoon		Native
	Sylvilagus sp.	Cottontail rabbit		Native
	Tadarida brasiliensis	Mexican free-tailed bat		Native

Taxonomic Class	Scientific Name[1]	Common Name	Listing Status	Origin
Mammal (cont.)	*Taxidea taxus*	American badger	California—CSC	Native
	Thomomys bottae	Botta's pocket gopher		Native
	Urocyon cinereoargenteus	Gray fox		Native
Reptile	*Elgaria multicarinata webbii*	Alligator lizard		Native
	Sceloporus occidentalis	Western fence lizard		Native
	Crotalus oreganus oreganus	Northern Pacific rattlesnake		Native

[1]Highlighted species have special conservation status:

- California—FP = California-designated Fully Protected Species
- California—CSC = California-designated Species of Special Concern
- Federal—BCC = Federally designated Bird of Conservation Concern

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ATTACHMENT C – California Native Species Field Survey Forms for Miossi Ranch

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ATTACHMENT D – Representative Site Photographs

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Photo 1. View west across the western portion of Miossi Ranch (April 24, 2019).

Photo 2. View north of the grassland bordered by oak woodland at the top of the ridge in the northern portion of the property (April 25, 2019).

Photo 3. View east at a transition zone between grassland and chaparral along the ridge top in the middle of the property (May 6, 2019).

Photo 4. View west across the property toward Cal Poly (May 6, 2019).

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Photo 9. View southwest of a drainage near the southern end of the property (May 23, 2019).

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Photo 15. *Calochortus clavatus* var. *clavatus* occurring in association with chaparral habitat (June 26, 2019).

Photo 16. *Chorizanthe palmeri* in a rocky opening within annual grassland habitat (June 26, 2019).

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Photo 23. California scrub-jays at *seep* remote camera.

Cultural Resource Study for the Miossi Open Space, San Luis Obispo, California

Amber Long, Philip Clarkson, and Kelli Wathen

Prepared By

Applied EarthWorks, Inc.
811 El Capitan Way, Suite 100
San Luis Obispo, CA 93401

Prepared For
City of San Luis Obispo
Office of Sustainability
990 Palm Street
San Luis Obispo, CA 93401

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MANAGEMENT SUMMARY

At the request of the City of San Luis Obispo (City), Applied EarthWorks, Inc. (Æ) completed a Phase 1 cultural resource study in support of the proposed Miossi Open Space (Project) in San Luis Obispo County, California. The property has a network of existing dirt roads and trails, and the City is proposing additional hand-cut trails for hiking to be opened to the public for recreational use. The Project area includes 266 acres made up of Assessor's Parcel Numbers 070-271-033, 070-271-034, 073-341-040, and 073-341-041. It is on the west side of Cuesta Grade, beginning at Old Stage Coach Road at the foot of the grade, and running west towards lands owned by California Polytechnic State University and the Miossi family. The Project is in the City's greenbelt and is owned by the City but is outside City limits. Southern Pacific Railway tracks bisect the Project area; the railroad and the right of way are not part of the Project.

This study provides compliance with the California Environmental Quality Act (CEQA), which mandates that government agencies consider the effects of permitted actions on important archaeological and historical resources (Public Resource Code 5020 and 21000 et. seq. and California Code of Regulations 15000 et. seq.).

Æ's study included a records search of the Central Coast Information Center (CCIC) of the California Historical Resources Information System (CHRIS) and Sacred Lands File of the Native American Heritage Commission, outreach to local Native American tribal representatives, and a pedestrian surface survey. Tribal representatives requested a site visit and cultural sensitivity training for staff prior to the start of construction. Background research found four previous studies have covered portions of the Project area, but no previously recorded sites are mapped within the Miossi Open Space property.

Æ's pedestrian survey encountered several possible historic-era miscellaneous resources and recorded a historic dam feature (AE-4081-01H). The miscellaneous resources include a powerline that follows the railroad right of way and individual poles that occasionally cross into the Project area, and a cattle water trough that is no longer in use. Additionally, there is a large culvert under the railroad tracks that the Miossi family used to allow cattle to access to the north portion of the property. AE-4087-01H is a historic dam and associated infrastructure over San Luis Creek that was part of the initial water system supplying water to the City. AE-4087-01H was formally recorded but not evaluated at this time.

Æ's study did not identify any prehistoric archaeological sites or features. Therefore, no additional archaeological fieldwork is recommended. However, Æ recommends an evaluation of the dam and associated infrastructure (AE-4087-01H) to determine if this resource is eligible for the California Register of Historic Resources. Currently this resource will not be affected by the Project; however, due to the potential for this resource to be significant under CEQA, the City may need to assess the level any impacts on this resource in the future.

Due to the lack of ground visibility during the current study, there is the potential for encountering prehistoric or historic-period materials during Project activities. If any of prehistoric or historic materials are found during the course of construction, ground-disturbing activities should be halted, and a qualified archaeologist should be contacted to determine if

materials are isolated finds or part of a larger archaeological deposit. If an archaeological site is identified, then the resource should be evaluated for significance under CEQA and further treatment measures may be required.

Field notes, maps, and a complete set of photographs from the current investigation are on file at Æ's office in San Luis Obispo, California. A copy of the final version of this report will be submitted to the CCIC of the CHRIS at the University of California, Santa Barbara.

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1
INTRODUCTION

At the request of the City of San Luis Obispo (City), Applied EarthWorks, Inc. (Æ) completed a cultural resource study for the Miossi Open Space at Old Stage Coach Road at the base of the Cuesta Grade on the west side of U.S. Route 101 (US 101) in San Luis Obispo County, California (Project; Figure 1-1). The property includes 266 acres made up of Assessor's Parcel Numbers (APNs) 070-271-033, 070-271-034, 073-341-040, and 073-341-041. The Project is within Township 30 South, Range 12 East, Sections 12 and 13 as depicted in the U.S. Geological Survey (USGS) San Luis Obispo 7.5-minute topographic quadrangle, and Township 30 South, Ranch 13 East, Sections 7 and 18 as depicted in the USGS Lopez Mountain 7.5-minute topographic map quadrangle (Figures 1-2 and 1-3).

The Project is on the west side of the Cuesta Grade, beginning at Old Stage Coach Road at the foot of the grade, and running west towards lands owned by California Polytechnic State University (Cal Poly) and the Miossi family. The property is in the City's greenbelt and is owned by the City but is outside City limits. Southern Pacific Railway tracks bisect the Project area; the railroad, right of way, and a section of railroad-owned land are not part of the Project area.

1.1 PURPOSE OF INVESTIGATION

The City purchased 266 acres of the La Cuesta Ranch from the Miossi Family Trust to use as open space and proposes to open the Miossi Open Space to the public for recreational use. The property has a network of existing dirt roads and trails and the City is proposing the addition of new hand-cut trails for hiking (Figure 1-4).

The Project is in support of the Miossi Open Space Conservation Plan to be adopted by the City, which is held accountable under the California Environmental Quality Act (CEQA) to consider the impacts of their actions on the cultural environment (Public Resource Code [PRC] 5020 and 21000 et. seq. and California Code of Regulations 15000 et. seq.). Therefore, the City is required to assess potential impacts of the proposed Project on archaeological and historical resources. The purpose of Æ's investigation was to identify any cultural resources that could be impacted by Project activities. The investigation results provided herein will assist Rincon Consultants in the drafting the Initial Study for the Project and document the assessment of potential impacts to cultural resources under CEQA.

1.2 PERSONNEL QUALIFICATIONS

Æ Principal Archaeologist Erin Enright (M.A., Registered Professional Archaeologist 16575) served as principal investigator and provided technical review of this document. Æ Associate Architectural Historian Amber Long (M.A.) conducted historical research and co-authored the report. She also served as project manager, managed Project tasks, and oversaw background research. Æ Staff Archaeologists Philip Clarkson and Neil Rhodes conducted the archaeological

Figure 1-1 Project vicinity in San Luis Obispo County, California.

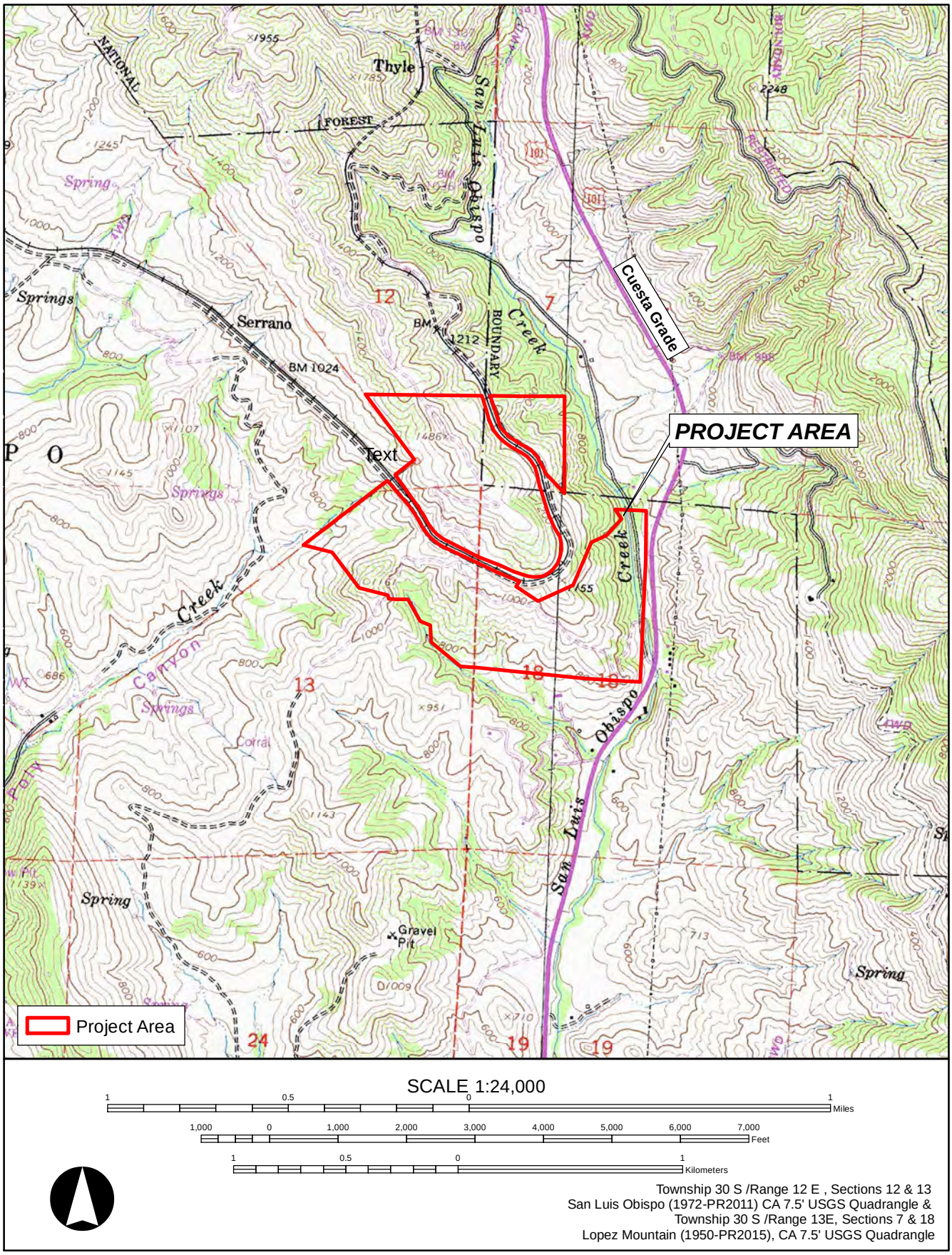

Figure 1-2 Project area on the USGS San Luis Obispo and Lopez Mountain 7.5-minute quadrangles.

Figure 1-3 Aerial view of the Project area.

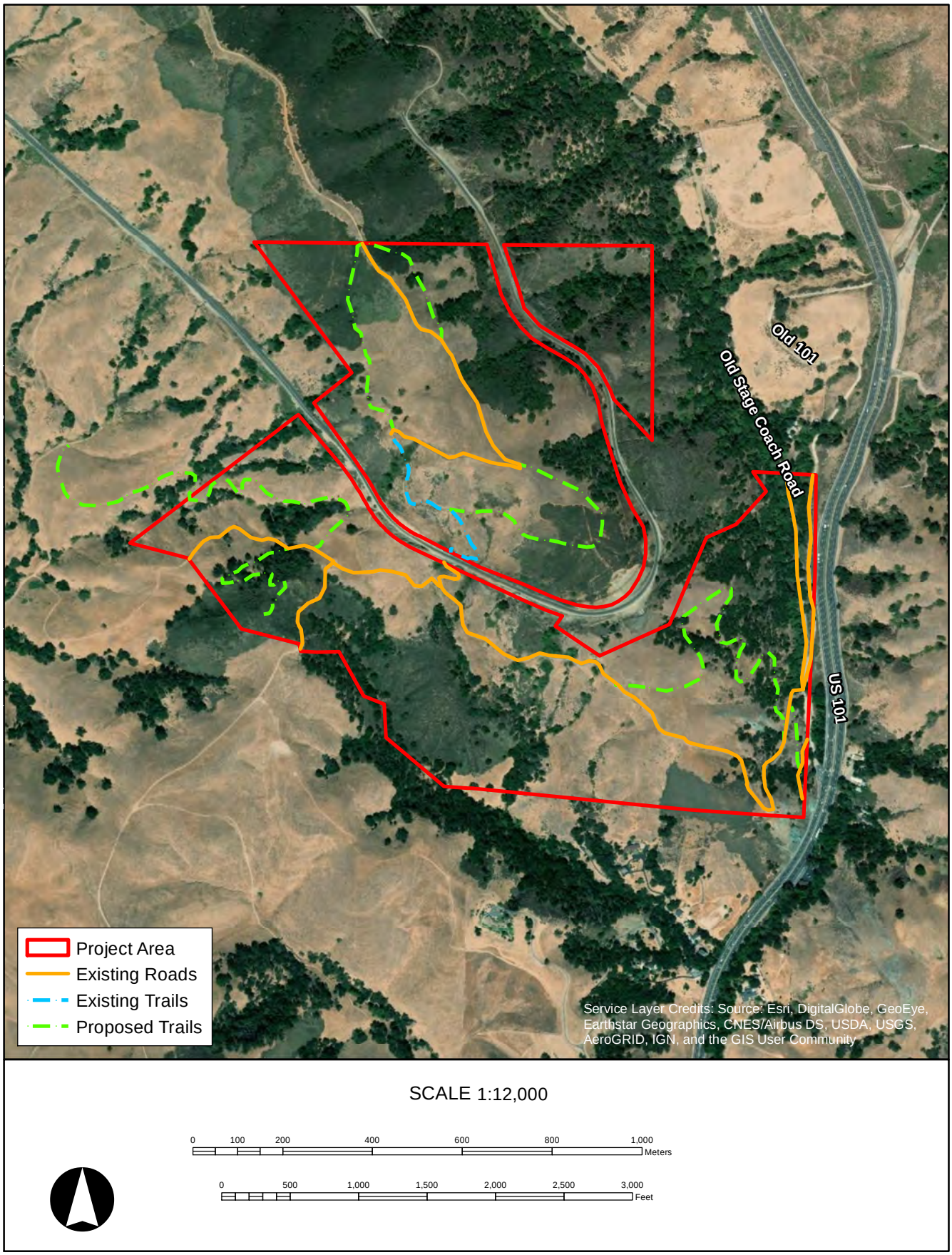

Figure 1-4 Project area with proposed and existing trails and roads.

field survey; Philip Clarkson co-authored this report. Æ Staff Archeologist Kelli Wathen (M.A.) communicated with Native American representatives and performed a records search of the Native American Heritage Commission's (NAHC) Sacred Lands Inventory.

1.3 REPORT ORGANIZATION

This report was prepared in accordance with *Archaeological Resource Management Reports: Recommended Contents and Format* published by the California Office of Historic Preservation (OHP 1990). This document consists of six chapters. Following this introduction, Chapter 2 describes the environmental and cultural setting of the Project area. Chapter 3 presents Æ's methods for the study, including background research and field investigations. Results of the research and archaeological investigations are discussed in Chapter 4, while Chapter 5 contains a summary and recommendations. A complete listing of references cited is provided in Chapter 6. Appendix A presents the results of the records search and Appendix B contains the documentation of communication with the Native American Heritage Commission and local tribal representatives. Appendix C contains the California Department of Parks and Recreation (DPR) documentation of the historical structure in the Project area.

2
ENVIRONMENTAL AND CULTURAL CONTEXT

2.1 NATURAL ENVIRONMENT

San Luis Obispo lies within a varied topographic area comprised of rugged hillside and coastal valleys. The area lies within the southern extent of the Coast Ranges geologic province, formed by pressure between the North American and Pacific tectonic plates that created a series of northwest-southeast trending ridges and valleys and raised the coastline. Local coastal terraces were formed through this tectonic uplift and periodic fluctuations in sea levels, while rivers and streams flowing from the mountains cut through these terraces, creating coastal valleys (Pletka and Pletka 2004). The Project area is at the base of Cuesta Grade, which is a part of a volcanic intrusive complex reaching from south of San Luis Obispo out to the Pacific Ocean.

San Luis Obispo's local Mediterranean climate is typically warm and dry in the summer, and cool and wet in the winter. Most of the county's rivers, creeks, and streams remain dry during the summer months. Temperatures near the coast are generally moderated by the proximity of the Pacific Ocean. Average annual temperatures in San Luis Obispo range from 47 to 71 degrees Fahrenheit, August is the warmest month and December is the coldest. Precipitation occurs primarily as winter rain between November and March, and the wettest month is usually February. Mean annual precipitation in San Luis Obispo is 19.02 inches (U.S. Climate Data 2019).

Natural habitats and vegetation communities of San Luis Obispo County include valley live oak, coast live oak woodland, mixed chaparral communities and central coastal scrub in the interior mountains and valleys. Coastal prairies, dunes, oak woodlands and intertidal zone border the Pacific Ocean. Localized habitats include willow, bay laurel, sycamore and mixed riparian vegetation along waterways. Native bunchgrass, and nonnative grasslands and agricultural areas are dominant throughout the County (Kuchler 1988).

2.2 PREHISTORY

Early attempts at regional cultural chronology by Rogers (1929) and Olson (1930) divided prehistory into three periods. However, extensive archaeological studies since then and development of more precise dating methods have allowed many refinements to the San Luis Obispo cultural sequences. Currently, the most common chronological system—based on work by Erlandson and Colten (1991), Jones and Ferneau (2002), Jones et al. (2007), King (1990), and Jones et al. (2015)—divides Central Coast prehistory into six periods (Table 2-1).

Table 2-1
Regional Chronology of the Central Coast

Period	Years B.C./A.D.	Calibrated Years B.P.
Paleo-Indian	pre-8000 B.C.	pre-10,000
Early Archaic	8000–3500 B.C.	10,000–5500 B.P.
Early	3500–600 B.C.	5500–2600 B.P.
Middle	600 B.C.–A.D. 1000	2600–950 B.P.
Middle-Late Transition	A.D. 1000–1250	950–700 B.P.

Table 2-1 (continued)
Regional Chronology of the Central Coast

Period	Years B.C./A.D.	Calibrated Years B.P.
Late	A.D. 1250–1769	700 B.P.–Historic

2.2.1 Paleo-Indian Period (Pre-10,000 cal B.P.)

The Paleo-Indian Period represents the earliest human occupations in the region, which began prior to 10,000 years ago. Paleo-Indian sites throughout North America are known by the representative fluted projectile points, crescents, and large bifaces used as tools as well as flake cores and a distinctive assemblage of small flake tools. Only three fluted points have been reported from Santa Barbara and San Luis Obispo counties, and all are isolated occurrences unassociated with larger assemblages of tools or debris (Erlandson et al. 1987; Gibson 1996; Mills et al. 2005). More evidence of Paleo-Indian sites on the mainland is slowly being discovered, however, and recent work on Vandenberg Air Force Base (AFB) uncovered a late Paleo-Indian site (CA-SBA-1547) with a robust artifact assemblage (Lebow et al. 2015). Data recovery work at this location has documented a dense single-component shell midden dating to approximately 10,725 calibrated years before present (cal B.P). Data from this site, also known as the Sudden Flats Site, point to an early culture that utilized a unique tool assemblage exhibiting traits derived from Alaska/Beringia (Lebow et al. 2015).

Interestingly, early sites on San Miguel and Santa Rosa islands have yielded numerous radiocarbon dates of older Paleo-Indian age than the Sudden Flats Site. Additionally, these sites do not contain fluted points or other notable artifacts typically associated with Paleo-Indian adaptations (Agenbroad et al. 2005; Erlandson et al. 1996). Nonetheless, both offshore and mainland sites provide clear evidence of watercraft use by California's earliest colonizers, and also offer tantalizing evidence of pre-Clovis occupations. Overall, inhabitants of the Central Coast during the Paleo-Indian Period are thought to have lived in small groups with a relatively egalitarian social organization and a forager-type land-use strategy (Erlandson 1994; Glassow 1996; Greenwood 1972; Moratto 1984).

2.2.2 Early Archaic Period (10,000–5500 cal B.P.)

Additional evidence of human occupation has been found at sites dating to the Early Archaic. A growing number of Early Archaic, components have been identified, most located in coastal or pericoastal settings. Two such components, at CA-SLO-2 (Diablo Canyon) and CA-SLO-1797 (the Cross Creek Site), are radiocarbon dated between 10,300 and 8500 cal B.P., providing the earliest evidence for the widespread California Milling Stone adaptive pattern (Greenwood 1972; Jones et al. 2008). The most common artifacts in these assemblages are the eponymous milling slabs and handstones used to grind hard seeds and process other foodstuffs. Choppers, core tools, and large bifaces also are common, while side-notched dart points, pitted stones, simple bone awls, bipointed bone gorges, and possible eccentric crescents occur in lesser frequencies. Population density likely remained low, although settlements may have been semipermanent. Subsistence activities appeared to be aimed broadly at a diverse spectrum of terrestrial and marine resources.

During this time, people appear to have subsisted largely on plants, shellfish, and some vertebrate species using a seemingly simple and limited tool technology. Sites of this age are notable for the prevalence of handstones and milling slabs and less abundant flaked tools and projectile points (Jones et al. 2007). Archaeological components from central California show substantial regional variability. Differences in site location, artifact assemblages, and faunal remains suggest that populations were beginning to establish settlements tethered to the unique characteristics of the local environment and adopt subsistence practices responsive to local conditions. Obsidian from several of these components originated on the east side of the Sierra Nevada, suggesting that long-distance trade networks were also established during this era. Glassow (1990, 1996) infers that occupants of sites in the Vandenberg area during this time were sedentary and had begun using a collector-type (i.e., logistically mobile) land-use strategy; however, others have argued for a broader and less permanent subsistence base as overexploitation of coastal resources pushed human residents towards the interior (Jones and Richman 1995).

2.2.3 Early Period (5500–2600 cal B.P.)

An important adaptive transition occurred along the Central Coast around 5500 cal B.P. (Jones et al. 2007; Price et al. 2012). Technological changes marking the transition into the Early Period include an abundance of contracting-stemmed, Rossi square-stemmed, large side-notched, and other large projectile points (Jones et al. 2007:138). Mortars and pestles were introduced and gradually replaced manos and milling slabs as the primary plant processing tools, indicating expansion of the subsistence base to include acorns (Glassow and Wilcoxon 1988). Shell beads and obsidian materials indicate that trade between regions expanded (Jones et al. 1994). Site occupants appear more settled with more limited mobility, and they increasingly used sites for resource procurement activities such as hunting, fishing, and plant material processing (Jones et al. 1994:62; Jones and Waugh 1995:132). Farquhar et al. (2011:14) argue that cultural changes during this period are the result of population circumscription and economic intensification. Echoing Rogers (1929), Price et al. (2012:36–37) suggest such constraints might have been prompted by the arrival of new populations or adoption of new social norms in the region.

2.2.4 Middle Period (2600–950 cal B.P.)

The Middle Period is defined by continued specialization in resource exploitation and increased technological complexity. Contracting-stemmed points still existed, while square-stemmed and large side-notched variants disappeared (Rogers 1929). The use of mortars and pestles also increased. Additionally, expansion of trade is evident in the increased quantity of obsidian, beads, and sea otter bones (Farquhar et al. 2011:15). Circular shell fishhooks, which facilitated an increase in exploitation of fishes, appeared for the first time (Glassow and Wilcoxon 1988). The appearance of small leaf-shaped projectile points toward the end of the period is evidence for the arrival of bow and arrow technology (Jones et al. 2007:139).

2.2.5 Middle-Late Transition Period (950–700 cal B.P.)

The Middle-Late Transitional Period represents a rapid change in artifact assemblages as large numbers of arrow points appeared and most stemmed points disappeared (Jones et al. 2007:139). Hopper mortars also made their first entry in the archaeological record (Farquhar et al. 2011:16). At the same time, some evidence points to population decline and interregional trade collapse.

Obsidian is not found in sites dating to this period (Jones et al. 1994). Settlement shifted away from the coast and people relocated to more interior settings (Jones 1995:215). Marine resources appear to have been largely dropped from the diet, and instead people relied more on terrestrial resources such as small mammals and acorns (Farquhar et al. 2011:16). These changes may have been caused by an environmental shift that increased sea and air temperatures, resulting in decreased precipitation and overexploitation of resources (Arnold 1992; Graumlich 1993; Kennett et al. 1997; Pisias 1978; Stine 1990).

At the same time it appears that social complexity became more noticeable during the transition between the Middle and Late periods. It is during this time that craft specialization and social ranking developed (Arnold 1992). The *tomol* (plank canoe), which was utilized by the Chumash south of Point Conception where ocean conditions were more favorable, allowed for a greater reliance on marine resources, particularly fish, for food. However, these changes are again more noticeable south of Point Conception, and may have been due, in part, to environmental changes occurring at that time.

2.2.6 Late Period (700 cal B.P.–Historic)

Populations on the Central Coast expanded in the Late Period (Farquhar et al. 2011:17; Glassow 1996). More sites were occupied during this period than ever before (Jones et al. 2007:143). It appears that the inhabitants of the Central Coast used a range of subsistence strategies depending on the available local ecology. Some studies have found that Late Period residents did not increase maritime subsistence activities but instead continued to demonstrate a terrestrial focus with occasional forays to the coastal zone to procure marine products (Farquhar et al. 2011:17; Jones et al. 2007:140; Price 2005; Price et al. 1997:4.13–14.14). However, archaeological investigations at Late Period coastal sites along the Central Coast show evidence of intensification of marine resource use and overall expansion of the subsistence base (Codding et al. 2013; Enright 2010; Joslin 2010; Moratto et al. 2009). Analysis of assemblages from two Late Period sites on the San Simeon Reef (Joslin 2010) and excavations at Tom's Pond (CA-SLO-1366/H) on the Pecho Coast (Codding et al. 2013) demonstrate that some human populations responded to climate shifts and associated impacts to terrestrial faunal communities with an increased use of the marine subsistence base. This same trend is visible to the south, along the Vandenberg AFB coast where analysis of faunal assemblages from CA-SBA-694 and -695 found that Late Period inhabitants used coastal sites as camps for exploitation of marine resources, especially shellfish and fish (Enright 2010; Moratto et al. 2009).

Artifact assemblages from the Late Period within San Luis Obispo County contain an abundance of arrow points, small bead drills, bedrock mortars, hopper mortars, and a variety of bead types (Price 2005). More shell and stone beads appeared in the Late Period and became a more standardized and common form of exchange (Jones et al. 2007:140, 145). The use of handstones and milling slabs continued during this period, but pestles and mortars occurred in greater proportions (Jones and Waugh 1995:121). There are few records of Spanish encounters with the Chumash north of Point Conception (Glassow 1990). However, in San Luis Obispo County it appears that the absence of the *tomol* and a lower population density contributed to a different social and political organization than their neighbors to the south. Moreover, the absence of imported obsidian after 900 cal B.P. suggests a change in trade relationships that is likely associated with the shift in settlement patterns (Jones et al. 1994).

2.3 ETHNOGRAPHY

The Project lies within the ethnographic territory of the Chumash, one of the most populous and socially complex Native American groups in California. Chumash is a name derived from traditional Barbareño Chumash language that is used by anthropologists to refer to several closely related groups of Native Americans that spoke seven similar languages (Milliken 2010). The Chumash people lived between Malibu in Los Angeles County and the Monterey County line, on the northern Channel Islands, and east as far as the edge of Kern County.

Ethnographically, the Chumash people lived in large villages along the Santa Barbara Channel coast, with less dense populations in the interior regions, on the Channel Islands, and in coastal areas north of Point Conception. Population density was unusually high for a nonagricultural group; some villages may have had as many as 1,000 people (Keeley 1988). Subsistence was focused on fishing, hunting, and gathering native plants, particularly acorns, although many animals and dozens of plants were used for food. Chumash people engaged in craft and occupational specialization, and they maintained regional trade and religious systems that tied many villages together. Leadership was hereditary, and some chiefs had influence over several villages, indicating a simple chiefdom level of social organization (Arnold 1992; Johnson 1988).

The Chumash were hunter-gatherer-fishers who relied on a variety of resources for subsistence and raw materials. There was considerable seasonal and regional variability in land use, settlement, and subsistence practices across Chumash territory—people who lived near the coast focused animal procurement activities on the marine environment, while those north of Point Conception and in the interior regions were more terrestrially focused and are thought to have had lower population densities and greater seasonal mobility than coastal groups (Landberg 1965). Trade or acquisition of various resources through expeditions was a regular occurrence, and animal remains and lithic raw materials are often found in archaeological sites at some distance from their sources.

The Project lies specifically within the ethnohistoric territory of the Northern (Obispeño) Chumash (Milliken 2010). Disagreements exist regarding the boundaries of this geographic and linguistic subarea; however, most researchers believe Northern Chumash territory extended from the Santa Maria Valley in the south to Cayucos in the north and east to the Carrizo Plain (Greenwood 1978; Jones et al. 2012; Lichtenstein et al. 2014). Various lines of historical and archaeological evidence indicate that the general population density in the northern Chumash region was far less at the time of European contact than in earlier prehistoric times, and the Chumash population at Mission San Luis Obispo de Tolosa was never as high as at the more southerly missions at Santa Barbara, Lompoc, and Santa Ynez (Greenwood 1978). The Native American population at Mission San Luis Obispo reached its peak of 919 in 1803, as most of the Northern Chumash left their native villages and moved into the mission or its outposts. By the time of secularization in 1834, missionization, disease, and destruction of the native subsistence base had forced the Chumash to give up most of their traditional lifeways. Only 170 Chumash remained at the mission in 1838.

2.4 HISTORY OF SAN LUIS OBISPO

2.4.1 San Luis Obispo County

The first Europeans the Chumash encountered were Spanish explorers in the sixteenth century. In 1587, Pedro de Unamuno landed his ship in Morro Bay and explored inland to San Luis Obispo. The Gaspar de Portolá expedition likely passed through Oceano in 1769, and Juan Bautista de Anza followed practically the same route as Portolá in 1774 and 1776 (Hoover et al. 1990:359).

Mission San Luis Obispo de Tolosa was founded in 1772 by Padre Junipero Serra. This site was selected for its level lands and "two little arroyos which contained water with sufficient lands that with little trouble . . . could be irrigated from them" (Palóu 1926). Father Joseph Caveller quickly constructed a small wooden chapel that also served as a shelter. In 1774, a more permanent church with adobe foundations and a superstructure of shaved limbs and tules was erected. In 1776, Northern Chumash damaged the mission buildings by shooting burning arrows into the roofs thatched with tule (Hoover et al. 1990:360). An adobe church replaced the original chapel in 1794. The native population declined rapidly. In 1803 there was a peak of 919 Native Americans residing at the mission, but by 1838 the population had declined to 170. According to the Roll of 1928 compiled by the Bureau of Indian Affairs, only four Native Americans living at the time claimed to be survivors of San Luis Obispo Mission Indians (Greenwood 1978:521).

California became a Mexican territory in 1822. Unlike their Spanish predecessors, the Mexican authorities opened California to foreign trade and immigration. The beneficiaries of this policy were predominantly the missions, which could legally expand their hide and tallow trade to foreign merchants (Hackel 1998). The Colonization Act of 1824 and the Supplemental Regulations of 1828 afforded private individuals—both Mexican nationals and immigrants—the right to obtain title to land, although at that time mission lands were not available. Such immigrant-friendly laws directly contributed to the migration and eventual permanent presence of Anglo-Americans in California. The Secularization Act of 1833 officially ended the church's monopoly on prime California lands and redistributed the mission estates to private individuals in the form of land grants. During the early and mid-1840s, the former mission lands of the county were carved up into large ranchos, each totaling several thousand acres (Krieger 1988:41–43). Some of the recipients of these Mexican land grants were Yankee sea captains, including William Dana and John Wilson, who had established themselves in the San Luis Obispo area in the previous decades.

After the mission was secularized in 1835, mission lands were divided into land grants and influential families were given the largest grants (Morrison and Haydon 1917:35). The Bear Flag Revolt, which occurred in 1846, resulted in California's independence from Mexico and control of the territory soon fell into the hands of the United States (Krieger 1988). Rancho owners soon discovered the need to defend their title in U.S. courts, a process that would last over a decade for some petitioners, pushing many into financial hardship.

When California achieved statehood in 1850, immigrants were mainly interested in the riches to be found in the gold fields of the Sierra Nevada. Newcomers were able to find some semblance of the culture they left behind in the northern part of the state and the San Francisco Bay area, but Southern California was seen as a wild, untamed country full of lawlessness. As a result, the

population of newly formed San Luis Obispo County grew slowly. The 1850 census listed 336 residents, but ethnicity was not recorded. However, over 230 were born in California, suggesting Native American and/or Mexican heritage. Of the remainder, 55 were born in Mexico, 20 were born in America, and 26 were European immigrants. The population of San Luis Obispo County would remain relatively unchanged throughout the 1850s when Henry Miller observed 150 houses in the area inhabited primarily by Native Americans and Mexicans (Miller 1985).

As with many regions, commercial and urban growth in San Luis Obispo County was intimately intertwined with the development of the transportation network. The earliest route between San Luis Obispo and the northern part of the county was the El Camino Real, which traversed the Cuesta Pass and began as a horse and foot path built by Spanish explorers and missionaries in the late eighteenth century (Caltrans 1995:4, Appendix 1). The discovery of Cuesta Pass was pivotal to the growth of the area as a historically significant transportation corridor (Caltrans 1995: Appendix 1). El Camino Real connected the California missions and was later widened to accommodate wheeled vehicles and increased traffic. This route became known as the Padre Road and in the 1860s and 1870s was used as the main route for the Overland Mail Company (Caltrans 1995:4). The Overland Mail Company began using the Padre Road in 1861, connecting San Diego to Monterey and improving communication, transportation, and the economics of the area (Caltrans 1995: Appendix 1, Appendix 4).

In 1876, the County began constructing County Road Number One, also known as Old Stagecoach Road. It remained in service until 1915 when the California Highway Commission approve the construction of State Route 2, or the Coast Highway (Caltrans 1995:4). State Route 2 was made from Portland cement concrete and the route paralleled Old Stagecoach Road and portions of Padre Road (Caltrans 1995: Appendix 1). The route was used until construction of the modern Coast Highway, US 101, in 1937 (Caltrans 1995:4, Appendix 4). US 101 eliminated the dangerous curves of the previous highways and improved the grade in the steepest areas. It is believed that Padre Road was used as an access road during construction of US 101 (Caltrans 1995: Appendix 1). Each subsequent highway alignment destroyed much of the historic fabric of the previous highways, either by building on top of them, or using materials for the next highway. Each highway employed the newest advances in technology and road building.

Despite the brisk pace of business, a large part of the Central Coast was still relatively isolated from the rest of the state in the early 1890s. Travel between San Luis Obispo and Los Olivos was made easy and affordable by the Pacific Coast Railroad Company (PCRC); however, before 1894, reaching destinations outside the region meant riding the stagecoach to Templeton or Santa Barbara to get to the Southern Pacific Railroad or, alternatively, taking a steamer out of Port Harford in Avila Beach, bound for San Francisco or one of the other ports of call along the California coast (Best 1992:42; Tognazzini 1991).

Much of that changed when the Southern Pacific Railroad rolled into San Luis Obispo in 1894. The Oregon Improvement Company, which was reorganized as the Pacific Coast Company in 1897, now faced competition from the unquestioned leader of the rail industry. By 1901, when the Southern Pacific reached Santa Barbara, thereby establishing a continuous line between San Francisco and Los Angeles, passenger traffic out of Port Harford all but evaporated (Best 1992:51). In terms of freight business and intraregional passenger travel, however, the Southern

Pacific and the PCRC not only coexisted for many years but formed an amicable relationship. The two railroads coordinated their time tables to facilitate interrail transfers, and a spur line was built along South Street between the PCRC depot and the Southern Pacific depot between Marsh and Higuera streets on Johnson Avenue. The PCRC enjoyed some of its best freight years during the latter part of the 1890s (Tognazzini 1996, 1999).

With the advent of the automobile age and the construction of US 101 through town, San Luis Obispo became a favorite overnight stop for motorists traveling between the San Francisco Bay area and southern California. Motels and car-related businesses (e.g., gas stations, repair shops) sprang up at the southwest and northeast ends of the town.

The city's population swelled to 8,500 people in 1926, and in the following year the National Guard founded Camp Merriam on 2,000 acres on the northern outskirts of town. This became a U.S. Army infantry and artillery training camp known as Camp San Luis between 1940 and 1941. Perhaps the most visible growth occurred toward the end of World War II, when military installations established in response to the war artificially inflated the local economy. By 1944 the population had reached 16,000 people. Many of those were soldiers who returned permanently to San Luis Obispo after the war (Krieger 1988:102–104), and the city's growing population pushed out beyond the borders of town.

2.4.2 The Miossi Family

In addition to being a transportation corridor, Cuesta Canyon was used primarily for grazing and farming. Bernardo Miossi immigrated to California in 1866 from Canton Ticino, Switzerland. He arrived in San Francisco, unable to speak English and took any job he could get before purchasing some cows and starting a milk route (Morrison and Haydon 1917:973). In 1883 Miossi married Eliza Martella, also of Canton Ticino and moved to San Luis Obispo County where they purchased 1,000 acres in the Arroyo Grande area. They subsequently purchased 1,300 acres from John M. Price in Price Canyon in 1891 and 1,200 acres of the Pacheco Ranch in Los Osos, adjacent to Spooner Ranch in Montaña de Oro (Morrison and Haydon 1917:973–4). In 1917, the Miossi family purchased La Cuesta Ranch from Frank Tate and used the land to extend their dairy cattle operation. La Cuesta Ranch occupied land at the base of Cuesta Grade, continuing north and west of the Cuesta Grade, where the Project area currently lies. Bernardo and Eliza had two sons, Harold and Bernie. Harold took over the ranching operation from his father and continued running the ranch until 1960 when he was appointed as the California Probate Referee for the County (Harold J. Miossi Charitable Trust 2019).

3
METHODS

3.1 RECORDS SEARCH

On August 23, 2019, Æ conducted a records search for the Project at the Central Coast Information Center (CCIC) of the California Historical Resources Information System (CHRIS), housed at the University of California, Santa Barbara. Through examination of maps, site records, and archaeological reports, the records search identified previous archaeological surveys, previously recorded cultural resources, and data recovery projects within 0.25-mile of the Project (Appendix A). Additionally, Æ staff reviewed the State Historic Property Data Files, National Register of Historic Places, National Register of Determined Eligible Properties, California Points of Historic Interest, California Office of Historic Preservation Archaeological Determinations of Eligibility, and Æ's in-house files.

3.2 NATIVE AMERICAN COMMUNICATION

Æ contacted the California Native American Heritage Commission (NAHC) on August 22, 2019 to determine whether any sites recorded in the NAHC's Sacred Lands File occurred in or near the Project area. On September 5, 2019 the NAHC supplied a list of local Native American individuals and/or groups with interests and knowledge about the area (Appendix B). Those included on the list were contacted by letter and telephone to request comments or information about the Project area (see Section 4.3).

3.3 ARCHAEOLOGICAL RESOURCES INSPECTION

Æ Staff Archaeologists Philip Clarkson and Neil Rhodes completed a pedestrian survey of the Project area September 9 to 11, 2019. Due to the rugged terrain and safety concerns posed by steep slopes, a targeted survey strategy was used that focused on roads, proposed trails, flat areas, rock outcrops, ridgelines, and areas close to water (Figure 3-1). Special attention was given to rodent burrows and areas with disturbed soils. Dense chaparral or slopes greater than 45 degrees where not surveyed. Clarkson and Rhodes used a Trimble Global Positioning System (GPS) unit with submeter accuracy to plot cultural resources. Photographs were taken with a digital camera.

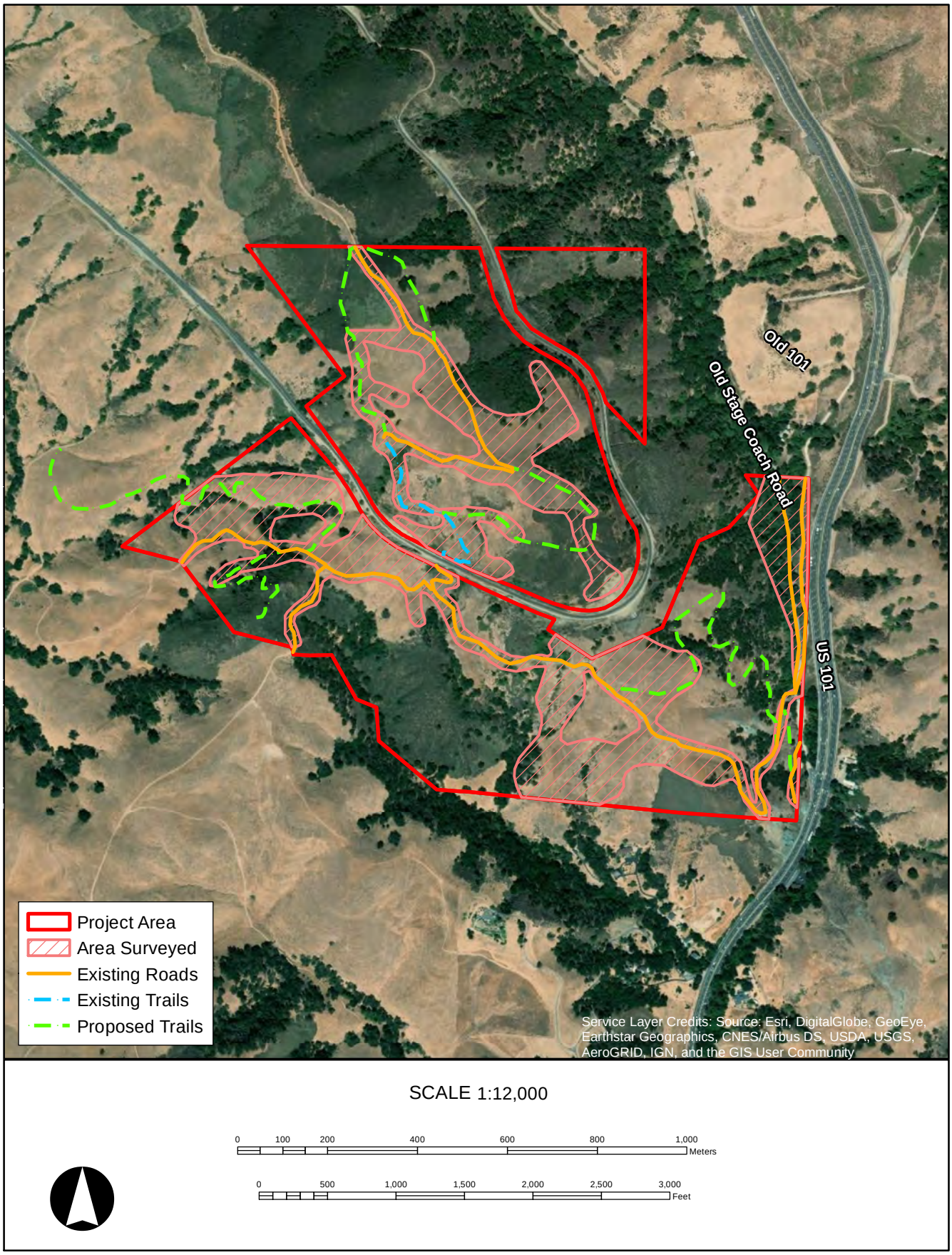

Figure 3-1 Survey coverage area.

4
FINDINGS

4.1 PREVIOUS CULTURAL RESOURCE STUDIES

The CCIC records search identified 8 previous cultural resource investigations within the 0.25-mile search radius (Appendix A). Four cultural resource investigations have occurred within portions of the Project area (Table 4-1).

Table 4-1
Previous Cultural Resource Studies within 0.25 mile of the Project Area

Report No.	Date	Author	Title	Location
SL-00438	1984	Haversat, T., G. Breschini	*Preliminary Archaeological Reconnaissance of Twenty-Nine Proposed Early Warning Siren Locations, San Luis Obispo County, California.*	Outside Project area.
SL-02023	1991	Gibson, R.	*Results of Phase One Archaeological Surface Survey for the Pacific Bell Fiber Optics Cable Project between Santa Margarita and San Luis Obispo, CA*	Bisects southern portion of Project area.
SL-02631	1994	Ronami, J.	*Archaeological Survey Report for the Proposed Route 101/Cuesta Grade Improvement Project*	Outside Project area.
SL-03701	1995	Caltrans	*Historic Property Survey Report for the Route 101 Cuesta grade Improvement Project from 1.1 miles North of Reservoir Canyon Road to Cuesta Grade Overhead in San Luis Obispo County, California.*	Bisects eastern portion of the Project area.
SL-03834	1995	Gibson, R.	*Phase One Archaeological Surface Survey for the UNOCAL Pipeline Replacement Project along Cuesta Ridge and Highway 101, South of Santa Margarita, San Luis Obispo, CA*	Bisects eastern portion of the Project area.
SL-03934	1999	McGowan, D.	*Cultural Resources Inventory Report for Williams Communication, Inc. Fiber Optic Cable Instillation Project, San Luis Obispo to Bakersfield Volume I*	Outside Project area.
SL-03934A	1999	—	*Appendix A. Cultural Resource Monitoring Plan*	Outside Project area.
SL-03934B	1999	—	*Appendix B. Native American Contacts; Appendix C Cultural Resource Site Record Forms (removed)*	Outside Project area.
SL-04884	1999	Mason, R.	*Cultural Resources Survey and Paleontologic Resources Literature Review Report for Level 3 Long Haul Fiber Optic Project: Cuesta Grade Workaround Northeast of San Luis Obispo, San Luis Obispo, California*	Bisects eastern portion of Project area.
SL-06460	2009	Linder, M., M. Linder, B. Price	*Cultural Resources Survey for the Atascadero-San Luis Obispo 70kV Power Line Maintenance and Upgrade Project, San Luis Obispo County, California*	Outside Project area.

Several of these previous studies (Gibson 1991, 1995; Mason 199; Caltrans 1995) covered portions of the Project area. Robert Gibson (1991) surveyed a 5-mile corridor adjacent to US 101

for a fiber-optic cable installation project and identified two archaeological sites and three historic isolates. A portion of Gibson's survey area bisects the most south eastern portion of the Project area on steep terrain just west of US 101; however, none of the recorded resources are within the Project area. Additionally, in 1995 Gibson surveyed a 6-mile segment of UNOCAL pipeline and identified four historic isolates. A portion of this survey entered the Project area following Stage Coach Road. None of the recorded isolates are in the Project area. Roger Mason (1999) surveyed a 6.5-mile section for a fiber-optic cable installation project adjacent to US 101 and did not identify any cultural resources. Mason's survey covered Stage Coach Road and most of eastern portion of the Project area.

Caltrans' (1995) survey for the Cuesta Grade Improvement project evaluated 1 prehistoric site, 3 historic transportation routes, and 13 structures. The survey area transected the eastern portion of the Project area covering a small portion of San Luis Creek and the steep terrain adjacent to US 101. Caltrans (1995) evaluated the eligibility of Padre Road and Old Stage Coach Road and found them ineligible for the NRHR.

The remaining studies were conducted within a 0.25 mile of the Project area. Haversat and Breschini (1984) completed a survey for 29 early warning sirens, one of which, is south of the Project area. John Romani (1994) surveyed a section adjacent to US 101 for a Caltrans US 101 improvement project and recorded a historic debris site northeast of the Project area. Dana McGowan (1999) conducted a survey for fiber-optic cable installation project and recorded four resources east of the Project area. Report numbers SL-03934A and SL-03934B are appendixes to McGowan's report. Applied EarthWorks (Linder et al. 2009) conducted a 15.5-mile survey for a transmission line preplacement project along US 101 and identified six previously unknown cultural resources. The resources included two historical sites, three historical features, and one prehistoric isolate outside of the Project area.

4.2 PREVIOUSLY RECORDED RESOURCES

Record search results found no previously recorded archaeological resources recorded within the Project area; however, three archaeological resources are within 0.25-mile of the Project area (Table 4-2).

Table 4-2
Previously Recorded Resources within 0.25 mile of Project Area

Primary No.	Type	Age	Recorded By	Description
P-40-001538	Site	Historic	1992 John Romani	Historic Habitation Materials
P-40-041212	Linear Feature	Historic	2008 Marc Linder	Power Poles
P-40-041214	Structure	Historic	2009	Public Utility Building

4.3 NATIVE AMERICAN COMMUNICATION

The NAHC responded to Æ's information request on September 5, 2019 noting that its search of the Sacred Lands File indicated the presence of Native American traditional sites/places in the immediate Project area. The NAHC provided a contact list of local Native American individuals

and groups and suggested Æ request more information from these contacts. Æ sent a notification letter on September 6, 2019 to individuals on the NAHC list informing them of the nature and intent of the Project and soliciting comments or concerns. Follow-up phone calls were conducted on September 19, 2019. Table 4-3 identifies each individual or group on the list that was contacted and provides the responses to the request for information.

Table 4-3
Native American Communication Results

Name	Tribe/Group	Comments
Patrick Tumamait	Barbareno/Ventureno Band of Mission Indians	Phone conversation 9/11/2019. He has no concerns.
Elenor Arrellanes	Barbareno/Ventureno Band of Mission Indians	Phone conversation on 9/19/2019. Defers to Mona Tucker.
Julie Tumamait-Stenslie	Barbareno/Ventureno Band of Mission Indians	Left voicemail on 9/19/2019.
Raudel Banuelos	Barbareno/Ventureno Band of Mission Indians	Left voicemail on 9/19/2019.
Julio Quair	Chumash Council of Bakersfield	Left voicemail on 9/19/2019.
Gino Altamirano	Coastal Band of the Chumash Nation	No phone number provided. Email sent 9/19/2019.
Fred Collins	Northern Chumash Tribal Council	Left voicemail on 9/19/2019.
Fredrick Segobia	Salinan Tribe of Monterey, San Luis Obispo Counties	Phone conversation 9/18/2019. Requested a site visit prior to the start of the project.
Mark Vigil	San Luis Obispo County Chumash Council	Left voicemail on 9/19/2019.
Kenneth Kahn	Santa Ynez Band of Chumash Indians	Left voicemail on 9/19/2019.
Donna Haro	Xolon-Salinan Tribe	Left voicemail on 9/19/2019.
Karen White	Xolon-Salinan Tribe	Conversation on 9/19/2019. Email on 9/25/19 stated she had no concerns about the project.
Mona Tucker	*yak tityu tityu yak tilhini* Chumash Tribe	Conversation on 9/19/2019. Requested that project staff receive cultural sensitivity training to look for resources.

Æ's Native American communication efforts resulted in two requests made by local tribal representatives. Frederick Segobia of the Salinan Tribe of Monterey and San Luis Obispo Counties requested a site visit prior to the start of any Project activities. Mona Tucker of the *yak tityu tityu yak tilhini* Chumash Tribe requested that any Project staff working on site receive cultural resource sensitivity training to train staff on how identify cultural resources. Karen White of the Xolon-Salinan Tribe will contact Æ once she has had a chance to review the Project. The remaining representatives did not respond to Æ's communication efforts.

4.4 ARCHAEOLOGICAL INSPECTION

Æ Staff Archaeologists Philip Clarkson and Neil Rhodes conducted a pedestrian survey of the 266-acre Project area September 9 to 11, 2019. The Project area spans from the base of Cuesta Grade to the north and west, and encompasses coastal valley grasslands, live oak groves, riparian zones, and chaparral communities. Visibility throughout the Project area was poor to fair due to

high grasses and dense chaparral; however, rock outcroppings and live oak groves provided higher visibility. Due to the rugged terrain and safety concerns posed by steep slopes, a targeted survey strategy was used that focused on roads, proposed trails, flat areas, rock outcrops, ridgelines, and areas close to water (see Figure 3-1).

While Æ targeted landforms appropriate for prehistoric sites, no prehistoric cultural materials were encountered during this study. However, Æ's field crew observed several potentially historic resources and features such as power poles, old roads, cattle trough, culvert, and a dam (Figure 4-1). The power poles, old roads, cattle trough, and culvert are noted below but not recorded as these resources lack clear temporal associations and it unknown if they are historic or modern. Only the historic dam was recorded on California of Department of Parks and Recreation (DPR) forms as it is clearly historic and part of the City's historic water infrastructure system (see Section 4.4.2; Appendix C).

4.4.1 Noted Resources

Æ noted an abandoned powerline that follows the railroad right of way and occasionally crosses into the Project area. The 9-inch diameter poles support double cross beams with 20-line capacity (Figure 4-2). Most of the poles have glass insulators, one pole has porcelain insulators. The power lines are no longer in use (Robert Hill pers. comm. 2019, City of San Luis Obispo).

During fieldwork Æ also encountered a cattle water trough that is no longer in use. It is a circular metal repurposed container with "REUSABLE CONTAINER DO NOT DESTROY" stenciled on one side in yellow paint (Figure 4-3). Additionally, a large culvert that crosses under the railroad tracks was observed (Figure 4-4). The Miossi family used the culvert to allow cattle to access the northern area of the property without crossing over the railroad tracks (Robert Hill pers. comm. 2019, City of San Luis Obispo). There is an associated concrete pad and fence line with two railroad ties and two railroad rails as posts on the western side of the railroad tracks.

Finally, the Project area includes segments of Old Stage Coach Road and the 1915 alignment of US 101, also called Old 101. These roads were evaluated by Caltrans (1995) and were found ineligible for the NRHP. According to Caltrans (1995), Padre Road was paved over to create Old Stage Coach Road, approximately 0.36 miles is within the eastern portion of the Project area. The segment within the Project area, will be used for Project parking, is concrete and used for access to residences outside the Project area. Old Stage Coach Road continues north up Cuesta Canyon ending at Cuesta Ridge. Approximately 0.28 miles of Old 101 is within the eastern portion of the Project area. The road is packed dirt and is also used for residential access before continuing up the canyon and crossing over US 101 midway up the Cuesta Grade. This road will not be used for the Project.

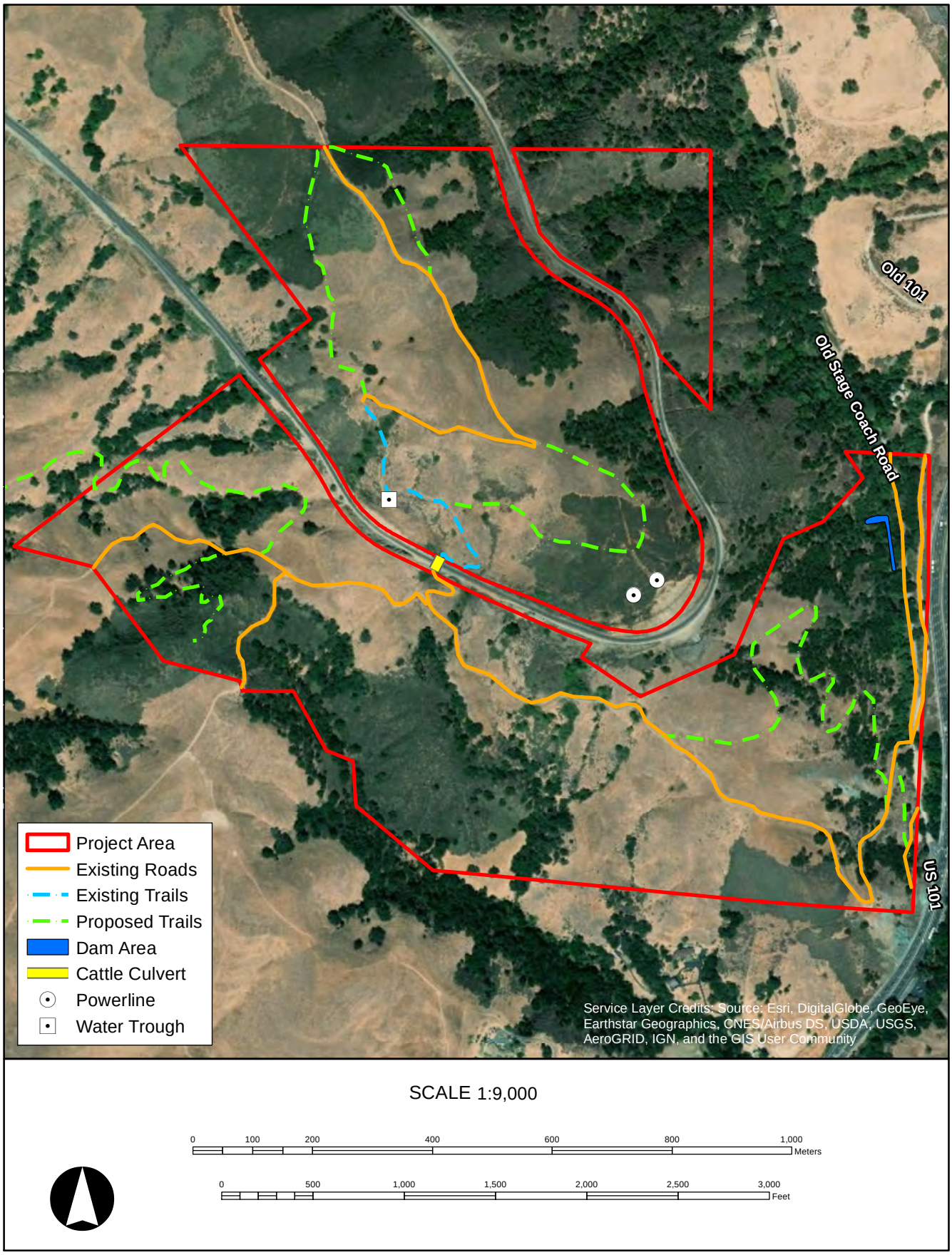

Figure 4-1 Potential historic resources identified within the Project area.

Figure 4-2 Power pole, facing west.

Figure 4-3 Cattle trough, facing east.

Figure 4-4 Culvert undercrossing, facing east.

AE-4087-01H

AE-4087-01H is a historic dam and associated infrastructure across San Luis Creek that was part of the initial water system supplying water to the City (Appendix C). A dam removal project in conjunction with a salmonid restoration project resulted in the demolition of a 10-foot section of the dam to allow salmon to pass. Southeast of the dam is a concrete two-sectioned settling pond with a wooden cover. A 10-inch diameter steel pipe with lead solder extends out of the settling pond with a wooden support structure before going underground. A shutoff valve is south of the settling pond placed directly before the pipe goes underground (Figures 4-5 through 4-8).

Figure 4-5 AE-4087-01H dam and associated infrastructure within the Project area.

Figure 4-6 AE-4087-01H, Western segment of dam, facing east.

Figure 4-7 AE-4087-01H, concrete settling pond, facing south.

Figure 4-8 AE-4087-01H, steel pipeline, facing south.

5
SUMMARY AND RECOMMENDATIONS

5.1 RESULTS

Æ completed a Phase 1 cultural resource study in support of the proposed Miossi Open Space to be opened to the public for recreational use (Project). The property has a network of existing dirt roads and trails, and the City is proposing additional hand-cut trails for hiking. The Project area includes 266 acres made up of APNs 070-271-033, 070-271-034, 073-341-040, and 073-341-041. The Project area is on the west side of the Cuesta Grade, beginning at Old Stage Coach Road at the foot of Cuesta Grade, and running west towards lands owned by Cal Poly and the Miossi family. The Project is in the City's greenbelt and is owned by the City but is outside City limits. Southern Pacific Railway tracks bisect the Project area; the railroad and the right of way are not part of the Project.

Æ's study included a records search of the CCIC and Sacred Lands File of the NACH, outreach to local Native American tribal representatives, and a pedestrian surface survey. Tribal representatives requested a site visit and cultural sensitivity training for staff prior to the start of construction. Background research found four previous studies have covered portions of the Project area, but no previously recorded sites are mapped within the Project area. However, three previously recorded resources, P-40-001538, -041212 and -041214, have been recorded within the 0.25-mile search radius of the Project area.

Æ's pedestrian survey encountered several possibly historic-era miscellaneous features and recorded a historic dam feature (AE-4081-01H). The miscellaneous resources include a powerline that follows the railroad right of way and occasionally crosses into the Project area and a cattle water trough that is no longer in use. Additionally, there is a large culvert under the railroad tracks that the Miossi family used to allow cattle to access to the north portion of the property. AE-4087-01H is a historic dam and associated infrastructure over San Luis Creek that was part of the initial water system supplying water to the City. AE-4087-01H was formally recorded but not evaluated at this time (Appendix C).

5.2 RECOMMENDATIONS

Æ's study did not identify any prehistoric archaeological sites or features; no additional archaeological fieldwork is recommended. However, Æ recommends an evaluation of the dam and associated infrastructure (AE-4087-01H) to determine if this resource is eligible for the CRHR. Currently this resource will not be affected by the Project; however, due to the potential for this resource to be significant under CEQA, the City may need to assess the level any impacts on this resource in the future.

Along with the dam, several potentially historic isolated resources were noted (i.e. power poles, old road segments, a cattle trough) in the Project area. These miscellaneous features and AE-4087-01H have the potential of being vandalized by the public when the trails open. The power poles contain glass insulators both within the Project area and directly adjacent to the Project area. Glass insulators are considered collector items and there is high potential that

individuals will take them. Additionally, AE-4087-01H (dam on San Luis Creek) is directly west of Stage Coach Road and can be viewed from the road. The fence along the creek has been cut and unauthorized trails lead directly to the dam and associated infrastructure. Therefore, Æ recommends that during the planning phase of the Project the City take into consideration ways to protect these resources from vandalism and theft.

5.2.1 Inadvertent Discoveries

Due to the lack of ground visibility, there is potential for encountering prehistoric or historic-period materials not identified during the current study. Prehistoric materials may include chert flaked stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing fire-altered rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones). Historic-period materials might include stone, concrete, wood or adobe building foundations, corrals, and walls; filled wells or privies; mining features; and deposits of metal, glass, and/or ceramic refuse. If any of these materials are found during the course of construction, ground-disturbing activities should be halted, and a qualified archaeologist should be contacted to determine if materials are isolated finds or part of a larger archaeological deposit. If an archaeological site is identified, then the resource should be evaluated for significance under CEQA and further treatment measures may be required.

If human remains are discovered during Project construction, work must stop at the discovery location and any nearby area suspected to contain human remains (PRC 7050.5). The San Luis Obispo Coroner must be contacted to determine whether the cause of death should be investigated. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC 5097). The coroner will contact the NAHC. The NAHC will contact the most likely descendant(s) who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in PRC 5097.98.

6
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APPENDIX A

Records Search Results

California
Archaeological
Inventory

SAN LUIS OBISPO AND
SANTA BARBARA COUNTIES

Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
PHONE (805)-893-2474
FAX (805)-893-8707
EMAIL ccic@anth.ucsb.edu

9/4/2019

Amber Long
Applied EarthWorks
811 El Capitan Way, Suite 100
San Luis Obispo, CA 93401

Re: Miossi Open Space Conservation Project

The Central Coast Information Center received your record search request for the project area referenced above, located on the San Luis Obispo and Lopez Mountain USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a ¼ mile radius:

As indicated on the data request form, the locations of reports and resources are provided in the following format: X custom GIS maps ☐ shapefiles ☐ hand-drawn maps ☐ none

Resources within project area:	No resources were located within the project area
Resources within ¼ mi. radius:	P-40-001538, P-40-041212, P-40-041214
Reports within project area:	SL-03701, SL-04884, SL-02023, SL-03834
Reports within ¼ mi. radius:	See attached reports list

Resource Database Printout (list):	X enclosed ☐ not requested ☐ nothing listed
Resource Database Printout (details):	X enclosed ☐ not requested ☐ nothing listed
Resource Digital Database Records:	☐ enclosed X not requested ☐ nothing listed
Report Database Printout (list):	X enclosed ☐ not requested ☐ nothing listed
Report Database Printout (details):	X enclosed ☐ not requested ☐ nothing listed
Report Digital Database Records:	☐ enclosed X not requested ☐ nothing listed
Resource Record Copies:	☐ enclosed ☐ not requested X nothing listed
Report Copies:	☐ enclosed X not requested ☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed X not requested ☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed X not requested ☐ nothing listed

The following sources of information are available at **http://ohp.parks.ca.gov/?page_id=28065**. Some of these resources used to be available through the CHRIS but because they are now online, they can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through the sources listed below.

California State Lands Commission Shipwreck Database	*Caltrans Historic Bridge Inventory*
U.S. Geological Survey Historic Topographic Maps	*Rancho Plat Maps*
National Park Service National Register of Historic Places Nominations	*Natural Resource Conservation Service Soil Survey Maps*
US Bureau of Land Management General Land Office Records	*California Historical Landmarks Listing (by county)*
Five Views: An Ethnic Historic Site Survey for California (1988)	*Historical Soil Survey Maps*

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of California Historical Resources Information System (CHRIS) data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the CHRIS.

Sincerely,

Brian Barbier
Assistant Coordinator

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SL-00438		1984	Haversat, T. and Breschini, G.	Preliminary Archaeological Reconnaissance of Twenty-Nine Proposed Early Warning Siren Locations, San Luis Obispo County, California	Archaeolagiosl.Consulting	40-001000, 40-001087, 40-001088
SL-02023		1991	Gibson, Robert O.	Results of Phase One Archaeological Surface Survey for the Pacific Bell Fiber Optics Cable Project between Santa Margarita and San Luis Obispo, CA	none given	40-000538, 40-001436
SL-02631		1994	Romani, John F.	Archaeological Survey Report for the Proposed Route 101/Cuesta Grade Improvement Project	Greenwood and Associates	40-001538
SL-03701		1995	Ruggerone, Gary L.	Historic Property Survey Report for the Route 101 Cuest Grade Improvement Project From 1.1 Miles North of Reservoir Canyon Road to Cuesta Grade Overhead in San Luis Obispo County, California	California Department of Transportation Environmental Planning Branch	40-001538
SL-03834		1995	Gibson, Robert O.	Phase one archaeological surface survey for the unocal pipeline replacement project along curesta ridge and highway 101, south of Santa Margarita, San Luis Obispo Co, Ca	none given	40-001674
SL-03934		1999	Dana McGowan	Cultural Resources Inventory Report for Williams Communications, Inc. Fiber Optic Cable Installation Project, San Luis Obispo to Bakersfield Volume I	Jones and Stokes Associates	40-000587, 40-001559, 40-002493, 40-041327
SL-03934A		1999	none given	Appendix A. Cultural Resource Monitoring Plan	Jones & Stokes Associates	
SL-03934B		1999	none given	Appendix B Native American Contacts; Appendix C Cultural Resource Site Record Forms (removed)	Jones & Stokes Associates	
SL-04884		1999	Mason, R.D.	Cultural Resources Survey and Paleontologic Resources Literature Review Report for Level 3 Long Haul Fiber Optic Project: Cuesta Grane Wordaround Norteast of San Luis Obispo, San Luis Obispo County, California	Chambers Group	
SL-06460		2009	Megan M. Linder, Marc D. Linder, and Barry A. Price	Cultural Resources Survey for the Atascadero-San Luis Obispo 70 kV Power Line Maintenance and Upgrade Project, San Luis Obispo County, California	Applied EarthWorks, Inc.	40-002598, 40-002599, 40-038242, 40-041211, 40-041212, 40-041213

Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 1 of 7

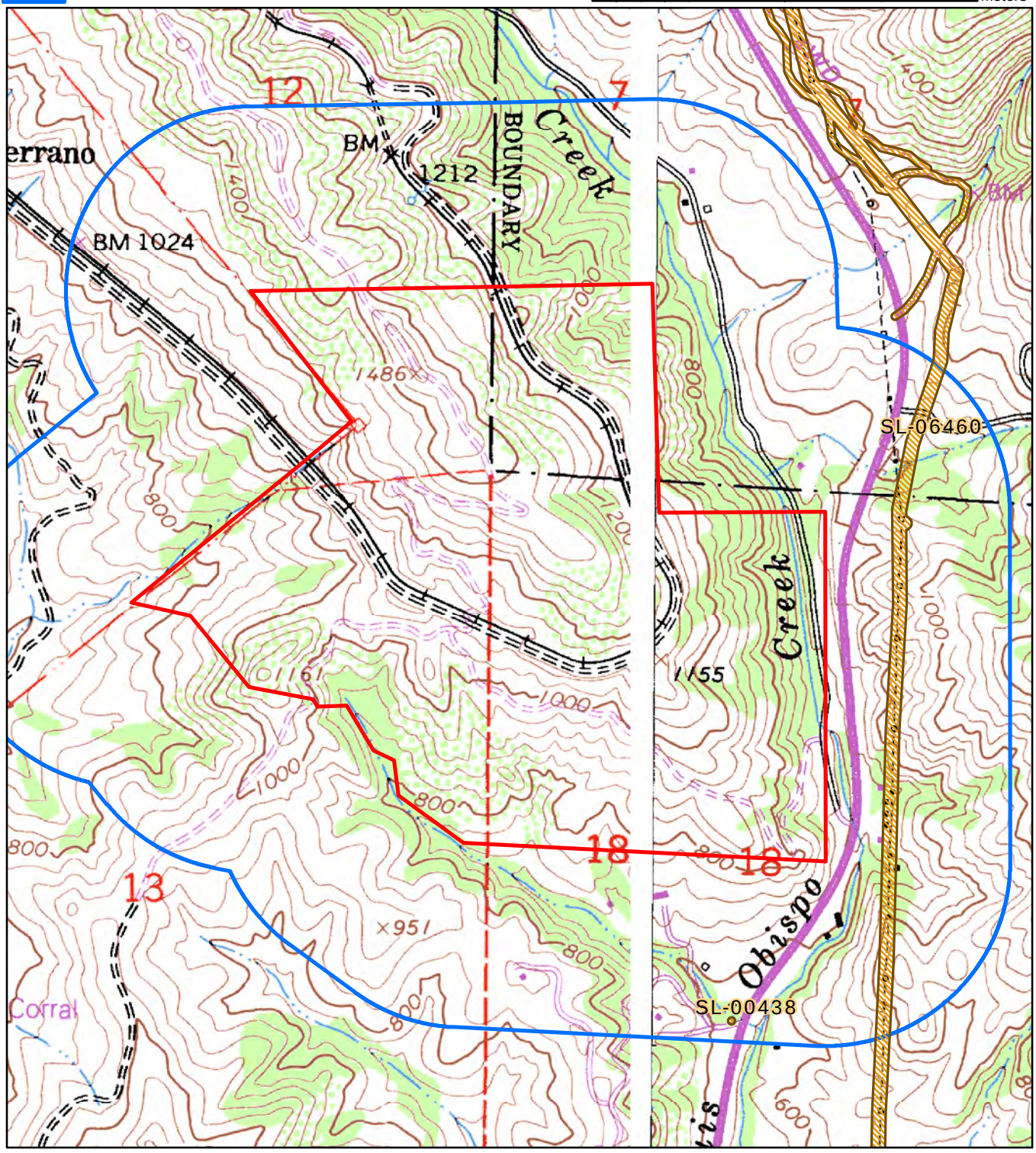
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 105 210 420 630 840 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 2 of 7

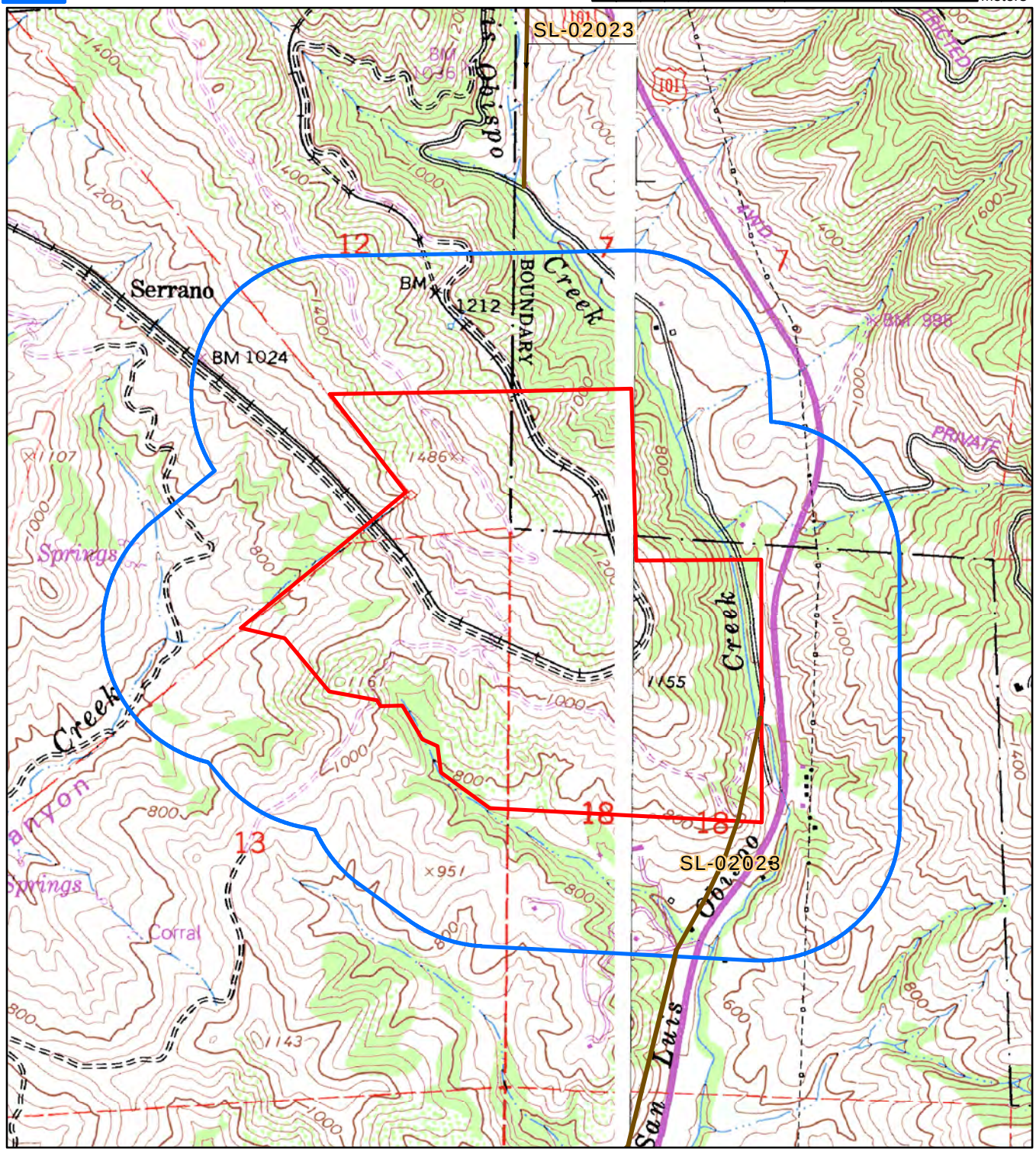
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 3 of 7

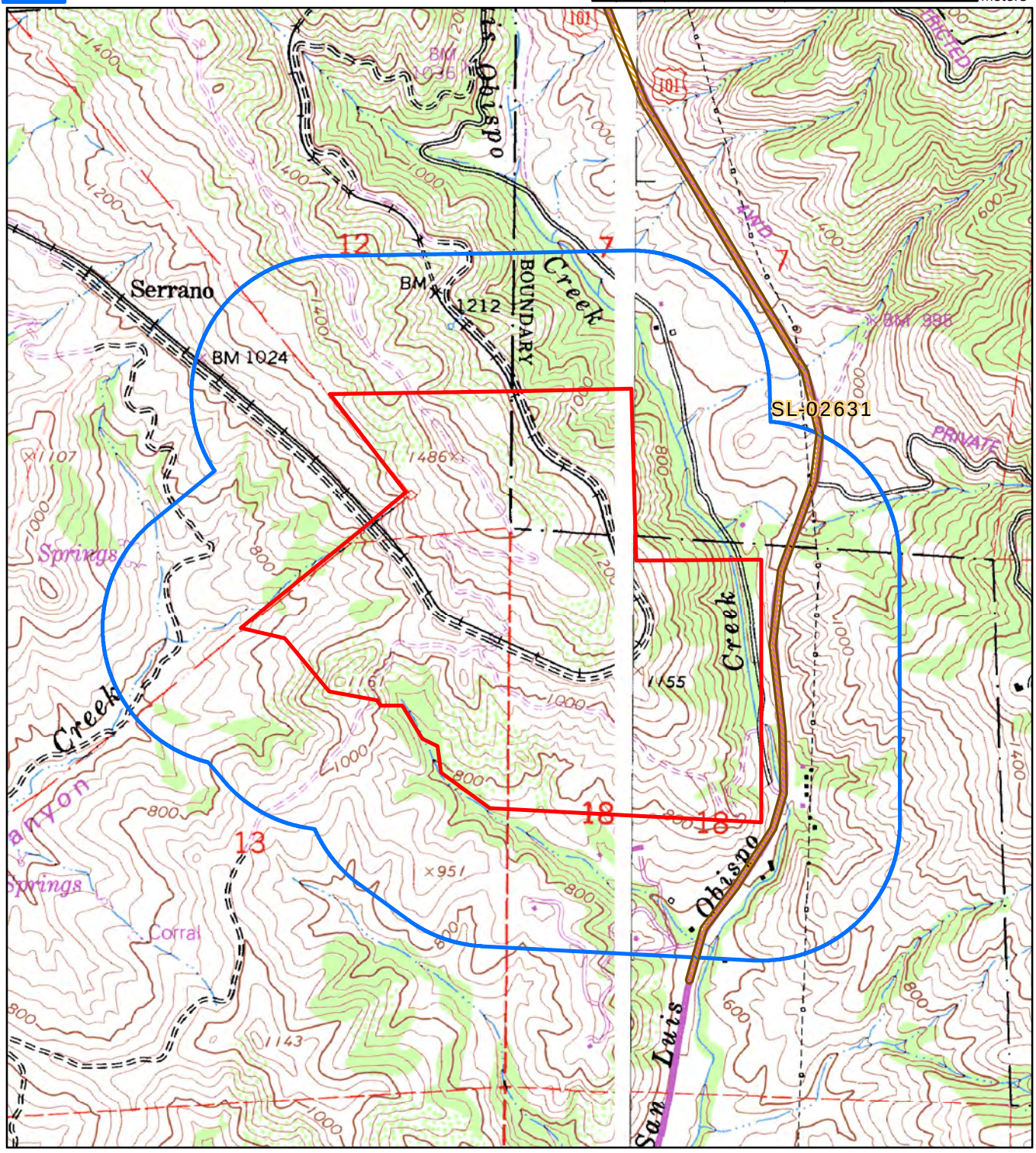
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 4 of 7

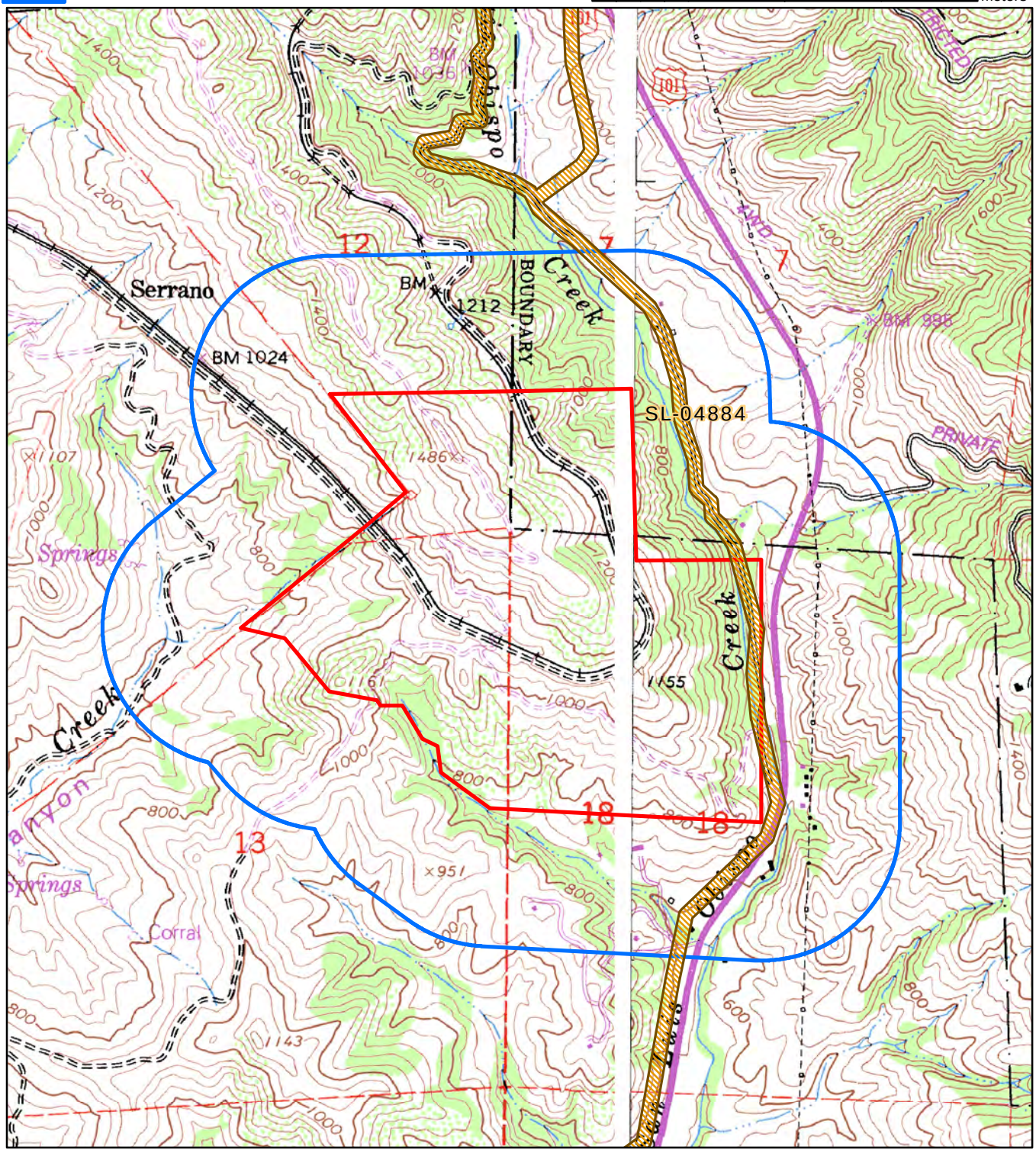
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 5 of 7

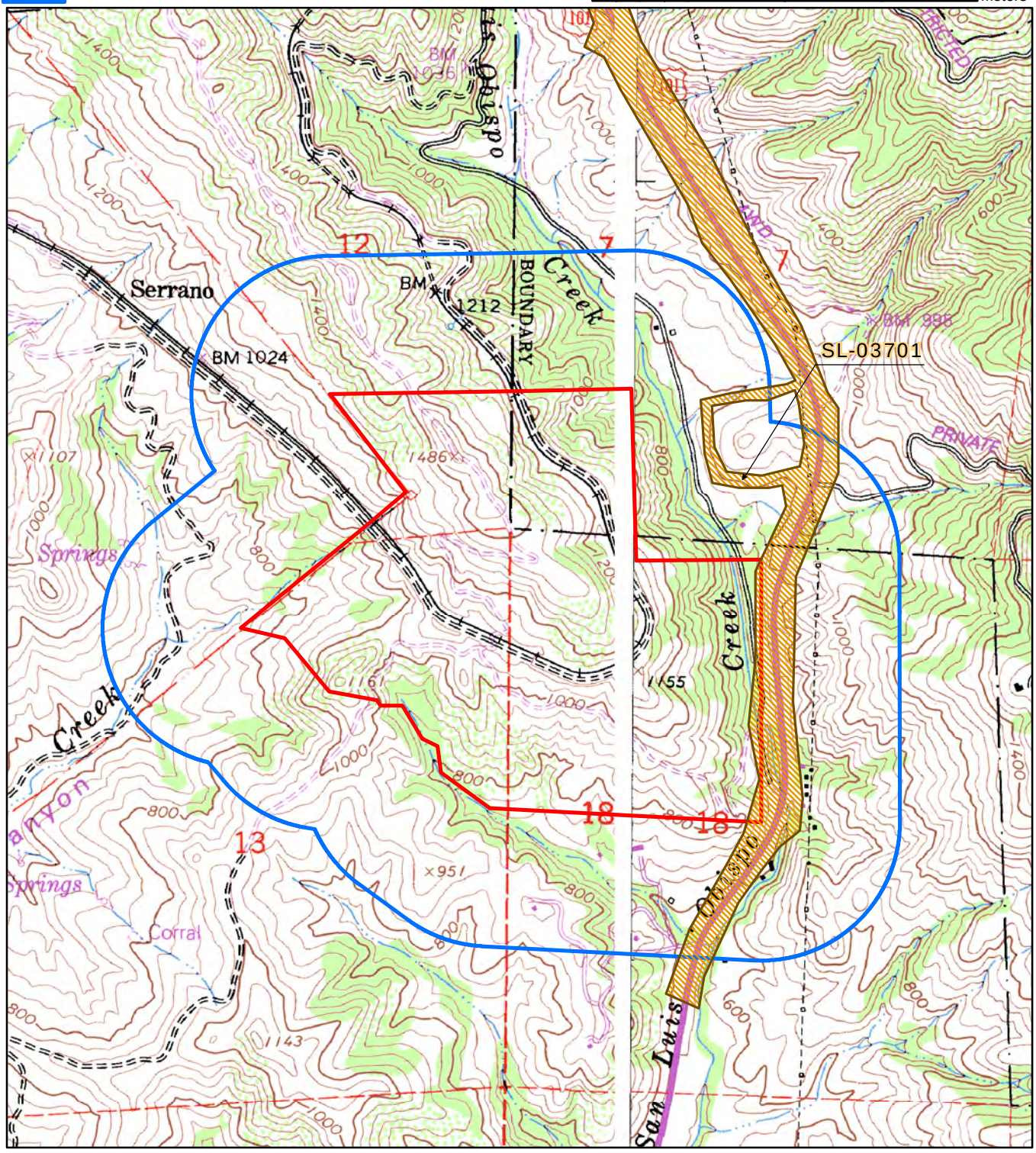
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 6 of 7

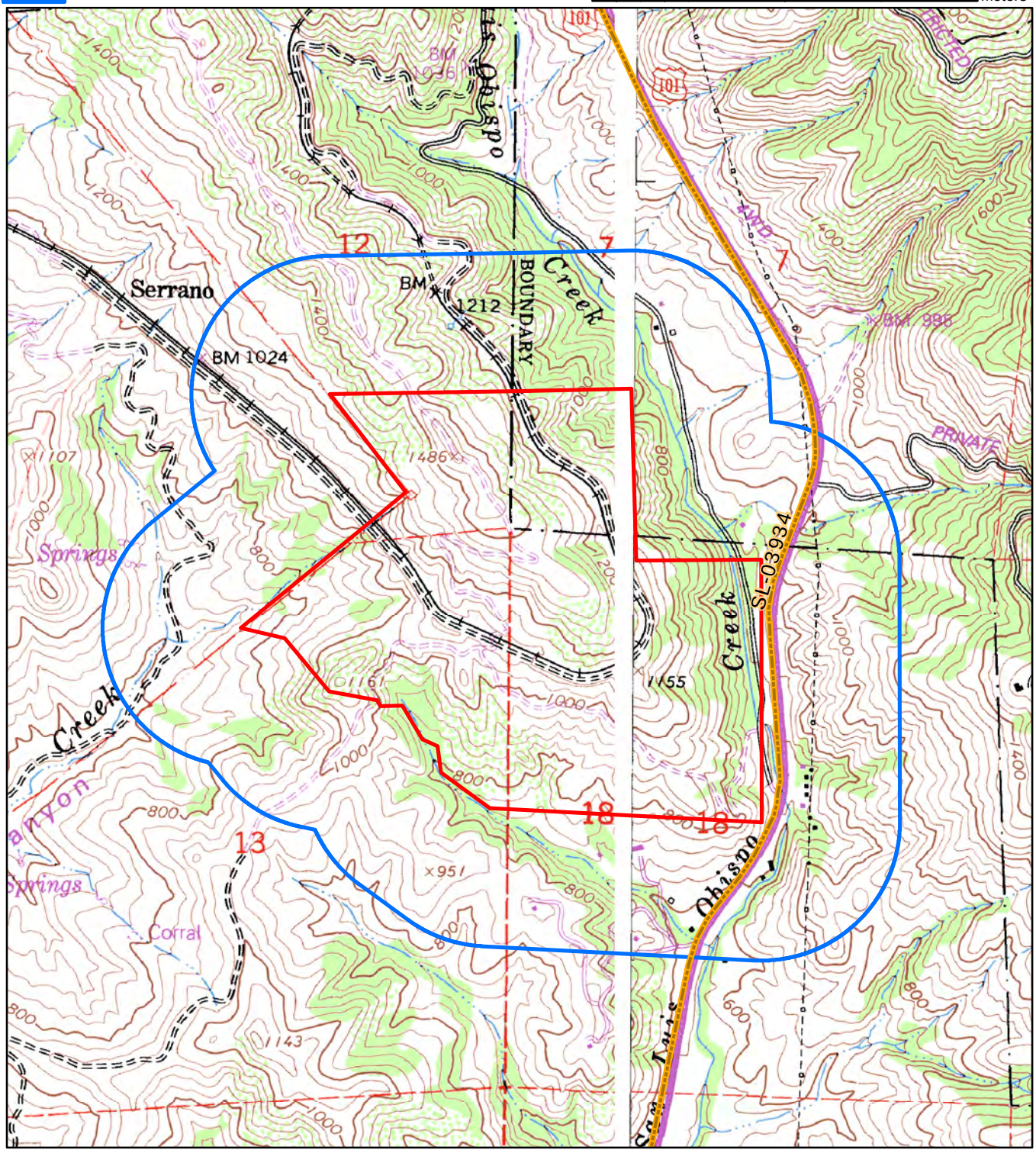
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Reports Map 7 of 7

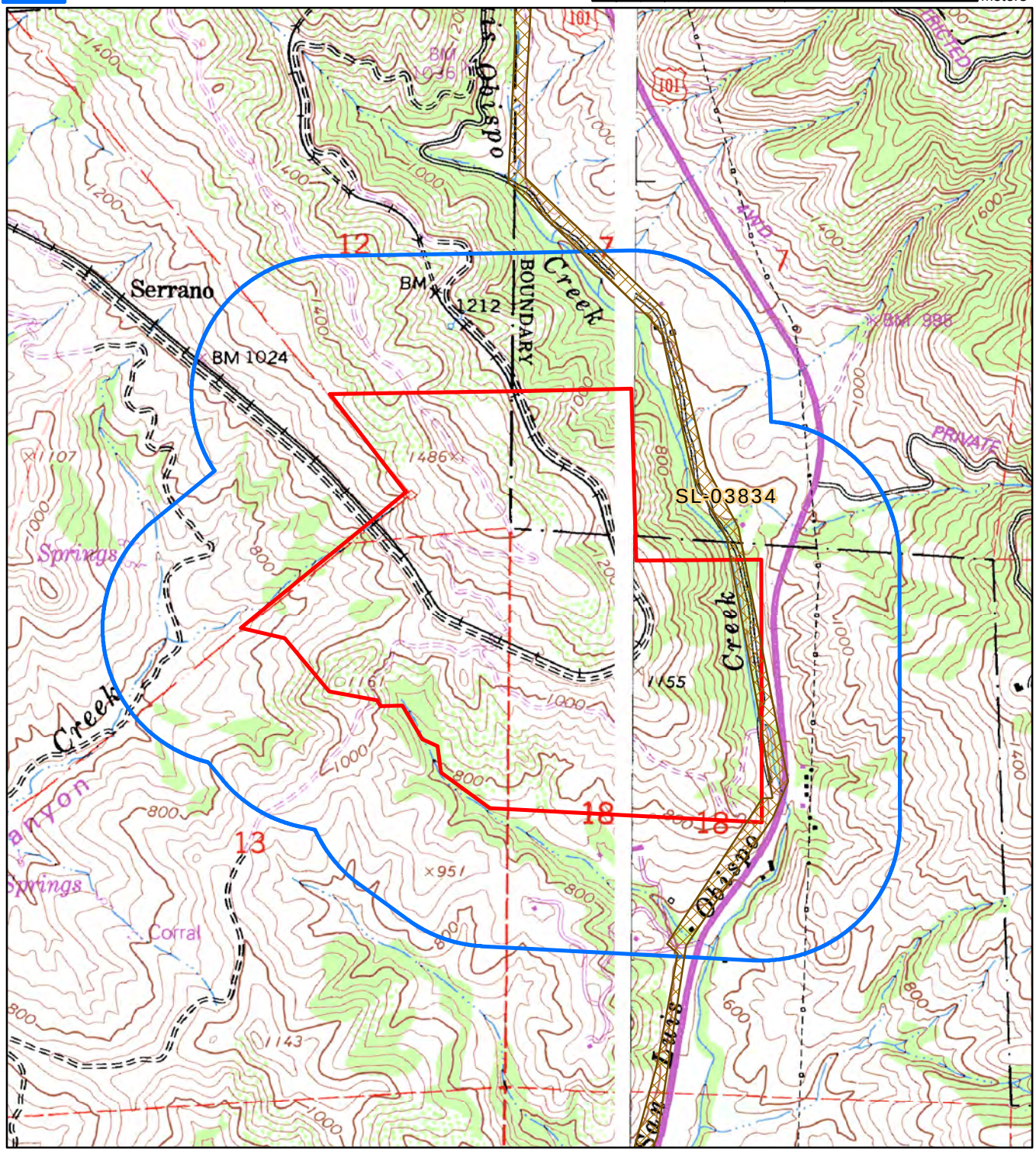
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 140 280 560 840 1,120 Meters



Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-40-001538	CA-SLO-001538	Other - P-40-001538	Site	Historic	AH16	1992 (John Romani, Greenwood and Associates)	SL-02631, SL-03701
P-40-041212		Other - AE-1906-4H	Other	Historic	AH16	2008 (Marc Linder, Applied EarthWorks)	SL-06460, SL-06833
P-40-041214		Other - Atascadero-San Luis Obispo 70 kV Power Line	Structure	Historic	HP09; HP11	2009	SL-06453

Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Sites Map 1 of 2

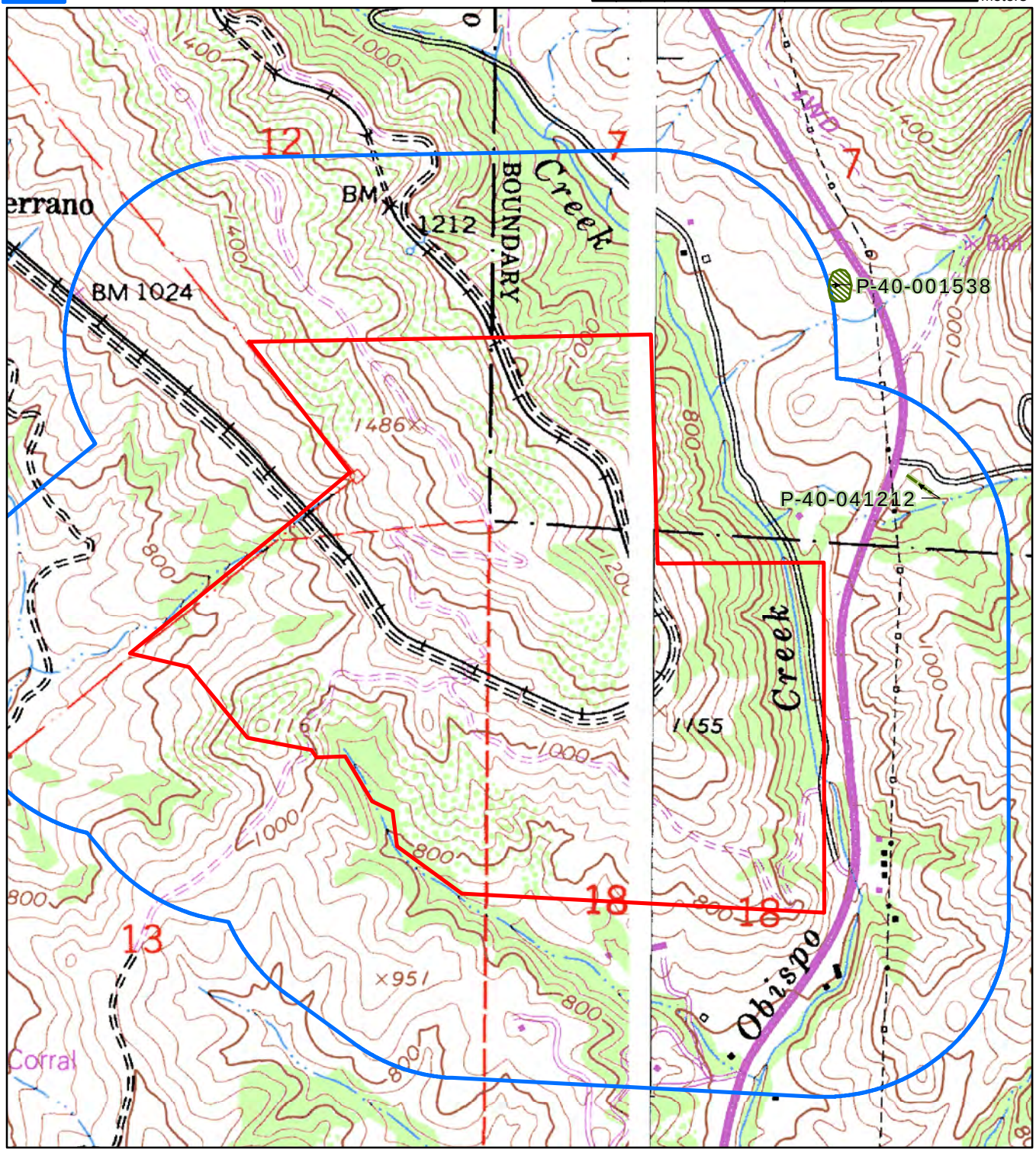
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 105 210 420 630 840 Meters



Miossi Open Space Conservation Project

Customer Name: Amber Long, Applied EarthWorks
Project Location: Old Stage Coach Road

Sites Map 2 of 2

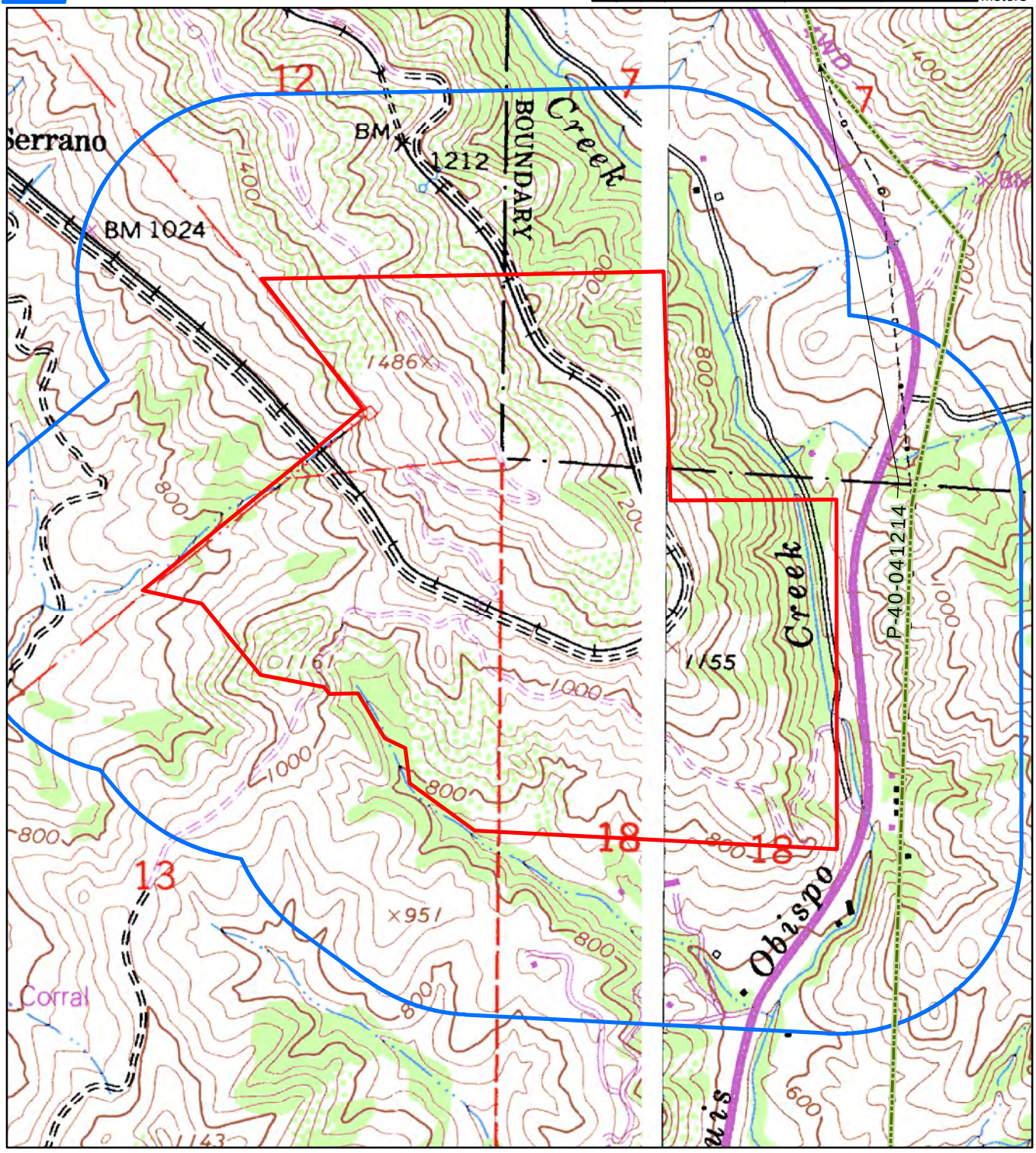
Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
(805) 893-2474
(805) 893-8707 FAX

Legend

Project Area

1/4 Mile Buffer

0 105 210 420 630 840 Meters



APPENDIX B

Native American Communication

Applied EARTHWORKS Inc.

811 El Capitan Way, Suite 100
San Luis Obispo, CA 93401
O: (805) 594-1590 | F: (805) 594-1577

August 22, 2019

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

RE: Miossi Open Space Conservation Plan Phase 1 Cultural Study, San Luis Obispo, California

To Whom it May Concern,

Applied EarthWorks, Inc. is conducting a cultural resource study for the proposed open space conservation project of a 266-acre property into an open space for public recreational use in San Luis Obispo, California. The project area is depicted on the attached copy of the San Luis Obispo CA 7.5' Quadrangle Map and is located within sections 12 and 13 of Township 30S, Range 12E and Lopez Mountain, CA 7.5' Quadrangle Map and is located within sections 7 and 18 of Township 30S, Range 13E.

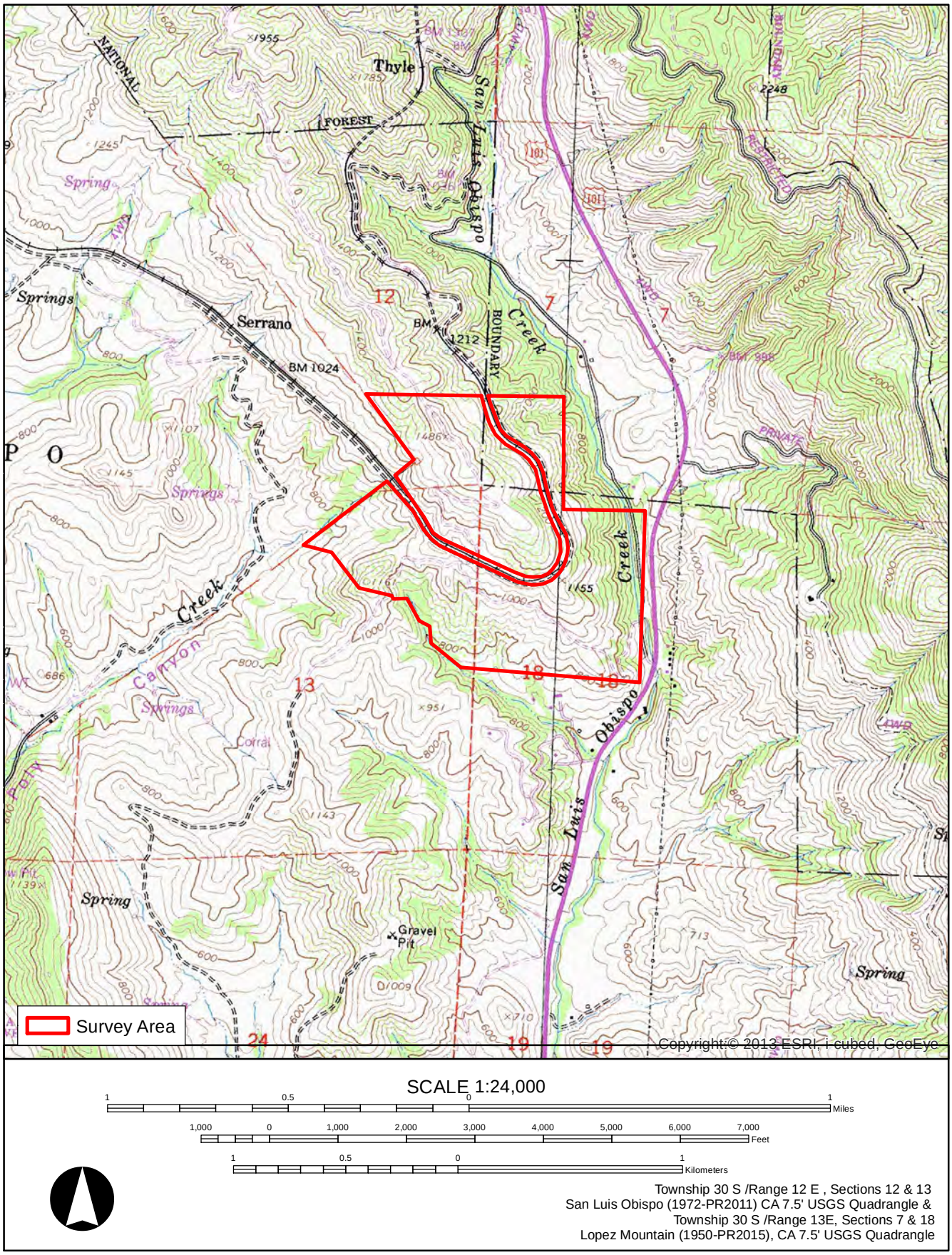
This letter is being submitted to formally request your agency to conduct a search of its *Sacred Lands Inventory File*. Your information will aid us in determining if any other cultural properties are present within the general vicinity of the proposed project, thereby assisting us in our environmental analysis. In addition, we are requesting the names, addresses, and phone numbers of officially recognized tribal representatives in the project area.

Please fax the results to (805) 594-1577 and do not hesitate to call me at (805) 594-1590 if you have any questions or require additional information. Thank you for your time and consideration in this matter.

Sincerely,

Kelli Wathen

Kelli Wathen,
Staff Archaeologist
Applied EarthWorks, Inc.



Location map for the *Miossi Open Space Conservation Plan Phase 1 Cultural Study, San Luis Obispo, California - AE4087*.

STATE OF CALIFORNIA **GAVIN NEWSOM, Governor**
NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

September 5, 2019

Kelli Wathen
Applied EarthWorks, Inc.

VIA Email to: kwathen@appliedearthworks.com

RE: Miossi Open Space Conservation Plan Phase 1 Cultural Study Project, San Luis Obispo County

Dear Ms. Wathen:

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 positive. Please contact the tribes on the attached list for more information. 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 the NAHC. 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.Gren@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Services Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Luis Obispo County
9/5/2019

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
Raudel Banuelos,
331 Mira Flores — Chumash
Camarillo, CA, 93012
Phone: (805) 427 - 0015

Barbareno/ Ventureno Band of Mission Indians
Eleanor Arrellanes,
P. O. Box 5687 — Chumash
Ventura, CA, 93005
Phone: (805) 701 - 3246

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

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
Gino Altamirano, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
cbcn.consultation@gmail.com

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

Salinan Tribe of Monterey, San Luis Obispo Counties
Fredrick Segobia, Tribal Representative
7070 Morro Road, Suite A — Salinan
Atascadero, CA, 93422
Phone: (831) 385 - 1490
info@salinantribe.com

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
Phone: (805) 481 - 2461
Fax: (805) 474-4729

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

Xolon-Salinan Tribe
Donna Haro, Tribal Headwoman
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (925) 470 - 5019
dhxolonaakletse@gmail.com

Xolon-Salinan Tribe
Karen White, Chairperson
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (831) 238 - 1488
xolon.salinan.heritage@gmail.com

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 Miossi Open Space Conservation Plan Phase 1 Cultural Study Project, San Luis Obispo County.

yak tityu tityu yak tiłhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey
Arroyo Grande, CA, 93420
Phone: (805) 748 - 2121
olivas.mona@gmail.com

Chumash

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public 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 Miossi Open Space Conservation Plan Phase 1 Cultural Study Project, San Luis Obispo County.

Applied EARTHWORKS Inc.

811 El Capitan Way, Suite 100
San Luis Obispo, CA 93401
O: (805) 594-1590 | F: (805) 594-1577

September 18, 2019

Donna Haro
Xolon-Salinan Tribe
P.O. Box 7045
Spreckles, CA 93962

RE: Miossi Open Space Conservation Plan Phase 1 Cultural Study, San Luis Obispo, California

Dear Ms. Haro:

Applied EarthWorks, Inc. is conducting a cultural resource study for the proposed open space conservation project of a 266-acre property into an open space for public recreational use in San Luis Obispo, California. The project area is depicted on the attached copy of the San Luis Obispo CA 7.5' Quadrangle Map and is located within sections 12 and 13 of Township 30S, Range 12E and Lopez Mountain, CA 7.5' Quadrangle Map and is located within sections 7 and 18 of Township 30S, Range 13E.

Your name and address were provided to us by the Native American Heritage Commission (NAHC), which lists you as an individual with knowledge of Native American resources in San Luis Obispo County, California. This letter is being submitted to formally request any information you may have regarding Native American cultural resources within or adjacent to the project site. If you have information regarding the study area or have interest in the project, please call or send a letter to my attention. Your comments will be included in our cultural resources study report.

Please call me at (805) 594-1590 or email me kwathen@appliedearthworks.com if you have any questions or require additional information. Thank you for your time and consideration.

Sincerely,

Kelli Wathen

Kelli Wathen,
Staff Archaeologist
Applied EarthWorks, Inc.

APPENDIX C

Cultural Resource Records

*Archaeological site location information is exempt from the Freedom of Information Act (FOIA) and California Public Records Act (CPRA).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 Resource Name or # AE-4087-01H

P1. Other Identifier: Dam and infrastructure over San Luis Creek

***P2. Location: a. County:** San Luis Obispo ☒ **Not for Publication** ☐ **Unrestricted**

b. USGS 7.5′ Quad: Lopez Mountain **Date:** 1950; PR2015 T 30S, R 13E; NE ¼ **of** NW ¼ **of** Section 18 Mount Diablo **B.M.**

c. Address:

d. UTM: NAD 83 , Zone 10 ; 716103 **mE /** 3911386 **mN**

e. Other Locational Data: From Highway 101 exit at Old Stage Coach Road at the base of Cuesta Grade. Drive 0.3 mile on Old Stage Coach Road. The site is directly to the west and can be seen from the road.

***P3a. Description:** This site consists of a concrete dam used to supply water to the City of San Luis Obispo, a concrete settling pond, a steel pipeline, and a wooden support structure for the pipeline. The dam has been decommissioned and the midsection of the dam is no longer intact.

***P3b. Resource Attributes:** AH8 Dams

***P4. Resources Present:** ☐ Building ☐ Structure ☐ Object ☒ Site ☐ District ☐ Element of District ☐ Other:

***P5a. Photograph or Drawing:**

P5b. Description of Photo: Western abutment, facing east

***P6. Date Constructed/Age and Sources:** ☐ Prehistoric ☒ Historic ☐ Both

***P7. Owner and Address:**
City of San Luis Obispo
990 Palm Street
San Luis Obispo, CA 93401

***P8. Recorded By:**
Philip Clarkson and Neil Rhodes
Applied EarthWorks, Inc.
811 El Capitan Way, Suite 100
San Luis Obispo, CA 93401

***P9. Date Recorded:** 9/11/2019

***P10. Survey Type:** ☐ Intensive ☒ Reconnaissance ☐ Other

Describe: Targeted search for known site

***P11. Report Citation:**
Long, Amber, Philip Clarkson, and Kelli Wathen
2019 *Miossi Open Space Conservation Plan Phase I Study.* Applied EarthWorks, Inc. 811 El Capitan Way, Suite 100 San Luis Obispo County, California.

***Attachments:**
☐ NONE ☒ Location Map ☒ Sketch Map ☐ Continuation Sheet
☐ Building, Structure, and Object Record ☒ Archaeological Record ☐ District Record ☐ Linear Feature Record
☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record
☐ Photograph Record ☐ Other (list):

***A1. Dimensions: a. Length** 310 feet **x b. Width** 100 feet

Method of Measurement: ☐ Paced ☐ Taped ☐ Visual estimate ☒ Other: Trimble

Method of Determination (check any that apply): ☐ Artifacts ☒ Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (explain):

Reliability of Determination: ☒ High ☐ Low Explain: Site consists of three large features

Limitations (check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined ☐ Disturbances ☒ Vegetation ☐ Other (explain):

A2. Depth: ☐ None ☒ Unknown
Method of determination:

***A3. Human Remains:** ☐ Present ☒ Absent ☐ Possible ☐ Unknown (explain):

***A4. Features:** 1. Concrete dam, 2. Concrete settling pond, 3. Pipeline with support structure. The entirety of the dam is approximately 75 feet long, the abutment ends are buried in the soil and total measurements are not certain. The concrete abutments measure 2 feet thick and base width of 5 feet thick. The maximum height of the dam is 6.4 feet tall. The concrete settling pond measures 5.0 feet wide by 17.0 feet long by 4.4 feet deep and is divided in half. Portions of a wooden cover to the pond are still intact, boards measure 5 feet long by 1 foot wide by 1 3/4 inches thick. The pipeline attaches to the settling pond on the southern/downstream side and daylights for 230 feet before going underground. The steel pipe is10 inches in diameter with lead solder. The pipe sits on a wooden support structure measuring 4 feet wide, the exact depth is unknown due to cave-ins. Halfway between the settling pond and where the pipe goes underground there is a shut-off valve measuring 26 inches tall by 17 inches wide by 8 1/2 inches thick.

***A5. Cultural Constituents (not associated with features):** None

***A6. Were Specimens Collected?** ☒ No ☐ Yes (If yes, attached Artifact Record or catalog.)

***A7. Site Condition:** ☐ Good ☒ Fair ☐ Poor ☐ Disturbances: Dam was decommissioned during a salmonid restoration project.

***A8. Nearest Water (type, distance, and direction):** Site is on and adjacent to San Luis Obispo Creek.

***A9. Elevation:** 740 feet amsl

A10. Environmental Setting (vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.): In a riparian zone on and adjacent to San Luis Obispo Creek, with bay laurel, coastal live oaks, sycamore trees, and poison oak.

A11. Historical Information (full citations in A15 below): The dam was as part of the early water infrastructure for the City of San Luis Obispo. Deeds from 1910 and 1911 detail the easements that the City purchased for San Luis Obispo Creek and the rights to the water.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542–1769 ☐ 1769–1848 ☐ 1848–1880 ☒ 1880–1914 ☐ 1914–1945 ☐ Post 1945 ☐ Undetermined Describe position in regional prehistoric chronology or factual historic dates if known:

A13. Interpretations:

A14. Remarks: Resource was not evaluated for the California Register of Historic Resources (CRHR) or the National Register of Historic Places (NRHP) at this time.

A15. References: Deeds referenced in A11 were obtained through personal communication with the City of San Luis Obispo's Office of Sustainability, Robert Hill, 2019.

A16. Photographs:
Original media/negatives kept at: Applied EarthWorks, Inc.

***A17. Form Prepared By:** Philip Clarkson **Date:** 9/18/2019
Affiliation and Address: Applied EarthWorks, Inc.

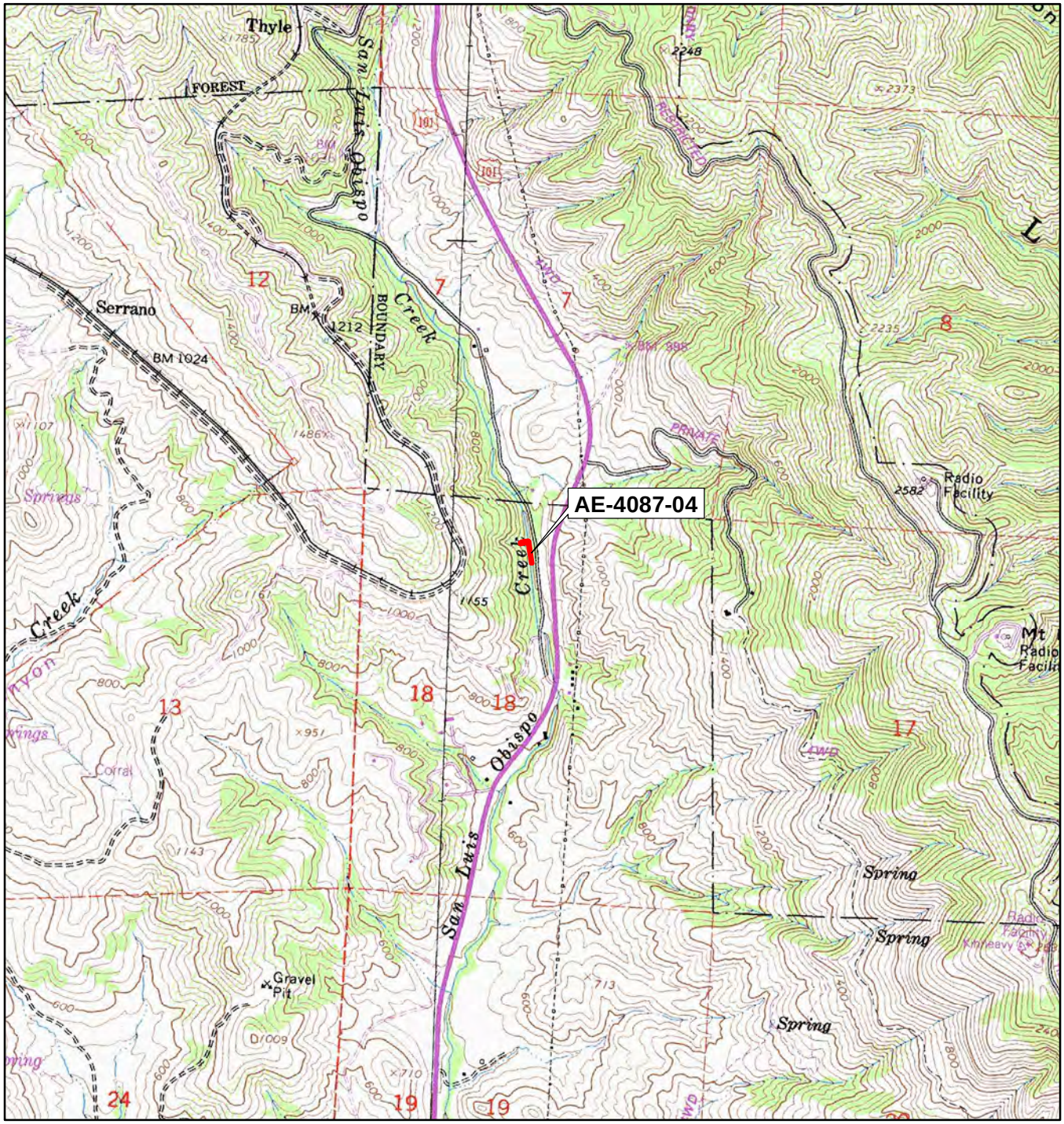
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 3 **of** 4 **Resource Name or #:** AE-4087-04 **Scale:** 1:24,000

Map Name: San Luis Obispo (1972-2011) and Lopez Mountain (1950-2015), CA, USGS 7.5' quadrangles **Date:** 2019



SCALE 1:24,000

1 0.5 0 1 Miles

1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

1 0.5 0 1 Kilometers

TRUE NORTH

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

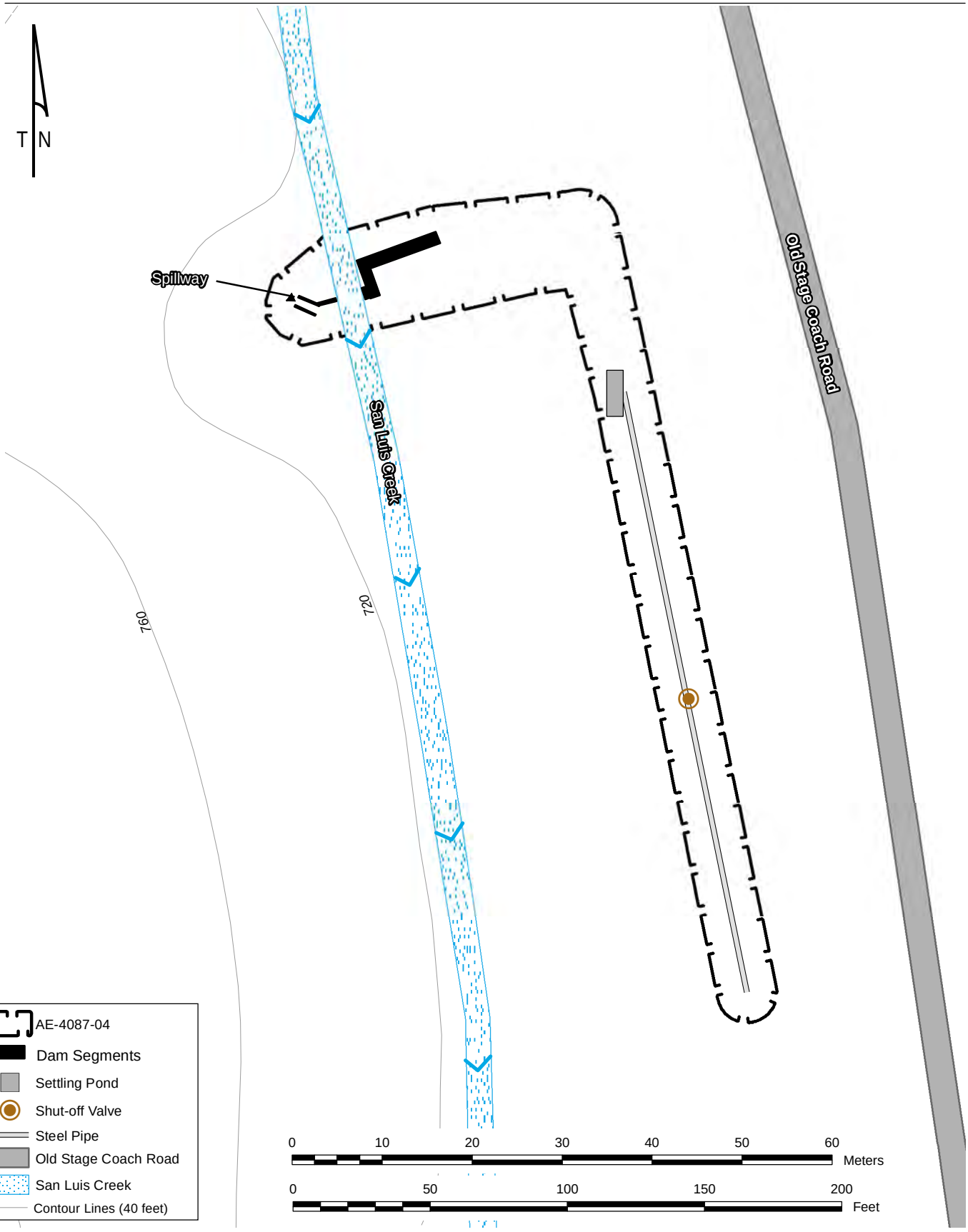
Primary #
HRI#
Trinomial

***Resource Name or #:** (Assigned by recorder) Æ-4087-04

***Drawn by:** K. Wathen

***Scale:** 1 inch equals 50 feet

***Date of map:** September 2019



*Required information

RESOLUTION NO. 11070 (2020 Series)

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN LUIS OBISPO, CALIFORNIA APPROVING THE MIOSSI OPEN SPACE CONSERVATION PLAN AND ADOPTION OF A NEGATIVE DECLARATION

WHEREAS, the City of San Luis Obispo has adopted policies for protection, management, and public use of open space lands and cultural resources acquired by the City; and

WHEREAS, the City of San Luis Obispo manages fourteen open space areas totaling over 4,000 acres, including the approximately 266-acre Miossi Open Space, and over 3,500 acres protected by open space easements or conservation easements; and

WHEREAS, Miossi Open Space provides habitat to seven (7) sensitive wildlife species and seven (7) rare plant species, serves as a critical wildlife migration corridor, and provides important upper watershed functions and values along San Luis Obispo Creek, all of which, collectively, are of great important to the citizens of the City of San Luis Obispo as expressed in the Conservation and Open Space Element of the City's General Plan; and

WHEREAS, the general public, stakeholders, neighbors, and historically and culturally affiliated Native American tribes have commented upon the *Miossi Open Space Conservation Plan* either in person at the December 11, 2019 public hearing, pursuant to electronic and legal notifications, posting at the property and at City Hall, or through specific outreach efforts; staff has carefully considered and incorporated those comments where appropriate.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of San Luis Obispo as follows:

SECTION 1. Miossi Open Space Conservation Plan. The City Council hereby adopts the *Miossi Open Space Conservation Plan*, an official copy of which shall be kept on record with the City Clerk, based on the following findings:

a. The *Miossi Open Space Conservation Plan* is consistent with General Plan goals and policies relating to the oversight and management of City open space areas, specifically Conservation and Open Space Element Policy 8.5.6 that calls for the development of conservation or master plans for open space properties to protect and enhance them in a way that best benefits the community as a whole; and

b. Implementation of the *Miossi Open Space Conservation Plan* will provide protection of identified natural resources and appropriate public access to the site while maintaining a majority of the site for habitat protection and enhancement.

SECTION 2. Environmental Review. The City Council hereby adopts the Negative Declaration for the project, an official copy of which shall be kept on record with the City Clerk, finding that it adequately identifies all of the potential impacts of the project and that those potential impacts identified in the areas of Aesthetics; Air Quality; Biological Resources; Cultural Resources; Energy; Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise; Public Services; Recreation; Transportation; Tribal Cultural Resources; and Wildfire, are *de minimis* and less than significant.

These findings, together with incorporation by reference into the Project Description that the property will be managed in accordance with policies found in the City's *Conservation and Open Space Element* of its General Plan (2006); the *Conservation Guidelines for Management of Open Space Lands of the City of San Luis Obispo* (2002); the *City of San Luis Obispo 2015 Open Space Maintenance Plan;* and, the City's Open Space Regulations (Municipal Code 12.22), the issuance of a Negative Declaration is appropriate, per CEQA Guidelines 15063.

Upon motion of Council Member Stewart, seconded by Council Member Christianson, and on the following roll call vote:

AYES:	Council Member Christianson, Pease, Stewart, Vice Mayor Gomez and Mayor Harmon
NOES:	None
ABSENT:	None

The foregoing resolution was adopted this 14th day of January 2020.

Mayor Heidi Harmon

ATTEST:

Teresa Purrington, City Clerk

APPROVED AS TO FORM:

J. Christine Dietrick, City Attorney

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of San Luis Obispo, California, this 28TH day of January, 2020.

Teresa Purrington, City Clerk